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Impact of Ecotourism

A Study on the Environmental Impact of Ecotourism in Can Gio Mangrove Biosphere, Viet Nam

Tran, Ly
Do, Quynh Anh

2011 Kerava Unit

Laurea University of Applied Sciences
Kerava

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Tran Ha Mai Ly, Do Quynh Anh
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Ecotourism is a new concept in the tourism industry of Vietnam, which essentially developed since past 20 years. However, Vietnam's cultural and natural potential for ecotourism is well established. Over many neighbouring countries, Vietnam has great advantages for ecotourism with many scenic attractions and diversified ecology. Among other destinations, Can Gio has emerged as a new ecotourism destination with the unique mangrove forest, multifiform fauna and flora species along with a nice beach. Can Gio mangrove forest has been recognised in the world biosphere reserve list of UNESCO. Since ecotourism was quickly developed in Can Gio, it brought many benefits to local community and natural environment. However, it also caused numerous negative impacts for natural resources, ecology and local environment.

This study is conducted to examine the positive as well as the negative environmental impacts of ecotourism in Can Gio biosphere reserve. The chosen topic arose from our interest in Can Gio mangrove forest and its ecotourism management system. The study involved the participations of the visitors who have visited Can Gio and the non-governmental organizations (NGOs) as well as tour operators who are responsible for tourism activities in the site. By using the mixed-method as data collection, the study analyzed both quantitative and qualitative data. The online survey questionnaire method is employed to obtain empirical data from the visitors and NGOs, tour operators who could access to internet. Furthermore, the document analysis method is used to acquire the primary data from prior literature and public materials.

This thesis discusses briefly about ecotourism and its current condition in Vietnam. And then, it introduces Can Gio mangrove forest as a potential ecotourism destination as well as different types of tourism activities in the site. The study focuses on analyzing collected data in order to generalize the environmental impacts of mass tourism in the label of ecotourism in Can Gio biosphere reserve. The result of study provides a summary of key findings and improving recommendations relating to ecotourism and environmental impacts management within the conservation area.

The thesis would be useful for tour operators and local government in managing the tourism activities so that it would benefit for both local economy and natural ecology. From the result of the study, they will recognize the current situation of Can Gio natural environmental, since then take into consideration the improving recommendations in order to act for preserving the biosphere reserved area for future generations.

Key words: ecotourism, biosphere reserve, mangrove, environmental impacts, nature

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1 Introduction

According to the World Bank, Tourism is the fastest and biggest growing industry in the world. It has become the popular global leisure activity that relies mainly on physical environment. In the era of heightened environmental consciousness and accessibility to remote areas, Ecotourism has emerged as one of the fast growing markets in tourism industry that essentially based on natural environment. The ecotourism is defined as 'Responsible travel to natural areas that conserves the environment and improves the well-being of local people' (TIES, 1990).

The concept of ecotourism is not a new one as it originally appeared in the late 1960s and early 1970s (Nelson, 1994). The idea of ecotourism was primarily generated from the concern of numerous researchers in figuring out the inappropriate use of natural resources made by visitors in different natural destinations. Since then, development approaches were taken into consideration to minimize the adverse effects on local environment as well as enhance the cultural unity in local habitants. Ecotourism is considered as successful when it reduces the environmental impacts of tourism pace while benefits for local community culturally and economically as well as foster environmental education.

Despite many efforts of ecotourism developers heading to sustainable development with natural and cultural preservation, the mass tourism brought many negative impacts beside the significant positive impacts on local environments. Ecotourism has contributed greatly on local economics, socio-culture and environment in term of its effects. Among other aspects, the importance of environment was always emphasized in ecotourism activities and development. The most valuable contribution of ecotourism into local environment is preservation of biodiversity. Wildlife and natural surroundings are the assets of ecotourism, therefore, the eco-developers highly focused on conserving and protecting the site. However, the weak operational management may lead to the presence of massive tourists and infrastructures in undisturbed areas. Taking this chance, many opportunist people attempt to cash in on selling natural products of fauna and flora, providing uncontrolled services; the followed consequence of these activities is that the environment and biodiversity are deteriorated. Many people claim that the more popular ecotourism destination is the more devastated it will be.

In Vietnam, Ecotourism is relatively a new market since the tourism industry is recently well developed. It is at the beginning stage and is expected to develop strongly with the support of government and international organizations. The exotic flora and fauna collection, diversified topography and climate enable Vietnam to become a potential ecotourism destination (Sinh, 2000). Can Gio biosphere reserve is emerged as a special ecotourism place with forest as well as beach. It is situated quite near to the biggest city in Vietnam; therefore, it may serve as a green place for the citizens. However, the poor and uncoordinated management in ecotourism have restrained the development of this destination. The development of ecotur-

ism has brought many positive and negative impacts to Can Gio province in general and natural environment in particular. The study focuses on finding out the impacts of mass tourism in label of ecotourism on local environment from the visitors, NGOs and tour operators' experiences and perspectives.

1.1 Choice of Research Topic

We had opportunities to visit Can Gio mangrove forest several times and we were ^{6) 17)} really amazed with the exotic and diversity of ecological system at this place. Moreover, Can Gio is an interesting place converging forest attraction as well as the beach. However many spontaneous services and environmental unconscious tourists have been ruining the undisturbed ecological site into traditional tourism destination. The natural value of fauna and flora collection is seriously eroded because it was harvested for economical purpose. As we already fell in love with this beautiful place, the impacts of ecotourism on Can Gio region became a big interest for us.

Catching the chance of the thesis research, we decided to choose Can Gio biosphere reserve to study deeply about its ecotourism services and impacts. Our chosen topic is focusing on the environmental impacts of mass tourism in label of ecotourism in Can Gio. The topic arose from our interest in ecotourism as well as Can Gio biosphere reserve natural environment.

1.2 Thesis Goal

The main goals of our thesis are as follows:

1. To collect information about visitors, NGOs and tour operators' experiences and perceptions of Can Gio current natural environment condition with presence of massive tourist, environmental awareness and potential environmental impacts caused by tourism. This information will help us in understanding the main causes of Can Gio natural environmental degradation and figuring out how it relates to ecotourism development.
2. To figure out the positive and negative impacts of ecotourism in Can Gio environment.
3. To suggest the improving strategies of ecotourism management system for local authority, tour operators and tourists
4. To enhance the environmental awareness as a method to reduce the adverse effects on local environment.
5. As the personal goals, we would like to gain deeper knowledge about ecotourism, Can Gio biodiversity and its ecotourism actual condition. From the study, we can understand profoundly how and what ecotourism affects on Can Gio natural environment.

Moreover, we want to improve our practical research skills as well as other professional skills.

1.3 Structure of Thesis

The structure of this thesis consists of nine sections. The first section presents the background information, the choice of research topic and the main goals of thesis study. The second section includes theoretical background about the concept of ecotourism and its varied forms in general. The third section of the study specialises environmental impact of ecotourism in general. The fourth section focuses on ecotourism in Vietnam and its potential and reliability. In the fifth session, Can Gio biosphere reserve is introduced as a relative new ecotourism destination. The sixth section mentions about different tourism as well as ecotourism services in Can Gio. The seventh section concentrates on methodology of research study. It then explains the research approach as well as the validity and reliability of study. The eighth section comprises of empirical findings and suggestions in ecotourism operational management. Finally, the last section focuses on the discussion.

1.4 Research Outline

The outline of this research study includes six major phases viz. indentifying goal of the research, specifying the main research problem, reviewing the literature, collecting data process, analyzing the collected information in order to generate the empirical study result. The whole thesis report is mainly relied on two main sources: literature review and mixed-method (survey question and document analysis) data collection. This thesis report then presents the result of study in quantitative & qualitative explanation and suggests several improving recommendations in discussion part. The outline of this research is expressed in figure 1:

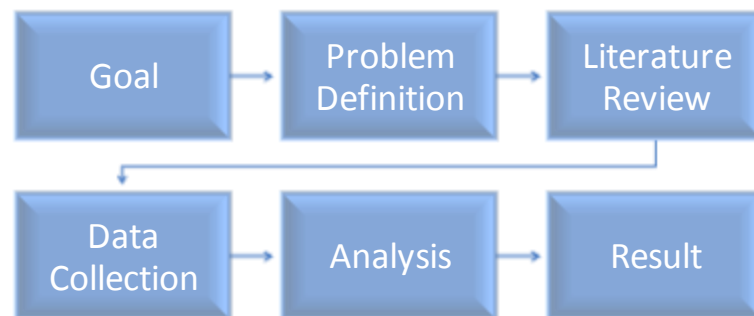


Figure 1: Outline of the thesis

1.5 Organisation Abbreviations Used in This Report

In this thesis report, we will mention and use some of special terms and organisation abbreviations as useful information sources as well as references. The table 1 below is the list of

used abbreviations throughout the report and their explaining meanings so that the reader would catch the right meaning of them.

Organization Abbreviations	Explaining Meaning
CTC	Can Gio Tourism Urban Area Joint Stock Company
ISO 14001	ISO 14001 is an internationally accepted standard of effective Environmental Management System (EMS) according to ISO organization
TIES	The international ecotourism society organization
MCD	Marinelife Conservation and Community Development (MCD),
MBPFHCMC	Management Board for Protected Forests of Ho Chi Minh City
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNESCO-MAB	Man and the Biosphere Programme governed by UNESCO
UNWTO	World Tourism Organization
WCMC	World Conservation Monitoring Centre

Table 1: Organisation Abbreviations Used in This Report

2 Ecotourism definition

Ecotourism emerged in English language academic literature as a hyphenated term (ecotourism) by Romeril (1985) through an article. Tracing the history of the ecotourism Weaver (2008) mentioned that it is a term used by Mexican ecologist Hector Ceballos-Lascurian in Spanish language ecotourism even one decade earlier(Boo 1990) than Romeril. According to Fennell (2003), the national forestry service in Canada was marketing the concept of an educational 'ecotour' along the Trans-Canada Highway as far back as 1973. Hence, the existence of ecotourism as a concept and practice was seen before the word ecotourism was brought as a term in tourism industry in the mid 1980s.

Thompson (1995), Boo (1990) have disclosed the origin of the word ecotourism having consistency when they clearly mentioned the name of Ceballos-Lascurain as the first writer who coined the word ecotourism in early 1980s. According to Weaver (2008), the Elizabeth Boo had given much of the credit for the dissemination of the term ecotourism because of his book *Ecotourism: The Potentials and Pitfalls* (1990). Boo (1990) mentioned the definition of ecotourism as defined by Ceballos-Lascurain "tourism that consists in travelling to relatively undisturbed or uncontaminated natural areas with the specific objectives of studying, admiring and enjoying the scenery and its wild plants and animals, as well as any existing cultural manifestations (both past and present) found in these areas.(Ceballos-Lascurain)".

According to Nelson (1994), the concept of ecotourism is an old one and originated itself in late 1960s and early 1970s. It was a concern generated and brought into light by the researchers who found that the tourists in different natural areas were making the inappropriate use of natural resources. Nelson (1994) further argued that the term 'eco-development' was brought into existence, which was then used in reduction of improper use of natural resources for ecological development. In course of time the awareness towards sustainability of environment and its overall development was mentioned, discussed and written in a variety in different pieces of literature leading to the development of ecotourism.

In modern era, ecotourism is defined as "... a form of tourism that fosters learning experiences and appreciation of the natural environment, or some component thereof, within its associated cultural context, it is managed in accordance with industry best practice to attain environmentally and socio-culturally sustainable outcomes as well as financial viability." (Weaver, 2008, p.17)

The term was defined and connected to different areas such as natural conservation, resource utilization, local communities' development, sustainable environment etc. The idea of developing such concept was to provide a relief to natural resources such as flora and fauna. The secondary aim of ecotourism was to establish the awareness in local people and activate them to produce local sustainable tourism market in order to gain economical strength and have nominal harm to the natural resources (Ziffer, 1989). Ecotourism emerged under the

banner of alternative tourism when the developed world started to travel to Third World Countries (Asia and Africa) to explore unexploited nature with fresh culture. In order to minimize the negative impact of such travelling to local nature, culture and heritage and to turn such movement into a beneficial opportunity for economical development of the local people and motivate them to the conservation and preservation, ecotourism was coined widely and popularly. As a subsequent, the term becomes a hot cake to be engaged as a banner for drastic development of tourism industry.

According to Weaver (2008), Fennell (2008), after 1980s, the evolution of ecotourism made it connected to the different forms of tourism. Ecotourism is considered as the synonyms for nature based tourism, adventure tourism, wildlife tourism, culture tourism, food tourism, 3S tourism (sea, sand and sun) and so on. Weaver (2008) further adds that it is a misunderstanding that people easily consider other types of tourism as ecotourism. Different forms of tourism and their relation with ecotourism are discussed in this section.

2.1 Nature based tourism in relation with Ecotourism

Fig.2 is the illustration of nature-based tourism and its major components. In the fig.2, it is clearly shown that ecotourism distinguishes itself from nature-based tourism up to some extent. According to Fennell 1999, ecotourism is a subset of nature-based tourism. Other different subsets of nature-based tourism (3S tourism, sport tourism, extractive tourism and captive tourism) do not require 'to have a learning component or a mandate to be managed with sustainability objectives in mind' Weaver, 2008.



