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Public Participation in a Sustainable Paradise

A Case Study of an Eco-Village Project in Pointe aux Piments, Mauritius



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Johanna Ivarsson & Rodrigue Al Fahel

Summary

As a way towards achieving sustainable development, an eco-village project with a focus on public participation was conducted by the Mauritian government in nine villages. Due to several constraints only one, the village of Pointe aux Piments, was still planned to be implemented. This study aims towards gaining knowledge about the concept of an eco-village and mainly on the role of public participation within this concept. This will be done by highlighting the interpretation made by the government, the way the project has been incorporated with the locals but also the locals' view on the eco-village concept and what they felt has been important for the development of the village. The study uses a human geographical perspective to answer these questions and combines several methods such as a questionnaire, focus groups, interviews and literature studies to get a better understanding.

The findings reveal an uncertainty of concept by the government due to the diffuseness on the interpretation of the eco-village concept. The projects focus mainly on the environmental dimension when speaking about sustainable development and on the need to inform and educate the public and by that hoping to empower them. The findings also reveal a lack of knowledge and awareness from the locals on the definitions of an eco-village and sustainable development but this does not imply that the locals do not know how to live in a sustainable way. Instead they tend to highlight the importance of other aspects such as safety, education and alternative jobs. Most of the locals did not feel that they were contributing to the development of the village and the ones that did feel it focused more on practical participation such as organizing sports events and not on information-based participation such as improving the quality of the decisions made.

The findings finally reveal an importance of geography within the eco-village concept. First of all there is an importance of scale – larger projects such as the eco-village project in Pointe aux Piments tends to have difficulties empowering the public. Secondly there is an institutional importance – complex projects need to have a successful communication that includes cooperation between different sectors (horizontal links) and between different levels such as national to local (vertical links). There is also an importance of acknowledging differences and uniqueness of the place – every place has its own challenges and therefore needs its own solutions and differences within the village need to be recognized. Finally there is a spiritual importance in the eco-village concept that is highly spatial – a community belonging consists of a network of family, friends and neighbours that share the same value and interests. The eco-village as a concept wants the participants to make their own choices of commitment and together acquire a certain way of living. This does not seem to be the case in Pointe aux Piments and therefore another type of concept towards sustainability, that better fits the need of the village, is suggested.

Keywords: Public Participation; Active citizenship; Sustainable Development; Eco-Village; Bottom-up; Human Geography; Participation Geography; Mauritius

Résumé

Comme un moyen pour atteindre un développement durable, l'éco-village projet avec un accent sur la participation du public a été menée par le gouvernement mauricien dans neuf villages. En raison de plusieurs contraintes, un seul village, le village de la pointe aux piment était encore prévu pour être mis en œuvre. Cette étude vise à acquérir des connaissances sur le concept d'un éco-village et principalement sur le rôle de la participation du public dans ce concept, mise en évidence par l'interprétation faite par le gouvernement, de la façon dont le projet a été constituée avec les habitants mais aussi les habitants" vue sur le village eco concept et ce qu'ils pensaient qu'il est important pour le développement de leur village. L'étude utilise un humain perspectives géographiques afin de répondre à ces questions et combine plusieurs méthodes un tel questionnaire, groupe de discussion, d'entrevues et de la littérature des études pour obtenir une meilleure compréhension.

Le diagnostic révèle une incertitude de concept par le gouvernement en raison de la dispersion sur l'interprétation de la eco concept de village. Le projet se concentrent principalement sur la dimension environnementale lorsqu'on parle de développement durable et sur la nécessité d'informer et d'éduquer le public et en espérant qu'à empower. Les conclusions révèlent également le manque de connaissance et de sensibilisation de la population locale sur la définition de l'éco village et le développement durable, mais cela ne signifie pas que les habitants ne savent pas comment vivre une vie durable. Au lieu de cela, ils ont tendance à mettre en évidence l'importance d'autres aspects tels que la sécurité, l'éducation et les emplois alternatifs. La plupart des habitants n'ont pas eu l'impression d'avoir contribué au développement du village et ceux qui ne jugent plus axé sur la participation pratique tels que l'organisation des sports et non fondées sur des informations basé participation tels que l'amélioration de la qualité des décisions prises.

Les conclusions enfin révèle l'importance de la géographie au sein de l'eco village concept. Tout d'abord il y a une importance d'échelle - grand projet comme l'éco village pointe aux piment ont tendance à avoir des difficultés habilitant le public. Deuxièmement, il y a une grande importance institutionnelle - projets complexes doit avoir une communication réussie qui inclut la coopération de différents secteurs (liens horizontaux) et entre les différents niveaux tels que national et local (liens verticaux). Il y a une importance de reconnaître les différences et de l'unicité du lieu - chaque lieu a ses propres défis et besoins donc ses solutions et les différences dans les besoins du village d'être reconnu. Enfin, il y a une importance spirituelle dans l'eco village qui est hautement spatial - une communauté appartenant consistent en un réseau de membres de la famille , des amis et des voisins taht partager la valeur et les intérêts. L'éco village comme un concept veut que les participants à faire leurs propres choix de l'engagement et ainsi acquérir une certaine façon de la vie, ce qui ne semble pas être le cas de pointe aux piment donc un autre type de concept de la durabilité qui correspondent mieux aux besoins du village est suggéré.

Mots-clés : La participation du Public, Citoyen Actif, le Développement Durable, L'éco-village, la Géographie Humaine, Géographie Participation, Maurice

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1. Introduction

Welcome to Mauritius, a paradise on earth! Come here and enjoy our amazing sandy beaches, five star hotels with a first class treatment and a diversity of cultures all around the island!

The description above is a reality in Mauritius today and this may also be the only description foreigners have when talking about the country. The real situation is though not that simple and the small island east of Africa's coast have its own fair share of challenges to achieve sustainable development. Everywhere around the island the Dodo, an indigenous bird, decorates the souvenirs that tourists are eager to buy. The truth, that not all tourists know, is that this bird has been extinct since 1681 (Government of Mauritius, 2014).

The island has real environmental challenges ahead as well as social and economical ones. As a part of Small Island Developing States (SIDS), Mauritius faces a unique situation to achieve sustainable development. The Report of the United Nations Conference on Sustainable Development in Rio 2012 highlights these unique challenges where small island states' vulnerabilities include *"their small size, remoteness, narrow resource and export base, and exposure to global environmental challenges and external economic shocks, including to a large range of impacts from climate change and potentially more frequent and intense natural disasters"* (Rio 2012, 34). The report also acknowledges that SIDS has made less progress than most other groupings in economic terms, mainly in terms of poverty reduction and debt sustainability (Rio 2012).

The Mauritian government has also acknowledged these challenges they are facing and as a result the government has chosen to develop a vision of its own called the *Maurice Ile Durable "Mauritius Sustainable Island"* (MID) (MID 2013). This project was approved in 2013 as a policy, strategy and action plan towards sustainable development (MID 2013). It is also within this spirit that an eco-village project has been planned for originally nine villages in Mauritius. The eco-village project aims toward achieving sustainable development by promoting public participation within governmental projects. Facing budgetary problems only one village is still in the planning process and that is the one in Pointe aux Piments in the North West of the island. This study wants to gain knowledge about the concept of an eco-village and mainly the role of public participation within this concept. The eco-village project in Pointe aux Piments gives an opportunity to reach the purpose of this study.

2. Background

2.1 Mauritius

2.1.1 General

The Republic of Mauritius is a small island group located about 2000 km east of Africa's coast in the Indian Ocean (Green Paper GP 2011). The Republic consists of the islands of Mauritius, Rodrigues, Agalega, Saint Brandon, Tromelin and the Chagos archipelago. The total population of Mauritius is approximately 1,3 million with a population density of 644 persons per km² and the population growth rate is 0,4% per year (Government of Mauritius, 2012, National Assessment Report NAS 2010).

OECD classifies Mauritius as a developing country although most of the populations are classed as upper-middle class (FAO 2001). The population is much diversified with many different cultures and ethnicities such as Indian, African, European and Asian. Most of them are multilingual and speak French, English and the Mauritian Creole (National Synthesis Report NSR 2012). Even though English is the official language, French and Creole are more widely spoken (NAS 2010).

A brief history

Mauritius has during different periods of time been a Dutch, French and English colony and they became independent from Britain in 1968 and then became a republic in 1992 (GP 2011). It is now a democracy with elections every five years (NSR 2012). During the last three decades Mauritius has transformed from a monocrop sugar-cane economy to a diversified economy consistent of sugar-cane agriculture, textile manufacturing, tourism and offshore business (NAS). They are now a growing economy that often referred to as the economic miracle in the Indian Ocean (GP 2011). The people of Mauritius can now enjoy a welfare system with free education, free healthcare and pension for the elderly etcetera (NSR 2012).

2.2 Environmental Challenges

Because of Mauritius small size and location it faces many different environmental issues and threats such as loss of biodiversity, climate change, a depleting resource base and so on (GP 2011). Increasing tourism is also a problem and it does not come without a price. Since Mauritius has a sensitive ecosystem the impact from the tourism industry could have a devastating effect on the environment. The government has recognized the most important environmental problems that they need to solve and there is an action plan, *Maurice Ile Durable*, which acknowledges the need of sustainable development.



Figure 2.1 Map over Mauritius (Data source <http://www.mapcruzin.com/free-maps-mauritius/mauritius_pol90.jpg> 2014)

Climate Change

Mauritius is very sensitive to a climate change and the impact of it has already become apparent. There has been a decrease in rainfall, an increase in temperature over the last 50 years and there has also been a documented sea-level rise at 3.8 mm/year during the past five years. They have also experienced an increase in number of intense cyclones since 1975. Due to this Mauritius will likely experience economic loss and environmental degradation. The sectors that are most vulnerable to climate change in Mauritius are tourism, agriculture, fisheries and costal zones (MID 2013).

Forrest and Flora

Mauritius has a rich biodiversity but it is also threatened. It has the third most endangered flora in the world. The forest cover 25% of the land area and it is very important for the protection of watersheds, habitats of flora and fauna, flood control etc. The management of the forest has seen a gradual change from timber exploration to more socio-economic activities like eco-tourism and production of non-timber (MID 2013).

Energy

One of the biggest threats to the economic and environmental economy in Mauritius lies on their high dependency on oil and petroleum energy (GP 2011). They import a great deal of their energy use; much of it is fossil fuel such as gas and coal (MID 2013). 83.8 % of their energy use consists of fossil fuel whilst 16.2% comes from renewable energy (MID 2013). The trends are also negative with an increasing demand of energy that has doubled the import of fossil fuels in a 20-year period between 1990 until 2010 (MID 2013). Because of this they become vulnerable to external shocks and they seek to change this reliance by focusing on their own possible energy sources.

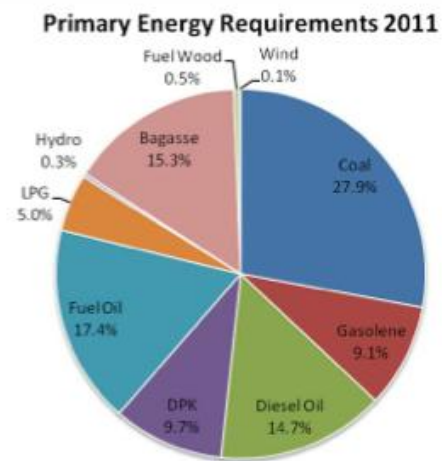


Figure 2.2 Primary Energy Requirement 2011 in Mauritius (Data source: MID 2013: 11)

Water

One of the main problems is the water scarcity. The water management in Mauritius needs to be developed since it has become a water-stressed country. This is because of the decrease in rainfall, the variability in the rainfall has increased which makes it much less predictable and heavy rainfall has increased. This has had a negative effect on the countries water resources (MID 2013).

Coastal Zone Management

For an island like Mauritius, the beaches have an important value both in a socio-economical and in an environmental way. The coastal zone has to be managed carefully but there are other tendencies that can oppose this management. There are built-up areas on the coast that expands even more by time, tourism development, land reclamation and clearing, unplanned construction etc. The sea level rise, the climate change and the erosion of the beaches are all threats that need to be taken seriously (MID 2013).

Land Use and Food Security

Mauritius is a densely populated country and this put a pressure on the land use, mostly on the agriculture land and forests. The land use is mainly divided in agriculture land, 41%, built up areas, 21 % and forests 25, 5% of the total area. There is a trend of deforestation that has been noticeable

(MID 2013). Different sectors have been competing for the use of high quality land, for example the tourism sector and the agriculture sector, and this have lead to overuse and degradation in some areas in Mauritius (MID 2013). The country is also heavily dependent on importing its food, 75% of the food is imported and this make up 19 % of Mauritius import bill. This dependency is without any doubt seen as a vulnerability issue, mostly to the rapid change of the global food system (MID 2013).

2.3 Initiatives

2.3.1 Maurice Ile Durable

“MID is a societal project that aims to deliver sustainable growth, with a vision for Mauritius to become a model of sustainable development.”

(MID 2013: i)

The idea of a sustainable development was brought into light at the 1992 United Nations Conference on Environment and Development that was held in Rio de Janeiro. Two years after that, the international community also recognized the specificities of the *Small Island Developing States* (SIDS). During the same year, they also adopted a plan of action towards sustainable development on these islands, including Mauritius (NSR 2012). With time passing by, the government of Mauritius has chosen to develop a vision of its own called the *Maurice Ile Durable* “*Mauritius sustainable island*” (MID) (NSR 2012). This project has been under construction since it was announced in 2008 and has in 2013 been approved as a policy, strategy and action plan towards sustainable development (MID 2013). The Maurice Ile Durable is a project from the government of Mauritius for the future development of the country as a response to the global energy crisis in 2007 (MID 2013). The main objectives of MID are to embed sustainable development in every part of Mauritian society and in every governmental decision-making, to develop a good economy, a clean environment and a healthy society. They have divided the MID into five pillars or the five ‘Es’: *energy, environment, economy, education and equity*. All of these pillars have their different challenges and they also have targets with action plans to improve and succeed (MID 2013). One of these projects will be the implementation of eco-villages in different parts of Mauritius (Ministry of tourism and leisure 2013).

2.3.2 The Eco-village Project

“An intentional community, which is human-scaled, full-featured, harmlessly integrated with nature, supports healthy human development and is sustainable.”

(Robert and Dianne Gilman’s original definition, 1991) (GEN 2013).

This is the original definition of an eco-village. Through history people have lived in small communities close to nature, using it in a sustainable way. Now 50 per cent of the world’s population lives in cities (Sevier 2008) and the energy need grows higher and are becoming more complex. Because of population increases and growing cities the need for energy is causing pollution in both air and water. One of the main factors to build a sustainable community is solving the energy problem (Woodrow 2010).

According to the *Global Environment Outlook 2000 report*, that the United Nations launched, “the present course is unsustainable and postponing action is no longer an option” (UNEP 2000). The objective is to incorporate all dimensions of sustainability in an eco-village: the economical, social and environmental. The people who will live in a village like this will be close to the nature without disrupting it and should ensure wellbeing of all life forms in that area in an indefinite future. Eco-

villages may be one of the solutions to our present unsustainable way of living and that is one of the reasons why they are now being implemented in different parts of the world (GEN 2013).

However there is no simple explanation as to what an eco-village is, since there are many different kinds across the globe. They all vary in different sizes and structure depending on location and climate (Sevier 2008) but they seldom grow more than to 500 people (Jackson 2004). However there are a few characteristics that distinguish them from other communities. According to GEN the characteristics of an eco-village are that they have a strong community, which means that people living in an eco-village should be committed to living in a community that is limited in size to fit the human capacity. They should share the common resources, encourage unity and education. The people living in eco-villages should also think ecologically, meaning that they should use renewable energy systems that have been integrated to the village. Protect bio-diversity, preserving the nature around them and reduce emissions are important ecological factors for the eco-villager. The global eco-village network also discusses a spiritual part of a sustainable community; they mean that eco-villages have a sense of unity with nature (GEN 2013).

No one really knows how many eco-villages there are, since many of them have started locally and not all are connected to the global eco-village network. Though a rough estimate would be about 4000-5000 (Jackson 2004). The global eco-village network is a network consisting of sustainable communities and they serve as organization for eco-villages across the world. Their aim is to support the development of more sustainable living and settlements (gen.ecovillage.org 2014). As noted before the Mauritian government intended to implement nine eco-villages in different parts of the Islands. The eco-village project was announced in 2009 and approved in 2010. The project was to be enforced in a time period of 3 years, with 3 villages per year. Pointe aux Piments was one of the first ones to be implemented and was to be ready in 2014 (Ministry of tourism and leisure, 2013). However the project suffered budget problems and it came to a pause. It seems though that the government wants to start the project again and they are now planning to only implement one eco-village, the one in Pointe aux Piments.

2.4 The Case of Pointe aux Piments

2.4.1 Introduction

Pointe aux Piments is a coastal village located on the west coast in the northern part of the island in the district of Pamplemousses. The district had in the year 2012 a population of around 140 000 inhabitants and a high level of population density, 786 P/km² (Statistics Mauritius, 2012). It has been one of the districts with the highest annual population increases (ibid 2012) and an increased development of the area had followed as such. The beautiful coastline and sandy beaches have among other factors contributed to make the area popular among tourists and it has a high density of quality hotels. The village of Pointe aux Piments, with an estimated population of around 7900 people, (DCP 2014), has also been partly included in this development and there are several hotels that occupant its coastline. The area has also the first national marine park due to a rich biodiversity and it attracts divers that want to explore the beautiful coral reef. The coastal road starts from Pointe aux Piments and leads to the tourist villages such as Trou aux Biches, Mont Choisy and Grande Baie (Genosy Mauritius 2014). A few kilometres away in the opposite direction lay Port Louis, the capital of Mauritius and there are several buses that go through Pointe aux Piments on their way to the capital.

2.4.2 The Eco-village Project in Pointe aux Piments

The brief on eco-village project (see Annex 1) summarizes the project and acts as a base for this study. The brief includes the objectives, the project cost and duration, the main features and vision of an eco-village, the key considerations and the main elements of it. All these factors need to be considered when planning and implementing the eco-village project in Pointe aux Piments. The main objectives for the project are:

- “To create awareness among the village inhabitants regarding conservation of energy, water conservation and protection, waste management, use of recycled materials, and other environmental friendly day to day activities that, in the long run, will protect the overall village environment;
- To transfer knowledge to the village inhabitants in connection with the above mentioned issues;
- To enlist community participation in the identification and implementation of both structural and non-structural measures required to convert their respective village into an eco village.”

The vision of the eco-village concept, as mentioned in Annex 1, highlights why an eco-village project is needed to achieve sustainable development:

“The fundamental vision of the eco-village concept is to foster a sense of community belonging and environmental stewardship among villagers for the promotion of sustainable livelihoods within their neighbourhoods and their village as a whole.”

The vision also adds the need for an active participation from all people involved such as the village inhabitants, the local government, media, and private sector etcetera. The importance of including all parts in the project can also be seen when several sectors such as *infrastructure, socio-economic, socio-cultural, ecology and biodiversity, environmental and renewable energy and green technology sector* were planned to design the project. Empowering the citizens in all spheres of the society is also one of the sustainable features mentioned in the project. (The full project description is shown in Annex 1).



Figure 2.3. An eventual plan for the development of Pointe aux Piments (Data source: Ministry of Environment and Sustainable Development 2012)

The figure 2.3 illustrates the original plan for the eco-village project in Pointe aux Piments. The project's spatial limitation should be in accordance with the village's entire area. As seen in the figure 2.3 the village is usually divided into two areas: Grande Pointe aux Piments and Petite Pointe aux Piments. This has also been in consideration when conducting the study. It is also worth noticing that the Community Centre (the red spot in the figure) is located in Grande Pointe aux Piments close to the shore. This is where most of the public hearings take place in the village. The map also shows the important role of the beach area. There are plans to build a cycle track, a jogging track, to re-develop the public beach, to create a marine conservation area and a recreational sea attraction. These plans will have to cooperate with the fishing industry and the hotels located nearby.

2.5 Problem Description

The eco-village project in Pointe aux Piments was an ambitious project by the Mauritian government. It relies on public participation to help solving the issues of sustainable development. There are though several challenges facing the project. One of them is the scale of the project; eco-villages planned are usually consisted of a population of hundreds and not of thousands. Another problem that can be questioned is the level of knowledge the public have on sustainable development. A survey made in the Goodlands, Mauritius showed that 57, 8 % of the locals had heard about sustainability and/or MID but only 12, 6 % of the locals really understood the meaning of these terms (Moonshiram et al 2013: 13).

The social dimension is also a questioned issue in this study. A study made by Rambaree (2013: 266ff) highlights the need for the Mauritian government to promote social justice within the framework of sustainable development. The author saw that local coastal people have been losing faith in local authorities, accusing them in favoring the business interests before the socio-cultural lives of local inhabitants (ibid: 266ff). There is therefore a need to tackle the problem of marginalization and oppression towards a section of the Mauritian population in order to achieve a sustainable development (ibid: 261).

As the theoretical background will show in this study there is also a problem of definition in this project. What is defined and included in sustainable development? What is public participation and what kind of participation is expected from the locals? How can the eco-village concept be interpreted and are there rules for what it must include? This study will focus on getting an overall view from the participants of the eco-village project in Pointe aux Piments. Combined with literature studies it tries to clarify the role of the eco-village as a public participation concept within the framework of sustainable development.

2.6 Purpose and Research questions.

Our purpose is to gain knowledge about the eco-village concept and mainly about the role of public participation within the framework of this concept.

This is going to be achieved by asking:

- How has the eco-village concept been interpreted by the government?
- In what way has this project been incorporated with the locals?
- What do the locals think about the definitions within the eco-village project?
- What do the locals feel are important for the development of the village?

3. Theoretical background

3.1 Sustainable Development

“Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” (Brundtland report, 1987)

The Brundtland report’s definition of sustainable development has become the standard definition of the concept (Kates et al. 2005: 26). It is a very popular subject and it is widely discussed and written about in politics, the economic sector, in scientific articles and especially in the climate change issue. The concept itself can be interpreted in many different ways since sustainable development incorporates three dimensions: economic, social and ecological (Lélé 1991: 610). For these dimensions to be sustainable they need to be worked with together, not separately, one by one (Our common future 1987). It is about creating a balance between the economy, society and the environment. The society and its inhabitants should be allowed to grow and develop but without damaging the environment and its ecosystems. Also no human should ever be denied its right to see to her own needs, or the needs of the future generation (ibid).

The Brundtland report and its definition of sustainable development came to be the leading star in the UNs environmental conference in Rio de Janeiro in 1992. The report that followed the conference consists of 27 principles that the world needs to follow in order to achieve sustainable development; the goal was to implement sustainable development (Mansfield et al. 2009: 38). The implemented action plan for this is called Agenda 21, which was also a product of the Rio conference. It is a voluntary action plan and presents a vision of how all countries, both developed and developing and on global, national and local level, can take action to combat poverty, environmental degradation and develop in a sustainable way. Agenda 21 is not a binding document but it is a powerful invitation to action. The document consists of several chapters that address the social, economical and environmental aspects.

So in order to achieve sustainable development, all these aspects need to be considered and work together.

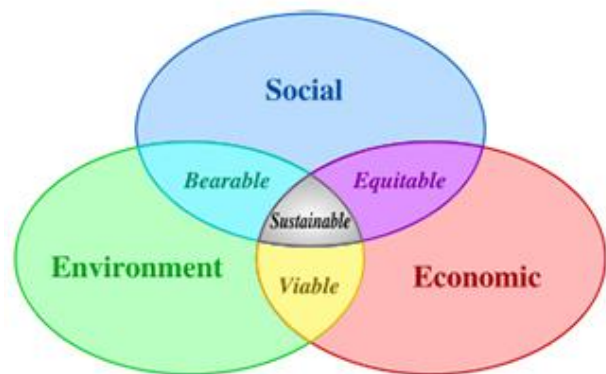


Figure 3.1 The Aspects of Sustainable Development (Data source <www.kth.se> 2014)

For a long time development, economic growth and population growth has had a negative impact on the environment. Our high energy use, consumption of resources and increasing land use has caused our earth many problems. All ecosystems cannot remain intact, however they can still survive when planning and developing according to the sustainable development concept (Our common future 1987). Before the sustainable development concept was adapted, environmental concerns, economic growth and human equity had been considered separately. In the 1970s economic growth through industrialization was considered the main cause for environmental degradation and population growth. However with sustainable development and its concept of integrating environmental, social and economic factors represented a shift within development questions. This shift was a win for developing countries in the global south that had argued for a long time that environmental issues

could not be discussed separately from economic growth and social factors (Mansfield et al, 2009: 38). Although population growth is still discussed as a problem the shift now described poverty as an outcome of population growth and not the cause. That is one of the reasons why economic growth is considered important, but it needs to be economic growth without population growth (ibid:39).

3.1.1 Sustainability and Geography

Geography has made some contributions to the study of sustainability, and a different view and understanding of it is often presented in geographical literature (Mansfield et al, 2009: 37). Geography studies, especially human geography, often do a good job at incorporating the social and ecological processes and give special attention to these processes. Instead of focusing on just one part of sustainable development they study the complexity of all parts and how they interact. They dismiss the idea that humans are outside of nature and that we are only causes of destruction (ibid: 40). Secondly the study of particular places and it's special qualities can also make a contribution to sustainable development studies. And thirdly, the fact that geography studies spatial pattern across the earth can also contribute (Purvis and Grainger, 2004: 48). Geographical studies are known to think holistically, linking human, nature, economy and society together to get a better understanding of the world, just like sustainable development. Moreover, it is also important to think about spatial scale as geographers do. The world is now connected through networks and distribution, capital flows through different scales and places. Something happening at one place now effects the environment and the economy at another place or scale (ibid: 47). Purvis and Grainger go on discussing the need to consider the implications of the division of physical space into different territorial components. Every territory is different, not only by location and place but also through political structures, cultural values and environment. These geographical aspects make it inevitable for a discussion about how sustainable development is interpreted and how it should be implemented (ibid: 49).

3.2 Public Participation

3.2.1 Introduction to the public participation theories and ideas

It is important to note that one of the most fundamental principles of a democratic government is to represent the value and interest of the public (Holmes 2013: 112). This has often been achieved by a representative democracy, where the citizens elect the one they think should represent their values and beliefs. But as Head (2007: 441ff) point out in his article "*Community Engagement: Participation on Whose Terms?*" , this kind of relationship between the government and their citizens is not longer enough. There is a need of new approaches where the engagement of the citizens plays an important role. Holmes (2013: 112) borrows the definition of public participation from Webler & Renn (1995) that describes it as "*forums for exchange that are organized for the purpose of facilitating communication among government, citizens, stakeholders and interest groups, and business regarding a specific decision or problem*". Head (2007: 443f) argues that the level of public participation varies between projects and there are different techniques and processes available to use. The International Association for Public Participation (IAP2) divides the spectrum of participation in five types as seen in Table 3.1 (<www.iap2.org >2014). The table shows that the goals for public participation can vary from only the want to provide the public with information to actually place the final decision-making in their hands. Different tools can be used for these goals, where one-way communication methods on the left side make its way to more two-way communication methods that could strengthen the form of participation.

Table 3.1 Public Participation Spectrum

IAP2 PUBLIC PARTICIPATION SPECTRUM

INCREASING LEVEL OF PUBLIC IMPACT				
INFORM	CONSULT	INVOLVE	COLLABORATE	EMPOWER
Public Participation Goal:	Public Participation Goal:	Public Participation Goal:	Public Participation Goal:	Public Participation Goal:
To provide the public with balanced and objective information to assist them in understanding the problems, alternatives and/or solutions.	To obtain public feedback on analysis, alternatives and/or decisions.	To work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered.	To partner with the public in each aspect of the decision, including the development of alternatives and the identification of the preferred solution.	To place final decision-making in the hands of the public.
Promise to the Public:	Promise to the Public:	Promise to the Public:	Promise to the Public:	Promise to the Public:
We will keep you informed.	We will keep you informed, listen to and acknowledge concerns and provide feedback on how public input influenced the decision.	We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision.	We will look to you for direct advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible.	We will implement what you decide.
Example Tools:	Example Tools:	Example Tools:	Example Tools:	Example Tools:
<ul style="list-style-type: none"> • fact sheets • web sites • open houses. 	<ul style="list-style-type: none"> • public comment • focus groups • surveys • public meetings. 	<ul style="list-style-type: none"> • workshops • deliberate polling. 	<ul style="list-style-type: none"> • citizen advisory committees • consensus-building • participatory decision-making. 	<ul style="list-style-type: none"> • citizen juries • ballots • delegated decisions.

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(Data source <www.iap2.org> 2014)

3.2.2 The Mechanisms and the Four Criteria of a Democratic Process

Fiorino (1990: 236) argues in his article “*Citizen Participation and Environmental Risk: a survey of institutional mechanisms*” that the tool to communicate with the participants can have an important effect on what kind of participation you will achieve. His study is based on the participatory theorists who argue that people today increasingly lack the control of the social decision that affect them (ibid: 228). This decline is mainly caused by a geographical factor – problem of scale, a technological factor and the concentration of power in the national institution. The opinions of the expert are seemed as the more rational ones compared to the public and therefore the ones trusted to (ibid: 239). Fiorino points out that the participation theory oppose this thought and believe that the public knows its own best and can, within the right circumstances, be skilled enough to take part in governance (ibid:229). The theory also recognizes four criteria that need to be fulfilled for evaluating institutional mechanisms as a democratic process; 1 allowance of direct participation of amateurs in decision; 2 enabling the citizens to share collective decisions; 3 the degree which it allows face-to face discussion and; 4 to which extent this participation is equal between the public, experts and politicians (ibid: 229f). The article presents a survey of the institutional mechanism: *public hearings, initiatives, public surveys, negotiated rule making and citizen review panels.*

Table 3.2 shows the results of how these mechanism enable the four criteria of the democratic process set by the participation theory (ibid: 236). These findings are supported by Holmes (2013: 117) who explains, by referring to Creighton (2004) that public hearings are the most widely used technique for public participation but that the outcome often results in very few discussions. A

solution to this might be to use workgroups consisting of representative of interest groups, both governmental and non-governmental, who becomes more educated on the project and can therefore make more reliable recommendation than the general public (ibid: 117). This type of participation can be categorized under the mechanism of negotiated rule making that according to Fiorino (1990: 236) can achieve three of the four criterions. None of the mechanism is by itself sufficient to fulfill the criterions according to the author, therefore he recommends that a combination of several mechanisms are needed to achieve a better democratic process (ibid: 238). The public survey might for example be a good way to identify disagreement, that later can be clarified in a public hearing and put in depth with the review panels' etcetera (ibid: 238).

Table 3.2 Summary of Mechanism under Participation Criteria

Summary of Mechanism under Participation Criteria				
<i>Mechanism</i>	<i>Direct/amateurs?</i>	<i>Share Authority?</i>	<i>Discussion?</i>	<i>Basis of equality?</i>
Public Hearings	Yes	No	Limited	No
Initiatives	Yes	Yes	Potential	Some
Public Surveys	Yes	Limited	Unlikely	No
Negotiated Rule Making	Unlikely	Yes	Yes	Yes
Citizen Review Panels	Yes	Limited	Yes	Some

(Data source Fiorino 1990:236)

3.2.3 The Distinctive Goals of Public Participation

The goals of participation as seen in table 3.1 shows the variety of power that can be lend to the public for decision making. Even though the table may answer what kind of participation there is, it does not reveal the purpose of it. What would for example the public administrators benefit from working with public participation? Holmes (2013:113) is interested in answering this question and uses the study of Beierle & Cayford (2002) who defines five goals of participation that are often included in the contextual framework of public participation projects. A further analyze of the goals seen in table 3.3 is following next for a deeper understanding.