Figure 2: Ecotourism and Nature based tourism, concept adapted from (Weaver, 2008)

2.2 Cultural tourism in relation with Ecotourism

Cultural tourism is based on cultural themes, places and architectures. The tourists are interested in understanding, admiring and learning the art and architecture of the heritage sculptures and their formation. Since they are not interested in flora and fauna of the area and often neglect them, hence cultural tourism is differentiated from ecotourism. According to Weaver (2008), in cultural tourism, the primary focus is placed on cultural product and in ecotourism, it falls under secondary focus. Thus, ecotourism and cultural tourism 5) create a overlapping set which has something in common but with different priority on different focus products. The relationship of cultural tourism and ecotourism is illustrated in figure 3

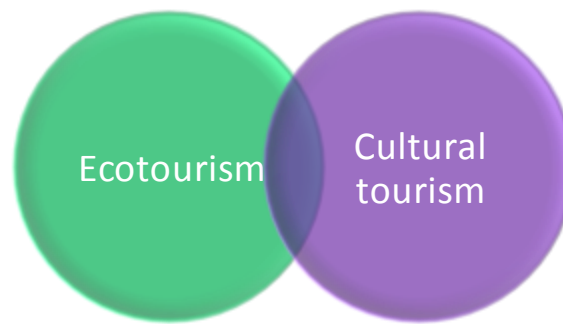


Figure 3: Ecotourism and Culture tourism adapted from Weaver (2008)

2.3 Adventure tourism in relation with Ecotourism

A product of adventure tourism possesses an element of risk, higher levels of physical exertion and use of specialised skills to participate successfully and safely in the activity (Buckley 2006, Weaver 2001). In ecotourism, a product is designed in order to satisfy mental and learning need of the tourists. Eco-tourists always look for learning from the environment without harming the nature as much as possible.

Adventure tourism is not always about sustainability, the tourists look for risk, barriers, amusement through physical labour by putting life in danger with activities. Some of the adventure tourism products are among natural resources such as wood, water body and mountains. In this case, these two different forms of tourism create an overlapping at this point when adventure tourism is operated by utilizing a natural resource. Hence, the overlapping relation of adventure tourism with ecotourism is illustrated in fig.4.

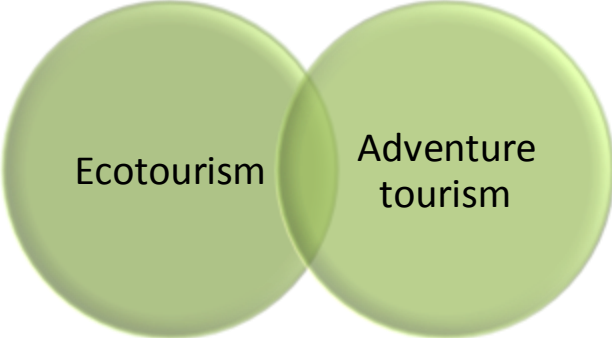


Figure 4: Ecotourism in relation with adventure tourism adapted from Weaver (2008)

3 Environmental impact of Ecotourism

According to Buckley (2008), Ecotourism is widely recognised for its positive impacts to environment, ecotourism operators and tourism lobbyists argue that the ecotourism has contributed to the economic, social and cultural development of the local communities by conserving and supporting the protected areas. Eco-tourists are fond of enjoying nature, culture and its development supporting local communities during their visit to the destination. Ecotourism operator and other tourism lobbyists have argued that ecotourism always generates benefits and supports the conservation of the destination. The protected areas are significant for the development of tourism in a place.

This study is made to analyse the environmental impact of ecotourism in the destination. Ecotourism can have different impacts and that can be divided into two major categories; negative and positive. Negative impacts are always connected to the natural resources, local culture and disturbance arose by ecotourism in their development whereas positive impacts have always been analysed from the eyes of benefits provided to the destination in different form such as conservation of the destination, economical, social and cultural development of the local communities related to the destination etc.

In this section of the study, the light is given to the vital and most possible impact of ecotourism on the environment of the destination. A major part of the natural resources is consumed by human every year for the sake of human's socio-economical development. "The planet's natural resources are consumed or contaminated by its human population. Human survival needs drinkable water, breathable air and usable biological diversity. Natural ecosystems are the world's primary reservoirs for each of these" (Buckley, 2008, p.5). The basic needs of human are satisfied and fulfilled after consumption of a vital proton of natural resources. Apart from this modernization, industrialization and urbanization are other processes undertaken by humans to fulfil their socio-economic demands and ambitions, which lead towards heavy consumption of natural resources. These activities are leading to the reduction of natural wilderness.

Hence, protection of natural resources for environmental development for sustainable earth is important. Many theories have been written explaining the importance of ecotourism for conservation of nature and its resources. The literature has described the impact of ecotourism briefly (Buckely, 2008). Out of a great number of environmental impacts, some of the major impacts are discussed in this section.

3.1 Impact of travel to the destination

Travelling is a major factor for the development of global tourism. Rapid growth in technology has made the world smaller. High-speed planes, cars, motorbikes and ship have changed

the meaning of travelling in modern world. All the means of transportation are used for travelling at different levels such as international and local. Consumption of natural resources begins from the development of vehicles and goes on in the form of transportation system. Let us ignore the consumption of natural resource in the development phase of the travel means and consider only the use of transportation. The use of transportation alone is able to pollute the environment at the level, which never comes into consideration when an ecotourist travels to the destination. Excessive use of energy and emission of carbon dioxide to the environment are associated to ecotourism.

The principles set out for ecotourism “... Environmentally responsible travel and visitation to relatively undisturbed natural areas, in order to enjoy and appreciate nature (and any accompanying cultural features both past and present) that promotes conservation, has low visitor impact and provides for beneficially active socio-economic involvement of local populations (Celballos-lascurain, 1996, p.20)” is challenged by the use of transportation where fossil fuel is burnt as energy and produces harmful gas for nature and contributes in global warming.

The visitors use different travel mediums and levels during the travel process. In ecotourism, a travel component occurs in three different stages, first to the location where transportation for ecotourism experience is utilized, second travel between a variety of ecotourism sites and third travel from home location to the destination (David.G.at al.2004). All of the above mentioned travel activities are arranged and operated for visitors towards the destination which results in the emission of carbon components to the air and makes it polluted.

3.2 Impact of Hiking and Camping on local soils and vegetation

Ecotourism affects environment of destination places in various way Cole (2004). A place goes through different changes while being prepared to serve as a tourist destination. A dramatic change in the environment of destination is brought by the development of physical infrastructure. Recreational activities are other factors, which initiate the changes in local environment. Hiking, camping, biking and adventurous pursuits are the major activities enjoyed by eco-tourists. These all the activities are related to nature and utilize natural resources to accomplish the recreation (Cole, 2004). The impact of the use of natural resources occurs rapidly and the recovery of the resources occurs more slowly. Therefore, a sustainable management is very important to be carried out in order to prevent the damage to nature due to hiking and camping.

A number of studies shows that the impact of hikers hiking with heavy loads and horses make more damages to the trails and vegetation during the seasons when soil is more saturated with water. Such damages take a longer time for recovery and if the trails are used repetitively, the recovery is almost impossible in a defined period that clearly affects the ecology

of the destination (Cole, 2004). Management side of the eco-tourism requires being more concerned about the use of destination, the number of use and the season of use in order to protect ecology from damages. Eco-tourism suggests for the development of a destination through its use for tourism activities causing nominal damages to the environment of the destination. Such trails and campsites are to be monitored in terms of soil erosion and damages to the vegetation in order to maintain the ecology of the destination therefore; proper utilization of the resources can be made for sustainable development of eco-tourism in the destination.

3.3 Positive impact of Ecotourism on the destination

Ecotourism generates a positive impact on the destination's environment. In the early days of tourism, the tours in the natural destinations were organised by non-natives for non-natives. Non-natives were not very concerned about the environment of the destination and remained focusing on the business side of the industry. It was the major factor that led local community's involvement in the development and operation of ecotourism at a destination. Local communities, organisation and government bodies were made aware of the damages through tourism activities. They started collaborating to establish a sustainable activities and awareness programme by engaging local people and organisations in the operational part of the local tourism. Hence, ecotourism provided power to the locals for leading, operating, managing and of the activities in order to enhance the socio-economic condition of the destination. This trend produced positive results and ecotourism became a hot cake all over the world.

Empowering local communities and engraining them in tourism activities have brought significant improvement in the ecology and environment of the destination but still it is difficult to say that it is the right way to operate. Travellers, local communities and other organisations need to focus on their behaviour and use of the resources in order to conserve the destination for future use (Cole, 2004).

4 Ecotourism in Vietnam

Vietnam is a tropical monsoon climate country, situated within the tropical belt of northern hemisphere. The location has created a background of heavy rain, high temperature and humidity. The country has a coastline of 3,260 kilometres along, a range of Truong Son Mountain with 1,100 kilometres long. Those main conditions have brought Vietnam an advantage for ecotourism over many neighbouring countries with many scenic attractions and a diversity of flora and fauna (Khanh, 1999).

Vietnam has 107 forests with a total area of 2,381,791 ha, of which 11 National parks, 61 nature reserves and 34 historical forests. The country has 350 coral species including 95 species in the North Sea and 225 in the Southern Ocean. Besides the natural attractions distinctive features of religion, the archaeological, historical and cultural heritage are factors that create a great advantage in developing Ecotourism in Vietnam. Furthermore, Vietnam is considered as one of sixteen countries with highest biodiversity in a wide range of ecosystem (WCMC 1962). Estimated in Vietnam there are over 13,200 floral species, 10 000 fauna species, 3000 wet land aquatic creatures and 11,000 sea creatures (Ministry of natural resources and environment Vietnam Administration (2008); of which 882 wildlife species are endangered and listed in The Viet Nam Red Book (2007).

4.1 Some popular types of eco-tourism in Vietnam

Ecotourism is operated for research purposes such as the ecological studies, archaeological, cultural studies. This type of travel is for researchers, scientists and for students. The visitors who participate in this form mostly visit the nature conservation areas with special ecological system or relic's history, cultural heritage.

Another common form of ecotourism operated in Vietnam is outdoor tour and sightseeing. The location is often the nature conservation and recreation areas with poetic scenery. The intention for the trip is to rest and entertain.

Old battlefield visit is for both domestic and foreign visitors who lived and fought in the war or for the visitors to learn about the struggle of nation. The visit is also organised with education purpose for students. Tourists often visit Natural revolutionary base areas or historical sites.

Coral reef ecosystem is quite new and attractive form of ecotourism in Vietnam. Utilizing the coral reefs for ecotourism is not only including the coral rock but also all sea creatures living off this rock. Reef ecosystem resembles the tropical forests on the diversity and level of fertility but recent years due to global warming, environmental pollution and the over exploitation of human behaviour; many coral reefs have been undermined and disappeared. According to Ministry of natural resources and environment Vietnam Administration (2008) currently

there are only a few landscapes in Vietnam, which have potential to develop ecotourism such as six biosphere reserves areas

- Cat Ba (Hai Phong)
- Can Gio (Ho Chi Minh)
- Cat Tien (Dong Nai-Lam Dong-Binh Phuoc)
- Red River delta coastal wetland (Nam Dinh, Thai Binh),
- Western Nghe An (Nghe An)
- Kien Giang (Kien Giang)

4.2 Current condition of Ecotourism in Vietnam

Besides the prospects of developing ecotourism, the implementation of ecotourism in Vietnam also faces huge challenges. The development itself threatens the sustainability and limits the scope of ecotourism. A large number of visitors at a destination cause gradual changes, which may lead to the destruction of the place. Insufficiency in managing and operating, lack of rule and regulations are the critical issues that cause some negative impacts to current conditions of ecotourism in Vietnam.

4.2.1 Nature conservation areas

The development of protected areas is still at the early stages. Tourism activities are mostly spontaneous and lacking promotion, objectives and market research for Ecotourism. The inadequacy in management and concern of tourism board endanger biodiversity. Estimated in Vietnam there are over 13,200 floral species, 275 species of mammals, 800 birds, 180 reptiles, 80 species of amphibians, 2,470 species of fish and 5,500 species of insects; of which 10% affected with diseases characterized in species of mammals, birds and fish. Another critical issue is 28% species of mammals, 10% species of birds and 21% species amphibians are at the risk of extinction (Le Kim Thoa. 2002) (The Dat.2003). A major cause of habitat loss is deforestation in Vietnam.

4.2.2 National Park

Ecotourism has been organised well in Cuc Phuong, Bach Ma and Cat Tien out of 11 national parks,. These three national parks have developed ecotourism routes, nature trails; their ranger guides are trained and have good knowledge of Ecotourism. The remaining parks have organized sightseeing and some tourism activities but there is no basic criteria and direction. (Association of Forestry Science and Technology, 1995)

In general, knowledgeable staff in the field of ecotourism in Vietnam is still lacking therefore the implementation of education activities and interpreting the environment remain deficient. Most of the tour guides are only on duty to give directions to tourists.

The benefit from tourism activities does not have much support for conservation and local community development. Local people have not been involved to participate in tourism activities.

4.2.3 Cultural heritage conservation areas

The development of tourism has an impact on the renaissance and conservation of cultural heritage. Revenue from tourism activities are used for renovating the monuments, museum, restoring the Intangible Cultural Heritage. In Hue, the development of tourism in recent years has revived the traditional professions that have been forgotten such as embroidery, bronze casting, carving and especially imperial court music. Besides positive impacts on cultural and economic life, tourism activities also bring negative impacts on preserving cultural heritage.

The sudden increase in the number of visitors has become a threat to heritage protection work. The air presence of too many visitors has created the effects of mechanical and chemical together with tropical air that caused destruction to the heritage and estate such as decorations and worship items.

Insufficiency in managing and operating services, lack of control and strict regulation lead to some misbehaviour from visitors such as littering, carving name on the cliff or on heritage departments. Such behaviours affect the cultural landscape and ecological environment.

4.2.4 Marine ecosystem

Coastal environment and coastal areas are being affected by economic and social impacts, especially in areas of industrial activities (Tien 2000) Waste management is given less concern since the industrial wastes, agricultural wastes remain untreated. Those wastes go downstream from the estuary to the sea causes pollution.

Shoreline erosion is other warning; many resorts in central Vietnam are being suffered from this situation such as Thuan An (Hue), Phan Thiet - Mui Ne (Binh Thuan) and Phu Quoc. Shoreline erosion directly affects to recreation activities at the sea resort and tourism construction projects (Ministry of natural resources and environment Vietnam Administration.2008)

The declination of forest in coastal areas and islands becomes a general state that significantly causes the decrease of biological resources and diversity in recent years. As a result, ecosystems that bring tourism value such as coral, sea grass, mangrove, lagoon and marine ecosystem are also affected.