Table 3.3 Five Distinct Goals of Public Participation

<i>Five Distinct Goals of Public Participation</i>
1. <i>Inform and educate the public.</i>
2. <i>Incorporate public values in agency decision making.</i>
3. <i>Improve trust and outcome.</i>
4. <i>Reduce actual, perceived, or potential conflict.</i>
5. <i>Improve the substantive quality of decisions.</i>

(Data source Holmes 2013:113)

The first goal in table 3.3, *to inform and educate the public*, can also be found on the first step in table 1 and Holmes (2013:116) findings will show that this goal was amongst the most frequently cited in her study of 32 projects that completed Environmental Impact Statements (EIS) made by the U.S. Army Corps of Engineers between 1997-2003. This is also supported by Head (2008: 447) who argues that the most common reason for public participation is for the public sector to better inform its' decisions. Kearns (1995: 160) argues that the quality of education to the public to promote a political vocal and politically active public is not good enough. The public need to be skilled and

encouraged to engage in political questions on sensitive issues and have the right to express critical opinions about them. Instead, the government is afraid of the reoccurring of public protests exemplified by those in the 1960s and 1970s and is therefore settled with a politically uninterested public (ibid: 160).

Beierle & Konisky (2000: 587) article "*Values, Conflict, and Trust in Participatory Environmental Planning*" focuses on public participation in environmental decision making. They argue that there are two fundamental problems in environmental decision making; the first problem is the difference in outcome between the "expert" approach and the values and opinions of the public which can lead to dissatisfaction and the second problem is the competing interest among interest groups that often end up in conflict and eventually taken up to court (ibid: 589). The interest is whether public participation can solve these problems and they try to measure how good goals number two, three and four, seen in table 3.3, can solve the problem.

The authors acknowledge that differences over values, preferences and assumptions should be carefully deliberated into the process of *assigning public value in decision making*. But it is important to also recognize the differences within the public values and therefore pay attention to who of the public is represented in these incorporated values (ibid: 589). This pays attention for an important issue; equality of representation is important among the public as well as, what the participation theory suggest, between the public, experts and politicians. Kearns (1995: 159) points out that active citizenship can have an "elitist" tendency where the expectation will rely on the upper-middle and professional classes to exercise control.

Public participation can also, according to Beierle & Konisky (2000: 589) *resolve the conflicting issues among different groups of interests*. Their findings are based on literature studies that argue for a public deliberation that can identify shared community values and strengthen the level of cooperation and work on resolving the conflicts between different groups of interests. Conflict solving is not the only goal in this statement; it might be as important to actually understand others perspective that enables a relationship building between different groups (ibid: 589). Korf (2010: 713) describes this in his article "*The Geography of Participation*" when he speaks about agonism, a borrowed term from Schmitt. Agonism is described as "*a we /they relation where the conflicting parties, although acknowledging that there is no rational solution to their conflict, nevertheless recognize the legitimacy of their opponents*". Korf refers to Mouffe that suggest a transformation in politics from antagonism, a strong feeling to oppose something you dislike, into agonism (ibid: 713).

There seems to be a decrease in level of trust in public agencies (Beierle & Konisky 2000: 589). Parker et al (2008: 10) shows in their study "*state of trust: how to build better relationships between councils and the public*" the low level of trust that the people in England have for their government. The number fell from 23 % in 1994 to 18 % in 2003. Their study is based on research studies, focus groups, workshops and depth interviews (ibid: 63). Their summarized findings are that the government has focused in the past decade's mostly on service improvement and not put enough energy into establishing good two-way relationships based on honesty and mutuality between them and the public but also between them and their staff. Kearns (1995: 161) views this focus as an attempt by the government to divert the citizen complaints towards the service provider rather than the government itself. There is also a need for local politician to create a more robust and open process in decision making that takes away the allegation of unfairness (Parker et al 2008: 9). Doing so, the level of trust for the government might increase and the authors argue for greater benefits that follows, for example to the local government, such as increasing levels of acceptance when mistake happens, greater confidence in its decision and services and better public willingness of engagement towards councils (ibid: 11). These findings support the statement that public involvement in decision

making can increase the level of trust (Beierle & Konisky 2000: 589) although it clearly states that itself is not sufficient (Parker et al 2008: 9ff).

The last participation goal that Holmes (2013) borrows from the study of Beierle & Cayford (2002) is to *improve the quality of decisions*. Chilvers (2009: 408) points out that evaluation of public participation projects have often been marginalized into only been included as an afterthought. Beierle & Konisky (2000: 588) argue that the evaluation that does happen often focus on the process rather than the outcome. This statement is supported by Chilvers (2009: 408) who thinks that deliberative democratic theories often focus on the procedural justice rather than the outcome. The result has been a creation of different criteria that should allow process effectiveness such as *inclusivity and representation* to all whom the decision concerns, a creation of *mutual understanding* (as mentioned earlier), *access to sufficient resources, transparency and accountability, enhancing of social learning* to all those involved and to be *time and cost-effective* (ibid: 408).

When focused on the outcome, Chilvers (2009: 409) turns to the work of Burgess and Chilvers (2006) who points to the difference between *outputs* and *outcomes*. Outputs are the more physical and immediate result of participatory processes such as a report, policy recommendations (etcetera) while outcomes are the impact and resulting change contributed by the outcomes such as the actual improvement of for example the environment (ibid: 409).

Coenen (2009: 183) concludes the fact that it is difficult to find an empirical link between participation and the actual outcome of a project in terms of quality decisions. A solution could be to use a control group without the participation process and control the outcome compared to the project with a participation process; the problem that he acknowledges is the uncertainty of the comparison due to other variables such as a historical difference between places, social context etcetera (ibid: 183f). This is also supported by Chilvers (2009: 409) who sees methodological difficulties in trying to evaluate the outcome. Coenen admits for example that the local knowledge, given by the participants living in a specific geographical area, can add important information to the project but that does not by itself imply a better outcome for example a more sustainable solution (ibid: 187f). Chilvers (2009: 409) adds an interesting point when he acknowledges that the evaluator itself falls under its own subjectivity when trying to evaluate the outcome; which in return can be used by decision institution for instrumental purposes.

3.2.4 Public Participation and its' Contribution to Wellbeing

Adamson and Bromiley (2013: 191) bring out another positive factor that community empowerment can contribute to; it can increase the wellbeing of the community itself. They refer to studies such as Hothis et al (2008) about empowerment and wellbeing. The study is based on several hypotheses from literature that have been tested using case studies from three very different local authorities (Hothi et al 2008: 6). They found three key dimensions of which neighborhood and community empowerment can increase wellbeing:

1. *“By providing greater opportunities for residents to influence decisions affecting their neighborhoods”*; for example by informing and educating the public about how the local democracy system works and by that help them see the difference they can make in the community (ibid: 7f).
2. *“By facilitating regular contact between neighbors”* ; this contact can help the citizen to widen their interaction with each other and help to create a sense of belonging to the neighborhood as well as creating a better understanding towards the local authority while cooperating with it. On the other hand the authority and its' partners can benefit from creating a working engagement with the citizens defined by what is important to the people

living there and the area they live in. Another aspect is to actually recognize the contribution that this network of citizens make and inform about it to help increase the community spirit (ibid: 10).

3. “By helping residence gain the confidence to exercise control over local circumstances”; public institutions and local communities can work together to create a better force with local knowledge, passion and vision for change. The cooperation should enable an actual change in the community and help to empower the locals by gaining their confidence (ibid: 10f).

3.2.5 Why Geography matters in Public Participation

Hothis et al (2008) project of wellbeing acknowledge that community belonging matters for the wellbeing of the people. The conclusion implies that geography in this case, the sense of place and community belonging matters for the happiness of the citizens. Pain and Kindon (2007: 2807) argues that geographers can make a major contribution in the field of participatory theory, practice and change. They also acknowledge that participatory geographies are a relatively new field with few distinctive features (ibid: 2808). The authors try to explain why geography and participatory studies can mutually benefit from each other. They argue that participatory studies already have central features from the geography such as spatial methods and strategies etcetera. At the same time the processes of participation influence and constitute space. The third argument is the importance of scale in participation processes, where the vertical linkages play a vital role (ibid: 2808). Projects are often created at the national level and are then being implemented at the local level. There is also another aspect of scale where it provides ways of relating local concerns to the personal, national and global level. This framework of scale, the authors argue, can through its processes provide connections between displaced events and causation and put them in a practical and theoretical level (ibid: 2808).

Kearns (1995: 166) thinks that it is important to admit the importance of place as a factor for success in the level of involvement of local citizens and in operational terms. This is based on the importance of shared interests and values to create a working self-governing group including local citizens. Here, the author argues that, the socio-spatial structure plays a vital role for achieving the level of interaction needed as a framework for the creation of shared interests and values (ibid: 166). Korf (2010:709) describes in his article “*The Geography of Participation*” local empowerment projects called *Participatory Rural Appraisal* (PRA) that started in the 1980s to include the locals in their own development. The author explains that these projects “created an invited space through consensus based procedures of decision making” (ibid: 712). In these bounded spaces (in the form of PRA workshops) a specific toolset is applied to provide a decision making shared by the collective and a forum for discussion about its own problems and solutions. Korf adds that these spaces seek to take away the “fried-enemy antagonisms of politics” (ibid: 712) even though he acknowledges the critique from Kapoor; the bottom up development that PRA brought has now lost its innocence since it became a mainstream event (ibid: 714). These bounded spaces that PRA created have now become porous and with that blurred the boundaries between development and politics (ibid: 714). Korf argues that in these time-space containers a new sovereign is created where he states that “this state of exception of developmental rule was being exercised” (ibid: 718). Decisions made in these bounded spaces, he adds, “*becomes the legitimating source for the expressive realization of the unity of an authentic community*” (ibid: 718).

Taking in mind the conclusion from Korfs article, public participation projects such as PRA can create important bounded spaces where citizens actually can make a difference in their communities. It is also in these spaces that Kearns (1995: 167) acknowledges a need for the local participants to feel comfortable and safe in order to interact and achieve an active public participation. Pain &

Kindon (2007: 2808) argues that these kinds of embeddings of places and spaces within the research of participation are being more and more acknowledged by geographers.

There is also a need to specify and describe the definition of what we for example mean by space and place. Kearns (1995: 166) argues that a place within the framework of local governance can consist of these three elements:

1. "**Locale:** This is the setting in which people live, consisting of a particular mix of household types and socio-economic groups, residing in a physical environment containing unique combinations of different types of dwelling, other buildings, and public and private spaces..... "

2. "**Neighborhood:** For individuals, their neighborhood consists of the time-geography within which they move as they follow their own paths. Focal points may form within the neighborhood as individuals' paths converge in time and space, either as they each pursue their own interests, or as they contribute to collective, institutional projects."

3. "**Community:** Through social encounters within the neighborhood, people may develop a set of shared interests and values, which contribute to the predictability of social encounters and social outcomes (and hence to ontological security), and can form a foundation for collective social and political endeavors."

(Taken from Kearns 1995: 166)

Borrowing Pred's (1984) concept of "place as historically contingent process", Kearns adds that places have histories that have shaped their present character (ibid: 166). The social and cultural practices within a locale are produced by the rules, norms and resources that reflect the power relation between geography and history. A development of personality, ideology and consciousness are some constraints that allow this to happen (ibid: 166).

Hothi et al (2008: 46) acknowledge another aspect that is of importance for the success of an active public participation, the "sense of place". Kearns (1995: 167f) explain this by using Relphs (1976) meaning of this phrase "a sense of identity with a place"..... Hothi et al (2008: 46) describe the initiative of "A Sense of Place Framework" in Manchester where the concept is to engage Manchester's communities and individuals in thinking differently about their place and space; as well as for the local authority to think differently about how to engage and consult their citizens. The sense of place was for the citizens of Manchester connected to belonging which in its turn was influenced by relationships. The network of family, friends and neighbors that exist was in this sense an important contributor to the feeling of connection that was felt by the citizens towards their neighborhoods and city (ibid: 46). Kearns (1995: 168) acknowledges that the sense of place can vary in strength and significance in people's life. None the matter, the author, argues that this sense of place and feelings of the community must be identified to coincide with the spatial dimension of an established initiative; i.e. the success of the local governance initiative may be relied on whether the spatial dimension of it coincides with the "real" community or not (ibid: 168). It seems though, Kearns adds, that the government seems to a larger extent advocate larger rather smaller scales of operation and that is contrasting with the citizens' preference for a locally scaled community identity (ibid: 168).

It is important to be aware of the differences that can exist between the citizens and their own relationship with the community for an example. Parkers et al (2008: 44f) work focuses on trust between the authority and its citizens and they argue that there are generally four different kinds of typology that they call for "trusters" (see figure 3.2). These groups are the main categories of what citizens want with the local government. The structure is based on how much the citizens are dependent of the council, are they "have" or "have nots" and also on the degree of which people can be seen as individualistic thinkers or have a "community spirited" mindset, "I thinkers" or "we

thinkers” (ibid: 44f). These four categories are not only focused on how to build trust with the local government; they also show that there are differences between individuals within a community that shapes the relationship between them and the council but also between the individuals and the community itself.

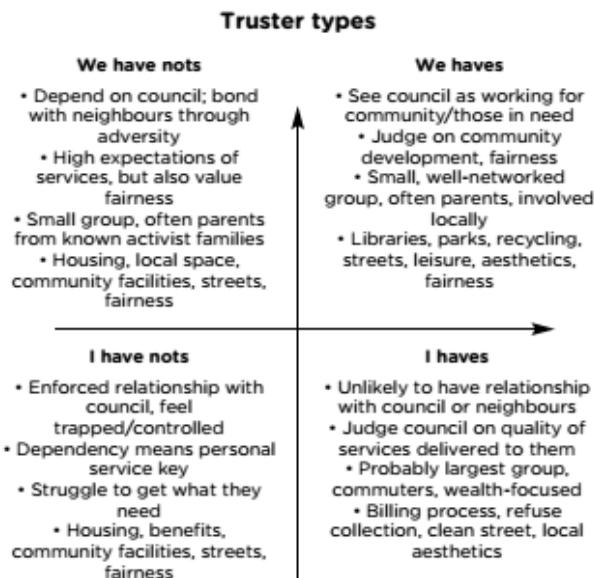


Figure 3.2 “Truster types” (Data source Parker et al 2008: 44)

Figure 3.2 shows the typical characteristic that each group may have. Parker et al (2008: 45) saw a representation of all these groups in each council area they visited even though the proportion of the groups is not equally distributed. The four groups also reveal a geographical aspect; the spatial area of which individuals care of and have a sense of belonging for differs in size and shape. People may only be considered about their own household while others have a more altruistic point of view.

3.2.6 Public Participation in the Context of Sustainable Development

The “United Nations Conference on Environment and development” (UNCED) held in Rio de Janeiro in 1992 was one of the most important starting points for highlighting the need for sustainable development. The output result of this conference consisted of several important documents such as “Agenda 21” and “The Rio Declaration on Environment and Development” where 27 principles were determined. Besides highlighting the need for sustainable development the two documents were also promoting the need for participation by all nations as well for an active public participation by all citizens (see UN 1992a, UN 1992b). This can for example be seen in several of the principles in the declaration such as “Principle 10”:

“Environmental issues are best handled with the participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided.”
(Principle 10: UN 1992b)

“Principle 20” also acknowledge the importance for including women in the participation to achieve sustainable development while “Principle 22” points out the importance to include indigenous people and their communities in the work of achieving the same. The same spirit follows

in Agenda 21 where and equal public participation is acknowledged and written in several statements such as 28.1 “*Basis for action*”:

“Because so many of the problems and solutions being addressed by Agenda 21 have their roots in local activities, the participation and cooperation of local authorities will be a determining factor in fulfilling its objectives. Local authorities construct, operate and maintain economic, social and environmental infrastructure, oversee planning processes, establish local environmental policies and regulations, and assist in implementing national and subnational environmental policies. As the level of governance closest to the people, they play a vital role in educating, mobilizing and responding to the public to promote sustainable development.”

(28.1: UN 1992a)

Most of the actions in Agenda 21 are towards local authorities and they are obligated to draw their own Agenda 21 strategy with a following discussion with their citizens about what is best for the area. An equal participation between citizens, private sectors etcetera within the community is needed to achieve a good result and a sustainable development (<www.sustainable-environment.org.uk> 2014).

The kind of participation that is needed from the public seems to be more problematic to identify. Following the “*Local Authorities and Sustainable Development Guidelines on Local Agenda 21*” (1995: 15ff) the focus is to inform and educate the public in one hand and consulting with them on the other hand (see table 3.1 for comparison). The guidelines refer to Agenda 21 (28.3) where it says that “... *local authorities would learn from citizens and learn from local, civic, community, business and industrial organizations, and acquire the information need for formulating the best strategies...*” There is no intention in this citation to empower the citizens as mentioned earlier in table 3.1. Instead empowerment is mentioned in Agenda 21(3.7) and UNCED (Principle 3) as needed for combating poverty by empowering the disadvantaged such as women, young and indigenous people. Empowerment is also mentioned in Agenda 21 (7.20 g) where cities are encouraged to empower community groups, individuals and NGOs to manage and enhance their immediate environment.

A local Agenda 21 survey was submitted by the International Council for Local Environmental Initiatives in 2002. One of its founding’s was that the local governments have been using a variety of methods for public participation and the most common were community meetings, information sessions, questionnaires, community workshops and workgroups (ICLEI 2002: 15). Compared to the IAP2s “Public participatory spectrum” (see table 3.1.) most of these common used tools are typical tools for consulting the public rather than to empower or collaborate with them. This is not a critique in itself but only a reminder of what local governments may have in mind when trying to include the public in the participation process. Following Fiorinos (1990 236ff) advice (see table 3.2) a combination of a greater variation of methods such as *negotiated rule making, citizens review panels, public surveys etcetera* are needed to fulfill the four criterions that the participation theory acknowledged as basic for institutions to achieve a democratic process.

The survey report (ICLEI 2002: 27) concludes that the integration of Agenda 21 into local initiatives has led to improvement in public participation. This is also supported in the *Review of implementation of Agenda 21 and the Rio Principles* (Dodds et al 2012). The review acknowledges for example the success of “Principle 10” as mentioned above and mostly due to the publics’ increasing influence in decision making (ibid, 9f). A second conference was held in Rio in 2012 (Rio-2012) twenty years after the first Rio-conference in 1992. The conference resulted in a report “*Report of the United Nations Conference on Sustainable Development*” (UN 2012) that reaffirmed

the importance of public participation in order to achieve sustainable development (see for example action 43, 75h and 99).

The general conclusion that can be made from the conferences in Rio 1992 and 2012 is that public participation is an important tool needed to achieve sustainable development. It is though difficult to conclude in what way this will occur and why an active public participation is needed. Returning to Chilvers (2009: 408); there is a need to further investigate whether public participation actually contributes to a better outcome or not and also whether this outcome can be improved by improving the procedural process or not. There are studies that show that public participation within Agenda 21 often brings out both positive and negative dimension (see Geissel 2009; Wild & Marshall 1999; and Brandt & Svendsen 2013).

It is also important to highlight some of the criticism towards an equal participation. Chilvers (2009: 402) mention Muntons (2003) complains that the small number of participants in the process is unrepresentative to the wider population. Chilvers acknowledges other researcher such as O'Neill (2001) that brings out another perspective of participation. Most of the ideas towards sustainable development refers to the definition given in the report of the World Commission on Environment and Development (the Brundtland report) (UN 1987): "*development which meets the needs of the present without compromising the ability of future generations to meet their own needs.*" There is a problem in representing not only existing humans but also non humans and future generations and O'Neill claims that there are "*problems of representing those who cannot speak and have in that sense no possibility of voice or presence in processes of environmental decision making*" (O'Neill 2001: 483; see also Chilvers 2009: 403). Who should represent the environment and the future generations?

3.3 Public Participation, Geography and Sustainable Development

The initiatives such as Agenda 21 have really ignited a start for public participation in projects towards sustainable development or within the frame of development. The Participatory Rural Appraisal (PRA) is such an example. Korf (2010: 709ff) explains it as different methods assigned to incorporate the locals in their own development by creating an invited space where they can meet and take part of the decision making. PRA started up in the 1980s and is since the mid-90s increasingly mainstreaming as a method for development (ibid: 710). It is only logical that the mainstreaming of public participation processes into development also increases the interest to study the relationship between these two. But as mentioned earlier, there is still a need for a participatory geographical approach within areas such as sustainable development (Pain and Kindon 2007: 2807ff). Chilvers (2009: 401) describes that environmental geographers should take part in participation research in all three ongoing streams; the development of participatory methods and practices, the evaluation of its processes and outcomes and the critical studies of participation. The mutuality of place, space and participation is also supported by other studies (see Pain & Kindon 2007; Jupp; 2007, Kesby 2007; and Klodowski 2006).

This mutuality between space, place and participation is also seen within the field of sustainable development. Holmes (2013: 115) investigated 32 projects of Environment Impact Assessment (EIS) mandated by the U.S National Environmental Policy Act (NEPA) and implemented by the U.S Army Corps of Engineers. The study focuses on public participation and the process of EIS and is then compared against the five distinctive goals of public participation (see table 3.3). The findings suggest that context is important and shift depending on the geographical scale of the projects and its technical complexity (ibid: 119ff). Local projects are for example more concerned of incorporate public values than regional projects who on the other hand focuses more on resolving conflicts (ibid:

120 see fig 5.). The findings also suggest that projects with a high degree of technical complexity, focused more on improving the substantial quality of the decision and resolve conflicts; whereby a conclusion that a high scientific uncertainty characterize these type of projects (ibid: 124). Projects working towards sustainable development have often a high uncertainty and can have different geographical scale and it is important to planners to acknowledge what goals should be prioritized in order to succeed. Governmental projects as mentioned earlier tend to work towards larger scales of operation (Kearns 1995: 168).

Geissel (2009: 411f) tries to evaluate participation projects that works within the framework of local Agenda 21 (LA21) towards sustainable development. The author questioned the level of effectiveness that the public participatory process added to the project. The suggestion the public provided for community planning could easily be neglected by the local bodies and the LA21 participation process could easily be in vain without any impact (ibid: 411). Acknowledging these findings, the author could see that communities who worked within LA21 focused instead on small-scale projects to displace the need of local authorities and she found that these projects were often successful (ibid: 411). These findings support the problematic trend that Kearns (1995: 168) foresees in operating projects of larger and larger scales. It also highlights the influence of politics when working with local participation projects (compare this to Korf 2009).

The findings may also interpret communication difficulties between the public and the local authority. Adamson and Bromiley (2013: 197) acknowledge these difficulties of interaction between the public sector and the empowerment of the community. It seems that the structure of the public sector is not flexible enough to adapt to the empowerment of communities. The problem can occur when local authorities´ uses contact points or nodes to get in contact with the communities and the author sees that this often happen within one single point of contact (ibid: 197). The authors highlight the risk of letting one officer work as intermediary between the authority and the community; the power of one officer is often not adequate to have power and access to resources within the local authorities. Therefore the result is often that the voice of the community is generally weak and do not influence the local authority in a wider way (ibid: 197).

4. Method

4.1 Introduction

This chapter discusses the basic scientific requirements that have been considered in the study such as objectivity, validity, reliability, generalization and source criticism. Moreover it explains the choice of method used during the study.. This study seeks to gain knowledge about the eco-village concept and mainly on the role of public participation within this concept. To achieve an overview of the participants' general opinions on the eco-village project in Pointe aux Piments several methods have been combined such as a questionnaire, interviews, a focus group and literature studies.

4.2 A Scientific Approach

The quality of the study is more or less depended on whether it can be seen as scientific or not. Several factors play an important role to achieve this, such as the study's objectivity, validity, reliability, and generalization (Esaïasson et al 2012: 57).

4.2.1 Objectivity

A scientific approach advocates objectivity in the study even though recognizing the impossibility of achieving a complete one. Feminist geographers recognize the problem of objectivity and deny the believe that a researcher can detach himself/herself from the research process and acts only as an objective observer (Ekinsmyth 2001:177). We as researchers in this study agree with this feministic idea and we want to acknowledge that our backgrounds and thoughts cause an impact on the methods used and the results. The essay is written by two human geographers and the methods and literatures used reflect the researchers' field of interest.

4.2.2 Validity and Reliability

General validity can be defined as 1) the conformity between the theoretical definition and the operational indicators 2) the absence of systematical error and 3) that the study actually measure what it promises to measure (Esaïasson et al 2012: 57). Validity can be divided into different categories such as *conceptual, result, internal and external* (ibid: 57ff). Good conceptual validity can be described as the definition 1) and 2) above. The difficulty is that definitions used in a study not always are easy to define or only have one clear definition. One solution is to simply resonate the chosen definition by refereeing to what is known in the scientific sphere (ibid: 60) another is to test the validity in an empirical way (ibid: 61). The result validity answers to the definition 3) above. In order to achieve this, a good conceptual validity and reliability are needed (ibid: 63). Reliability depends on the correctness of how instruments are used and the absence of error during data collection and analysis (ibid: 63). A good conceptual and result validity plus a high reliability should give a good base for intern validity; a well founded conclusion based on the units analyzed (for example people) (ibid: 58). Extern validity is instead the possibility to generalize the conclusion made for the analyzed units towards a larger population.

4.2.3 Generalization

The ability to generalize the conclusion from an analyzed unit to a larger population is depended on several factors. One factor is whether the size of the unit analyzed are big enough compared to the total population. A large unit chosen in a random selection from a total population makes a good base for a statistical generalization (ibid: 171ff). A strategic selection is an alternative in cases where only a limited amount of analyzed units can be done. This might be the case where qualitative methods are used such as in depth interviews when a deeper understanding of each unit is wanted

(ibid: 154ff). There are also institutional, political and cultural differences that make a geographical generalization difficult (ibid: 155ff).

How much of the findings can be generalized? We argue that the findings in the case study of the eco-village project in Pointe aux Piments can be both generalized and not generalized. That depends on the type of generalization intended. The study acknowledges the importance of place and by that we want to highlight that every place has its own identity and therefore its own challenges and solutions. The problem of generalization lies within the risk of using one type of solution for all nine originally intended eco-villages in Mauritius. The same problem of generalization also occurs when trying to compare the findings of the project with the same type of projects in other countries and regions. But we also want to state that there are lessons that can be made and generalized. First of all we would like to generalize that the uniqueness of a place plays an important role in all eco-village projects or similar projects. Secondly most of the findings in this case are strengthened by other researches and studies mentioned in the theoretical backgrounds. Finally we would like to acknowledge that the lessons learned from this case study can itself be of value for the participants without a need to generalize all its findings.

4.2.4 Source Criticism

Source criticism is an important tool for the researcher in order to avoid errors, lies and misleading information (Esaïsson et al 2012: 278). There are generally four rules that can be used to decide the veracity of the statement: authenticity, independent, concurrency and tendency (ibid: 279). The researcher has to reassure the authenticity of the information gathered in order to see if they have been produced as they promised (ibid: 282). In this thesis primary data has been collected by questionnaires and interviews. A primary data is the one collected by the researches in a study directly from the source. Information gathered this way can directly be affirmed by the researcher and decreases the risk of gathering fake or forged information. This study also uses secondary data such in literature studies and background information. A secondary data is the information collected from other studies and for other purposes such as articles, books, reports and other relevant information. The literatures in this study are mainly scientific articles and books found in the search engine of Google Scholar and the University of Gothenburg. Other materials such as declarations, reports and plans have been downloaded from the publishers' own websites. By using trustful search engines and websites we hope to eliminate the risk of including fake information in our research. Just because we can believe that we have the right source does not mean that the story or information is true or non bias (ibid: 283). Independency is important factor; more independent sources that tell the same story also strengthen the truthiness of it. We also trust people that tell a story that they have played a central role in it (ibid: 283). The fact that we interviewed people who had directly been part of the eco-village project may give us a reason to trust their information even more. But we would also acknowledge the problem of tendency that may have occurred. A tendency is when the respondent has an interest of distort the version of the story that favors his/hers own interest (ibid: 285). This may have been the case when interviewing the members of the government even though our personal opinion was that they answered all our questions in an honest way.

It is important to also acknowledge the bias of the selected materials. Most of the materials have been gathered through Internet and the availability of the information online has therefore determined whether it is used or not in this study. Used materials have also been preferred in English or Swedish whenever it was possible. Materials have also been chosen by the level of relevance they contributed to the study.

4.3 Data collection: Questionnaire, Interviews and Literature Studies

When collecting the data four methods were used: a questionnaire, interviews, focus groups and literature studies. All four methods were used to complement each other and to get a wider coverage in order to achieve the study of the purpose.

1. Questionnaire

For this study a questionnaire was made for the population of Pointe aux Piments, shown in annex 2. Since the population mainly speaks and understands French the questionnaire was translated into French. However, a large amount of people participating in the survey could not read or write so a translator was hired to help communicate with the respondents. The questionnaire was handed to the respondents, the translator explained the questions and the answers were immediately filled in. Since the respondents filled in the questionnaire in our presence we had the advantage of discussing the questions with them and make sure that they understood them. Another advantage of this was to maximize the level of answer frequency and to avoid misunderstandings and misinterpreting of the questions. This is important to increase the validity and reliability of the study, because we try to reassure that the respondent understand the questions asked and therefore decrease the chances of a systematical error (Esaiasson et al 2012: 57, 63). There were both opened and closed questions in the questionnaire (seen in annex 2). A few of them did include alternatives to simplify for the respondents.

An important issue was how to choose the respondents in the questionnaire. Time and cost constraints made it difficult to include a large amount of respondents in the questionnaire. A strategic selection from the population had to be made. Esaiasson et al. (2012:154ff) argue that this kind of selection can make it hard to generalize the result to the entire population. One solution is to try and find different categories of thoughts within the selection and claim that these types of differences also occur in the entire population (ibid: 167). Different variables such as age, gender, occupation and residential area were chosen and included in the questionnaire in order to see if there were different categories of thoughts within the selection. These variables were chosen mainly because earlier studies closely related to this study had identified them as important factors. This questionnaire was made to mainly answer two of the research questions “*What do the locals think about the definitions within the eco-village project?*” and “*What do the locals feel are important for the development of the village?*”.

A total of 66 people answered the questionnaire, 35 women and 31 men in the ages of 18 up to retirement age. The people who answered have in some cases been divided into groups: age, gender and residential area. Of the 66 people who answered the questionnaire 15 were in the ages of 18-30, 26 people 31-50 and 25 who were above 50. 38 of them lived in Grande Pointe aux Piments, 23 in Petite Pointe aux Piments and five lived outside of Pointe aux Piments but worked in the area. This fieldwork was conducted during three days. People were reached in their own homes or work as the entire area of research was covered. We felt that meeting them in their own homes would make the respondents more relaxed and as a result answering more honest to the questions. The result from the questionnaire was first translated to English by the translator and then transferred to an excel document for further analysis.