5 Introduction to Can Gio

Can Gio is one of suburban districts of Ho Chi Minh City -a dynamic industrial city as well as the biggest financial city of Viet Nam. Can Gio peninsula is located on southeast coastal area 50 km from the downtown centre. It has a long coastline 13km from the Can Gio headland to Dong Tranh headland. Total area of Can Gio district is 73,360 km² (over 30% of the whole city area), of which over 31% is water area; 46.4% (equivalent 33,129 ha) is forestland and forest (Le Kim Thoa.2002). Can Gio looks like a heart with numerous interlace rivers and canals as tiny blood vessels. On the map, it looks like a small island, which is separated from the mainland by rivers: Nha Be River to the north, Dong Tranh to The East and Soai Rap to the West.

In 2006, Can Gio's population is 68.213 people, including Kinh people (80%), Khmer Krom and Cham people. The annual average population growth rate is 1,23 % and the population average density is 82persons/km². (Can Gio People's Committee, 2006)

Nowadays, Can Gio has great potential of aquaculture development, fishing, forestry, agriculture, and particularly ecotourism. This district has all necessary factors for developing ecotourism such as forest, sea, marine products, waterway, landscape, historical background and cultural folk festivals. Can Gio is the only district of Ho Chi Minh City has mangrove forest associated with meandering rivers network. Moreover, with the glorious historical background, beautiful beach and marine aquaculture, Can Gio promises to become one of the most attractive destinations for nature-lovers and tourists.

Thus, Mangrove forest and Sea are two significant key elements to promote Can Gio ecotourism as well as socio-economic development in general. With help of Ho Chi Minh City administration, Can Gio has been invested and developed to become a major ecotourism area, which is considered as a green lung of Ho Chi Minh City in term of ecology. This mangrove forest helps to clean up the air and water pollution from the industrial city. Moreover, it also has many ecological functions such as coastal stabilization, preventing coastal erosion, oil spills and storm from the nearby sea.

5.1 Can Gio Mangrove Biosphere Reserve

The Biosphere reserves are meant to combine the conservation of natural resources, the local culture and the development of human communities (MAB, 1996).

Can Gio Mangrove Biosphere Reserve is a rehabilitated mangrove zone which has been recognized as the world's biosphere reserve and is one of sixty five ecotourism sustainable development in the world. It covers 75,740 ha consisting almost 40 000 ha of mangroves (MAB.UNESCO.2000). This mangrove forest has an extraordinary environment, which is inter-

mediate between underwater ecosystem and terrestrial ecosystem, salt-water ecosystem and freshwater ecosystem.

Being close to many estuaries, this wetland bio-system receives a huge amount of silt and nutrition from Dong Nai River. The influences of nearby sea and the tides create a unique and diversified ecology - over 150 botanical flora species, over 700 diversified aquatic invertebrate fauna including 130 fish, 9 amphibian, 31 reptile and 4 mammal species (Can Gio Nature and Mangrove Forest Conservation Institute.1999). In which, 11 reptile species are listed in Vietnam's Red Data Book* such as: Gecko, water varan (*Varanus salvator*). This mangrove is also popular for the long-tail monkeys (*Macaca fascicularis*) and more than 130 bird and flamingo species. According to foreign experts' assessment, this wetland forest is recovered, protected and conserved at the best in Vietnam as well as the whole world. This place is an ideal work placement for scientific researchers, ecologists and ecotourism.

5.1.1 Historical Background

Can Gio Biosphere is also known as Vam Sat forest which is confluence of Dong Nai, Saigon, Vam Co Dong and Vam Co Tay River.

Before the war, Can Gio district belonged to Dong Nai province and it was a mangrove forest with diversified floral and faunal species. The trees from this forest were the valuable source of fuel and timber for Saigon city at that time. Besides the bird species, rare animals, crabs, shrimps, fishes, brackish clams were plentiful food source for most of Southeast provinces.

During the wars (French and American wars) mangrove forest was well known as a resistance base and a vital waterway to get into Saigon (Ho Chi Minh City's name before independence) water gateway. Due to the advantages of difficult terrain, local people and commando soldiers had become a nightmare for enemies. Since then, the enemy army had affirmed: If Sat forest still exists, Saigon would be unstable. Thus, with modern war motto, US army decided to 'destroy' mangrove forest.

Particularly from 1962-1970, enemy's army had continuously poured 1017515 gallons agent orange or dioxin to defoliate this forest land and deprive source of food for guerrillas. (Agent Orange is the code name for one of the herbicides and defoliants used by the U.S. military as part of its herbicidal warfare program, Operation Ranch Hand, during the Vietnam War from 1961 to 1971). Since then, around Can Gio 57% of mangrove forest was destroyed (Ross, 1975). Losing all the trees, the land became infertile, rivers were severely eroded and many areas were turned to saline desert.

After the Independence Day, many ecologists had asserted after observing the mangrove forest: It must take 100 years to restore Can Gio mangrove ecosystem. In 1978, Can Gio was integrated into Ho Chi Minh City and in 1979 City's Committee decided to launch a reforesta-

tion campaign in order to restore mangrove ecosystem in the shortest time. The main task of researchers, managers and local people were to find out technical solutions, effective and economical management strategy to greening the entire area within 20-30 years. After 20 years, Can Gio mangrove forest was totally rehabilitated with so much efforts and budget. Currently, the forest area has been greening over 31 000 ha including nearly 20 000 ha forest; 11 000 ha re-zoning natural breeding and other forest types.

21/01/2000 this mangrove forest was recognized in MAB/ UNESCO as ‘the first biosphere reserve in Viet Nam and listed in World Network of Biosphere Reserves’. Since then, many scientists from all over the world visited Can Gio forest and declared: This regenerating mangrove forest is one of the most extensive sites of rehabilitated mangroves in the world (UNESCO- the MAB program 2000). It is not only a property of Vietnam, but also property of humankind in biosphere network of the world.

5.1.2 Natural Background

Flora

The major habitats in Can Gio forest are plantation mangrove, which is mostly *Rhizophora apiculata* species. According to a survey of Ho Chi Minh City Forest Protection Management Board 1999, there are 35 true mangrove species and up to 120 association mangrove plant species. These species belong to 10 main plant communities covering newly formed mudflat along river, firm mudflat, brackish water zones, wildness saltpans and highland sandy clay. In the comparison with other Asian countries’ mangrove forest, Can Gio has rather high biodiversity. The table 2 shows the mangrove species’ comparison between Can Gio mangrove biosphere reserve and others Asian countries. Some of the rare mangrove species are listed in The Viet Nam Data Red Book, for example: *Lumnizera littorea* and *Aegiceras Florida* (Tuan et al. 2002)

Cambodian	26 species	Can Gio	35 species
Thailand	37 species	Can Gio	35 species
Indonesia	37 species	Can Gio	35 species
Malaysia	35 species	Can Gio	35 species
Philippine	32 species	Can Gio	35 species
Pakistan	5 species	Can Gio	35 species

Table 2: Comparison of mangrove plant species between Can Gio and several Asian countries

The sea grass bed is created by 15 different community types and is dominated by *Halophyla* sp., *Halodule* sp. and *Thalassia* sp.

1. *Avicennia Alba* community: located on newly formed land and watery mudflat. It might be purebred or mixed communities of *Sonneratia caseolaris* and *Avicennia officinalis*
2. *Avicennia Alba* mixed with *Sonneratia Alba* community: is distributed at estuaries and muddy riversides
3. *Avicennia Alba* mixed with *Avicennia officinalis* community: is distributed on highly firmed land
4. *Rhizophora apiculata* community: is situated in on stable land where tidal flooding is less likely appearing.
5. Mangrove mixed with *Avicennia officinalis* community: is distributed on higher land and mangrove plants are dominated
6. Purebred mangrove community: locate on rather high and stable area. The natural communities are gradually replaced by plantation forest. This community type has very large area and become dominant for the whole area (about 21 000 ha)
7. Mangrove mixed with Shrub community: is distributed on high land and small tree species begin to invade the mangrove plant.
8. *Rhizophora mucronata* community: is totally plantation area and located on highly formed land.
9. *Avicennia lanata* community: appears at tight soil region, highly flooding tide and abandoned salt fields.
10. *Lumnitzera racemosa* community: is distributed on highland sandy clay as well as abandoned salt field
11. *Phoenix paludosa* community: locates on highland sandy clay, less flooding tide. It could be purebred or mix with *Acrostichum aurerum*, *Pluchea indicas* and *Thespesia populnea*
12. *Ceriops tagal* mixed with *Excoecaria agallocha* community : appears on highly sandy clay and highly flooding tide level
13. *Sonneratia caseolaris* community: locates on newly formed riverside area, in brackish water. It could be purebred or mix with *Avicennia Alba* and with *Avicennia officinalis* depending on the height of that area.
14. *Acrostichum aurerum* community: is distributed widely from saline water to brackish water.
15. *Nypa fruticans* community: is distributed on firmed alluvial soil along the brackish cannals and channels.

Fauna

After 22 years restoration and protection, the number of species and number of individual are increasing. According to Can Gio Nature and Mangrove Forest Conservation, institute research statistic in 1999:

- There are more than 700 aquatic invertebrate species belong to 44 communities, 19 sets, 6 classes and 5 branches
- 137 fish species belong to 39 community and 13 sets. Dugong was reported to appear seasonally in sea grass bed at this area. (Hong et al. 2000)
- Terrestrial vertebrate species consist of 9 amphibian species, 31 reptile species. There are 11 rare reptile species had been listed in Vietnam's Red Data Book such as gecko (gecko gecko), water varan (*Varanus salvator*), land python (*Python molurus*), Leopard python (*Python reticulatus*), Yellow and black-ringed krait (*Bungarus fasciatus*), tiger snake (*Ophiphagus Hannah*), copperhead (*Naja naja*), salt water Crocodile (*Crocodylus porosus*)
- There are 130 bird species belong to 47 communities, 17 sets including 51 water bird species and 79 others type of birds. The intertidal mudflats and sandbanks become an important habitat for migratory shorebirds in biosphere reserve area. Several common bird species are Wood Sandpiper *Tringa glareola*, Common Redshank *T. totanus*, Common Sandpiper *Actitis hypoleucos*, Grey Plover *Pluvialis squatarola*, Lesser Sand Plover *Charadrius mongolus*

6 Ecotourism and Tourism services in Can Gio

From the poorest district in Ho Chi Minh City, Can Gio has changed when City's authority launched a development project of ecotourism at this site. The initial visit started spontaneously in mid 1990s when schools from downtown sent their students to visit the beach and monkeys on weekend. There were neither services nor fee at that time.

In 2000, a new bridge was built to facilitate the route from Ho Chi Minh City to Can Gio, Forest Park and other destinations. Since that day, Sai Gon Tourist Company (The leading of Top Ten Tour Operators by Vietnam Tourism Association and Vietnam National Administration of Tourism- www.saigontourist.net) had highly promoted tourism in Can Gio area to city residents. Nature becomes a strength point of Can Gio to develop different types of tourism such as: ecotourism, leisure tourism, ecology research with various choices

There are 2 major tourist sites in Can Gio Biosphere Reserve area:

1. Vam Sat Forest Park is popular with Flora Collection & Fauna Conservation, Bat Swamp, Bird Sanctuary, a semi-natural saltwater crocodile pool and especially Historical Museum
2. Can Gio Resort is popular with Monkey Island and beautiful beach, ecological resorts, hotels and restaurants. Furthermore, they can enjoy the fresh air, wonderful nature, and special & cheap local seafood.

6.1 Vam Sat Forest Park and its tourist activities

In 2000, Phu Tho Tourism Service Company established Vam Sat ecological tourist site, which locates in the core of Can Gio Biosphere Reserve. In February 2003, the World Tourism Organization (UNWTO) had recognized Vam Sat ecotourism site is one of two world ecotourism sustainable development in Vietnam.

Since the establishment day, Vam Sat has built up many new visiting places based on the available natural environment. There are many interesting tourist activities like visiting the bat swamp, the bird sanctuary, boating on river to see beautiful wildlife mangrove plants and brackish fauna, observing the whole Can Gio forest area, enjoying time in crocodile farm and Dead Sea. Tourists could discovery a multiform three-level fauna system: birds are at the top, mammals are in the middle and aquatic organisms (such as brackish water and sea species) locate at the bottom.

6.1.1 Bat Swamp tourist site and its service

Mangrove forest is a dense and quiet place thus hundreds of flying bats decide to reside here. These flying bats have the wingspan from 80 centimetres to 1meter. In order to ensure the

safety for them, the number of residents is very limited in this area. Come to this place, tourists could observe numerous flying bats in flock, which live naturally in the swamp situating in the centre of mangrove forest. The animated and noisy sound of the flying birds would attract many nature-lovers because of wild living.

Furthermore, tourists have opportunity to go sightseeing on sampan threading through mangrove plants' branches to witness flying bats spread their wingspan naturally. This species of flying bat is distributed in Malaysia, Indonesia, Australia, Cambodian and Laos. Especially this species is very different from the species that we see in nearby cities. Flying Bats in Vam Sat site have black mixed yellow colour plumage; they eat fruit and locate by their smell and hearing sense so their eyes, ears and nose are very developed. Their habits are to sleep on high mangrove plants at daytime and fly to find food at nighttime.

The flying bats' nests are locating in the heart of Bats Swamp that surrounds by small rivers, canals and shrimp ponds. Particularly, this area is dominated by huge mangrove trees that are planted since 1979. In 1998, 1999 the number of flying bats is around 3000 but it started to decline noticeably because the bats are trapped by local people when they are searching for food. In 07/2003, the number of flying bats is only around 400.

6.1.2 Bird Sanctuary Conserved Site

The total area of bird sanctuary is 602.5 ha and the transition area is 476.3 ha. Most of trees in this area mainly locate on highland of mangrove forest such as: *excoecaria agallocha*, *cegiops decandra*, date-palm and fern. Toward the north of bird sanctuary, there are a natural forest and shrimp ponds.