2. Interviews

Three qualitative semi-structured interviews were conducted to gather information about the eco-village project in Pointe aux Piments and the participation process. The people interviewed were politicians in the Ministry of Environment and Sustainable Development, the Village President of Pointe aux Piments and a Councilor of the district of Pamplémousses. We used a semi-structured interview with questions needed for our research but we also gave room for the respondents to add more details (Willis 2006: 144-145). The purpose of the interviews was to gain as much information as possible to help us answer our research questions mainly to answer “*How has the eco-village concept been interpreted by the government?*” and “*In what way has this project been incorporated with the locals?*”. Most of the questions prepared were based on the literature studies made this due to the importance of comparing the interpretations of the government with already existing ideas and theories. We as human geographical researchers were also interested in the level of scale within the governmental institution. The three interviews represent a voice from different levels in this scale; national, regional and local. By doing so we hoped to see if there were any differences in involvement between these levels but also how the communication between them was handled, an issue that was also brought up in the literature studies.

- *The Ministry of Environment and Sustainable Development*

A contact with the ministry of environment and sustainable development was established a few months before the interview. They provided information about the eco-village project in Mauritius (Annex 1). This project description was used as a base for formulating the questions in the questionnaire and some of the interview questions. The interview took place in the ministry office with the Divisional Environment officer, the one responsible for the eco-village project, and two others who were working with her. Most of the questions were answered by the Divisional Environment officer but the other two colleagues could sometimes add more detailed information. The interview questions were planned ahead in order to not miss out of important information but there was also room for additional information if the ministry wanted to add that. The interview was recorded and notes were made.

- *The Village President of Pointe aux Piments*

The village president was chosen for an interview because of a large amount of the respondent from the questionnaire named him as the one they turned to for complaints and opinions. The interview was conducted with the help of the translator and notes were made and transcribed for further review. This interview was not planned from the beginning and the questions asked were therefore not as structured as the interview with the ministry. The meeting took place close to his house and there was a kind of spontaneity around the interview. We think that this helped him to speak more freely even though a more structured interview could have given more detailed answers.

- *District of Pamplémousses*

A councilor who used to work in the district was interviewed about the eco-village project in Pointe aux Piments. This councilor was involved in the upstart of the project. Notes were made and transcribed for further review.

Other information, advice and recommendations were given to us by the locals and politicians. One focus group interview with the fishermen was also conducted. Informant interviews were needed to

provide the study with sufficient information about the eco-village project and their general views towards it, participation and sustainable development.

3. Focus group

We also wanted to conduct several focus groups. Bennett (2001: 151) highlights the advantages of a focus group by mentioning that they are useful when working with communities because the research can get an understanding of their histories, responses and thoughts in relation to particular issues. We wanted to complement a questionnaires advantage of getting an overview of the issues by using focus groups that give us a deeper understanding of what they actually thinks and respond about certain issues. However it was a lot harder to arrange a focus group because of the difficulty of gathering several respondents in one place and at the same time. Occupational groups such as fishermen were easier to gather because they were already organized and gathered at one place nearby the beach. Other groups were harder to gather such as maids and housewives because they were not organized as a group. We ended up only conducting one focus group; with the fishermen gathering at the beach in Pointe aux Piments. This group is important because several changes that the eco-village project wanted to make involved the beach area and the fishermen. There were four fisherman gathered when the interview started but two additional fishermen joined in later on. We used a semi-structured interview with questions needed for our research but we also gave room for the respondents to add more details (Willis 2006: 144-145). This way of interviewing people in group had an advantage where the respondent could discuss the issues together and they also felt more comfortable when they were in a group. One potential problem was that one fisherman had a lot more to say and dominated most of the conversation (Lloyd-Evans 2006:153-154).

4. Literature studies

Literature studies were made during the whole stage of the study. The main literature used was gathered from scientific articles and relevant books. Other sources such as declarations, reports and plans were also included in the material. The study has been focused on participatory theories and sustainable development with a geographical perspective. The literature studies were made to put the research into a wider scientific context. This helped with the problem formulation of this thesis and also to clarify the definitions and theories used in the theoretical framework, such as sustainable development, participation and geographical theories.

4.4 Alternative Methods

The data needed for this study can also be gathered by using other methods. This study could have used more focus groups to get a deeper understanding of what each group, example housewives, thinks about the implementation of the eco-village. Another method is to use a public hearing and try to gather as much people as possible on one occasion. But these methods would have taken time due to the problems that can occur with gathering a large amount of people. Observation as a method was also a suggestion but there is a difficulty of misinterpretation due to a cultural difference between the researchers and the participants.

4.5 Challenges

There are several limitations in this study that have been taken into consideration. It is important to acknowledge those to get a better understanding of the chosen methods and the result. The limitation

can generally be divided into these categories; *time and cost, institutional, lingual and cultural limitations*:

- **Time and cost:** this study was conducted during two month in 2014, from the first of April until the end May. The time to arrange interviews and sending out questionnaires were therefore limited and people of interest for this study could therefore not always be reached. It is also important to highlight that this study was conducted while the eco-village still were on a planning phase. Changes to the project had been done and further changes were also expected. This effect the quality of the information gathered. Cost is also a limitation that affects the amount of respondents questioned and methods used to obtain the needed information.
- **Institutional:** this institutional limitation is in a way imbedded in the cultural. It takes time to understand who to turn to for information, how much of the information is actually available and the level of effectiveness from the communication. Most of the information needed has been available for the study and all people contacted have been kind and helpful. The effectiveness of the communication could have been better and not all information and people were available in time.
- **Lingual:** as mentioned before there are mainly three languages spoken on the island: English, France and Mauritian Creole. Most of the written information has been available in English. The interviews made with the authority were also in English. The locals prefer to speak Mauritian Creole which is closer to French than English. The researchers in this study could only speak English and a translator was needed when speaking to the locals. This form of communication limits the information that can be gathered and trust is needed to rely on the translator to explain it in the right way. Because this study was aimed towards all the locals, no matter their level of education, a simple language had to be used when writing the questionnaires. This was also the reason for including alternatives in the questionnaire. This may have an effect on the quality of the answers returned.
- **Cultural:** finally there is always a cultural barrier that takes time to get through. Help was needed to get a better understanding of the culture in Mauritius: what to ask and what not to ask, how to act and so on. The general view was that people were very polite and helpful but this cannot guarantee that they were honest or not hiding sensitive information. The political aspect was also ignored in this study but it is important to acknowledge that supporter of the current regime may have a different view then the opponents and so on. No questions were also asked about the locals' economical situation to avoid mentioning a sensitive issue that could change the way of the communication; even though that information could have been useful for the study.

5. Results

In this section the results of the study will be shown, both from the survey in Pointe aux Piments and the interviews with the different politicians.

5.1 The Questionnaire

A total of 66 people answered the questionnaire, 35 women and 31 men in the ages of 18 up to retirement age. The people who answered have in some cases been divided into groups: age, gender and residential area. Of the 66 people who answered the questionnaire 15 were in the ages of 18-30, 26 people 31-50 and 25 who were above 50. 38 of them lived in Grande Pointe aux Piments, 23 in Petite Pointe aux Piments and five lived outside of Pointe aux Piments but worked in the area.

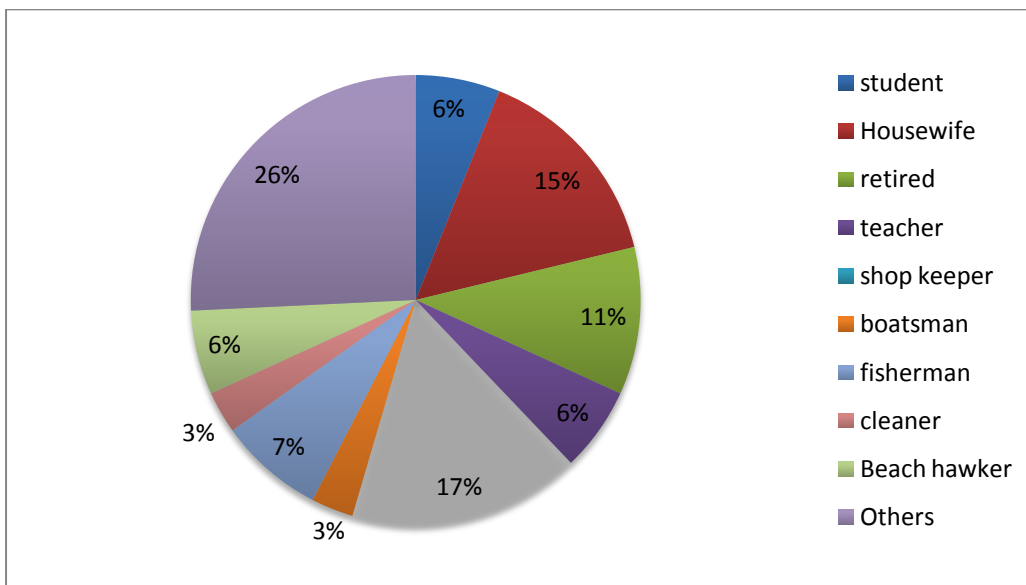


Figure 5.1 The respondents' occupation calculated from the 66 respondents.

1. 46 of the 66 respondents asked have heard about the MID. Most of the respondents heard about MID from TV or radio. A few of them had also heard it from school, the newspaper or from the village council. When asking what they knew about MID a large group mentioned that it has to do with preserving the environment or being "environmental friendly". There were also a large number of people that knew about MID but could not explain what it was for. A few people mentioned that it has to do with development, economy or energy. Other comments were "to make Mauritius a better place" and "prosperity for the island".
2. When asked if they heard of the definition "Sustainable Development", 22 respondents answered yes and 44 answered no. Most of them heard about it from TV while a few also mentioned from friends, school or the government. There were only a small number of the respondents who answered yes that actually could put in words what the definition meant to them. A few answered that it is about environment and development; one added also "the development for future generation". Other respondents spoke about a lifecycle, solar energy and building roads.

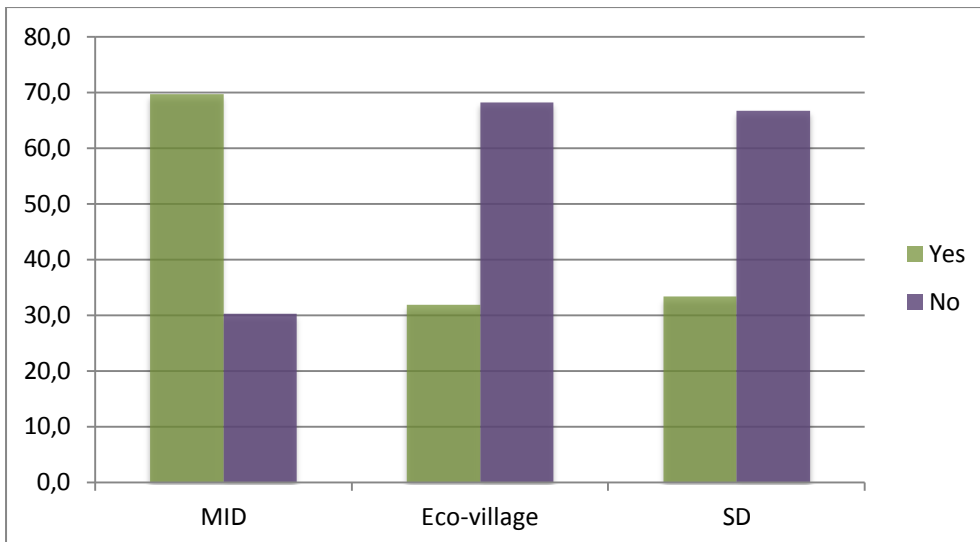


Figure 5.2 The populations results if they have heard about the MID, the eco-village project and sustainable development (in percentage calculated by the 66 respondents).

3. When asked if they have heard about the eco-village project in Pointe aux Piments, 21 respondents answered yes and 45 answered no. Most of the people that answered yes heard about it in the village hall (Community Centre), while a few heard about it in the retirement home or on TV. The main respondents' could not explain what the eco-village project was about. The ones that answered spoke about it as environmental friendly, leads to better infrastructure," infrastructure on the beach" and the conservation of the Park Marine.
4. When asked which of the following categories should be most prioritized for the development of Pointe aux Piments the respondents could choose to fill in a maximum of three alternatives. The following categories were available: *Education, Infrastructure, Alternative jobs, Tourism, Conservation, Public areas, Security, New technology, Governance and Others (specify what)*. The result can be seen in the figure 5.3 below. Note that not all respondents chose three alternatives. The most common categories were, as seen in the figure, security, education and alternative jobs while the least chosen were new technology, governance and conservation. A few respondents had also chosen other categories such as "controlling the drug problem" and "fighting corruption".

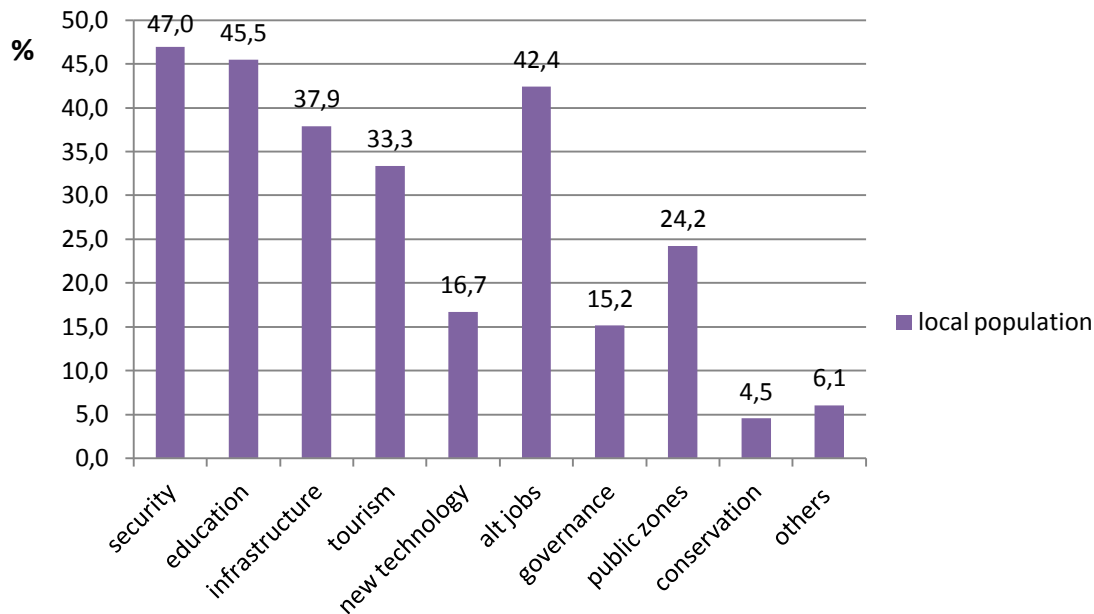


Figure 5.3 what the locals thought was most important to develop, shown in percentage of frequency divided by respondents.

5. a) When asked if the respondent felt involved in the participation of the development in Pointe aux Piments, 25 answered yes and 41 answered no. A few of the people that answered no were not interested or did not feel that they had time to participate. Others said no and mentioned that it was no use because nobody listened anyway. A few of the respondents that answered yes felt that they tried to contribute but that no political action had been taken afterwards. They mentioned that the “politicians only act when the election is close”. Most of the respondents that answered yes felt that they contributed in a practical way. Among them are people that organized sport events, did social work, helped building the village, cleaned the village and educated others or simply contributing by educating themselves in school.
- b) When asked if the respondents’ knew whom to turn to when they have an opinion about the development of Pointe aux Piments, 48 respondents answered yes, 16 answered no and 2 did not answer. Almost all of the respondents that answered yes said that they turned to either the village president or the village council. A few also added the government and the district of Pamplémousses. A fair number of the respondents that answered yes, knew who turn to (mostly the village president), but added that it was useless to go there because no action will happen anyway.
6. Finally, when asked if they wanted to learn more on how to live a sustainable life, 48 answered yes, 17 answered no while 1 did not answer. Those that answered no said that they were either too old, did not have time, they were not interested or that it was useless for the outcome anyway. The majority of the group answered yes and the reasons here were spread. Reasons like “for a better future to my children”, “to protect the environment”, and “to live a better life” were commonly mentioned. Other reasons concerned the welfare, security, improving their own job and for personal progress.