This Bird Sanctuary has 26 bird species, consisting of 11 water bird species (9 wild species and 2 bred species). Night heron and Stork frequently build their nest on date palm and *cegiops decandra* trees. However, they likely to choose date palm because it is thorny so the bird nests would be hold tight and could not easily fall down. Moreover, it also helps to prevent other animals such as monkeys, cats, and snakes climbing up to catch the eggs or baby birds. The birds can easily find rich food sources due to complex canal system and surrounding shrimp ponds.

6.1.3 Tang Bong Tower

Besides being a biosphere reserve of the world, Can Gio mangrove forest used to be a resistant base, popular historical and cultural relics that mark Vietnam glorious victory in two wars against American and French.

In order to commemorate Sat forest soldiers who had fought and scarified in this land, Vam Sat ecological tourist site had built a Tang Bong tower with 28 meters height. This tower has

bowl shape, which indicates the strength and youthful will of previous generation in the war-time. Tourists have possibility to climb up to the tower and enjoy admiring wild and charming panoramic beauty of Can Gio area.

6.1.4 Crocodile Farm Attraction

There are 40 crocodiles in this farm where tourists can come to learn more about crocodiles' living environment and habits.

This site introduces one extreme fun and impressive game: 'Boating and fishing crocodile'. The boat is very special with composite material and airspace to keep balance. It is also enclosed by B40 grid in order to keep tourist safe. The B40 grid prevents the crocodile attacking and overturning the boat. Come to this farm, visitors are not only excited by the adventure game but also other players' screaming.

6.1.5 Dead Sea Recreation

Dead Sea is also known as the floating lake. No matter whether you are able to swim or not, you still float in the lake, even you would like to be sunk. This Floating Lake's idea is copied from the Dead Sea in Jordan where the salinity of water is quite high 30%- about 10 times than seawater.

Because the net weight of the human's body is less than lake water's so tourists can float naturally as a magic. They can swim by any ways they like or even swimming while reading.

6.1.6 Historical Museum

Can Gio historical Museum is preserving many archaeological artefacts, which are evidences of long-standing ancient culture and the vivid reflections of initial habitants' life in this area. This museum also displays the artefacts of Can Gio soldiers and people during the wars against French colonialism and American imperialism's military. Museum is a vivid and colourful picture that reflects the glorious and dolorous period of Vietnam during the wars. Tourists are mostly students and international tourists who want to learn about this land historical background beside its natural value.

6.2 Can Gio Resort

Can Gio Ecotourism and Resort was founded by Saigon tourist Company which is the first company achieved ISO 14001 certificate in Can Gio district. This site has two main tourism activities: Monkey Island and Can Gio Resort with peaceful beach and wildlife local food restaurants. Moreover, tourists can canoe under mangrove plants' branches to Water Resistance Base, watch animal circus, visit 70 saltwater crocodiles (Ca Sau Hoa Ca) and other wildlife animals.

6.2.1 Salt water crocodiles Conservation Site

Before 1987, saltwater crocodile (*Crocodylus porosus*) had appeared rarely in some places such as Vam Sat, Den Xanh (from 1 to 3 crocodiles). This crocodile type is the largest of all living reptiles; they can reach 7 meters in length, 1000-1.200 kg in weight. This crocodile species can be found in Northern Australia, the eastern coast of India and parts of Southeast Asia. Their habitat is near the coast area such as rivers, swamps, billabongs.

In wildlife, there are very few baby saltwater crocodiles can survive and grow up to be adult crocodiles. The adult crocodiles are very aggressive and might be very dangerous for humans and other animals. This species can move really fast on the land as well as in the water. Besides, they can lie motionlessly up to one hour.

Until now, these crocodiles are no longer appearing in the wild environment. Currently, Can Gio ecotourism conservation site is raising more than 70 adult crocodiles so that tourists have chance to learn more about this biggest reptile.

6.2.2 Long-tail Monkey Island

Whenever mentioning about Can Gio, the tourists will think immediately about mangrove and Monkey Island. This island is the habitat of 1000 long-tail monkeys living wild and friendly close to people. Long-tail monkeys have gray-brown colour, cheek pouches, the long tail and the callous ass. These monkeys live in primary and secondary forests, including mangroves. Their diet mainly consist fruit, buds, leaves, insects and frogs.

At this island, tourists are not only enjoying freshness, wildness but also interesting anecdotes of monkey species. Most tourists in this site are students who want to see the monkeys' natural living environment, observing their habits and playing with mischievous monkeys. Stepping into an island, a lively picture comes straight to tourists' eyes: small and adult monkeys are jumping joyfully, climbing on branches and waiting for presents from visitors such as bananas, peanuts, sugarcanes, potatoes and other fruits. Although, these monkeys may annoy visitors sometime because of their naughtiness, the tourists would not mind about it and still enjoy their joyfulness.

6.2.3 30/04 Beach, Resort and Carrot Restaurant

Can Gio is the only place in Ho Chi Minh City area that has the wonderful mangrove forest as well as the beach. 30/4 Beach is popular with black colour sand and fairly cloudy water. Ignoring these weaknesses, the beach is really great as it has the long sandy beach, cool sea water, crawling snails. Tourists can enjoy swimming, surfing, building sand castle, catching snails.

After playing time, tourists can enjoy delicious local seafood from the nearby local market or restaurants. The special local seafood is always fresh and cheap therefore tourists often satisfy with their abundant dishes. In addition, the nearby Resort is a beautiful and peaceful place where tourists can relax with rustling Casuarinas-tree and mellow ocean waves. Can Gio Resort is a 3-star resort that is equipped with modern and ecological facilities including 80 private bungalows, Carrot & Hang Duong restaurants, swimming pool, conference centre, campfire area.

6.3 Transportation to Can Gio

After many construction years, the transportation system to Can Gio ecologist tourist site has been developed fairly well.

Nowadays, the road routes are totally asphalted, creating convenient conditions for cars and motorcycles. In addition, it takes only 50 minutes from downtown centre to Vam Sat tourist site by bus. Tourists can take the bus in all major bus stations in Ho Chi Minh City. And, if visitors would like to travel by waterways, they can choose the ferry and boats which also depart from the city centre. They will have chances to admire the sightseeing along riversides.

Phu Tho Tourism Service Company has just introduced a new tour named Sail-Boat Tour, which departs from Bach Dang ferry (Ho Chi Minh downtown) in the early morning. On this luxury sailboat tour, travellers can enjoy fresh morning, cool river-breeze, wonderful sightseeing on shore and delicious local dishes. Additionally, the guests will be surprised with the spectacle of the journey as they have opportunity to enjoy the dawn and sunset moment on the river.

Because of the convenient location and transportation modes, Can Gio is gradually becoming a favourite destination for city residents during weekend.

6.4 Tourist Quantities and Socio-Economic Value

Along with landscapes and the recreation environment, Can Gio mangrove area had created the invaluable mangrove forest ecosystem for Ho Chi Minh city in particular and Vietnam as well as the world in general. Especially for Ho Chi Minh City, this forest is not only a green lung but also a kidney, which helps to prevent the sea storms and regulate the climate.

However, only leisure tourists and monkey island visitors are recorded until this time. Since 1994, Can Gio welcomed around 100 people during weekend. And from 1997, an accurate tourist statistics are showed up:

Year	Total number of tourists	Domestic Tourist	Foreign Tourist	Comparison with year 1997	Comparison with year 1997
				Domestic	Foreign
1997	27 213	26 992	221	100	100
1998	38 315	37 956	359	140.6	162.4
1999	42 236	42 004	232	155.6	104.9
Total	107 764	106 952	812		

Table 3 : Statistics of the number of tourists visiting Can Gio Forest Parks from 1997 to 1999 (source: Le Văn Sinh, Lam vien Cần Giờ, 1999)

From this statistic, we can see that most tourists in Can Gio site are domestic tourists who are Ho Chi Minh City residents going for weekend holidays. Domestic tourists are nearly 132 times than foreign tourists. This is the sign of weakness in marketing Brand, managing strategy and building infrastructure. Since Vam Sat ecologist tourist site is founded in 2000, the number tourists are increasing noticeably and especially foreign tourists are gradually attracted to this site.

According to Can Gio People Committee, after two years implementing ‘an ecotourism development program period 2006 - 2010’, currently Can Gio has seven amusement parks, attractions, over 32 operated projects with a total investment up to 208 billion Vietnam dong (Vnd), attracting 674.819 tourists in which foreign tourists are 20%. The annual growth rate of visitors is 25%, exceeding the set target of 20%.

The number of arrival tourists in Can Gio is relatively high but the actual business’ revenue is quite low. The accommodation-operating rate is approximately 20% and the most activated days are Saturday and Sunday. Generally, Can Gio site had initial developing steps; however, it should focus on the processes of organizing, building facilities and branding in order to develop sustainably tourism in long term.

Since tourism is developing noticeably in Can Gio district, the local people’s living standard and their income has been increasing a lot. The best advantage of Can Gio tourism site is bringing numerous job opportunities and income for local habitants who work as the tourist guides, service providers, seafood and souvenir sellers... Furthermore, the most invisible benefit for the local community is the infrastructure improvement. The convenient transportation route, the new bridge and stable electricity are not only supporting tourism site but also improving the life of local residents. (Department of Tourism 2002).

- Can Gio Sea Tourism Urban Area

In 13/12/2007 Can Gio Tourism Urban Area Joint Stock Company (CTC) had announced a groundbreaking ceremony for 'The Sea Tourism Urban Area' project as an investor. In 11/2010 Ho Chi Minh People Committee has directed all concerned departments to speed up the implementation of planning and constructing this project in Can Gio. The Sea Tourism Urban Area is named as Saigon Sun-Bay which has total area up 600ha including 200 ha for private sea and beaches, 400ha for building other tourist service units and high-class residential areas. Saigon Sun-Bay will be the first construction area using the most modern polder technology in Vietnam. (CTC.2007) Thus Can Gio is promising to become the largest sea tourism urban in Vietnam and international stature.

The capital investment for the entire project is estimated around 526 000 USD. It took 5 years in building a polder system (2007-2011) and the whole construction is estimated to be completed in 2016. The aim of this site is to develop Can Gio into an ecotourism destination, green urban and wonderful beaches for city residents, domestic tourists as well as international tourists. Saigon Sun bay comprise 4 major functional areas: Heart-Bay, Life-Bay, Eco-Bay, Blue-Bay, and able to serve for 33,000 residents as well as tourists (including 20,000 tourists, 5,000 visitors and 8,000 residents) (CTC.2010)

Being supported in orientation program of sustainable ecotourism development in Ho Chi Minh City, Saigon Sun-bay architecture is designed toward nature, using clean energy source (wind, solar, etc) and environmental friendly material. The idea of this site is particularly important in the tourism developing expansion strategy, which enhances the strength of the Ho Chi Minh City Tourism.

7 Conducting the Research Study

This section mainly focuses on the process of conducting the research study. It introduces the main purpose and the question of this study as well as the development of the research approach. The study participants, mixed method as research methodology, data collection, data analysis process are well presented and explained furthermore. Finally yet importantly, it also mentions in detail the reliability and validity of the research.

7.1 The aim of the research study and the research question

The main purpose of this research study is to gather information about visitors, NGOs and tour operators' experiences and perceptions of Can Gio current natural environmental condition with presence of massive tourist, environmental awareness and potential environmental impacts caused by tourism. This information will help us in understanding the main causes of Can Gio natural environmental degradation and figuring out how it relates to ecotourism development.

The study will find out the different environmental impacts of ecotourism in Can Gio through analysing the collected data. From the study findings, we would like to draw some recommendations for improving management system in Can Gio ecotourism destination.

The main research question of this study is

What is the environmental impact of mass tourism under the label of ecotourism in Can Gio Biosphere Reserve?

7.2 Study Implementation

According to the main purpose of the research, the study is conducted to figure out different kinds of positive and negative impacts of developing ecotourism on Can Gio biosphere reserve environment. The research study is mainly based upon the experiences and awareness of the visitors who had visited Can Gio tourist site and the perception of NGOs & tour operators, which have been providing services in this site. In the visitors study section, the research concentrates on how they behave, consider themselves and assess other behaviours (other tourists, local community, service operators) relating to environmental conscious & unconscious awareness. It also studies the visitors' opinions on what and how the development of ecotourism affects on surrounding environment. In the tour operators study section, we focalise on how they perceive themselves in affecting as well as protecting the natural environment, how they attempt to convince visitors/local habitants behave in environmental friendly manner, how the services and waste are managed.

Throughout the study, all efforts are mainly for the purpose of answering the research problem/research questions. Therefore, all the sections of research study as well as the research development are turning around the study question, which is: What is the environmental impact of ecotourism in Can Gio Mangrove Biosphere Reserve? The importance of the research question is undeniable, thus we need to take into consideration every step to establish a plain question. According to O’Leary, Z. (2004), the good question should define the investigation domain, set the limitations and providing the direction for the researchers.

As the figure 5 shows, the development research question process starts with defining the topic and research areas/problems that researcher would like to study, then narrowing and redefining the research questions. Defining the right question is considered as a repetitive process of reading and redefining. Therefore, the process likes a cycle, which begins from reading to generating ideas and then defining the primary research question. After that, we select the research methodology so that we can redefine the research question into right form. Our survey questionnaire is designed and developed along this approach. There are no obstacles to develop proper survey questionnaire since we already define the right data collecting methods from the aim of the research.

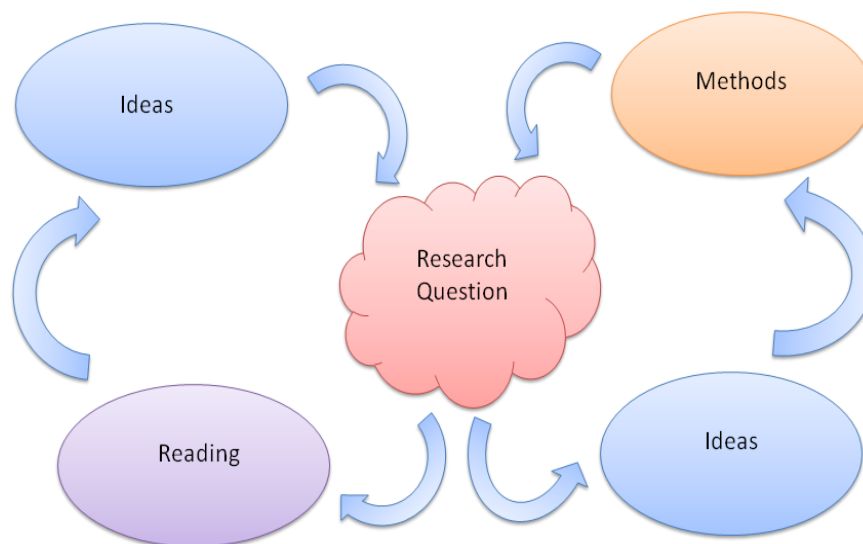


Figure 5: Cycle of Research Question (According to O’Leary, Z. (2004))

7.3 Research Methodology

As we already defined the study’s potential participants and discussed briefly potential research methods, we decided to employ mixed-method research, which could facilitate us in collecting valuable information in all possible aspects. Instead of using only one quantitative or qualitative research method, the mixed-method is a new approach to collect both quanti-

tative and qualitative data, which are extremely essential for research findings. The qualitative research studies are exploratory and including theory generation meanwhile the quantitative research studies are confirmatory and including theory verification. (Tashakkori & Teddlie, 2003, p.15) The mixed-method research studies use qualitative and quantitative data collecting and analysis methods in either sequential or parallel phases (Tashakkori & Teddlie, 2003, p.11). Each method has its own strengths and weaknesses; hence, the mixed-method could provide strengths that compensate the weaknesses of both other methods (Jick, 1979).

There are several previous researches, which studied the impacts of tourism in Can Gio site by the researchers from different NGOs viz. UNESCO MAB program, Vietnamese Natural Resources Ministry and Universities. Regarding to the geographical difficulties, mixed-method is the most appropriate method for us to collecting and analyzing data. It involves the philosophy worldview consumption which leads the direction of collecting and analyzing data (Tashakkori & Teddlie, 1998). With the mixed-method, the researchers would be able to use all possible the data collecting tools to answer the research questions rather than being restricted with typical data collection tools associated with qualitative or quantitative methods. The study mixed-method design is well presented in the figure 6.

Following the mixed-method approach, our study involved the use of survey questionnaire together with documentary research (analysis) method. The online survey questionnaire was used to investigate visitors and NGOs' perspectives and opinions about their activities, which would lead to impacts on local environment. The questionnaire is invented by Sir Francis Galton and is the effective and cheap tool to gather information from the crowd. The online survey is considered as the least expensive and fastest speed tool to collect information. It allows the participants to work at their environment to find the answers for the questionnaire. (Foddy.W.H, 1994; Gillham.B, 2008). It is a useful tool to gather data from the large population who are expected to access the internet in their free time. The collected information from questionnaire is regarded as quantitative data which are information dealing with number and measurable things (Miles & Huberman 1994).

The online survey was conducted primarily on Facebook social media website and secondarily via emails. In the social media network survey, the number of respondents is essential for generating the findings for the whole population. The more responses we received the more relevant the information would suit all the population. In contrast, the number of replying email is not really vital because of its rich information. The organizations have thick experience in dealing with tourism services and environmental problems in Can Gio therefore they are, better than most of others, understanding the problems of tourism and surrounding environment. The survey is used to have a pilot view of tourism impacts and tourists' behaviour in Can Gio site.

As we perceived the data collecting from the survey questionnaire would be insufficient for answering the research problem. Hence, we decided to employ the documentary research (analysis) to deeply understand the subjects as well as gather richer insight data, which may be dropped out in the survey questionnaire process. Document analysis is one of effective qualitative research methods. It is the systematic procedure for reviewing or evaluating documents both in printed and electronic (computerized base or internet-base) material (Glenn A. Bowen. 2009). According to Atkinson and Coffey (1997) the document is considered as ‘social facts’ that are produced, used and shared in socially organized patterns. The reviewed documents in our study are previous researches in related field, press releases, organizational and institutional reports, literatures and various public records. We particularly focused on the material relating to the impacts of tourism and waste management in the reserved areas. In contrast with other raw material, the previous researches were only regarded as the references for the research methods and findings comparison because we could not rely on other researchers’ descriptions and interpretations of data. The literature review helped to incorporate the prior theory/literature in our research process and strengthen the study findings.

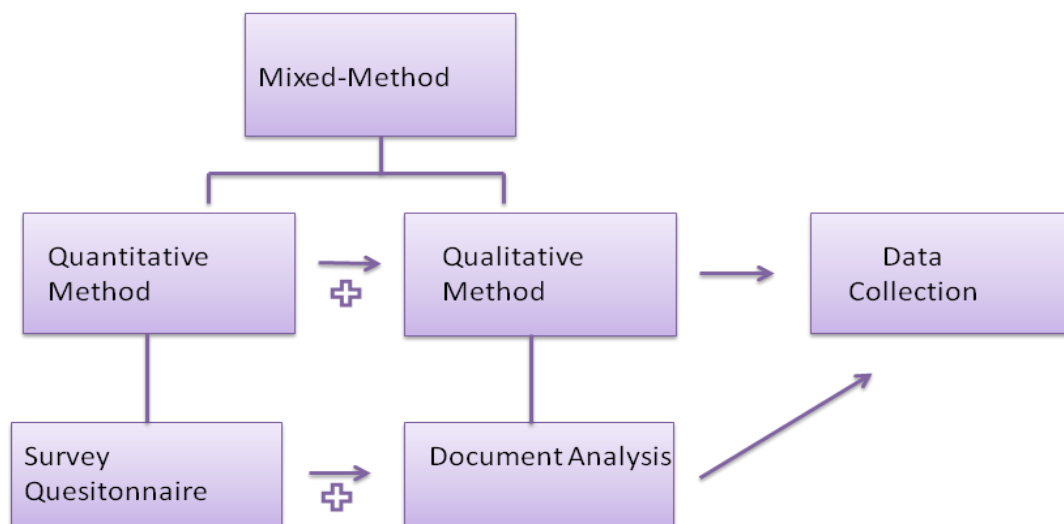


Figure 6: Can Gio Research Mixed method design

7.4 Study Sample

In most researches, population is defined as the set of all people or items with common characteristics that researchers would like to learn about them. It is almost impossible to collect information from each individual or each unit in the population. Therefore, the sample is randomly chosen to represent the whole population for the purpose of research. the sample is

a small group of people/ individuals or items, which are selected from the population. (Suzanne C. Beyea & Leslie H. Nicoll, 1997)

Concerning to the nature of study, the right population are the tourists who directly use the tourism services in Can Gio and the tour operators/organizations who are responsible for the services and researches. The big disadvantage in our study process is that we could not conduct the survey questionnaire at Can Gio site because of geographical obstacles. Instead of that, we carried out the survey on social media website and electronic mails which allows us easily reach the participants even if they are in far distance. Therefore our study's sample are those Can Gio visitors who could access to social media network Facebook, and those organizations who are mostly active in numerous activities relating to tourism services and researches. The visitor sample is mostly young Vietnamese and originally come from Ho Chi Minh region. They should be active users in social networks and numerous Vietnamese tourism forums.

Mentioning of tour operators and NGOs sample, we selected seven organizations, which have been managing, providing services and doing researches in the site. They are chosen from the most popular organizations in Ho Chi Minh City and all of them are very familiar with the conditions of Can Gio biosphere reserve environment. We had received four out of seven responses from interested organizations. They not only answered our questionnaire but also provide rich information on different environmental impacts of ecotourism on the site, feedback and advice for the further research.

7.5 Data Collection

Regarding to the aims of the case study as well as the research problem, two main data collecting strategies namely survey questionnaire and documentary analysis methods were employed for the empirical data collection. These two strategies allow us to gather all possible information in different aspects, which might not be reached by only one method. The survey questionnaire helps to collect information from tourists, tours operators and NGOs about the tourism activities that cause the impacts on Can Gio biosphere reserve. The documentary analysis method is used to gather broad information from the valuable existing documents that could not be assessed by survey questionnaire.

The survey questionnaire was designed into two separated parts which head to two different target groups. The first survey questionnaire is aimed for tourists who have visited Can Gio biosphere reserve and the second part is aimed for the tour operators as well as NGOs which are responsible for operating tourism services and activities in Can Gio site. The survey questionnaire includes multiple choices, open-ended, closed-ended questions. The draft questionnaire was firstly shown to the tutor teacher so that it will be professionally checked to ensure the feasibility and success of the survey. The tutor teacher's evaluation, suggestions and ad-

vice were taken into the modifying process, which helped to produce the better quality survey questionnaire. The modified questionnaire was then tested with the couples of questionnaire takers in order to reduce the all the potential problems during the surveying time.

We chose social media network viz. Facebook webpage as an effective tool to conduct our first survey questionnaire. Facebook has more than 500 million active users from all over the world by 2010; therefore it is an excellent tool for doing survey and collecting data from the crowd (Statistics, Facebook 2010). The significant people-to-people connecting feature enhances the spreading possibility of survey. The survey questionnaire was designed professionally by Facebook poll software and posted on our personal Facebook accounts as a case group in order to involve all available friends. It was then sent to all people in the friend list and posted on Vietnam Tourism Facebook site as well as numerous Vietnamese tours operators' sites. The survey was re-posted daily in three weeks to catch attention of all potential people. Despite the broad spread of survey questionnaire, the number of respondents is very little with only 9 responses were collected.

The collected answers are insufficient for the aim of the research therefore the second survey was conducted by sending questionnaire via emails to different organisations including: Vietnam NGO Resource Centre, Vietnam Ministry of Natural Resources and Environment, Vietnam network for Agro forestry Education, UNESCO MAB biosphere reserves directory, Vietnam national administration of tourism and two tour operators such as Saigon Tourist, Phu Tho Tour. We immediately received 4 responses from organisations that are very interesting in our research study. The responses were full of information about tourism impacts' recorded data from government & research institutions, as well as the previous studies. The replies generally provided some basic information about services and waste management. These responses are valuable source for us in term of data collection. The Vietnam national administration of tourism and two tour operators such as Saigon Tourist, Phu Tho Tour did not reply our survey email. Thus, we did not receive any responses from two main tour operators in Can Gio, thus, we could not gather any information from them. Unfortunately, we could not cover the perspectives about environmental impacts of ecotourism from tour operators' point of view.

The documentary research was employed to gather essential data, which could be left out in the survey questionnaire method. The information is collected from existing documents such as previous researches in relative fields, public presses and government documentaries. The existing related-field researches of UNESCO biosphere reserve MAB programs are valuable sources for us to point out some remarkable information.

7.6 Data Analysis

The use of different tools to collect data brought a great amount of information into the study. The collected data has contributed to create a clearer picture regarding to the re-

search problem as well as the outcomes of the research study that showed numerous environmental impacts and management weakness of ecotourism in Can Gio biosphere reserve.

As we used Facebook poll software for our survey, it facilitated us in reviewing data and analyzing the survey questionnaire as the data was clearly presented in figures. This software worked as an excellent tool in collecting and recording data (qualitative and quantitative) in organised form. It was easy to retrieve data from the poll since the use of Facebook poll software was made for the survey. The data retrieved from this tool was implemented into the study in original form as it was obtained. After reviewing all the collected information from the Facebook poll record, coding survey questionnaire process was implemented for every question in order to identify the themes/ideas to categorise data for easier analysis process. The coding approach helped us to clarify the relationships between these categories of interaction. After defining the themes, the re-coding process was conducted in order to ensure all themes are well defined. The illustration data was visualized in form of Facebook poll snapshot which showed clear statistical figures and qualitative information of each question.

The email survey responses provided information from the management's and researchers' perspectives. They referred to different documents such as 'Centre for Marine life Conservation and Community Development' and some other research documents from Vietnam UNESCO-MAB project was made to collect overview on the research problem and the recent development of ecotourism generally in Vietnam and particularly in Can Gio biosphere reserve. These documents are valuable sources for us to gather information from management board as well as researchers. Document analysis method was carried out to dissect these existing data through reviewing and coding procedures. The email survey responses analysis as document analysis process is explained in the similar pattern of survey questionnaire analysis.

The analysis of three different views on the same research problem generated critical and rich findings, which support us in understanding deeply the current situation of the Ecotourism in Can Gio and its impact on the environment of Can Gio. All the data was analysed separately and ultimately, a correlation of the analysis was made to draw a conclusion out of the findings in order to represent the impact of ecotourism in the environment of Can Gio biosphere reserve.

7.7 Validity and Reliability

According to Joppe (2000), validity is the extent to which the results of the research measure what it supposes to measure. The validity term is defined as the quality or state being true. Hence, in the research, validity relates to the truth of the research or the accuracy of the studied result. The concept of the validity goes through entire research study.

Reliability is referred as the extent to which the results of the study are constant over time and it is an accurate presentation of the whole population. In other words, the reliability research study means the results of study remain same under similar methodology (Joppe. 2000) or similar observations conducted by other researchers.

Concerning to the results of this study, it is mainly based upon the questionnaire answers of Can Gio management board and visitors who are in concern with Can Gio biosphere reserve. Therefore, the validity and reliability of this research study are totally relied on the questionnaire responses of the sample. All the information provided by answered visitors and Can Gio biosphere reserve's management board were carefully recorded and analysed for the findings. The collected data are the perceptions, experience, opinions and suggestions of answers about environmental impacts in Can Gio biosphere reserve area, thus it definitely related to the research question.

As the research findings are primarily based on sample, the results of the study cannot be generalized because of the sample size and small number of responses. We cannot generalize our findings for the whole population with limited information from small group of specific participants. For example: we could not assume that our research study represents the perceptions, experiences, and opinions of all visitors, NGOs in Can Gio. This research study is a small effort in ecotourism research in defining several key environmental impacts caused by mass tourism in labelled of ecotourism in Can Gio conserved site.