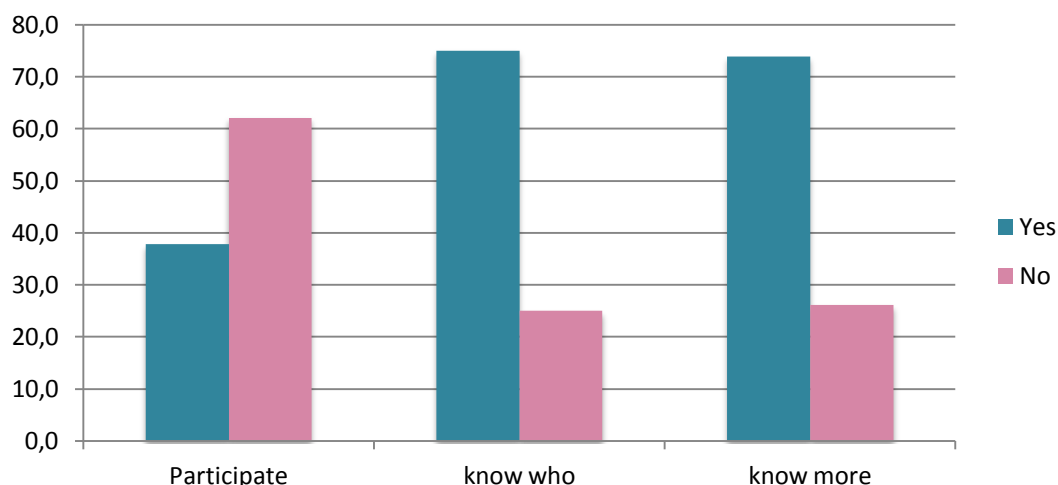


Figure 5.4 The respondents' answers about participation, knowledge of who to turn to and if they wanted to know more about sustainable development, shown in percentage calculated from the 66 respondents.

Differences within the Questionnaire

Below the results are shown in different diagrams and tables and they show differences within the population of Pointe aux Piments. Some of them show differences between men and women, some between the residential areas and one compare the difference between age groups. The figures have been calculated using percentage based on the number of participants. The following figures that are presented will be analysed and discussed in the next chapter, but they are presented here in the result chapter so that no new data will be presented when the results are analysed.

Table 5.1 Percentage of people who answered yes on the questions in the questionnaire. N=66

Residential area	MID	Eco-village	SD	participate	know who	know more
Grande Pointe aux Piments	39,4	19,7	18,2	22,7	36,4	40,9
Petite Pointe aux Piments	22,7	9,1	13,6	12,1	28,8	25,8
Others	7,6	3,0	1,5	3,0	7,6	6,1
Gender						
Men	37,9	15,2	16,7	30,3	34,8	33,3
Women	31,8	16,7	16,7	7,6	37,9	39,4
Age						
18-30	13,6	6,5	10,9	13,0	26,1	26,1
31-50	31,8	21,7	21,7	28,3	43,5	41,3
50-	24,2	17,4	15,2	13,0	34,8	37,0

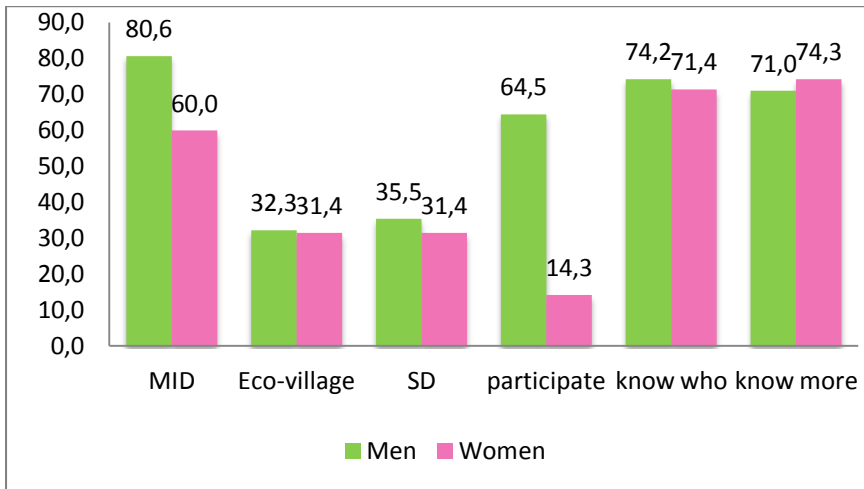


Figure 5.5 Men compared to women who answered yes in the questionnaire

Figure 5.5 is a figure that shows differences between men and women although most of them are almost the same there are still some slight differences between the respondents'.

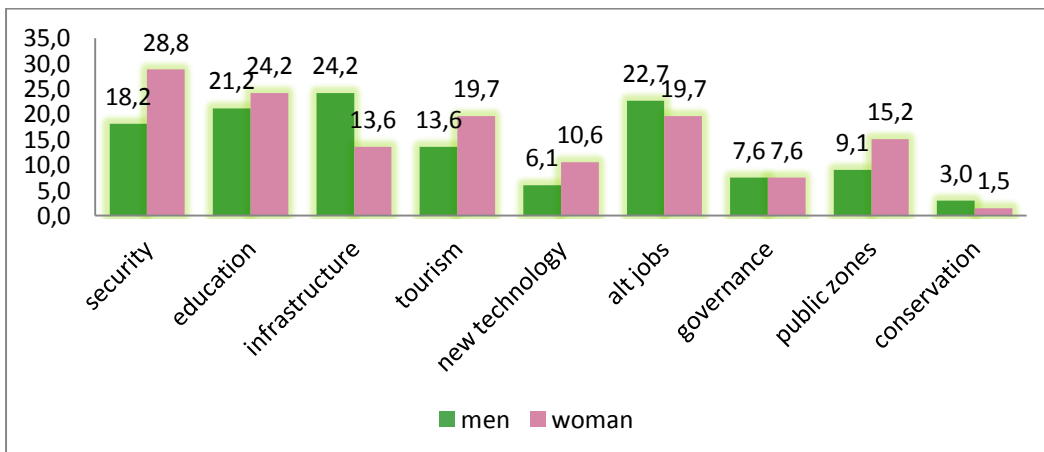


Figure 5.6 what the respondents want in Pointe aux Piments, shown in percentage calculated from the multiple choices in the questionnaire and divided into men and women.

Figure 5.6 shows what the respondents felt was most important for the development of the village and what they wanted to see in their village. As one can see there are some differences in what they prioritize, security seems to be the main thing that women want to improve in the village while the highest percentage of men wanted improved infrastructure which is more compatible with the eco-village project.

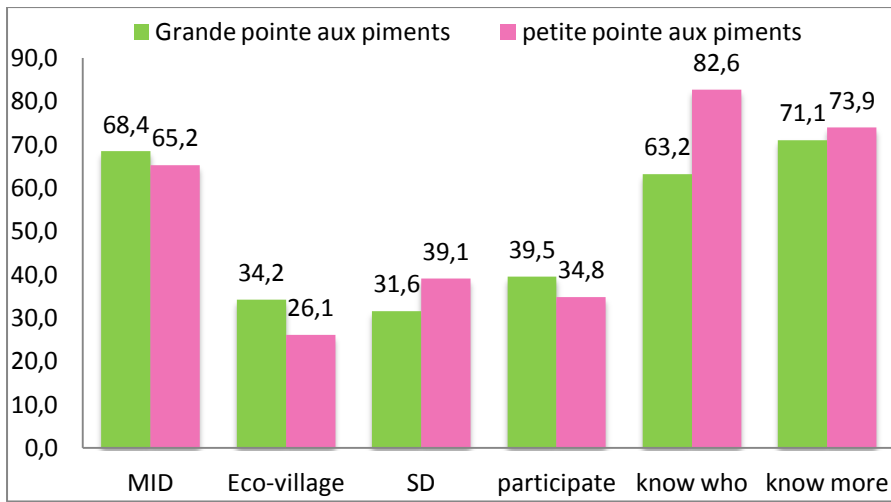


Figure 5.7 the respondents' answers divided into residential areas calculated from the 66 respondents.

Figure 5.7 shows the different categories divided into the residential areas Grande Pointe aux Piments and Petit Pointe aux Piments; other residential areas have been excluded here since they represent such a small group. It has been divided like this to see if the differences in the different categories depend on distance to the village hall or if there are differences depending on the residential area.

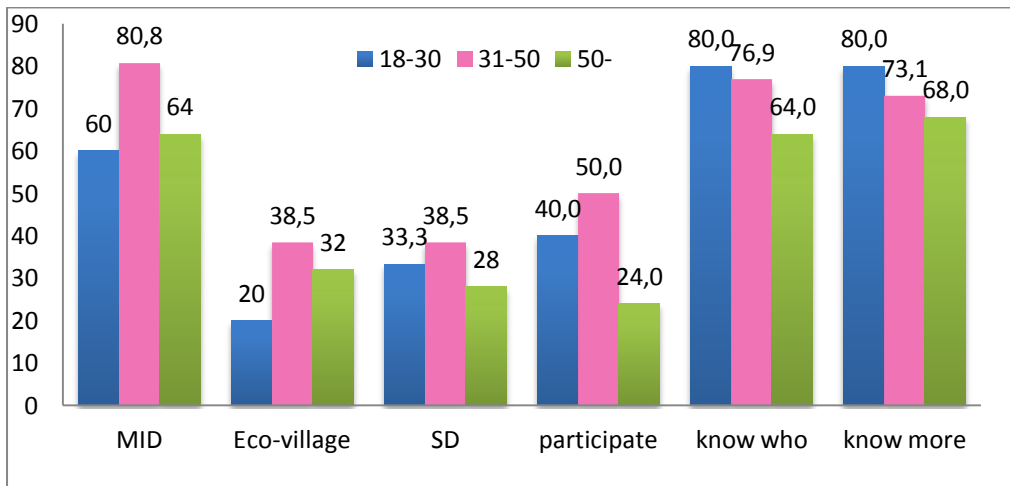


Figure 5.8 the different answers from the respondents divided into age groups

Figure 5.8 shows the different answers with the respondents divided into age group, this is done to see if there are any differences within the ages.

5.2 The interviews

Interview at the Ministry of Environment and Sustainable Development 14/4-14

The politicians in the Ministry of Environment and Sustainable development think that the eco-village was a little bit too ambitious. First of all the interviewed politicians did not conceptualize it properly; they did not have a clear vision of what an eco-village was and what it should be in Mauritius. When they were searching for funding of the project and the ministry of finance asked them to explain what the eco-village was, the people who were working on the project had different concepts about it. But everyone knew that it was something different.

To go further with the project a consultant was hired to work on a “master plan”, how to include sustainable development in every aspect of the village. But because of the complexity of the project it was hard to implement, since the government wanted to transform an already existing village to an eco-village. It was also hard to implement because of the definition problem, every country and people have a different definition about what an eco-village is. The interviewed claims that first of all they needed a national vision of what they want and then implement parts of it. To get more funding to implement the project they pushed it through the Global environmental fund (GEF), a fund that is managed by the World Bank and fund these kinds of environmental projects.

When choosing Pointe aux Piments in the beginning of the project the people who worked on the project went all around the island to see which villages were best suited for the project. They chose it because it is a poor village and because they had to choose a coastal village in the north of the island. They wanted to include villages that often were sidelined and “not important”. To set up the lines of where they were going to implement the eco-village they just took the administrative lines of the villages. Since the project has been put on hold and then taken up again they have had to rethink it because it was so hard to implement. They have for the time being decided to only focus on Pointe aux Piments. They say that it is because the government are already doing things in the other villages that were chosen in the beginning of the project and that they do not seem to need becoming eco-villages. They have already implemented things from other programs in these villages.

When asked if the interviewed would have done something different they answered that they should have built a new sustainable village, instead of trying to change an already existing one. They also say that it would have been easier to find just one problem, or thing, to focus on in every village instead of trying to do everything. Because they cannot change everything overnight. Since they encountered so many problems with implementing this project they think that the government system might not be mature enough for it. The idea should not have come from the ministry of environment, it should have come from the finance ministry because they have the money, and when a project comes from them it usually work. To communicate with the villages and villagers they had side consultation with the local politicians (councillors, CBOs). They also hosted evening meetings in the village hall for the local population. In these meetings they informed and explained about the project. To these public meeting everyone was welcome and the population was informed when and where the meeting would take place in advance.

The kind of participation they used was consult and inform, and assuming that by doing so they would empower the locals. They asked the local population questions such as what their needs were. The consultant then fitted in the need of the population in the master plan, as well as possible. So the plan that was built came after the consultations. However all the opinions of the locals could not be included, it is hard to satisfy everyone and one has to prioritize. They also consulted with the private sector, saying that the only way to implement any project needs to include the private sectors opinions. NGOs have also been included in many decisions, as they have NGO desks in the ministry.

Pointe aux Piments is located in the district of Pamplemousses and they have their own local authority. To implement this project all need to be involved, local, regional and national. However they do not seem to know whom to contact in the district office because there is new people in there, though they say that there is a good communication between them.

The politicians interviewed at the Ministry of Environment feel that it is important to inform and educate the people about the environment and sustainable development; they say that it is one of the core things of their department. To incorporate the publics’ values in the decision making is also

very important though they have not reached the full stage of participation. Trying to get everyone involved and please everyone can be very hard, especially in such a multicultural country as Mauritius. It is also important to have the trust of the public, but it is a two-way street, if the government gives something to the people, the people are expected to look after and take care of what is given. According to the politician the trust in the country varies, however it seems to them that the people think that the government is doing a good job. There is also competing interest of different areas, these conflicts are very important to solve. They have meeting with the competing parties and the matter is handled high up in the government to receive a fair outcome. The different parties may express themselves in media, often newspapers where you often can see their representation.

They say that consulting the public gives them an idea of what the people think but if they base the decisions only on the public's opinion the decisions will not be better. But if they can get the views maybe they can think of better solutions. They say that we cannot compare Mauritius with other countries governments; since it is such a small country they generally know what the people want. But the politicians do consult with the public; however the government sometimes overlooks the locals' own solutions.

When asked how they define sustainable development the respondents said that in Mauritius the government tend to be a bit too ambitious; it is easy to forget that they live on a small island and cannot do everything. The politicians say that there is a need to stay within their own limits. They want to have food security, eco-tourism, conserve areas and develop at the same time. It is important to know how to balance everything and live within what the island can sustain. They seem to focus too much of the environmental part of sustainable development and forget about the other aspects of the concept. The MID concept was a bottom up approach; the people know what they want. And often what they want is sustainable development even though they don't know the definition of it.

Interview with the Village President 16/4-14

The village president is someone who is elected into the village council in a six-year period together with a district councilor, secretary and other councilors. When someone from the village ask them something or comes with ideas, they have a meeting to discuss. But according to him he cannot do much for the village, it is the government who decides and the government gives nothing. The president also works at a hotel in Pointe aux Piments and thinks that the hotels support the village. The hotels help to sponsor different activities and provide work for the local population. He also thinks that the village is a safe place because they have a coast guard. He hopes that the hotels will help to take care of the future generation and he thinks that Pointe aux Piments will be a very nice place in the future with a lot of leisure places. He says that everyone will benefit from the hotels and the marine park.

He also thinks that Pointe aux Piments needs a bank or an ATM, a post office and a police station to further development; they have asked the government to provide this.