8 Findings

This study was conducted rigorously using Facebook poll software and email to engage pre-identified respondents in the study. The result of Facebook poll was provided in organized form and stated as it was available from Facebook. We received a recent research document from Centre for Marine life Conservation and Community Development (MCD) which is an NGO working in the field of nature conservation and community development. The ecotourism manager of MCD provided some additional contacts along with recent research document, which was used as a secondary source for findings. Apart from this, we also received answers from UNESCO (MAB Biosphere Reserves Directory), secretary of Can Gio Biosphere Reserve Management Board, through email regarding the development process for the sustainability of Ecotourism in Can Gio biosphere reserve. The study collected findings from three different perspectives (User, Researcher and Management). Figure triangular relationship of research findings from different perspectives and the tools used to collect them.



Figure 7: Relationship between different perspectives and research findings

The findings received through different tools are delivered in this section.

8.1 Facebook Poll Survey

The aim of this poll was to gather information regarding the impact of Ecotourism in the environment of Can Gio biosphere reserve from the people who have visited it. Question 1 of the questionnaire was set to validate the visit of respondent to Can Gio biosphere reserve. Figure 8 represents the total number of respondents took part in the study.

8.1.1 Number of Respondent took part in the study

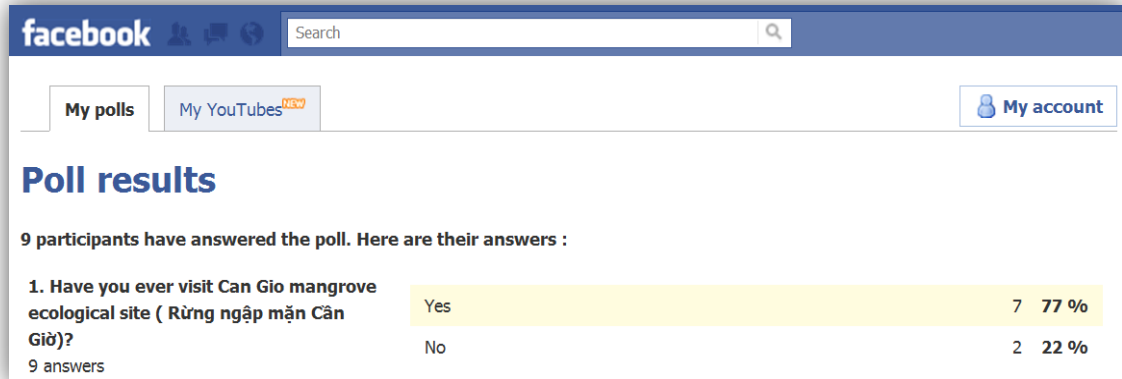


Figure 8: Representation of number of respondents took part in the study

As illustrated in Figure 8, total 9 respondents took part in the study. 2 out of them never visited Can Gio but experienced it through virtual media and heard about it from their friends & relatives who visited it. Total 77% of the respondents visited Can Gio and 22% have never visited.

8.1.2 Activities respondents liked in Can Gio Biosphere Reserve

Recreational activities carried out at a tourism destination can cause harm to the local environment. Second question was asked to get information about the recreational activities carried out in Can Gio. As an answer of the second question of the survey (What do you expect to do the most in Can Gio Bio Reserve?) respondents described their wishes and activities in dif-

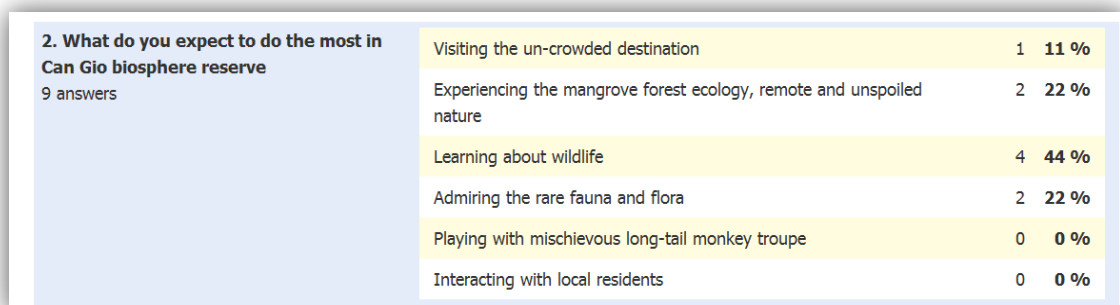


Figure 9: Illustration of question no.2 of the survey

ferent way. The description of the activities and willingness of the respondents are illustrated in Figure 9

4 out of 9 respondents mentioned that they expect to learn about wild life during their visit to Can Gio. 2 out of 9 mentioned that want to see rare fauna and flora with admiring eyes and 2 out of remaining 3 respondent showed their willingness to experiencing the mangrove forest ecology, remote and unspoiled nature. Only one respondent mentioned that he/she would like to visit un-crowded destination.

8.1.3 Important aspects of ecotourism in Can Gio mangrove forest

The purpose of the third question of the questionnaire was to gather information about the perception and knowledge of respondents regarding ecotourism and its aspects in Can Gio. In response to the third question (From your perspective, what are the most important aspects of ecotourism in Can Gio mangrove forest?) where respondents could choose more than one

3. From your perspective, what are the most important aspects of ecotourism in Can Gio mangrove forest? (You can choose more than one answers) 20 answers	Base on nature	6	30 %
	Providing knowledge for tourists about the environment and wildlife	5	25 %
	Reducing negative environmental impacts	3	15 %
	Supporting the local communities	4	20 %
	Taking part in preservation efforts	2	10 %

Figure 10: Illustration of aspects of ecotourism in Can Gio mangrove forest

answers all the 9 respondents responded. There were total 20 answers for this question from 9 respondents. Figure 10 is the representation of the answers given by all 9 respondents.

Respondents described the aspects of eco-tourism in Can Gio based on their perception. 30% answers were “Base on nature”, that is 6 answers. 25% of the responses represented “Providing knowledge for tourists about the environment and wildlife (5 responses), 15% responses illustrated “Reducing negative environmental impacts” (3 responses), 20% of responses were in support to represent “Supporting the local communities”(4 responses) and only 2 responses represented “Taking part in preservation efforts” (2 responses).

8.1.4 Main reason for Can Gio visit

Ecotourism is made with the purpose to gain knowledge about the flora and fauna of the destination with the secondary aim for preserving and conserving the ecology of destination. This question was asked to the respondents to verify whether the purpose of the respondents meet the set requirement of ecotourism. Responding to question 4 (What is the main reason for your Can Gio visit?) of the survey all the 7 respondents who have visited Can Gio men-

4. What is the main reason for your Can Gio visit? (You can choose more than one answers) 14 answers	Beautiful mangrove ecology	6	42 %
	Monkey island	3	21 %
	Wonderful beaches and resorts	2	14 %
	Local sea food	3	21 %

Figure 11: Illustration of Question 4 (Reasons for visit)

tioned the purpose of their visit. The respondents were allowed to choose more than one answer for this question. There were total 14 responses from 7 respondents. 6 respondents (42%) said that the reason for visit was “Beautiful mangrove ecology”, 3 respondents (21%) provided a reason of “Monkey Island”, 2 (14%) respondents were in support that Can Gio has “Wonderful beaches and resorts” and 3 respondents (21%) for “Local sea food”.

8.1.5 Three best and worse things in Can Gio

Question 5 was dedicated to get the perception of visitors on the best and worst things in Can Gio regarding the natural environment. 5 respondents answered this question. The best and worse things according to respondents are as follows:

5. What were the three best and worse things you saw regarding natural environment of Can Gio during your visit? 5 answers	best thing was encounter with nature. The worst thing was the behaviour of people, most of them were not seen aware of the natural environment and throwing garbages.
	I have never been in Cangio but from what i heard from my friends who visited.They said that most tourists had low knowledge of protecting environment, they throw waste in everywhere,street vendor annoyed tourists by asking them by their foods or products. However, Can Gio mangrove forest still has its wildlife, fresh air and it's one of the best places that people can go there for relaxing at weekend with family and friend, in addition,its location is not so far from the Ho Chi Minh city, so it's good to take a short trip to be out of city life
	Best : Peaceful , lot of monkeys, travel by boat Worst : Insect, dirty, service is bad.
	Three best things: - Strange because of the salt-marsh - natural food and fruit - small cruise on the river Three worse things : - So polluted, full with a tons of litter - dark and dirty sea - forced to buy local products
	Best: fresh air, wonderful wildlife, plenty mangrove plants Worst: mischievous monkeys, so many services in the reserve areas,

Figure 12: Illustration of question no 5 (Three best and worst things in Can Gio)

“Encounter with nature” was listed as one of the best thing that the respondents experienced in Can Gio; people engaged with nature such as wonderful wildlife, fresh air, peaceful. Salt-marsh, small cruise on the river, boat travelling, natural food and fruits were imaged as fascination. In one answer of a respondent lives in Ho Chi Minh city, Can Gio is considered as one of the best places for relaxing at weekend with family and friends since the air is fresh and the location is not far from the city.

Respondents gave negative feedback on behaviour of people towards natural environment. Most tourists had low awareness of protecting environment and the wastes were thrown everywhere. “Polluted, dirty, full with tons of litter, insect, dark and dirty sea” was comments collected within questionnaire. Two responses mentioned the annoyance by the street vendor who forced tourists to buy their local foods or products. Other two respondents pointed the services operated in Can Gio as the worst thing experienced “Service is bad, so many services in the reserve areas”

8.1.6 Tourist’s behaviour in Can Gio

Question 6, 7 and 8 gathered information regarding the issue: “Tourist’s behaviour toward natural environment in Can Gio”. Figure 13 is the illustration of tourist’s experience, perception on self-behaviour and on others behaviour toward the natural environment in Can Gio.

Question 6 concerned the matter: “Is the presence of many tourists disturbing the wildlife and natural environment in Can Gio?” Total 9 answers, 66% respondents said yes; the rest 33% opposed.

Question 7 centred respondents’ perception on self-behaviour in an environmental consciousness manner. Out of 9 answers, there was no respondent (0%) considered behave “Very much” attentiveness, 7 respondents (77%) stated behave “Fairly good”, 2 respondents (22%) judged behave “A little” in an environmental awareness way. No respondent (0%) said behave “Not good” in this case.

6. In your experience, is the presence of many tourists disturbing the wildlife and natural environment in Can Gio? 9 answers	Yes	6 66 %
	No	3 33 %
7. How do you consider yourself to behave in an environmental awareness way? 9 answers	Very much	0 0 %
	Fairly good	7 77 %
	A Little	2 22 %
	Not good	0 0 %
8. In Can Gio, have you ever seen any tourists behave in an environmental unconscious way? What did they do? 5 answers	they pluck the flower, leaves of plant, throw the garbage, make noise and play loud music	
	Like i said, one of the biggest issues that Can Gio is facing that the matter of throwing waste unconsciously.	
	Usually, Tourists drink water in plastic bottles and throw away in forest.	
	Yes, they throw litter whenever, wherever because lack of recycle bin	
	Yes, they throw the plastic bags and water bottles everywhere	

Figure 13: Tourist’s behaviour toward natural environment in Can Gio

Responding question 8 “In Can Gio, have you ever seen any tourists behave in an unconscious environmental way? What did they do?” There were overall 5 answers; all the respondents affirmed the fact of throwing waste unconscious in Can Gio.

“Throw garbage”

“Throwing waste unconsciously”

“Tourists drink water in plastic bottles and throw away in forest”

“They throw litter whenever, wherever because lack of recycle bin”

“They throw the plastic bags and water bottles everywhere”

Apart from mentioned remarks, one response included “Pluck the flower, leaves of the plant, make noise and play loud music” as the misbehaviour of tourist in an environmental awareness way.

8.1.7 Dos and Dons for Can Gio visit

Question 10 indicates the involvement of the stakeholders in operating and managing activities in Can Gio. Respondents were asked about the information given regarding dos and don'ts for Can Gio visit by any of the stakeholders (Can Gio Administration, tour operators, travel agencies, etc). The figure 14 is the illustration of answers within the questionnaire.

There were total 4 answers, in which two respondents got the information concerning Can Gio trip. A respondent acquired “some information on behaviour such as do not tease animals, do not feed any animals, through garbage in right places, etc”. Another respondent got information at the selling ticket booths, according to this response all the tourists when visit Can Gio will be provided brochures about the tour and others activities such as visiting Monkey Island, go fishing crocodiles, etc; the tourists can get those information for free if they go through agency.

Other two respondents answered “No” regarding the information provided by stakeholders; one of them said, “I just travelled with my friends”

<p>10. Are you given enough information regarding dos and dons for your Can Gio visit by any of the stakeholders (Can Gio administration, tour operators, travel agencies, local people etc), if yes, what and by whom? 4 answers</p>	<p>yaa, some information on behaviour such as dont tease animals, do not feed any animals, throw garbages in right places, etc</p> <p>Yes, after being invested to develop as the first Ecotourism of Vietnam, can gio Biosphere Reserve became one of the top ten places which visited the most. All tourists when they visit there will provide brochures about the tour arounds Can gio and others activities such as visiting monkey island, go fishing crocodiles,... U can get those information right at the selling ticket booths. If u go through agency, then u can get it from them for free</p> <p>no, I just travel with my friends.</p> <p>No</p>
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Figure 14: Information regarding dos and dons for Can Gio visit provided by the stakeholders

8.1.8 Natural environment Vs Ecotourism Operators

This question was included in the list of survey questionnaire to collect information about the consciousness and participation of ecotourism operators regarding natural environment. Responding to question 11 (Are Can Gio ecotourism operators damaging the natural environment? If yes, in what way?) 4 answers were given and differed from each other. The differences among those answers can be noticed through figure 15.

1 respondent had no idea about this matter. 1 respondent did not think that Can Gio ecotourism operators are causing the damages to the natural environment. According to other respondent, if Can Gio administrator has a good plan or strategy then it is not a big deal for managing. 1 respondent opposed to the matter within the questionnaire. 1 respondent thought that environment are being damaged by Can Gio ecotourism operators because the managing system in Can Gio is very bad, it forces people to throw litter.

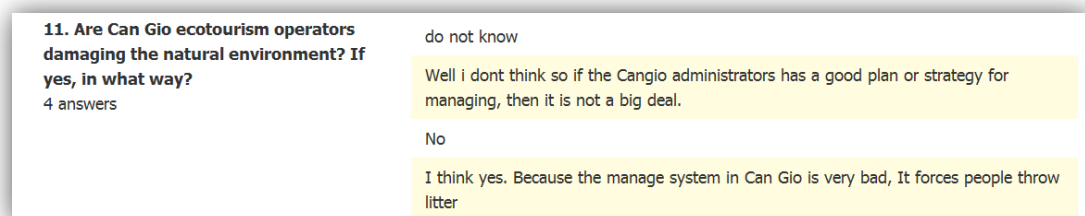


Figure 15: Are Can Gio Ecotourism operators damaging the natural environment?

8.1.9 Affect of Ecotourism Services in Can Gio mangrove forest

The question was dedicated to the affect of the services provided at destination for tourists with the label of ecotourism. Answering question 12, the respondents gave the opinions regarding the effect that is caused by tourism services to the surrounding nature in Can Gio mangrove forest. Among 4 received answers, 1 respondent had no idea concerning this issue, 3 respondents shared opinions on the matter. According to the responses: “waste management is not seen well organised therefore the environment of Can Gio is affected” “The service operators just think how much benefits they can get from tourists and forget how to

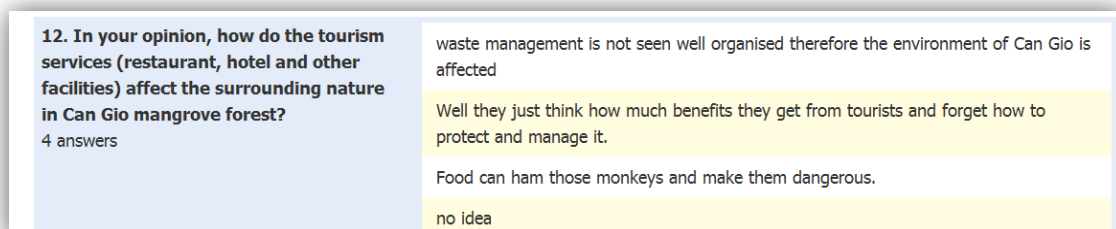


Figure 16: Affection of tourism services to the surrounding nature Can Gio mangrove forest

protect and manage it” “Food can harm those monkeys and make them dangerous”

8.1.10 Local people participation

Managing ecotourism needs the strong participation of local communities. Question 13 was asked to gather information about the local communities’ participation in managing sustainable tourism in Can Gio. Responding to the issue within question 13, 2 responses (25%) agreed that the local people and services providers are active in protecting the surrounding environment and ecology. 5 responses (62%) said “less active”. 1 response stated “Do nothing” and none (0%) hold the idea “very active” regarding the effort of local people and services providers’ to protect the environment.

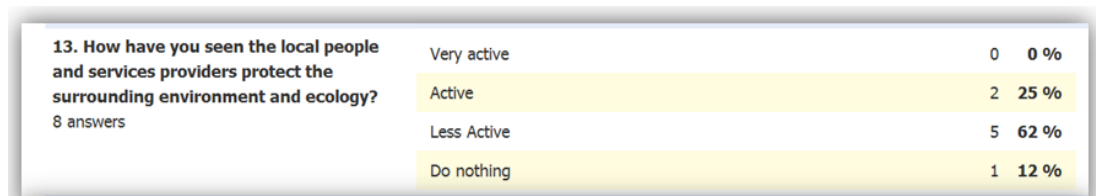


Figure 17: Local people and service providers protect the surrounding environment and participate in conservation effort

8.1.11 Opinions on the impacts of ecotourism

The open-ended question was asked to collect the views and opinion of the visitors in order to know impact of ecotourism in Can Gio from different angle. In response to the final open-ended statement, only three respondents provided information regarding the impact of ecotourism in Can Gio. The representations of the responses given to the statement 15 of the questionnaire are specified through figure 18.

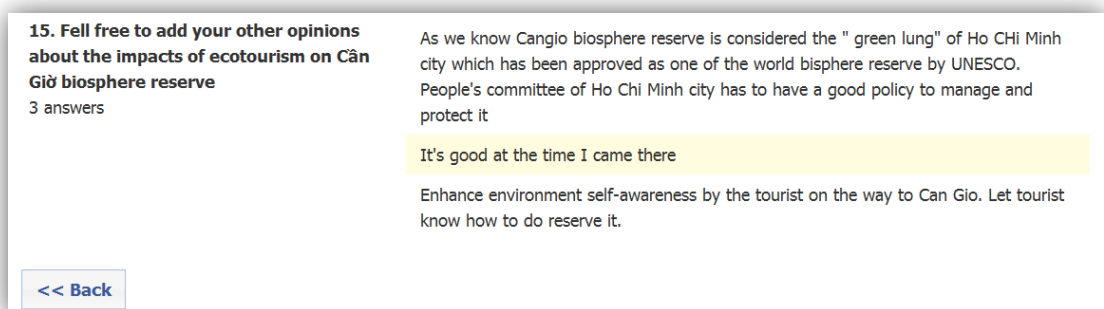


Figure 18: Other opinions about the impacts of eco tourism on Can Gio biosphere reserve

One of the opinion stated “As we know Can Gio biosphere reserve is considered the ‘Green Lungs’ of Ho Chi Minh city which has been approved as one of the word biosphere reserve by

UNESCO. People's committee of Ho Chi Minh City has to have a good policy to manage and protect it." The respondent has emphasised the role of management from public administration. The rules and regulations need to be straightforward in order to appeal the conservation during the utilization of the resources in biosphere reserve. Another view was stated that the atmosphere and conservation activities were good during his/her visit to Can Gio reserve. However, he/she did not mention clearly the year and the season of his/her trip to this biosphere reserve. Therefore, it is difficult to assess and compare the gradation and degradation state of improvement on the environment of Can Gio. The final response suggested that the awareness education programme should be launched for tourist in order to promote self-initiation towards conservation and eco-friendliness behaviour during their trip in Can Gio biosphere.

8.2 Managing impact of Ecotourism in Can Gio from researchers' perspective

The study was developed to generate a clear picture about the impact of ecotourism in Can Gio biosphere reserve. We tried to collect information from consumption and supply aspects of the tourism in Can Gio. As a result of many efforts, the study received the response from Centre for Marinelife Conservation and Community Development (MCD) which referred to several useful public and unpublished documents relating to our research area. Moreover, we also received one replied email from UNESCO Vietnam MAB programme, which provided us extremely valuable sources of information. Thus, our major findings of researchers' point of view on management aspects of ecotourism in Can Gio were heavily relied on these sources.

According to the provided document, Le Kim Thoa (2002), the arrangement of tourism in Can Gio mangrove forest was made after 1999. The reserve was merely used for research and conservation purpose before 1999 and it belonged to the city's department for agriculture and rural development operating under Management Board for Protected Forests of Ho Chi Minh City (MBPFHCMC). During the initial management phase, the board contracted with the stakeholders that relate to forest such as individual households and various organizations for protection. The reserve was popular due to the inhabitant of monkey in the forest. Inbound tourism was in progress because of the good work of the forest staff. Only Management Park of the reserved area was utilized as a tourist attraction at that time and open for visitors during weekends.

"As the result of decentralisation process, the whole mangrove area was transferred from the MBPFHCMC to under the new Management Board (called Management Board for Can Gio Mangrove Forest -MBCGMF) belonging to the District administration in 1999. However, most forestry staff stayed unchanged." (Le Kim Thoa, 2002, p.26)

Focusing on spreading the popularity of Can Gio as a recreational touristic place, the local authority began to plan tourism development process for the economic enhancement in the

area. The Forest Park was named as Saigon Tourist Corporation and started operating from its subsidiary called 'Can Gio Eco Tourist Company'. Different areas were handed to different tourist corporations for plantation and conservation with a contract in order to conserve and operate tourism activities in sustainable way under five plantation plans.

The development was made but the management board of Can Gio could not control activities of the operating tourist company until 2002. In 2002 a new management board for April-30 resort by district's people's committee was formed and took care of the establishment of new development (shops), security and waste management of one major site called April-30 Beach. The tourism planning was made by the city with the consultation of the district authority and it has not continued yet. Due to the lack of clear plans in the development of tourism within this area, many interested stakeholders are still not able to invest for tourism enhancement in Can Gio (Le Kim Thoa, 2002). The research further explained the structure of management of tourism services and activities complicated in Can Gio biosphere reserve. The food and drinks are mostly provided by a number of small shopkeepers, who cooked and served at the beach apart from the established food service providers. It would lead to contribute the pollution of the beach environment in different ways. The demand of eating fresh food right away increased the number of illegal sellers in the area and a proper control was not made over them. In the lack of proper guidance, the poor local people started their business in and around the tourist site within the reserved area causing the harm to the environment. The Management Board and big tourism enterprises discussed to control the inappropriate activities of the local sellers and the clearance of the food business done by local people immersed as an option in order to protect the environment of Can Gio. The local sellers realised their inappropriate activities and wanted to work under a proper guidance from Management Board. The prohibition of business for local people is against the theory of ecotourism therefore, the management partially banned fishing in the local area in order to discourage the increasing activities of the local food sellers. This decision brought protection up to some extent for marine life of the reserved area but was not able to control all sorts of inappropriate business activities of locals in the area. (Le Kim Thoa, 2002)

8.3 Management from the eyes of Management Board

The answers received from Management Board of Can Gio bio reserve according to the questionnaire survey stated that the municipal government of Ho Chi Minh City has given "Ho Chi Minh city department of Culture and tourism" the authority to make master plan for Can Gio ecotourism. The city government allocated sub-zone 17 for "Can Gio Eco tourist Company" and sub-district 15 for "Vamsat Salt-Marsh Forest Ecological Tourist Centre" to operate ecotourism. They do not organize or operate tourism throughout the forest; only a few areas are used for tourism purpose and are controlled to protect the natural environment of Can Gio against mass tourism.

The response to the question “How do you see the current situation of Can Gio environment?” expressed that current situation of mangrove environment can be threatened by pollution poured from upstream cities such as Ho Chi Minh City and Dong Nai.

The questions about the condition of conservation operations to protect flora and fauna of Can Gio from the affect of mass tourism was replied as “Can Gio Mangrove Biosphere reserve has been recognized worldwide, therefore the city’s authorities and city’s forestry sector often have long term programs in order to: Conserve the biodiversity according to subdivision functions, Conserve flora and fauna’s diversity as well as indigenous species of mangrove ecosystem”.

In response to the question “Do you think that eco-tourism in Can Gio is operated benefitting the local communities motivating the preservation of ecological environment of Can Gio? Please explain if any cases.” It was brought into light that two assigned units (Can Gio Eco tourist Company and Vamsat Salt-Marsh Forest Ecological Tourist Centre) are responsible for training local people as well as associating with local people in operating ecotourism with the principal “win-win”. It can be said that local people have been benefited greatly from ecotourism activities nowadays

The question regarding waste management system was answered with the statement that Can Gio has a waste collection system. Particularly in the tourist area, the waste management system is very strict to protect the natural environment.

The questionnaire further asked about conservation and preservation awareness programmes operated in Can Gio biosphere reserve. It was answered that the companies, which were appointed to operate ecotourism, are responsible for propagating awareness on environmental protection for travellers. Apart from the management board of Can Gio protective forest, there is Media centre for environment and ecotourism education with action plans and disseminating information in order to raise the awareness of environmental protection for local people and tourists.

8.4 Summary on findings

The study accessed user’s, researcher’s and management’s perspectives on impact of ecotourism in the environment of Can Gio biosphere reserve. The findings showed ecotourism has been operated since last two decades in Vietnam. From management’s perspective, Can Gio is progressing in the management of ecotourism; effort for conservation and preservation of wildlife are being taken at government level. International and national NGOs are also working in support with government in order to establish Can Gio as an ideal destination for eco related tours. NGOs are working to integrate local communities in the development and preservation of the environment of mangrove forest in Can Gio by involving them in local

tourism business. Local people are benefited with awareness education and opportunities to develop their social, economical and educational conditions.

From the researcher's perspective, the situation is progressive but not satisfactory. Local people are not well educated and poverty is one of the major causes that made local communities behave non-environment friendly. Government and other environment-concerned organisations have brought different programs to educate the locals and bring awareness regarding ecotourism and its important. However, it was insufficient and the management of Can Gio forest needs to bring new strategies into the implementation to make local people aware of the importance of conservation in Can Gio mangrove forest through ecotourism. Positive and careful involvement of the interested local people is necessary to enhance appropriate ecotourism model in the reserved areas. A clear understanding of ecotourism is essential in the area among all the operators. Management needs to provide opportunities of sustainable eco-friendly business for local operators.

During the Facebook survey, the respondents have provided their perception based on their visit to Can Gio. Can Gio is a nice recreation place for nearby citizens to relax in fresh natural environment outside the stuffy city and admire the great collection of flora and fauna. From visitors' perspective, the waste management system was not operating well and waste was scattered all over the reserve. Sufficient information on how to behave during the visit was provided neither in verbal nor in written form to the visitors. The animals living in the reserved areas might be disturbed because of noise made by visitors (louder voices, music etc.). 'Management board needs to provide clear instruction regarding different pollution types caused by visitors in the reserved areas' was one of the important suggestions provided by the respondents in Facebook poll. Participation of local people in the conservation of Can Gio was seen less active by the respondents and local vendors did not behave environmental friendly. Most of the respondents stressed that management of Can Gio was poor.

9 Discussion

The study provided us a wider understanding on tourism, its operation, stakeholders, and importance of stakeholder collaboration, the role of local communities in building the eco friendly destination as well as the impact of ecotourism in the environment of tourism attraction. We figured out that local administration plays a vital role to set rules and regulation for controlling the behaviour of visitors, local people and other stakeholders of the tourism attraction at the destination. An inactive management body can ruin the collaboration and image of the destination along with the natural resources available in the attraction. The majority of visitors are always at the attraction for different purposes and motives such as research, amusement, visit, relaxation etc therefore, they may not be aware of their behaviour during the trip to the attraction. Since development of effective awareness education programme along with thorough supplied information is essential, it needs to be provided and managed properly.

Integration of local people was another fact that surprised us. We realised that local people are always interested to receive benefit from the happenings in the location by participating in it. If the participation is not provided, they try to void the rules in order to participate since they have a strong sense of possessions to the location. Such activities bring environmental damages by locals. Therefore, understanding on feeling, interest and participation of local communities is vital while developing a destination as a tourism attraction. The benefits of locals cannot be ignored hence proper strategies for integration of local communities in the development of tourism attraction is required. Those strategies should include awareness, education and self-employment opportunities and vocational trainings education programme for ecology preservation and natural resources and environment conservation has to be provided to local communities. The community seeks for empowerment after being aware of the negative impacts of the tourism activities in their location; hence, engagement of local communities in empowerment plan may remain fruitful for community, attraction and environment. Empowerment regarding conservation and preservation of the environment should be given to local communities up to some extents by the authorities since they are rooted to the location.

Waste management and its proper handling was a vital issue seen during the study which leaded us to know that ecotourism can be a disaster for the destination if visitors, local community and business operators at the destination are not well aware of the waste management and its negative effect in the environment as well as ecology of the destination. The government, local authority and management body of the attraction are responsible for enhancing awareness as regards waste management among all the stakeholders of the tourism attraction by providing enough waste management equipment, employees and process. Apart from this, the supervision, check and balance activities are important for waste management

process in order to assure that environment of the attraction is healthy for native flora and fauna.

During this study we came to learn that there are different negative and positive impacts of ecotourism on the environment in local destination. A positive impact of ecotourism brings awareness and responsibility for visitors, communities, management and operators towards the environment and its maintenance through a concrete collaboration. Though the development of ecotourism can support in conservation and preservation of the environment at the destination, it cannot eradicate the negative impacts of visiting to the conserved environment of local destination.

10 References

The print literature

- Association of Forestry Science and Technology. 1995 National Park and protected areas (in Vietnamese). Nong Nghiep Ha Noi Publicator.
- Boo, E. 1990. Ecotourism: The Potentials and Pitfalls, Vol 1 and 2. Washington, D.C.: World Wildlife Fund
- Buckley, R. (eds.). 2008. Environmental Impact of Ecotourism. UK: CAB International. Cole. D. N. Impacts of Hiking and Camping on Soils and Vegetation: a Review
- Buckley, R. 2008. Environmental Impact of Ecotourism. UK: CAB International.
- Buckley, R. 2008. Environmental Impact of Ecotourism. UK: CAB International. cf. Ceballos-Lascurain, H. 1996. Tourism, Ecotourism and Protected Areas: the State of Nature based Tourism around the World and Guidelines for its Development. Switzerland: IUCN.
- Can Gio People's Committee, 1999. Can Gio Potentialities and Investment Opportunities
- Can Gio People's Committee, Report on the industrial - commercial - services situation of the district in 2000, 2001, and 2002. Document for internal distribution
- Canh, Vu Tuan. 2002. Sustainable development of sea tourism: present status and solutions (in Vietnamese). In Proceedings of the Symposium on Environmental Protection and Sustainable Exploitation of Natural Resources, held in Hanoi, 4-5 August 2002. Hanoi: Agricultural Publishing House.
- Fannell, D. 2008. Ecotourism. New York: Routledge. cf. Boo, E. 1990. Ecotourism: The potentials and Pitfall, Washington DC: World Wildlife Fund.
- Fannell, D. 2008. Ecotourism. New York: Routledge. cf. Fennell, D. 2003. Ecotourism in the South African context. Africa Insights 33(1): 1-8.
- Fannell, D. 2008. Ecotourism. New York: Routledge. cf. Nelson, J.G. 1994. The spread of ecotourism: some planning implications. Environment conservation 21(1): 248-255.
- Fannell, D. 2008. Ecotourism. New York: Routledge. cf. Romeril, M. 1985. Tourism and the environment: towards a symbiotic relationship, International Journal of Environmental Studies 25.
- Fannell, D. 2008. Ecotourism. New York: Routledge. cf. Thompson, P. 1995. The errant e-word: putting ecotourism back on track. Explore. 73: 67-72.
- Fennell David A. 1999. Ecotourism. Routledge
- Fennell David A. 2008. Ecotourism. Routledge: London.
- Glenn Bowen. 2009. Document Analysis as a Qualitative Research Method. Qualitative Research Journal
- Hong, Phan Nguyen, Nguyen Hoang Tri, and Le Van Sinh. 2000. Potential for eco-tourism in Can Gio Mangrove Biosphere Reserve. Paper presented in the Ecotone IX Seminar, Wise Practices in Coastal Tourism Development in Protected Areas, held at the Puerto Galera Biosphere Reserve, The Philippines, and 21-27 May 2000.
- Joppe. M. 2000. The Research Process.

Khanh, Nguyen Ngoc. 1999. Characteristics of ecosystems: A basis for ecotourism development in Vietnam (in Vietnamese). Paper presented at the workshop Building a National Strategy for Ecotourism Development in Vietnam, held in Hanoi, 7-9 September 1999.ok

Miles & Huberman. 1994. Qualitative Data Analysis

Ministry of natural resources and Vietnam Environmental Administration.2008. Report to the biodiversity convention Secretariat.

Nelson, J.G. 1994. The spread of ecotourism: some planning implications. Environmental Conservation.

O'Leary, Z. (2004).The Essential Guide to Doing Research

Romeril M.1985. Tourism and the Environment -towards a symbiotic relationship (introductory paper). International Journal of Environmental studies.

Ross, B.1975. The mangrove of South Vietnam: The impact of military use of herbicides. In Proct. Int. Sym. Biol. and Man. of mangrove. Vol.2: 695-701

Sinh, Le Van. 2000. Ecotourism in Can Gio-Ho Chi Minh City: Current status and solution for further development. Proceedings of the Scientific Workshop on Management and Sustainable Use of Natural Resources and Environment in Coastal Wetlands Organised by the Centre for Natural Resources and Environmental Studies. Hanoi: Agricultural Publishing House.

Suzanne C. Beyea, Leslie H. Nicoll.1997 AORN Journal

Tashakkori, A. and Teddlie, C. (edition) 1998 mixed methodology: combining the qualitative and quantitative approaches. Thousand Oaks, CA: Sage Publications, Inc
Tashakkori, A. and Teddlie, C. (edition) 2003 Handbook of mixed methods in social and behavioural research.Thousand Oaks, CA: Sage Publications, Inc

The Dat. 2003. Tourism and Ecotourism (in Vietnamese). Lao Dong Ha Noi

Tien, Do Dinh. 2002. Tam Dao National Park (in Vietnamese). In Proceedings of the Symposium on Environmental Protection and Sustainable Exploitation of Natural Resources, held in Hanoi, 4-5 August 2002. Hanoi: Agricultural Publishing House

Tourism Urban Area Joint Stock Company. 2007. Saigon Sunbay Project.

Weaver David.2001 & 2008. Ecotourism (1st & 2nd Edition).

Weaver, D. 2001. Ecotourism in the context of other tourism types. Encyclopedia of Ecotourism. UK: CABI.

Weaver, D.2008.Ecotourism.Australia: John Wiley & Sons Australia, Ltd.

Weaver, D.2008.Ecotourism.Australia: John Wiley & Sons Australia, Ltd.cf. Buckley, R. 2006. Adventurous Tourism. UK: CABI.

Ziffer, K.A. 1989. Ecotourism: The Uneasy Alliance. Washington, DC: Conservation International and Ernst & Young.

Electronic Sources

Birdlife International. 19.02.2001. Sourcebook of Existing and Proposed Protected Areas in Vietnam. Can Gio Man and the Biosphere Reserved. Accessed on 3rd March.2011

http://docs.google.com/viewer?a=v&q=cache:Vv6Y5luiuWEJ:www.mabvietnam.net/NetDocuments/Cac%2520khu%2520bao%2520ton%2520DTSQ/Can_Gio.pdf+impacts+of+tourism+in+can+gio&hl=en&pid=bl&srcid=ADGEEsi8hejf8i9-BeTPZUEF-ShhE_O5_mDzt8X7w1mLYzsSeqvFRH0TpnJZNQF3tZ98fva1JAa1lfQJK5GCCbR0Acts7u1cwpQX0_YyoWsdDrivzrX8Qt7OJgZReH0eM_JKnJ2RfXs5&sig=AHIEtbR7oKon_sq7fNjZ_A3XGzbGYWOWyQ

Can Gio Resort. Accessed on 1st March.2011

<http://www.cangioresort.com.vn/GCMS.aspx?pageid=183>

Facebook Press. Accessed on 1st March 2011

<http://www.facebook.com/press/info.php?statistics>

Le Kim Thoa. 2002. Ecotourism in Vietnam: Potential and Reality. MAB UNESCO program. Accessed on 15th February 2011

http://docs.google.com/viewer?a=v&q=cache:8JfkeDyPWlsJ:www.unesco.org/mab/doc/mys/2002/le/Finalreport_Thoale.pdf+impacts+of+tourism+in+can+gio&hl=en&pid=bl&srcid=ADGEEsiWkRJZeVLeGXGh2xIDanPGjyuUPWAiN7778ranpEeXcRx6b_sOyuGmO3YmjlejVSYr-AIGJ7E2ytZ5Zbtm5-WBfSUUND1vjVj2klbaqVfciDWpc7-Y17xHr2rQ67zZ8_ZG3vV2&sig=AHIEtbRthl8R_IL4mtaWE9LxJB6I9KE0Tg

Phan Nguyen Hong.2000. Impact of mangrove exploitation on the benthic ecosystem and the assessment of ecological quality objectives. IMABE. Accessed on 17th February.2011

<http://www.donimabe.org.vn/index.php?mod=content&id=77>

Tropic Tour Vietnam. 3.12.2010. Can Gio mangrove forests of Southeast Asia's most beautiful. Accessed on 2nd March. 2011

<http://www.tropictourvietnam.com/EN/DetailNews.aspx?idtt=312201016530281>

UNESCO-Biosphere Reserve Directory. 2000, last updated 2002. Can Gio Mangrove. Accessed on 1st March.2011

<http://www.unesco.org/mabdb/br/brdir/directory/biores.asp?mode=gen&code=VIE+01>

Vam Sat Ecological tourist center. Accessed on 15th February.2011

http://www.vamsat.com.vn/vamsat_English/

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Appendix 2: Question for Facebook Poll

1. Have you ever visit Can Gio mangrove ecological site?
 - a. Yes
 - b. No
2. What do you expect to do the most in Can Gio biosphere reserve?
 - a. visiting the un-crowded destination
 - b. experiencing the mangrove forest ecology, remote and unspoiled nature
 - c. Learning about wildlife
 - d. Admiring the rare fauna and flora
 - e. Playing with mischievous long-tail monkey troupe
 - f. Interacting with local residents

3. From your perspective, what are the most important aspects of ecotourism in Can Gio mangrove forest?
 - a. Base on nature
 - b. providing knowledge for tourists about the environment and wildlife
 - c. Reducing negative environmental impacts
 - d. Supporting the local communities
 - e. Taking part in preservation efforts
4. What is the main reason for your Can Gio visit?
 - a. Beautiful mangrove ecology
 - b. Monkey island
 - c. Wonderful beaches and resorts
 - d. Local sea food
5. How do you consider yourself to behave in an environmental awareness way?
 - a. Very much
 - b. fairly good
 - c. A Little
 - d. Not good
6. In your experience, is the presence of many tourists disturbing the wildlife and natural environment in Can Gio?
 - a. Yes
 - b. No
7. Are Can Gio ecotourism operators damaging the natural environment? If yes, in what way?
8. In Can Gio, have you ever seen any tourists behave in an environmental unconscious way? What did they do?
9. What were the three best and worse things you saw regarding natural environment of Can Gio during your visit?
10. Are you given enough information regarding dos and dons for your Can Gio visit by any of the stakeholders (Can Gio administration, tour operators, travel agencies, local people etc), if yes, what and by whom?
11. In your opinion, how do the tourism services (restaurant, hotel and other facilities) affect the surrounding nature in Can Gio mangrove forest?
12. What activities did you participate in Can Gio trip?
13. How have you seen the local people and services providers protect the surrounding environment and ecology?
 - a. Very active
 - b. active
 - c. Less active
 - d. Do nothing
14. How do you see the local communities and service's providers participate in conservation efforts?
 - a. Very active
 - b. active
 - c. less active
 - d. Do nothing
15. Feel free to add your other opinions about the impacts of ecotourism on Can Gio biosphere reserve

Appendix 3: Survey via email for Tour operators and Non-government organizations

1. What measures to protect the natural environment of Can Gio are taken against mass tourism from governmental and nongovernmental level? Please mention.
2. How do you see the current situation of Can Gio environment?
3. Is there something being operated to conserve flora and fauna of Can Gio from the affect of mass tourism?
4. Do you think that eco-tourism operated in Can Gio is benefitting the local communities motivating towards the preservation of ecological environment of Can Gio? Please explain if any cases.
5. Is there proper waste management system established? If yes, how is it functioning, is it monitored well? If no, why?
6. What is the role of tour operators, travel agencies, local enterprises and other NGOs in the development of awareness towards preservation and conservation of the natural resources available at Can Gio?

Appendix 4: Pictures of Can Gio Mangrove biosphere reserve



Can Gio Mangrove forest. Source: Afamily.vn



Mangrove Forest Tour. Source: Afamily.vn



Monkey island. Source: Afamily.vn



Bat Swamp. Source: Afamily.vn