The village president thinks that the eco-village project was a very good idea but says that it has been cancelled and moved to another village; instead they are getting a marine park (a protected marine area). He did not know why the project was cancelled; just that someone who was working on the project said that it was over. He has also heard about the MID, when having a meeting with the Ministry of Fisheries. When asking if he knew about sustainable development and what it meant he answered that he had heard about it but did not know what it meant.

Interview with the District of Pamplemousses 22/4-14

The acting Principal Health Inspector in the district of Pamplemousses was working on the eco-village project in Pointe aux Piments when it first started. He has seen the general information of the project but nothing has happened since 2011. His personal view of the project was that it was a good idea and it would be good for the village but also a bit too ambitious. When asked what he thought the project was about, he said that it is about creating green areas, installing solar power, remodeling the beach area and working with social, economic and environmental issues. He did not know what an eco-village was before working on the project. He thinks that in order for the project to have worked they should have educated and informed the locals more before starting the project.

Focus group Fishermen 9/4-14

Some of the fishermen in Pointe aux Piments were also interviewed about how they felt about the development of Pointe aux Piments and what they feel is needed in the village. They felt that the hotels in the area are taking too much space, they use beaches so that the fishermen cannot fish where they used to. They feel that the hotels should cooperate with them and the rest of the village but that they do not do this. They would like to have alternative jobs, but preferably still within fishing because they do not know anything else and feel like it is too late for them to start learning something new. The fishermen said that to develop the village they need to get a bank and a police station. Also restaurants for the tourists are needed, since they have hotels but no restaurants for the tourists to go to. This means that they do not get much from the tourist industry. They also say that the green areas needs to be cleaned up so that thieves would not be able to hide in the trees, and beaches also needs to be cleaned. Safety is a big issue in Pointe aux Piments because they don't have a police station and no one controls if rules are followed. When asked what they think that Pointe aux Piments will look like in ten years some say that it will be a paradise for tourists. Others believe that it will be exactly the same and some think that it at least will be better than the neighboring village.

6. Analysis

This chapter seeks to analyze the results introduced in the previous chapter. First we clarify the definitions and analyze the results according to these definitions. After that we examine if there are any differences between the respondents within the village, just to see if this had any effect on the results.

6.1 Clarifying the Definitions

6.1.1 Sustainable Development

One of the most common definitions of sustainable development can be seen in figure 3.1 where environmental, social and economical aspects are equally represented. The goal of the MID is to achieve sustainable development and they divide the definition into five pillars of Es: *energy, environment, economy, education and equity*. All five pillars seem equally as important. Around 70% of the respondents in the questionnaire had heard about the MID and most of them that defined it focused on the environmental issue. Though the question is what is highlighted as sustainable development in the eco-village project?

The general view from the authority has been that sustainable development, in the framework of the eco-village project, is mainly about the environment. This is also strengthened by the fact that *the Division of Sustainable Development* is at this time embedded with *the Division of Environment*. The description of the eco-village project (as seen in Annex 1) brings up in the introduction that the eco-village project was created by the purpose to get “...a view to demonstrating ways of life which are respectful of the environment and lasting for the next generations...”. It focuses on the environmental issues such as creating awareness about recycling, water conservation and waste management etcetera. But they also mention social aspects in the features such as a need of a “*sense of place*” and “*valuing artistic and sports interaction*”. The economical aspect focuses on to “*promote and support local business*” and on *eco-tourism*. The main elements also seem to focus on including the environment in the economical and the social aspects. Sustainable development within the framework of the eco-village project seems therefore to adopt another view where the environment set the limit for what can be done (see figure 6.1).

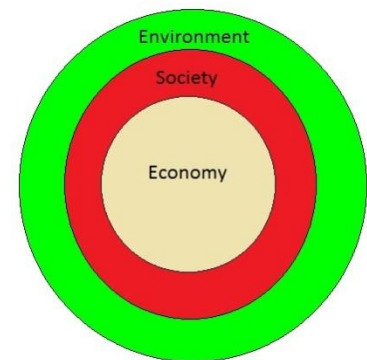


Figure 6.1 “The Bullseye” a vision of Sustainable Development (Data source Al Fahel, Ivarsson 2014)

Notably two thirds of the respondents had not heard about “*Sustainable Development*”. Most of them that had heard about it could not put it into words. The ones who actually answered mentioned the environmental aspects of it such as lifecycle, solar energy or about “*environment and development*” etcetera. The ministry argues though that the people know how to think in a sustainable way but they are simply unaware of the definition. This is also the reason why the questionnaire later on in question four (see Annex 2) did not ask what the locals want to achieve by sustainable development. Instead the question was: what should be most prioritized for the “*development*” of Pointe aux Piments? The answers, seen in figure 5.3, highlights that categories such as education, security and alternative jobs were commonly mentioned. The least mentioned were new technology, governance and conservation. All the categories can be seen in a social, economical and environmental view. The study also acknowledges the difficulty of explaining the categories to the respondents in a fair way but with the help of follow-up question a general view could be seen. The respondents often spoke about the importance of protecting the environment but

when they were asked to prioritize what is needed for further development of the village most of them turned to the need of themselves and as such security, education and alternative jobs were widely mentioned. This is an interesting comparison to figure 3.2 where the perception of the question for a respondent can either be seen as individualistic or what is best for the entire community. Maybe if all respondents belonged to the “we have” or “we have nots” groups, categories such as conservation would have been mentioned more often. Maybe what is “best for the community” can be best represented by an authority even though the individualistic perspective may be equally as important. The question is what kind of participation the locals of Pointe aux Piments within the eco-village project then expect?

6.1.2 Public Participation

The importance of public participation is often mentioned in the brief description of the eco-village project. The description speaks about it in words such as “*enlist community participation...*”, “*empowering of citizens...*” and “*people-based initiatives that seek active participation...*”. Though it is important to acknowledge the type of public participation that this project wants to conduct. With the help of table 3.1 (public participation spectrum) two types of public participation seems to be the most dominant: the purpose to “Inform” and “Consult”. The need to inform is mentioned several times in the brief (Annex 1) such as “*to create awareness...*”, “*to transfer knowledge...*”, and “*to foster a sense of community belonging and environmental stewardship among villagers...*”. This is also strengthened by the methods used to promote public participation, mainly public meetings (compare to table 3.1). The ministry admits that the informative and the consultative types of public participation are the ones intended and they are hoping that by doing so empower the locals. But as seen in the theoretical background, empowerment or participation can mean a lot of things and this study shows that there are differences as well.

One interesting view is the answers from question five in the questionnaire; whether the respondents felt that they were participating in the development of the village or not (see figure 5.4). As seen, a majority of people answered no because of several reasons (see results). But there seems to be a group that answered yes or no to the question and expressed hopelessness in action taken anyway. That means that they were asked to participate but their suggestions did not affect the outcome anyway. This is worth comparing to Beierle & Konisky (2000: 588) who argue that the evaluation that does happen often focuses on the process rather than the outcome. Instead several respondents seem to consider participation as a more practical way of contributing, such as organizing sport events, cleaning the village or doing social work. Maybe this type of practical participation is easier to conduct and feel the outcome of than a more information-based project with many others involved.

The ministry was asked the importance of each goal (seen in figure “five distinctive goals of public participation) within the eco-village project. The general view seems to be that the first two goals “*inform and educate the public*” and “*incorporate public values in the decision making*” plays a main role in the eco-village project. Avoiding conflicts and earning trust are of course seen as very important issues but these goals are not directly mentioned in the project description. The goal to “*improve the substantial quality of decisions*” seems to be more questioned. The description mentions that active participation is needed but it does not mention that by doing so a better quality of decisions will be achieved. The ministries’ own views are by informing and consulting the public, the government is the one that can be able to improve the quality of the decisions. It is worth to consider what Fiorino (1995, 239) acknowledges; the opinions of the expert are considered as the more rational ones compared to the public and therefore the ones trusted. The ministry adds that the government sometimes overlooks the locals’ own solutions and by that misses a chance to improve the quality of the decisions.

6.1.3 Eco-village

Creating eco-villages and eco-communities to promote sustainable ways of living has been one of the ways to work with public participation and sustainable development. The idea is to let the locals involved decide over their own environment and way of living. This idea is in accordance with the participation theories that think that the public knows its own best and can, within the right circumstances, be skilled enough to take part in governance (Fiorino 1990: 229). The founders give the original definition of an eco-village:

“An intentional community, which is human-scaled, full-featured, harmlessly integrated with nature, supports healthy human development and is sustainable.” (Robert and Dianne Gilman’s original definition, 1991) (GEN 2013).

Besides this definition, there does not seem to be a scientific definition of what an eco-village should include or not. The definition is in itself hard to implement due to its diffuseness; what is for example *“healthy human development that is sustainable”*? The ministry also acknowledges this problem of conceptualization and it seemed like everybody had a different opinion of what an eco-village is. As mentioned before, the introduction of the brief description in Annex 1 acknowledges that the eco-village project is about demonstrating a way of life that is respectful to the environment and that lasts for coming generations. Most of the eco-villages that have been built consist of a few hundred members that try to integrate making a living and having a strong community feeling with a sense of ecological thinking. The brief description in Annex 1 brings up all of these aspects in one way or another.

It seems that one problem occurred while conducting the project; does this kind of project really fit the village of Pointe aux Piments? The village needed development according to the ministry but it seems like the concept of an eco-village is based on a community spirit where the locals decide individually if they want to live the same-spirited way of life as the definition implies. The interview with the ministry also indicates that it should have been easier to build a new sustainable village instead of trying to change an already existing one. Most of the respondents in the questionnaire had not heard about the eco-village project in Pointe aux Piments and the few that actually answered yes and described it said it was about being environmental friendly, conservation or better infrastructure. No one mentioned the importance of a community spirit or a willingness to live in accordance with the definition. This is where the original definition of an eco-village, the brief description in Annex 1 and the actual outcome of the project may differ the most; should the government do this commitment for the locals or must they by themselves decide whether they want to commit to this way of living or not?

The difficulty with the definition of an eco-village may lie within its loose boundaries and as a result different kinds of eco-villages will be created. The problem that can occur if it varies too much is that the value of the definition will disappear; if villages can call themselves eco-villages by doing some improvement then the definition will lose its own value. This does not mean that the improvement in the village of Pointe aux Piments are bad or not achieving sustainable development; it means that it might be better off if another definition is used that fits the actual need of the village. There is still one aspect of an eco-village that is important to mention, the spatiality of the project. It seems easier to create this sense of community belonging and commitment towards living a sustainable life if the project is of a small-scale and include a small amount of participants.

6.2 Place, Space and Differences within the Village

6.2.1 Place and Space

As mentioned several times in the theoretical background (see for example Kearns 1995) place and space have an important role to play when conducting a project, especially a project that wants to have an active participation and create a community belonging. Kearns (1995: 167f) speaks about the “*sense of place*”, a feeling that the project wants to achieve when talking about community belonging. But how can you achieve such a community belonging in the eco-village project or does it already exist in Pointe aux Piments? One difficulty to acknowledge is that this study took place during a short period of time. Getting to know a new village, this place as a “historically contingent process” (see Kearns 1995: 166) and trying to get a sense of whether a community belonging exists or not is not an easy mission. There are at least three factors that need to be considered: the definition, the institutional and the scale factors.

When asking what a community is, the definition of Kearns is used (see Kearns 1995: 166 and theoretical background). The definition mentions, “*people may develop a set of shared interests and values... and can form a foundation for collective social and political endeavors.*” The Manchester initiative “*A Sense of Place Framework*”, mentioned by Hothi et al (2008: 46), acknowledges that the sense of place is connected to belonging that in its turn was influenced by relationships. This relationship created through a network of family, friends and neighbors was in its turn important to the feeling of connection towards the place they lived in. The next section “*The differences within the village*” is an attempt to see whether this kind of shared interests and values can be found within the framework of the eco-village project in Pointe aux Piments. Even in that section there is a trial to see whether several “communities” (Grande Pointe aux Piments and Petite Pointe aux Piments) exist within the spatial limitation of the project.

The institutional factor questions if this kind of project can be achieved with the level of participation in the links used in the eco-village project. The interviews with the local authority, the village president and the ministry indicates that the level of communication have mainly gone from the ministry, to a contractor and down to the locals. The role of the local authority and the village president seem to be a more informative one. This can create a risk that Adamson and Bromiley (2013: 197) argue; the risk of letting one officer/contractor work as intermediary between the authority and the community. The question is whether this contractor has enough knowledge about the village and the power to represent the voice of the locals in a fair way. Most of the people in the questionnaire know that they can turn to the village president when having an opinion. Maybe the trust of the village president will decline when he in return have no control of the outcome? The factor of scale has been brought up several times in the theoretical background. An interesting view is highlighted by Geissel (2009: 411f) when the author saw the problem of communication mentioned above and the consequence of neglecting the suggestions from the locals as follow. The solution had in several examples, within the local Agenda 21, been for the public participants to focus on small-scale projects and by that displace the need of the authorities. This risk highlights the importance of letting the public feel that they are making an impact in the eco-village project in Pointe aux Piments.

6.2.2 The Differences within the Village

To see if there are any differences among the population in Pointe aux Piments the respondents have been divided into groups of gender, residential area and age to be analyzed and compared. The figures are shown in the results chapter.

Gender

To see if there are any differences between men and women and their priorities tables and figures have been made to be able to analyze this. Table 5.1 shows the percentage of people who knew about the MID, eco-village project and sustainable development. It also shows how many who felt that they were participating in the village, if they know who to talk to when they want to see a change and also if they wanted to know more about sustainable development. Figure 5.5 is a chart based on the figures in table 5.1 and shows the differences between men and women. As one can see in figure 5.5 there are some slight differences between the genders although most of them are almost the same. The greatest differences between them are when it comes to knowing about the MID project and if they participate in the village. In these two categories a considerable number more of the men than women answered yes; especially when it comes to participating in the village, where a total of 64,5 per cent of the men felt like they were participating but only 14,3 per cent of the women. However the kind of participation they were referring to was mostly organizing sport and activities for young people in the village and not the kind that are mentioned in the theoretical background such as contributing to a better to quality of decisions.

What the men and women felt was most important for the development of the village is shown in figure 5.6 in the results. As one can see there are some differences in what they prioritize. Security seems to be the main thing that women want to improve in the village while the highest percentage of men wanted improved infrastructure which is more compatible with the eco-village project. Based on the interviews with the fishermen and the village president there seem to be a need for increased safety in Pointe aux Piments. Education is one of the categories that both men and women think is very important, often answering that educating the younger generation will develop the country and the future generation. There was an equal number of men and women who answered that they knew about sustainable development according to table 5.1, however there were a few more women who answered the questionnaire, so figure 5.6 represents the row per cent to get a more accurate representation. This shows that more men knew about sustainable development. Though when asked to describe what it is, many of them could not answer and those who answered focused on the environmental dimension of the definition.

Residential area

Figure 5.7 shows the different categories divided into Grande Pointe aux Piments and Petite Pointe aux Piments to get a sense if there were any differences between the residential areas. Other residential areas have been excluded here since they represent such a small group. It has been divided like this to see if the differences in the different categories depend on the distance to the village hall or if there are differences depending on the residential area. As seen in the figure 5.7 the answers in the areas vary but still follow a pattern. The highest difference is seen in the category if they knew whom to turn to when wanting to participate, 20 per cent more answered yes in Petite Pointe aux Piments compared to Grande Pointe aux Piments. The numbers may indicate that living closer to the village hall i.e. living in Grande Pointe aux Piments give the population easier access to information about projects in the village. Since the information about the eco-village was provided in the village hall in Grande Pointe aux Piments and there was 8 per cent more who knew about the project in this area than in Petite Pointe aux Piments. Walking in Pointe aux Piments you can see differences between the two residential areas. Petite Pointe aux Piments is located a bit further from the beach area and it feels nicer/richer than Grande Pointe aux Piments. The houses feel bigger and wealthier. Grande Pointe aux Piments, located closer to the beach, seems poorer and in need of better infrastructure.

Age

We also wanted to compare the answers based on age, and as shown in figure 5.8 the answers do vary when divided into age groups. The age group that knew the most about the eco-village project was the ones in 31-50. They also had the highest frequency of knowing the MID, sustainable development and felt most involved in the participation compared to other age groups. The younger age group knew the least about the eco-village project, which might be explained by the fact that younger people do not go to the village hall as often as older people do. However the youngest age group seemed most eager to learn more about sustainable development while the oldest one was less eager. Many in the older age group answered this question saying that they were too old to learn about it now at that it was no point. But those who answered yes wanted to learn how to make the village better for the future generations. It might not be so shocking that the oldest respondents knew the least about sustainable development; however one would think that the youngest respondents would have known the most about it. But it was the respondents in the ages of 31-50 who answered yes the most times as shown in figure 5.8. The biggest gap was in the participation question where the difference is 26 per cent between the oldest participants and the ones in the age group 31-50. Since the participation the respondents mostly did was organizing sports and other activities it is not so odd that the older generation does not participate.

7. Conclusion

7.1 What can be concluded from this study?

This study aims towards gaining knowledge about the concept of an eco-village and mainly on the role of public participation within this concept. Several methods such as a questionnaire, literature studies, interviews and a focus group have been used to gather the data needed. The theories that are used focus mainly on public participation within the framework of sustainable development with a human geographical point of view.

How has the eco-village concept been interpreted by the government?

Our conclusion acknowledges a level of uncertainty by the government when interpreting the eco-village concept. This uncertainty is based on an unclear understanding of the real purpose of the concept and therefore what to include in these kinds of project. The main focus has been on the environmental dimension of sustainable development but also on trying to create a community belonging and empowerment in order to achieve sustainability.

In what way has this project been incorporated with the locals?

Public participation is mostly seen as a need to inform and educate the public in order to empower them. Public hearings have been the main method used to engage the locals and the communication between the government and the locals has mainly gone through a contractor.

What do the locals think about the definitions within the eco -village project and what do they feel are important for the development of the village?

Not many of the locals had heard about the eco-village project and those who had could not really define what it meant. This also reflects the definition of sustainable development. The knowledge of the locals also reflect a focus on environmental aspects when speaking about these definition but when asked what is needed for further development of the village, they tend to focus on other aspects such as safety, education and alternative job. The locals do not all feel that they are contributing to the development and the ones that do tend to focus on practical participation such as organizing sport events and not the type of information-based participation needed to improve the quality of decisions made.

What do these findings say about the implementation of the eco-village project in Pointe aux Piments?

The findings combined with literature studies question the implementation of the eco-village project in Pointe aux Piments made by the government. The main argument of this questioning is based on a difference between the theoretical concept used and the actual implementation of the project.

First of all it reveals that a project with a high level of theoretical uncertainty can easily result in difficulties in implementation. This difficulty is both expressed by the responsible ministry but also by the respondents. This difference can be seen when expressing the need for public participation. The brief in Annex 1 promotes a need to educate and inform, the importance of an active participation and a striving towards community belonging while the actual implementation (so far) mainly has focused on the first factor- informing and educating the public. The different level of public participation between the eco-village concept and the actual implementation can lead to a further diffuseness of the actual role of the public and there is a risk that the actual need of the locals will be ignored. Earlier studies have shown an importance of scale where larger projects such as the

eco-village project in Pointe aux Piments tend to have difficulties engaging and empowering the public and this has also been showed in this case.

Secondly the definition of the eco-village is in this case bias towards the environmental dimension of sustainable development. This also strengthened by the fact that the ministry in charge of the project is both in charge of the environmental issues and sustainable development. The implementation of the eco-village project seems to highlight this importance but ignores other aspects such as a social need of security that might be as important and that is instead acknowledged by the locals in the questionnaire. We suggest that a wider cooperation between different sectors (horizontal links) but also between different levels such as national to local (vertical links) is needed in order to meet the complex challenges the eco-village concept creates.

This lead to our final conclusion; the eco-village concept does not meet up to the actual needs of the village of Pointe aux Piments. The ministry admits that they chose Pointe aux Piments because it is a poor village and because they had to choose a coastal village in the northern part of the island. We argue that there is an importance of place here that needs to be considered. Every village will have its own challenges and solutions in order to achieve the goals of the project and the differences within the village need to be recognized as well. The place has also a spiritual importance in the eco-village concept that is highly spatial; a community belonging consists of a network of family, friends and neighbours that share the same value and interests. The eco-village as a concept wants the participants to make their own choices of commitment and together acquire a certain way of living. Our interpretation is that the actual purpose of the project does not fit these requirements. Instead we suggest that the government acknowledge this and define a concept towards sustainable development that better fit the challenges of the place chosen.

7.2 Challenges

We would like to point out that there is a risk that this study can be seen as a critical review of the eco-village project in Pointe aux Piments. The purpose of this study aimed towards gaining knowledge about the concept of an eco-village and mainly on the role of public participation within this concept. This has led in to further analysis of the definitions within the eco-village such as trying to explain definitions like public participation, eco-village and sustainable development. We have no intentions to accuse any of the participants in the eco-village project whether it is the authority, the private sector or the public. Instead we hope these findings can help by clarifying the difficulties that can occur within these types of projects. It is important to also acknowledge that there is no typical type of sustainable development or public participation that we want to force on the government in order to succeed with the project. The biggest challenge lies within the real purpose of the project; is a promotion of an eco-village project in Pointe aux Piments the right thing to do for the future of the village? We acknowledge that further development may be needed but we question whether converting it to an eco-village is the solution. There is also a challenge of who to include in these types of projects (several ministries, local authorities, NGOs, media etcetera) and how to define goals, spatial limitations and budget. Finally we also acknowledge that this type of eco-village projects is new in Mauritius and while still being in a planning phase there should be a space to experiment but also for a change from the original plan.

7.3 Solutions

The study has also brought up solutions that we acknowledge might increase the level of success of the project such as:

- Having a clear idea of the definitions used in the project. If there is a national definition for sustainable development (such as in MID), use it as a base and explain what part of it you want to achieve.
- Engaging the departments needed for the issues included in the project. This will also provide a good base to inform and educate the public in a right way. A project about sustainable development may need to be more sectors-integrated where several departments of ministries cooperate.
- Focusing on the real purpose of the project. If the importance lay within achieving active participation, then a well structured base is needed for that in accordance to achieve a long term active participation.
- Conducting small-scale projects because it has shown to be of advantage in public participation projects.
- Using different methods such as public hearings, panels and initiatives to achieve a better and more equal participation.
- Choosing a project that fits the necessity of the place. When wanting to conduct an eco-village project, choose carefully a village (or a new site) that is in need of such a project.

7.4 Further studies needed

We would finally want to highlight the need for further studies within the geographical research field of sustainable development and public participation. There are, as mentioned in the theoretical background, a need for geographers to work within these fields and contribute to the development of the definition, the process, outcome and theoretical thinking. Further studies are also needed to identify the basic structure of an eco-village. Without a clear definition we argue that the eco-village as a concept may lose its importance as a tool to achieve sustainable development.

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- Figure 2.2 *Primary Energy Requirement 2011 in Mauritius*, see (MID 2013)
- Figure 2.3 *Eventual plans for the development of Pointe aux Piments. Ministry of Environment and Sustainable Development 2012*, from a Power Point representation “*Eco-village Project*” by the Environment Officer in the Ministry of Environment and SD, Vithilingum, Devarajen, September 12 2012.
- Figure 3.1 *A model of Sustainable Development* last viewed 1/5-14 <<http://www.kth.se/che/kemi2011/2.27954/juli-1.184144> >
- Figure 3.2: *Truster types* see Parker et al 2008.
- Figure 6.1: *The Bullseye” a vision of Sustainable Development*, made by the authors.

Tables

- Table 3.1: *Public Participation Spectrum* <www.iap2.org> last viewed 26/4-14
- Table 3.2: *Summary of Mechanism under Participation Criteria*, see Fiorino 1990.
- Table 3.3 *Five Distinct Goals of Public Participation*, see Holmes 2013

Note: the rest of the figures and tables are made by the authors Al Fahel, R and Ivarsson, J. (2014).

Annexes

- Annex 1: *Brief on Eco-village Project*, from the Ministry of Environment and Sustainable Development, Republic of Mauritius. Send to us by email from the Ministry 2014
- Annex 2: Questionnaire conducted April 2014 in Pointe aux Piments, Mauritius by Al Fahel, R and Ivarsson, J. (2014). The questionnaire has also been translated into French by Anoushka, V.

Annex 1: Brief on Eco-village Project

1.0 Introduction

With a view to demonstrating ways of life which are respectful of the environment and lasting for the next generations, Government announced the implementation of the Eco-Village Project during the 2009 Budget. The implementation of the project was approved by Cabinet in November 2010. The project will in the first phase target 9 villages namely: Pointe aux Piments, Panchavati, Riviere Cocos Village in Rodrigues, Vieux Grand-Port, Vuillemin, La Gaulette/Le Morne, Poudre D'Or, Clemencia and Souillac.

2.0 The objectives of the project are:

- To create awareness among the village inhabitants regarding conservation of energy , water conservation and protection, waste management, use of recycled materials , and other environmental friendly day to day activities that, in the long run, will protect the overall village environment;
- To transfer knowledge to the village inhabitants in connection with the above mentioned issues, and
- To enlist community participation in the identification and implementation of both structural and non-structural measures required to convert their respective village into an Eco Village.

3.0 Project Cost

A budget of around MRU (Mauritian rupees) 450 Million, i.e MRU 50 Million per village was originally earmarked for the project.

4.0 Project Duration:

The project was to be implemented over a period of 3 years, with the setting up of 3 eco-villages per year on average.

Three eco-villages namely Pointe aux Piments, Panchavati and Riviere Coco (Rodrigues Island) was to be considered in 2012, in the first phase

5. Sustainability features of Eco-villages

The sustainability features of Eco-villages could be summarized as follows;

- Promoting waste segregation and 3 R's: reduce, re-use, recycle in utilizing natural resources
- Going for eco-friendly technologies and enhancing sustainable production and consumption patterns
- Promoting environmental stewardship
- Facilitating community interactions to enhance a sense of tolerance and belonging to the place
- Promote and support local businesses
- Building on the historical and cultural backgrounds of the place

➤ Valuing artistic and sports interactions

Eco-villages creatively address the world-wide contemporary quest for sustainability through:

- Re-designing methods of production and consumption patterns that enable us to live within limits of nature;
- Empowering of citizens in all spheres of society for the active development of the region in order to meet the aspirations of the people within the village;
- Developing processes and tools that significantly reduce ecological footprints;
- Cultivating the social virtues of simplicity and sharing resources;
- Rediscovering a healthy and sustainable relation to self, society and of our planet

6. Fundamental vision of the eco-village concept

The fundamental vision of the eco-village concept is to foster a sense of community belonging and environmental stewardship among villagers for the promotion of sustainable livelihoods within their neighbourhoods and their village as a whole.

It calls for people-based initiatives that seek the active participation, involvement and contribution of one and all; be it families, forces-vives, communities, Local government (village and district councils), Central Government, NGOs, Private Sector, media, amongst others.

• Key Considerations

The following sectors have been considered in designing the concept plans:

- Infrastructure
- Socio – Economic
- Socio - Cultural
- Ecology and Biodiversity
- Environmental
- Renewable Energy and Green Technology

The main elements for the eco-villages are:

- (i) To undertake general rehabilitation, upgrading and greening of the public beaches and public places including provision of new amenities (e.g. construction of jetties, slipways, fisheries facilities, beach visitors' centre, erosion abatement measures, creation of parking areas, placement of bins, planting of endemic/coastal vegetation on beaches, etc)
- (ii) To upgrade road infrastructures and provision of Photovoltaic lighting (resurfacing of roads, provision of surface water drains, planting of flowering plants along roads)
- (iii) To upgrade public buildings and provide amenities including painting, creation of endemic gardens/environmental corners, provision of solar water heaters in community health centre and schools, provision of waste segregation and composting facilities.
- (iv) To rehabilitate cultural sites e.g. restoration of monuments and embellishment of adjoining areas, creation of parking spaces, provision of wooden parapets.
- (v) Upliftment and promotion of potential eco tourism attraction sites through the restoration, protection, conservation and management of sensitive areas such as rivers, wetlands, mangrove areas, caves, reef management activities. This includes provision of wooden boardwalks, trails, visitors' centre, and sensitization campaigns.

- (vi) To provide for/ upgrade leisure facilities (creation of health tracks, cycle tracks, Petanque courts and other amenities)
- (vii) To promote environmental stewardship in the region through awareness raising campaigns and training for fishers and local community).
- (viii) To develop Community based partnerships for eco-tourism projects (e.g. preservation of wetlands and sustainable use as eco tourism spots).
- (ix) To provide alternative livelihood to fishers of the region so to reduce pressure on lagoonal resources. (e.g. training as marine guides, artisanal products, etc)

7. Project components

The projects are to be carried out in 4 distinct stages:

Stages	Items
Stage 1	Consultation with stakeholders
Stage 2	Inception and Concept Master Plan
Stage 3	Preliminary Design
Stage 4	Final Master Plan/Detailed Engineering Design and Tender Documentation
Stage 5	Construction supervision

8. Implementation of Project

Start of Project: 30 November 2011

Implementation agency: Ministry of Environment and Sustainable Development.

Status: The services of a consultant were hired to work on the project. The project is still at planning phase (i.e Preliminary Design Phase) for Pointe Aux Piments, Panchavati and Rodrigues (Riviere Coco /Port Sud Est). As the process involved a lot of consultations with the inhabitants of the villages, public and private stakeholders (Ministries, Local Authorities, Forces Vives, NGOs, etc.), reaching consensus on the proposed project activities was a major constraint. The project is still at planning phase.

Due to the economic crisis and budgetary constraints, the ecovillage project has been kept in abeyance for time being.

Annex 2: Questionnaire

We are two students from the University of Gothenburg, Sweden that are writing an essay about the eco-village project in Pointe Aux Piments.

The Mauritian government wants to implement an Eco-village project with the ambition to demonstrate a way of life which are respectful to the environment. Several villages have been selected and among them Pointe Aux Piments. The Eco-village concept has a vision to foster a community belonging and a respect for the environment among villagers. It calls for people-based initiative among all and seeks active participation.

Gender: Male Female

Age: 18-30 31-50 51 or older

Residential area:

Occupation:

1. Have you heard of the Maurice Ile Durable?
If yes, please specify from where and what you know about it:

2. Have you heard the definition "Sustainable Development"?
If yes, please specify from where and what it means to you:

3. Did you know about the eco-village project in Pointe Aux Piments?
If yes, please specify from where and what:

4. Which of these following categories do you think should be most prioritized for the development of Pointe Aux Piments (choose max 3 alternatives):

- | | | |
|---|---|---------------------------------------|
| <input type="checkbox"/> Education | <input type="checkbox"/> Infrastructure | <input type="checkbox"/> Alt. jobs |
| <input type="checkbox"/> Tourism | <input type="checkbox"/> Conservation | <input type="checkbox"/> Public areas |
| <input type="checkbox"/> Safety | <input type="checkbox"/> New technology | <input type="checkbox"/> Governance |
| <input type="checkbox"/> Others (specify what): | | |

5a: Do you feel that you are involved in the participation of the development of Pointe Aux Piments?
If yes, please specify in what way:

5b: Do you know who to turn to if you have an opinion about the development of Pointe Aux Piments?
If yes, please specify who:

6. Would like to learn more about how you can live a more sustainable life?
If yes or no, please specify the reason: