SUSTAINABLE TOURISM AND ALTERNATIVE LIVELIHOOD DEVELOPMENT ON ATAÚRO ISLAND, TIMOR-LESTE, THROUGH PRO-POOR, COMMUNITY-BASED ECOTOURISM

by

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Abstract

Timor-Leste, as a small island developing state and a fragile, post-conflict nation, faces major human development challenges, particularly in the areas of poverty alleviation, rural economic development and development of the ‘non-oil’ economy. Tourism has been identified as a key sector for economic development in the Timor-Leste Strategic Development Plan 2011–2030, with community-based ecotourism (CBET) and pro-poor tourism (PPT) identified as the major tourism models. Over the past two decades, Ataúro Island has been a national and international model of CBET and PPT development. This study assesses the economic, socio-cultural and environmental impacts and benefits of CBET and PPT programmes for local communities on Ataúro Island through island-level, participatory mapping and spatial analysis of ecotourism assets and key infrastructure.

A quantitative assessment of CBET development was conducted through a survey of 150 households in three villages of Ataúro Island (Vila Maumeta, Beloi and Bikeli). Among the 150 participants, additional CBET socio-economic data were collected from 29 individual CBET owners/managers. A SWOT analysis of CBET development was undertaken for two CBET enterprises, namely, the Tua Ko’in Eco-Village (representing a ‘bottom-up’ approach) and the Adara CBET (representing a ‘top-down’ approach).

The overwhelming majority of the survey respondents reported that CBET was important for their local economy (94–98 per cent) and strongly supported further CBET development rather than mass tourism (88–96 per cent). Economically, CBET had created jobs, increased the value of local labour and materials, provided markets for local products and increased revenue for the local transport sector. Socio-culturally, CBET had promoted and strengthened local culture through its support of Ataúrian traditional handicrafts. This benefit was mitigated by evidence of emerging socio-cultural impacts on local communities. Environmentally, CBET enterprises were found to have had low or minimal impacts and had contributed significantly to sustainable tourism development.
The results confirm that Ataúro Island has significant ecotourism assets that could be further developed through CBET and PPT development. However, infrastructure, human resources, land tenure issues and financial limitations are significant challenges. Most of the CBET activities on Ataúro Island have been initiated by local communities and assisted by local NGOs. Local communities recognise the need for effective management and are seeking greater regulatory support. Customary laws are viewed as a potential tool for managing the local impacts of CBET.
Statement of Authorship

I hereby declare that while registered as a candidate for this Master’s by Research, I have not been registered for any other research award. The thesis for this Master’s by Research is the outcome of my own work, and has not been submitted in any form for any other degree or diploma at any university or other institute of tertiary education. Information derived from the published and unpublished work of others has been acknowledged in the text and list of references.

Date: 16th March 2016

Signed: [Signature]
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First, I would like to express my special thanks to God Almighty for giving me the strength, knowledge, patience and resources to complete this thesis as an important component of the university’s requirements to obtain a Master’s by Research degree at Charles Darwin University (CDU):

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- The staff of Roman Luan, Ataúro Island.

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<tbody>
<tr>
<td>ADB</td>
<td>Asian Development Bank</td>
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<tr>
<td>AusAID</td>
<td>Australian Agency for International Development</td>
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<tr>
<td>CBT</td>
<td>Community-based tourism</td>
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<tr>
<td>CBET</td>
<td>Community-based ecotourism</td>
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<tr>
<td>EU</td>
<td>European Union</td>
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<tr>
<td>GIS</td>
<td>Geographic information system</td>
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<tr>
<td>GPS</td>
<td>Global Positioning System</td>
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<tr>
<td>GERTIL</td>
<td><em>Grupo de Reconstrução de Timor Lorosa’e, Universidade Técnica de Lisboa</em> (Timor-Leste Reconstruction Group – Technical University of Lisbon)</td>
</tr>
<tr>
<td>GMS</td>
<td>Greater Mekong Subregion</td>
</tr>
<tr>
<td>ILO</td>
<td>International Labour Organisation</td>
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<tr>
<td>JICA</td>
<td>Japan International Cooperation Agency</td>
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<tr>
<td>LDCs</td>
<td>Least developed countries</td>
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<tr>
<td>MPAs</td>
<td>Marine protected areas</td>
</tr>
<tr>
<td>MoT</td>
<td>Ministry of Tourism (5th Constitutional Government of Timor Leste)</td>
</tr>
<tr>
<td>MTCI</td>
<td>Ministry of Tourism, Commerce and Industry (4th Constitutional Government of Timor-Leste)</td>
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<tr>
<td>MED</td>
<td>Ministry of Economy and Development, Timor-Leste</td>
</tr>
<tr>
<td>NGO</td>
<td>Non-government organisation</td>
</tr>
<tr>
<td>NSD</td>
<td>National Statistics Directorate, Timor-Leste</td>
</tr>
<tr>
<td>PPT</td>
<td>Pro-poor tourism</td>
</tr>
<tr>
<td>RDTL</td>
<td><em>República Democrática de Timor-Leste</em> (Democratic Republic of Timor-Leste)</td>
</tr>
<tr>
<td>ROLU</td>
<td>Roman Luan (NGO based on Ataúro Island)</td>
</tr>
<tr>
<td>SIDS</td>
<td>Small island developing states (sometimes written in the literature as SIDs)</td>
</tr>
<tr>
<td>SWOT</td>
<td>Strengths, weaknesses, opportunities and threats</td>
</tr>
<tr>
<td>SNV</td>
<td><em>Stichting Nederlandse Vrijwilligers</em> (Netherlands Development Organisation)</td>
</tr>
<tr>
<td>USAID</td>
<td>United States Agency for International Development</td>
</tr>
<tr>
<td>Acronym</td>
<td>Full Name</td>
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<tr>
<td>UNDP</td>
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<td>UNESCAP</td>
<td>United Nations Economic and Social Commission for Asia and the Pacific</td>
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<td>UNTAET</td>
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<td>UNWTO</td>
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Chapter 1
Introduction

1.1 Background

Timor-Leste is the newest nation in Southeast Asia. As a fragile, post-conflict state, it has some of the highest levels of unemployment, poverty, food insecurity, malnutrition and illiteracy in the world. With such human resource limitations, Timor-Leste faces major development challenges to improve human well-being and living standards (World Bank, 2014). According to the UNDP (2012), Timor-Leste is not only one of the poorest nations in the world, but also one of the least diversified economically, with one of the most oil-dependent economies in the world. Moreover, the country’s population growth is the highest in the Asia-Pacific region and among the highest in the world (World Bank, 2008). Previous studies highlight the major role that tourism can play in poverty alleviation in subsistence economies in developing countries (Sofield et al., 2004; UNESCAP, 2003). Significantly, in Timor-Leste, the country’s population is highly dependent on natural resources and subsistence livelihoods, with agriculture and (semi-) subsistence fisheries being the major sources of income for the majority (94 per cent) of the population (Molyneux et al., 2012; Oxfam, 2008). To this end, the Timor-Leste Strategic Development Plan 2011–2030 (RDTL, 2011) clearly identifies tourism as one of the strategic sectors to assist the development of the non-oil economy. Tourism has been identified as a major government development priority to boost the non-oil economy in Timor-Leste, reduce poverty and improve rural economic development (Cabasset-Samedo, 2009; RDTL, 2011; UNDP & UNWTO, 2007).

Several studies have highlighted the significant ecotourism value and development potential of the coastal and marine environments of Timor-Leste (Edyvane et al., 2009; GERTIL, 2001; Ximenes & Carter, 2000). These studies highlight the country’s range of coastal and marine tourism values, including accessible, relatively intact coral reefs (and hence, diving and snorkelling opportunities), white sandy beaches (particularly along the north coast), underwater caves, offshore surfing, and cetacean watching, particularly in the Ombai Strait and Savu Sea (Basiuk, 2006; Dethmers et al., 2009; Edyvane et al., 2009; GERTIL, 2001; Ximenes & Carter, 2000).
Community-based ecotourism (CBET) has been implemented successfully to enhance the economy of local communities and preserve local cultural and environment assets in developing countries such as Cambodia, the Philippines and Thailand (Aguila & Ragot, 2014; Laverack & Thangphet, 2009; Leksakundilok, 2004). In the CBET approach to ecotourism and community development, the community itself owns and controls the tourism enterprises (see for example: Mbaiwa (2004), Patterson (2007) and Walter (2011)). In Timor-Leste, where there is little diversification of the subsistence economy in rural areas, CBET can play a major role in community development through promoting and supporting local employment, income generation and alternative livelihood development (Basiuk, 2006; Edyvane et al., 2009).

While tourism can play a major role in poverty alleviation in subsistence economies in developing countries, the risk of over-development and over-consumption of natural resources also needs to be considered in order to avoid serious negative, environmental and socio-cultural impacts in the future (Gladstone, Curley & Shokri, 2013; Sheldon, 2005). For instance, the rapid growth of coastal development and marine ecotourism activities, such as snorkelling, scuba diving and sport fishing, can threaten fisheries and other marine resources. Disturbance to marine aquatic life and marine habitats can also be caused by the intensive use of thrill craft (such as jet skis), frequent boat tours and boat anchors (Neto, 2003). Further, overcrowding and over-development can also lead to socio-cultural impacts on the host communities, such as the displacement of local people, increased crime rates and a decline in traditional values and cultures (see for example: Colchester (2004) and Farooquee, Budal & Maikhuri (2008)).

In order for tourism development to be sustainable, it needs to be planned, involve community consultation, be managed and controlled within the carrying capacity and limits of acceptable change for ecosystems and sites, and guarantee that tourism activities will contribute positively to biodiversity conservation (UNEP, 2002). Further, for small island developing states (SIDS) that are often rich in biodiversity and culture and often highly environmentally and economically vulnerable, tourism development can lead to negative environmental and socio-cultural impacts (Sheldon, 2005). Consequently, there is now growing agreement and consensus that sustainable tourism development needs to minimise environmental impacts and maximise socio-economic benefits for local people living in tourist destinations (Neto, 2003).
At a global level, sustainable tourism development is promoted by the United Nations World Tourism Organisation (UNWTO) in line with the UN’s sustainable development principles. The UN (2001) defines sustainable tourist activities as activities that lead to the management of all resources in such a way that economic, social and aesthetic needs can be fulfilled while maintaining cultural integrity, essential ecological processes, biological diversity and life support systems.

In the fragile, post-conflict nation state of Timor-Leste, tourism development, particularly community-based and nature-based tourism, has been highlighted as a major development priority by the Government of Timor-Leste under the Timor-Leste Strategic Development Plan 2011–2030 (RDTL, 2011) and the National Strategic Plan for Tourism 2012–2017 (Ministry of Tourism of Timor-Leste, 2012). However, tourism planning and development are currently constrained by the lack of specific policies, plans and strategies (at the national and district level) and the key issues of poor institutional capacity, poor infrastructure and the unmet need for workforce training (Cabasset-Samedo, 2009; UNDP & UNWTO, 2007).

Ataúro Island, off the north coast of Timor-Leste (see Chapter 3, Figure 3.2), has significant potential to become a major ecotourism destination for Timor-Leste, particularly in relation to coastal and marine ecotourism (Basiuk, 2006; Edyvane et al., 2009). The island has a wide range of beaches, intact coastal vistas, fishing opportunities and recognised diving sites. Its geographical location within the deepwater habitats of the Wetar Strait provides easy accessibility and excellent opportunities for whale and dolphin watching close to shore (see for example: Edyvane et al. (2009)). On the island of Ataúro, CBET has been identified as a major priority for income generation. CBET has become an important alternative livelihood for impoverished local communities (Basiuk, 2006; Coimbra, 2012; Dutra, Haworth & Taboada, 2011; Edyvane et al., 2009; Pedi, 2007).

The local Ataúro-based NGO, Roman Luan (ROLU), has undertaken a range of ecotourism development projects, including the establishment of an eco-village on Vila Beach and the development of a set of guidelines for sustainable ecotourism (Weaver, 2008). The tourism sector has contributed significantly to the local economy on Ataúro through the provision of job opportunities, basic accommodation, craft sales, agriculture products and local transportation services (Coimbra, 2012).
In response to declining fish catches, the Ataúro Island fishing communities, with assistance from ROLU, established two community-based marine protected areas (MPAs) under the Bikeli Marine Management Project, together with the imposition of regulations (Dos Santos Silva, 2007) in the Bikeli region of the island (Pedi, 2007; Wever, 2008). As marine and coastal environments are major ecotourism destinations, MPAs play an important role in protecting and managing coastal and marine ecotourism assets (e.g., key species and coastal-marine habitats) and provide a significant opportunity to assist the development of coastal and marine ecotourism on Ataúro Island. At the time of writing, ROLU was working with the National Directorate of Fisheries and Agriculture, under the ADB-funded Coral Triangle Pacific program to finalise the planning and establishment of a community-based, co-managed MPA on Ataúro Island at Vila Maumeta (Avelino Fernandes, pers.comm.).

In a study on sustainable tourism development on Ataúro Island, Coimbra (2012) highlighted the lack of planning, regulation and management of tourism development on the island with consequent negative environmental and socio-cultural impacts. This included the lack of controls and/or regulation of visitor numbers to the island and the lack of regulations and/or planning for CBET activities, tourism infrastructure and tourism assets (such as protected areas). Despite such limitations, the Government of Timor-Leste is committed to exploring the potential of CBET to boost economic development, employment and alternative livelihoods, particularly in regional areas such as Ataúro Island.

1.2 Statement of the Problem

Sustainably developed, pro-poor CBET has been identified as a potential tool for development in least developed countries (LDCs) such as Timor-Leste. However, few studies have examined the planning and implementation of CBET in least developed countries, including its benefits, governance and contribution to alternative livelihoods.

At the community level, pro-poor CBET has emerged as an effective tourism model to promote the development of sustainable ecotourism, which produces important benefits for all sectors of the community, while protecting the permanence of the tourist product and encouraging environmental and cultural conservation. If tourism is pro-poor, it should deliver economic improvement through job opportunities, potable water, road
access to markets and improved healthcare and education as well as the provision of opportunities to empower decision-making so that the poor are able to improve their livelihoods by securing better access to tourists and tourism enterprises (Jamieson, Goodwin & Edmunds, 2004). Notably, the UNWTO (2010) has identified poverty reduction, along with climate change, as a global challenge to the tourism industry.

Coastal-marine ecotourism has the potential to generate significant incomes and alternative sustainable livelihoods in LDCs and SIDS, such as Timor-Leste (Edyvane et al., 2009). Since independence in 1975, tourism has been prioritised by the Government of Timor-Leste as a key economic sector with the potential to alleviate poverty. The sustainable development of tourism in Timor-Leste is vital if the country is to maintain environmental and cultural values and share economic benefits with local communities (Cabasset-Samedo, 2009). Despite the importance of the sector and the existence of national government tourism development policies and commitments, there is a general lack of research on CBET development and planning in Timor-Leste, including Ataúro Island.

This study contributes to our understanding of sustainable ecotourism and alternative livelihood development in Timor-Leste, by specifically examining the planning and development of CBET on Ataúro Island. It makes this contribution by critically examining past and current CBET planning, development and governance issues, particularly in the coastal and marine environment, with a focus on identifying the local benefits and impacts, examining programme sustainability and the effectiveness of governance (e.g., policies, regulations, human resources and capacity/capability) and identifying the opportunities and success factors in pro-poor CBET development.

1.3 Research Question

The study was conducted to answer the following principal research question:

- How can pro-poor CBET on Ataúro Island, Timor-Leste, be developed and managed sustainably in order to provide environmental, economic and socio-cultural benefits to local communities?
1.4 Objectives of the Study

In order to answer the principal research question, the following five key objectives were formulated to investigate sustainable tourism and alternative livelihood development through pro-poor CBET on Ataúro Island:

1. Identify the key ecotourism values/assets, activities (particularly coastal-marine activities) and ecotourism livelihood development priorities to support CBET development on Ataúro Island
2. Identify the existing key CBET programmes/projects on Ataúro Island
3. Identify the key issues and constraints of past and current CBET programmes and projects on Ataúro Island (including the environmental, social and economic impacts and benefits)
4. Assess CBET models on Ataúro Island, including how programmes and projects are being initiated, developed and managed (sustainably) at the local and community level
5. Review the role of institutions (i.e., NGOs, national/district government agencies and private sector organisations) in CBET planning, development and management on Ataúro Island.

1.5 Significance of the Study

The significance of the study lies in its contribution to understanding CBET development in Timor-Leste in general and on Ataúro Island in particular, in terms of current and past CBET planning and development. Additionally, the findings of the study can assist national CBET development through improved understanding of CBET planning, development and governance in general and on Ataúro Island in particular. Further, Ataúro Island has extensive potential to become a major ecotourism destination in Timor-Leste and CBET may be the type of tourism best suited to this island. In planning for this development, it is important to consider the cultural, social and ecological values and to understand the factors that have influenced this type of development in the past. In this regard, the significance of this study lies in its contributions to knowledge about Ataúro Island through the following six components:

1. Documentation of the key ecotourism values/assets, activities and locations (particularly coastal-marine) that attract visitors to the island (e.g., diving sites,
snorkelling, whale and dolphin watching, recreational fishing, hiking, cultural and historical sites, sacred sites and traditional events)

2. Documentation of the wide range of current CBET programmes and activities including local lodges, traditional singing groups, handicraft production, local transportation and boat rental services on the island

3. Assessment of the environmental, social and economic impacts and benefits of current CBET programmes for local communities on the island

4. Identification of the current approaches to ecotourism development on the island (including planning, governance and level of community participation and benefits) through detailed case studies of successful and unsuccessful ecotourism programmes (e.g., Tua Ko’in Eco-Village and Adara CBET)

5. Identification of the key constraints and issues in the planning, development and governance of CBET activities at the local community level on the island

6. Identification of the role of institutions in CBET planning, development and management on the island.

1.6 Scope of the Study

The scope of this study was framed by its focus on sustainable tourism and alternative livelihood development through CBET on Ataúro Island, Timor-Leste. In terms of the geographical scope of the study, the research focused on three main villages, namely, Vila Maumeta, Beloi and Bikeli (see Chapter 3, Figure 3.3), where most of the CBET enterprises and ecotourism activities on the island were operating at the time of data collection. The other two villages on the island, Makili and Makadade, were excluded from the questionnaire survey owing to the lack of accessibility, remoteness and very low participation of those villages in CBET activities at that time. A participatory mapping activity that involved the entire island (i.e., the five villages of Vila Maumeta, Beloi, Bikeli, Makili and Makadade) was conducted. The main objective of this latter exercise was to identify and understand the current ecotourism assets, values and infrastructure on Ataúro Island as a whole.
1.7 Limitations of the Study

The limitations of this study relate to the data collection techniques and time constraints. The data were collected by means of a questionnaire, which consisted of 44 questions. It was difficult for participants who lacked ecotourism knowledge and had a poor educational background to complete the questionnaire without assistance, as some participants had difficulty understanding the questionnaire’s topic and format. Further, there may have been some reluctance on the part of the participants to provide accurate information, specifically in relation to the income generated by CBET, as they may have felt this information was private. In order to minimise the data collection limitations, it was important to explain each question in the questionnaire several times in order for all participants to understand the questions and complete the questionnaire form. Instead of exact income details, the participants were able to report an income figure within a range.

In relation to both the questionnaire and the participatory mapping activity, there was limited time available to undertake data verification concerning the identified ecotourism assets and infrastructure. Such verification was necessary to ensure that all the information had been collected from the local community at the five different villages and that it was listed with the correct locations, boundaries and local names.

1.8 Outline of the Thesis

The thesis is presented in eight chapters. Chapter 1 has outlined the research question, objectives, significance, scope and limitations of the study.

Chapter 2 presents a literature review of sustainable tourism development, particularly in LDCs, with a focus on CBET, including its definitions, characteristics and principles and a discussion of specific case studies.

Chapter 3 provides a description of the study area, including its demographic, economic and socio-cultural characteristics, as well as the administrative and local government arrangements in place for Ataúro Island. In addition, this chapter discusses the research methodology, including the data collection techniques and data analyses.
Chapter 4 provides an overview of tourism development in Timor-Leste, particularly ecotourism, including tourism development in the post-independence era, tourism planning and development constraints, current government tourism policies, and the status of CBET development.

Chapter 5 presents a description and analysis of the research results relating to the mapping of ecotourism values, assets and infrastructure and the results of the survey on current CBET programmes, including the benefits and impacts of CBET activities.

Chapter 6 provides a description and analysis of the research and survey results with regard to CBET development, including planning, management and governance (including levels of community participation) and customary law in supporting CBET. In addition, the success factors in CBET planning and development are identified.

Chapter 7 discusses CBET development on Ataúro Island, including the ecotourism assets and infrastructure, CBET programmes, and models and approaches to existing CBET planning and management (and community participation). The benefits and impacts of CBET (including pro-poor benefits) and implications for future CBET planning and development are also discussed.

Chapter 8 presents the conclusions of this study and makes recommendations for CBET planning and development on Ataúro Island. Useful directions for future research are also suggested.
Chapter 2
Literature Review

2.1 Introduction

This chapter presents a review of the literature on the contribution of the tourism industry with a focus on sustainable tourism development in general and on CBET in particular. Section 2.2 reviews the literature on tourism in terms of its socio-economic contribution and discusses how sustainable tourism development can benefit the poor. Section 2.3 reviews the literature on CBET development, including the definitions, characteristics and principles of CBET. Section 2.4 presents an overview of several CBET models and approaches and discusses some of the main practices and principles including community participation, community empowerment, livelihood development and private sector partnership.

Section 2.5 reviews the literature on CBET planning and management, highlighting the principal role of stakeholders in ecotourism development. Strategies to accomplish mutual benefits among stakeholders and types of CBET regulations and governance are also discussed in this section. Section 2.6 discusses the benefits and costs of ecotourism with regard to environmental, socio-cultural and economic aspects. Section 2.7 presents a number of case studies demonstrating CBET successes and failures, with a particular focus on CBET activities in LDCs in Asia, Africa and Central America.

2.2 Tourism, Sustainability and Human Development

Tourism is now one of the world’s largest industries and one of the fastest growing economic sectors, with tourism globally achieving US$1.075 billion in 2012 (UNWTO, 2013). The Asia and Pacific region alone has the fastest regional growth in international arrivals, with approximately 16 million people arriving in 2012 (UNWTO, 2013). Further, tourism has become one of the important sectors in developing countries with the potential to improve the living conditions of the poor, particularly those living in rural areas. According to the UNWTO (2010), tourism can create prosperity and can play an important role in the achievement of the Millennium Development Goals.
including the eradication of poverty and the promotion of gender equality, environmental sustainability and global partnerships for development.

Two of the major directions in tourism in developing countries are community-based tourism (CBT) and pro-poor tourism (PPT)—both of which can play an important role in poverty reduction, community development and environmental sustainability. Most contemporary academic and policy documents identify three main characteristics of CBT:

1. CBT is located within a community (i.e., operating on communal land or yielding community benefits such as lease fees)
2. CBT is owned by one or more community members (i.e., for the benefit of one or more community members)
3. CBT is managed by community members (i.e., community members can influence the decision-making process of the enterprise) (Zapata et al., 2011).

Further, the prospect of tourism growth in developing countries, where high levels of poverty exist, has created enormous interest in tourism as a potential instrument for poverty reduction. Ashley, Boyd and Goodwin (2000) suggest that PPT is an essential approach for tourism development that can generate net benefits for the poor. According to Scheyvens (2009), tourism can improve the standard of living of the poor through job creation, growing access to new markets, infrastructure improvements and the conservation of cultural and natural resources.

On the other hand, it is believed that the tourism sector is driven by those who have capital or resources (wealthier people) rather than by those who are lacking in resources and skills (the poor). The fairly poor are more likely to receive greater benefits than the poorest, who lack the capital and skills to exploit economic opportunities but are likely to suffer from the negative impacts on local resources (Hall, 2007). In developing countries, tourism frequently imposes a high demand for limited resources including fresh water, agricultural land and electricity, such that tourism growth can have perverse socio-cultural impacts. Tourism growth at the local community level needs to be carefully monitored and managed in order to minimise environmental and socio-cultural impacts (Scheyvens, 2009).
It is believed that tourism is a panacea for many economic problems in developing countries; nevertheless, tourism has enormous consequences, including environmental, cultural, economic and social consequences that cannot be underestimated (Kruja, Lufi & Kruja, 2012). Therefore, strategies for sustainable tourism need to be developed in order to minimise negative impacts to the environment and provide socio-economic benefits to local people. To do this, developing countries need to develop clear policies on which models of tourism should be developed, whether it be mass tourism or alternative forms of tourism such as ecotourism, cultural tourism and adventure tourism. Alternative tourism is considered to be more beneficial in terms of preserving the historical, cultural and natural resources of tourist destinations and is a suitable model of sustainable tourism (Dragulanescu & Druţu, 2012). By contrast, mass tourism focuses more on rapid economic growth rather than sustainable development and the issues related to environmental and social impacts (Dodds & Kuehnel, 2010).

In addition to achieving sustainable ecotourism development over time, developing economies need to adhere to the overarching principle of sustainable development. Sustainable development is principally influenced by economic, social and environmental factors, and their interactions (Briassoulis, 2001; Tsaur, Lin & Lin, 2006; Twining-Ward & Butler, 2002). The achievement of sustainable development is not an easy task, as the three elements of sustainable development have to be equally managed. Financial sustainability of CBET enterprises is particularly challenging, and generally, is achieved through three strategies:

1. The direct raising of funds from conservation assets in the form of revenue (such as national park fees, coral reef taxes)
2. Using earnings to maintain the ecotourism business and safeguard the biodiversity asset base, and eliminating and/or reducing the necessity for external funding.
3. Once a CBET enterprise has been established (ie. community consciousness and organisation, basic infrastructure), facilitating the entry of the private sector to deliver the capital for further development and growth.

All three strategies are reliant on a degree of financial success that is not easy to realise (Kiss, 2004).
In most developing countries, human capital has become one of the main obstacles in developing the tourism sector, with the main barriers to effective tourism development being a lack of human resources and limited knowledge and understanding of the impact of tourism (Moscardo, 2008). A low level of skill and knowledge also limits the capability of local communities to control fully their participation in tourism development (Cole, 2007). Aref (2011) highlights the paramount importance of identifying the limitations of community capacity building when a community is preparing to participate in tourism development. This approach can assist individuals, communities and organisations to influence the tourism policymaking process more successfully. Additionally, governments need to understand and respond to barriers in the local community as priority actions in tourism development.

### 2.3 Community-Based Ecotourism Development

Ecotourism is frequently understood as a tool for promoting sustainable development in developing countries and for helping community development by providing a sustainable, alternative source of livelihood. Roxana (2012) highlights that ecotourism is a form of tourism development that can involve local communities at all stages of the process to preserve natural resources and deliver major economic benefits in the long term. However, Zanotti and Chernela (2008) argue that ecotourism cannot benefit local people and preserve biodiversity while it is large-scale and owned and operated by outsiders (i.e., non-local communities). CBET is also part of an alternative form of tourism that is important for SIDS like Timor-Leste, as it not only contributes to the well-being of local people economically but also helps host communities protect and preserve their natural and cultural resources. Aguila and Ragot (2014) point out that ecotourism is an effective form of tourism development that can provide positive impacts in terms of environmental, socio-economic and cultural preservation at local and regional levels. Further, it is a niche tourism market and has become one of the fastest growing segments of the global tourism industry (UNWTO, 2012). According to Kirkby et al. (2011), ecotourism related to nature-based tourism was projected to generate earnings of over US$29 billion per year in LDCs.
CBET development in Timor-Leste is still in its early stages, but the Government of Timor-Leste has recognised it as an important niche market underpinning Timor-Leste’s economic deployment (RDTL, 2012). CBET development is not only an essential economic activity but can also enhance social responsibility in developing countries (Ashley, Roe & Goodwin, 2001; Gordillo et al., 2008; López-Guzmán, Sánchez-Cañizares & Pavón, 2011; Reimer & Walter, 2013; Simpson, 2008). However, there is the argument that if ecotourism is to encourage sustainable development within the local community, there are several essential criteria that must be met. These include the provision of economic benefits for the host population at large, the right of indigenous communities to ownership of the land on which ecotourism takes place and the granting of decision-making power to local people on ecotourism development matters in order to support political and social justice (Brooks et al., 2006; Charnley, 2005; Salafsky et al., 2001; Zeppel, 2006). In this context, it is important to note that in Southeast Asia only a small number of ecotourism schemes are operated and managed by indigenous communities, and government policies in the region still mostly support mass tourism and resource usage rather than ecotourism or local communities’ rights (Zeppel, 2006).

### 2.3.1 Types and Definitions of Ecotourism

The use of the term “ecotourism” began in Mexico in the 1980s when it was used by a local environmentalist called Hector Ceballos Lascuráin to refer to nature-based (plants and animals) and cultural travel to comparatively untouched areas with a focus on education (Boo, 1990, p. 2). Use of the term has become popular among tourism businesses, academics, government agencies, NGOs and international organisations depending upon their particular interests. Numerous scholars have defined ecotourism by reference to the environment (nature) as the main aspect, while others cite environmental, cultural and economic factors as the key aspects of ecotourism. For example, Hall and Page (2006) define ecotourism as nature-based tourism and assert that all kinds of tourism development should be environmentally friendly. They do not comment on the economic dimension, that is, on how ecotourism can benefit local communities. Weaver and Lawton (2007) and Kiper, Özdemir and Sağlam (2011) highlight ecotourism as a type of tourism that not only preserves natural and cultural environments but also provides economic benefits to local communities. In other words,
the environmental, cultural and economic elements are seen as the crucial components of ecotourism.

The importance of ecotourism has been recognised universally in terms of its ability to assist alternative livelihood development for local communities and preserve their natural resources and cultures. According to Kiper et al. (2011), the key objectives of ecotourism are to preserve natural resources (principally biological diversity), maintain the sustainable use of the natural resources that offer ecological experiences to tourists/visitors, conserve the ecological environment and increase economic benefits. Scholars and organisations use different definitions of ecotourism and there is frequent debate about its definition. Sometimes the term is used simply to identify a type of alternative tourism, motivate host destination communities and visitors to minimise the negative environmental and socio-cultural impacts of tourism activities, and attract economic benefits to the host community. This definition of ecotourism encompasses tourism activities that take place in fragile and unspoiled areas without inflicting damage on the environment and local cultures. It suggests tourism can educate travellers while simultaneously generating funds for conservation and management (Honey, 2008).

Most importantly, ecotourism can encourage the local community, tourists and tourism entrepreneurs to engage in the protection and preservation of local cultural and natural resources in order to achieve sustainable tourism. According to the UNWTO (2002), ecotourism can support and promote community consciousness about the importance of conserving local biodiversity and ecosystems within sensitive areas; however, the roles of tourists and tourism operators are also vital in ecotourism development in order to guarantee that all activities meet ecotourism principles. Smith and Sharicz (2011) suggest that tour operators have the responsibility to ensure all tourism activities are in line with the principles of sustainable tourism. It is also essential for tour operators to provide proper guidelines and information to tourists about respecting the environment and biodiversity, as well as local culture (Kontogeorgopoulos & Chulikavit, 2010). Additionally, tour operators should take full responsibility for their customers’ attitudes and behaviours in promoting sustainable tourism (Mbaiwa, 2005).
In order to define ecotourism, it should be noted that there are a number of different types of ecotourism, depending on the natural setting. Ecotourism can take place within protected areas and non-protected areas. According to Lu, Wu and Lu (2004), ecotourism resources in China have been categorised into six main different types: forest recreation ecotourism, prairie coquette ecotourism, wetlands bird watching ecotourism, desert exploration ecotourism, countryside experience ecotourism and ocean vacation ecotourism. In Thailand, the Marine National Park and Siam Safari (elephant camp) ecotourism experiences have been widely recognised as types of ecotourism that support sustainable forms of tourism, receiving the British Airways Tourism for Tomorrow Award, Best Tour Programme Award from the Tourism Authority of Thailand and Gold Environment Award from the Pacific Asia Travel Association (Kontogeorgopoulos, 2005). However, there are numerous points of view in the literature about the different types of ecotourism. For example, Wen and Ximing (2008) state that the Western ecotourism model places an emphasis on natural characteristics, while the Chinese model considers the unity of nature and humans as the vital parts of ecotourism. The potential types of ecotourism in China have been identified as agricultural ecotourism, rural ecotourism, urban ecotourism and ethnic ecotourism (Lu et al., 2004). It has also been argued by Björk (2007) that ecotourism differs from individual nature, culture, farm, wildlife and adventure tourism, and that it must be linked with sustainable development.

2.3.2 Characteristics of Community-Based Ecotourism

In terms of its characteristics, ecotourism is a very specific type of tourism that is part of the broad concept of nature-based tourism. Ecotourism refers to nature-based operations in the field of tourism. Patterson (2007) emphasises several important characteristics of ecotourism, including low impact on natural areas, active stakeholder involvement (in planning, development, implementation and monitoring), restrictions on visits to certain areas, the positioning of nature as a central element of the tourist experience, protected wildlife, respect for local cultural groups and their privacy, and locally purchased supplies. Although different authors have varying opinions on the characteristics of ecotourism, the overarching commonality is that its key feature is its nature-based roots. While the characteristics of ecotourism are not fixed, they are distinct from those of other forms of tourism, such as mass tourism. The different characteristics of
ecotourism and mass tourism, as identified by Dorobantu and Nistoreanu (2012), are set out in Table 2.1.

**Table 2.1. Characteristics of ecotourism and mass tourism.**

<table>
<thead>
<tr>
<th>No.</th>
<th>Characteristics of Ecotourism</th>
<th>Characteristics of Mass Tourism</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Small groups of visitors</td>
<td>Large groups of visitors</td>
</tr>
<tr>
<td>2</td>
<td>Rural</td>
<td>Urban</td>
</tr>
<tr>
<td>3</td>
<td>Eco-marketing activities</td>
<td>Touristic general marketing activities</td>
</tr>
<tr>
<td>4</td>
<td>High price with purpose of filtering the market</td>
<td>Average prices for purposes of market penetration</td>
</tr>
<tr>
<td>5</td>
<td>Little impact on the natural environment</td>
<td>Impact on natural environment</td>
</tr>
<tr>
<td>6</td>
<td>Limited possibilities of control</td>
<td>Advanced control options</td>
</tr>
<tr>
<td>7</td>
<td>Management based on local economic principles</td>
<td>Management based on macroeconomic principles</td>
</tr>
<tr>
<td>8</td>
<td>Personalised relationships between visitors and local community</td>
<td>Anonymous relationship between visitors and local community</td>
</tr>
<tr>
<td>9</td>
<td>Local development objectives</td>
<td>General development goals</td>
</tr>
<tr>
<td>10</td>
<td>Loyalty in the process of training and education for appropriate conduct in the natural environment</td>
<td>Behaviour-oriented leisure activities/entertainment, resistance to education and training actions</td>
</tr>
<tr>
<td>11</td>
<td>Reduced development of tourism facilities</td>
<td>Intensive development of tourism facilities</td>
</tr>
</tbody>
</table>

Source: Dorobantu and Nistoreanu (2012)

In addition to the characteristics discussed above, Walter (2011) highlights the four main characteristics of CBET as tourism that:

1. implements the principles of local participation, control or ownership of ecotourism initiatives
2. places a focus on environmental conservation and local livelihood benefits
3. promotes customary and indigenous cultures
4. promotes, to some extent, local and indigenous human rights and sovereignty over traditional territories and resources.

Generally, CBET is known as a model of local community tourism that can preserve the environment and culture and generate economic benefits. Walter (2013) asserts that CBET involves experiencing nature (e.g., enjoying the natural scenery, trekking,
observing wildlife, climbing) and experiencing local culture (e.g., using local accommodation, consuming local cuisine and learning about the local culture). Further, according to Mbaiwa (2004), CBET involves the following three key elements of sustainable development:

1. Economic efficiency, which means the tourism activities must generate economic benefits to local communities and share benefits equally among the individuals participating in the activities

2. Social justice, which means that the host community has equal access to resources and receives fair earnings

3. Environmental conservation.

By supporting both environmental sustainability and grassroots development, CBET represents the hope that the environmental sensitivity and responsibility encouraged by ecotourism can also serve the political, economic and social interests of local communities. Nevertheless, owing to the difficulties of applying CBET in practice, the success of CBET projects remains limited (Kontogeorgopoulos, 2005).

**2.3.3 Community-Based Ecotourism Principles**

As highlighted by Kontogeorgopoulos (2005), CBET is a community development approach that is locally driven through small-scale, integrated strategies approach to increase the socio-economic status of the host population and improve the local communities’ well-being. The core principle of CBET is that the host community should receive economic benefits as compensation for the preservation of the natural environment. The revenue gained from the environment through CBET needs to encourage environmental conservation awareness (Kiss, 2004). It is widely accepted in the literature that ecotourism is principally focused on unspoiled natural areas for the purposes of admiring these areas and obtaining a deeper understanding and knowledge of their ecosystems. In order for ecotourism to become successful over time and contribute to sustainable tourism development, it needs to apply and follow all the main principles of ecotourism. However, different stakeholders have different views and interests and, therefore, varying perspectives on what the guiding principles should be.
For example, according to the Green Globe 21 International Ecotourism Standard (2004), ecotourism has eight specific principles:

1. A focus on natural areas
2. The provision of educational opportunities for visitors so that they can appreciate and learn about nature
3. Implementation of best practices in sustainable tourism
4. The promotion of conservation
5. Contributions to the local economy
6. The promotion and respect of local culture
7. Satisfaction of customers’ needs
8. Responsible marketing.

Ecotourism has clear principles and well-established guidelines, specifically for developing countries. However, developing countries encounter numerous challenges in complying with those principles and achieving successful outcomes. According to Barrett et al. (2001) and Agrawal and Redford (2006), a common problem in developing countries is that the existing laws and regulations are not always imposed due to inadequate financial, human, technological and government resources. Further, local communities in developing countries often lack the ability to obtain employment and participate in training, and do not have an effective voice in planning and decision-making in ecotourism development (Charnley, 2005). Moreover, ecotourism does not always bring as many significant economic benefits to developing countries as expected. Mitchell (2012) points out that tourism is an important sector for generating economic growth and creating job opportunities in LDCs; however, in reality, the tourism industry does not always bring benefits to developing countries. For instance, as several authors argue, the tourism industry in developing countries is affected by economic leakage whereby little of the foreign currency earned through tourism stays within the host country (Akama & Kieti, 2007; Chon & Maier, 2010; Koens, Dieperink & Miranda, 2009; Slob & Wilde, 2006; Xu et al., 2009).
2.4 Models and Approaches to Community-Based Ecotourism

Local community involvement should be supported in the ecotourism planning process in order to ensure the implementation of sustainable tourism. Okazaki (2008) suggests four models of participation in CBET: the ladder of citizen participation; power redistribution; collaboration processes; and social capital creation. These models are normally used at an early stage of the CBET development. A successful example of their implementation is a CBET project in Palawan, the Philippines (see Okazaki (2008)). CBET approaches in Ecuador have also focused on community participation in planning and management, with the maximum involvement of host communities leading to economic benefits for the local people even though they still encounter some difficulties in relation to market access and language skills (Drumm et al., 1998). Conversely, Higham (2007) argues that it is difficult to organise a genuine level of community participation in decision-making regarding the use of natural resources, especially in protected areas. CBET projects are often implemented in economically marginal areas of a country and the people affected tend to have low educational levels and weak representation within the local communities. Sindiga (1995) asserts that the CBET approach should promote local economic benefits and the conservation of natural resources: in projects that establish parks, for example, the host community should be compensated for the loss of access to resources. This approach is demonstrated in the operations of Masai Mara National Park in Kenya, where some of the park’s revenue is allocated to health care, schools and livestock to benefit the whole local community (see Sindiga (1995)).

Ecotourism occasionally provides economic benefits for local people living in rural and remote areas because of the intrinsic value of the preserved natural resources. Nevertheless, the majority of the local people in these circumstances often lack the capacity, knowledge, skills and competencies to run and manage CBET ventures (Victurine, 2000). Further, community empowerment, effective leadership and community capacity building have become recognised as imperative success factors for CBET enterprises (Manyara & Jones, 2007). CBET livelihood approaches can also be applied to supplement the income of local people through the participation of host communities in the management of conservation areas (Gurung & Seeland, 2011). CBET development is not only implemented through community participation, empowerment and livelihood development, but also through partnerships with external
stakeholders. For example, in Laos, CBET has been supported by the Asian Development Bank in the Nam Ha Ecotourism Project with the aim to improve human resource development through raising cultural and environmental conservation awareness, providing tour guide training and building the capacity of local people to run small-scale tourism businesses (Harrison & Schipani, 2007). Another important CBET approach is joint collaboration with private sector organisations (e.g., travel agencies and tour operators) to promote CBET schemes, as effective promotion and marketing to attract eco-tourists is often the main constraint facing CBET ventures (Denman, 2001).

2.4.1 Community Participation

According to Mao-Ying and Pearce (2014) that asset-based community development (ABCD) approach such as used interview, focus group, and survey based on questionnaire, this approach is an important method in identifying and categorising the potential of tourism assets for further tourism planning and development. There is increasing recognition of the critical role of community participation in sustainable CBET planning and development and positive pro-poor outcomes (Chok et al., 2013; Hall, 2007; Zapata et al., 2011). There is no doubt that ecotourism is a tool for community development, economic development and the conservation of biodiversity as well as local culture. The main concept of community development is community participation aim to empower the host community to accomplish its goals. CBET is a part of CBT—both are focused on the rights and responsibilities of host communities to participate in or control ecotourism development. The term “community-based” means that the community is the core of all the ecotourism activities (Chiu, Lee & Chen, 2014). Illustrating this point, a study of CBET in the Eastern Black Sea region of Turkey found that the majority of the host population believed it was important for them to participate in ecotourism development from the decision-making stage (Kaplan, 2013). As a part of ecotourism development, local people frequently recognise CBET as a way to institute and maintain power over the natural resources and livelihoods upon which they are reliant (Nelson, 2004). Stronza and Gordillo (2008) point out that ecotourism needs to be successful in the preservation of sites, and this requires the full participation of local leaders and owners in the site management. It has also been reported by Baral and Heinen (2007) that community involvement in ecotourism management (especially in the context of protected areas and national parks) will enable
the priorities for development to be pinpointed; this, in turn, will stimulate local business owners and allow the tourism product to replicate the local identity.

A number of scholars argue that local community involvement is not a precondition for successful ecotourism development, pointing to tourism development that has been successfully implemented to bring benefits to local communities even without a community participatory approach (see Dwyer & Edwards (2000), Kontogeorgopoulos (2005) and Simpson (2008)). For instance, according to Li (2006), it is mainly Western authors who find that the full involvement of local communities in decision-making is a requirement if the local communities are to gain benefits. In developing countries such as China, Li argues, numerous limitations make it difficult to implement a participatory model; nevertheless, local people can still benefit from tourism development. One of the ways to ensure that communities can benefit from tourism without their participation is through the establishment of proper management systems, preferably through institutional arrangements. While community participation in decision-making rarely occurs in developing countries, community participation through employment and small business opportunities can help people to obtain greater economic benefits than they would have received through involvement in the decision-making process (Tosun, 2000). As found in a study on an ecotourism development project in the Brong-Ahafo region of Ghana, the obstacles to community participation can include poor government support, financial issues, conservative religious beliefs, poor knowledge of tourism and lack of cooperation within the local community (Thomas, 2013).

2.4.2 Community Empowerment

Community empowerment in developing countries is one of the main issues confronting efforts to involve local communities in tourism development. Diamantis (2004) suggests that local communities must be encouraged to participate in the early stages of public dialogue in order to include them in the decision-making process and the distribution of profits from tourism development. According to Timothy (2007), empowerment refers to the power of host communities to take action, exercise a choice regarding goals and priorities and maintain control over decisions and resources. An empowered community fully participates in the development process and chooses the preferred development strategies in line with the development goal to improve their well-being as the host
population (Christens, 2012). Community empowerment encourages local people to manage their natural assets, supports responsible local governance, and enhances decentralised and democratised services strengthened by the principle of fairness (Thomas, 2013). For instance, integrated community development has been part of Thailand’s national development plans for a number of years, changing from a top-down approach to a bottom-up model, and finally moving towards self-sustainability; however, in many such cases, cultural values and social norms are still the key barriers (Laverack & Thangphet, 2009). As argued by Salazar (2012), changing authority from one group of people to another (e.g., local authorities to local players) is not always beneficial for the local communities that manage CBT because the communities need instruction and preparation in order for them to effectively support tourism development. Hunt (2005) suggests that, in order for local communities to actively participate in community development, they need to overcome barriers, including the lack of skills, knowledge and community participation experience, the power inequity between local communities and government, and the lack of human and financial resources. Further, poor levels of management, growing dependence on government, inadequate access to information and lack of awareness are among the most pressing obstacles in tourism development (Sharma, 2004).

According to Moscardo (2008), capacity building for local communities is an essential precondition for tourism development. A lack of community capacity and low levels of understanding about tourism impacts have become challenges for tourism development in LDCs. Nyaupane and Poudel (2011) highlight that success in improving livelihoods through tourism in rural areas depends on high levels of ability and understanding in relation to the marketing and provision of services to tourists. To achieve these high levels of ability and understanding, local communities need to be armed with numerous capacity-building activities, such as income generation training, environmental conservation knowledge, leadership training, skills development and the provision of credit. In a study set in Indonesia, Cole (2006) found that many communities had been unsuccessful in achieving economic benefits and opportunities from ecotourism due to a lack of participation in knowledge transfer; nevertheless, the local communities that had participated actively had gained benefits. In another study, the key barrier to achieving government goals to encourage economic empowerment among owners of local small-to medium-sized tourism enterprises was found to be insufficient tourism marketing
products and training (Rogerson, 2004). Enhancement of community capacity, equivalent to community development, is defined as a course of action that can enhance the resources and power of a community in order for community members to develop better lives (Laverack, 2001). Capacity building within the community can include increasing human resources and personal abilities, building suitable amenities as well as providing training about tourism and its impacts (Bushell & Eagles, 2007).

2.4.3 Livelihood Development

Scoones (1998) proposes the following definition of livelihoods and sustainable livelihoods:

A livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks, maintain or enhance its capabilities and assets, while not undermining the natural resource base. (p. 5)

Tao and Wall (2009) emphasise that livelihood development has several significant advantages for local communities, including offering additional wealth for consumption and investment, minimising the hazard of being dependent on one method of generating income, supporting adaptive responses to pressures and shocks (i.e., changing seasons, economic recession and environmental variation), and minimising ecological destruction on sensitive ecosystems. In relation to a local community, livelihood development is associated with addressing the causes of poverty, such as lack of access to employment and income and low levels of human resources and income diversification (Lepper & Schroenn, 2010). A study by Jalani (2012) on ecotourism in Sabang and Palawan in the Philippines found that participation in the ecotourism had significantly enhanced the livelihoods of the host communities through direct participation (e.g., tour guides, boatmen, boatman assistants, lodging house operators, restaurant owners, handicraft sellers and local transport providers) and indirect participation (e.g., cooks, wait staff and carpenters whose work is based on demand). In addition, Lepper and Schroenn (2010) present empirical evidence that the benefits of ecotourism had considerably encouraged income generation and risk management among households within host communities. Further, in a study of three villages in the Okavango region of Botswana, Mbaiwa and Stronza (2010) showed that ecotourism had become a main source of income and had changed local communities’ livelihoods by
substituting numerous traditional livelihood activities that tended to spoil the ecosystem (e.g., livestock, crop farming and hunting).

Despite evidence of the benefits of ecotourism for livelihood development, numerous scholars point out that ecotourism might create conflicts as a result of different goals; for example, conservation laws might conflict with indigenous livelihoods (Hitchner et al., 2009; Isaacs, 2000; Kirkpatrick, 2001; Maikhuri et al., 2000). Research on ecotourism in Knuckles Conservation Forest in Sri Lanka found that the ecotourism had had a limited positive impact on local livelihoods and had not generated adequate opportunities to support host communities, with poor collaboration among the relevant players identified as a main barrier to ecotourism development. There is also unevenness in conservation and development goals (Ekanayaka, 2013). If ecotourism is to support sustainable development within host communities, there are a number of important preconditions that need to be achieved. Ecotourism should be reachable economically by local people; host communities must also have the right of land tenure where ecotourism takes place, and ecotourism must fully support socio-political fairness goals for local people. Local people must also have the power to make land use decisions (Brooks et al., 2006; Charnley, 2005; Salafsky et al., 2001; Zeppel, 2006). Local households often find it difficult to secure their own livelihoods due to factors outside of their control, such as market access, land issues and land tenure policies, poor institutions, human–wildlife conflict, and lack of transport and road access (Vedeld et al., 2012).

2.4.4 Private Sector Partnership

The importance of partnerships in sustainable development is highlighted by the World Commission on Environment and Development (1987) in *Our Common Future* (the so-called Brundtland Report which has been recognised by international development agencies and forums such as the World Summit on Sustainable Development, held in Johannesburg in 2002). As tourism is reliant upon a number of external factors, partnership requires multiple stakeholder involvement (Jamal & Getz, 1995). The ecotourism industry embraces numerous private sector enterprises that deliver goods and services. Private sector organisations in the ecotourism industry can be categorised into specialised ecotourism segments, such as eco-tour operators and eco-lodges, or
non-specialised ecotourism segments such as conventional hotels, travel agencies and cruise ships that serve as ecotourism product providers (Weaver & Lawton, 2007). In Madagascar, Duffy (2008) found that the Anjajavy luxury eco-lodge, run by the private sector, had created a number of job opportunities for local communities and supported a poverty alleviation programme. In that case, CBET delivered by the private sector in partnership with the local community had played a significant role in tourism development and environmental conservation.

One of the key areas in which private sector partnerships can support CBET is marketing and promotion. Market access is one of the main constraints to CBET development in rural areas, owing to the lack of business knowledge, skills, experience and resources required to market tourism products. For example, in Cambodia, a mechanism has been established to involve private sector organisations in tourism marketing development at the national and regional level (Khanal & Babar, 2007). Forstner (2004) suggests that CBET ventures need partnerships in which private sector tour operators and travel agencies act as the main intermediaries for CBET product distribution. Private sector organisations should work closely alongside the local community in order to avoid conflict. As a particular form of partnership, the joint venture approach between local communities and the private sector can benefit both through a form of shared management and profits. Ashley and Jones (2001) highlight that the joint venture approach has been applied successfully in wilderness safari tourism run by the private sector and local community groups in Namibia.

2.5 Planning in Community-Based Ecotourism

The lack of tourism planning can result in serious negative social and environmental impacts (Buchsbaum, 2004). According to Simpson (2001, p. 11), there are four separate approaches to tourism planning, namely, the boosterism approach, economic approach, physical/spatial approach and community approach, as set out in Table 2.2.
In CBET planning, collaboration is defined as “a process of joint decision-making among autonomous, key stakeholders of an inter-organizational, community tourism domain [designed] to resolve planning problems […] and/or to manage issues related to the planning and development of the domain” (Jamal & Getz, 1995, p. 188). However, the involvement of host communities in CBET planning in some regions is often difficult due to tourism being comprehensively dependent on resources, such as national parks and protected areas, which are largely controlled by the state. For example, CBET in countries in the Greater Mekong Subregion (GMS) tends to involve a top-down planning and development model with limited community participation; this model does not benefit the wider community and generates uneven economic participation and contribution (Khanal & Babar, 2007). In contrast, in Nicaragua, bottom-up approaches to CBET planning have been successfully implemented and have benefited host communities, leading to rapid growth and long-term profitability (Zapata et al., 2011).

### 2.5.1 Role of Stakeholders in Ecotourism Development

Sustainable tourism is tourism that abides by the principles of sustainable development by taking full account of its current and future economic, social and environmental impacts (Waligo, Clarke & Hawkins, 2013) and addressing the needs of its stakeholders. According to Manu and Kuuder (2012), CBET stakeholders comprise the individuals, institutions and organisations directly and/or indirectly involved in the development, process and management of CBET initiatives. The organisational stakeholders include government departments, research organisations, NGOs and private sector partners. Individual stakeholders include host community members,
traditional leaders and tourists. The stakeholders’ involvement in CBET can affect the results of tourism development, and consideration of the different stakeholders’ views to develop a common understanding of tourism can create more effective communication, partnership and networking among stakeholders and support local empowerment and sustainability (Cawley & Gillmor, 2008).

By playing their different roles, stakeholders can influence the tourism development in many ways including regulation, human resources and the management of tourism impacts on human capital, supply and demand (Markwick, 2000). As explained previously, rural communities frequently encounter difficulties in promoting their ecotourism businesses due to the lack of human resources and financial capital. In Thailand, government, private business and NGO stakeholders have helped overcome this difficulty by providing support to promote CBET (Leksakundilok, 2004). In the case of Cambodia, support from international NGOs has enabled a number of CBET schemes to grow successfully (Reimer & Walter, 2013).

Yaman and Mohd (2004) highlight that local people require good relationships with government agencies and private businesses, and governments need to support and maintain partnerships with NGOs. The NGOs that support local communities in tourism projects have a number of important roles such as advocacy, consultancy and capacity building (Kalisch, 2001). In Pakistan, government agencies have collaborated with NGOs and host communities to provide a regulatory and policy framework to bring benefits to communities through tourism development (Yaman & Mohd, 2004). However, in many places, the uneven distribution of benefits among stakeholders in ecotourism development is an issue (He et al., 2008). In LDCs in particular, the distribution of economic benefits from ecotourism—especially ecotourism in protected areas—is imbalanced between the local communities and the external stakeholders who are more economically powerful and can rapidly gain power over the ecotourism development (Duffy, 2000). Research in Namibia found that private sector organisations such as inbound and outbound tour operators had power over the vast majority of tourists because host communities were unable to compete in generating tourism revenue (Lapeyre, 2010).
2.5.2 Regulation and Governance

In the development of successful ecotourism in LDCs, governments play the important role of putting in place appropriate ecotourism policy and regulations. In Thailand, tourism has been recognised as one of the most important sectors for economic growth; nevertheless, after 172 tourist sites were identified as contributing to negative environmental impacts, including the destruction of natural resources and pollution, the Government of Thailand shifted its focus to the development of sustainable tourism (Laverack & Thangphet, 2009). Through the National Ecotourism Policy and Action Plans, the Government of Thailand now aims to ensure that negative environmental impacts can be minimised and rural income can be improved (Laverack & Thangphet, 2009).

Governments can also facilitate locally-managed ecotourism through policy and regulations. For instance, governments can permit local communities to manage publically-owned resources and community events. This has been acknowledged as an imperative component in the effectiveness of community ecotourism programmes. For instance, local legislation has permitted villagers in Vanuatu to take control of a culturally important activity for tourism purposes (Sofield, 2003). However, it is noted that even where appropriate policy and regulations exist, their implementation could be weak as a consequence of inadequate human resources at the government level and political considerations in tourism development (Nicanor, 2001).

CBET has been recognised as a form of community development that is driven by local communities to generate economic benefits and minimise negative impacts on the environment. Yaman and Mohd (2004) claim that local communities require empowerment to manage and govern their own CBET schemes in order to reduce economic leakage. It has also been highlighted by Pine, Alava and Yaptinchay (2007) that the effectiveness of the local social and decision-making processes needs to be taken into consideration because both are essential in community-based enterprises such as ecotourism. Proper governance, leadership, open communication networks and collaboration ought to be encouraged among host communities in order to reinforce sustainable self-management and allow full community involvement in CBET.
2.6 Benefits and Costs of Ecotourism Development

Ecotourism plays a number of roles in sustainable tourism development, including educating travellers to respect nature and other cultures; contributing conservation funds; directing economic benefits to local communities and supporting the empowerment of host communities; and promoting the value of different cultures and human rights (Ogato et al., 2014). As a sustainable form of nature-based tourism, ecotourism can minimise negative social and environmental impacts and offer social, economic and environmental benefits to communities and tourists (Drumm & Moore, 2005). The environmental, economic and socio-cultural impacts and benefits are discussed in detail in this section.

Sustainable tourism contributes to the preservation of nature and local cultural heritage and supports local economies to enhance the well-being of community members while also increasing tourists’ appreciation of the value of biodiversity and local customs. It plays an important role as a local poverty reduction tool. Baker (2008) explains that ecotourism is a sustainable form of tourism that is small in scale and controlled by local people. This means that the economic benefits mainly circulate within the host community, thus encouraging community members to preserve their resources while also creating an alternative sustainable livelihood and reducing poverty.

Mitchell and Faal (2008) argue that tourism has the potential to cause negative social and cultural impacts, pointing out that tourism development occasionally leads to outsiders seizing control of tourism resources and revenues from local communities. Mowforth and Munt (2008) also stress that tourism poses threats to host communities due to the potential degradation of local tradition and culture and the possibility of conflict, as well as potential threats to the environment. Ecotourism in particular may have perverse impacts and trigger land management disputes and other issues. For instance, Khanal and Babar’s (2007) study of ecotourism schemes in GMS countries revealed several issues of concern regarding carrying capacity and impacts. Even though ecotourism is favourable to small-sized groups of tourists, in many cases it is difficult to control and monitor the carrying capacity of the target areas. This creates pitfalls in relation to environmental and cultural conservation, political interests and the distribution of benefits among host communities. Gössling (2002) argues that
Ecotourism projects often appear to ignore the global environmental aspects of travel. Ecotourism may thus be sustainable on the local level (in the sense that it poses minimum threats to local ecosystems through the conversion of lands, trampling, collection of species, etc.), but it may not be sustainable from a global point of view.

In order to understand the impacts of ecotourism, Hall (2007, p. 247) states that it is necessary to recognise the temporal and spatial scales of ecotourism development (as depicted in Figure 2.1). The following sub-sections review the literature on the specific environmental, economic and socio-cultural costs and benefits of ecotourism.

![Figure 2.1. Scaling ecotourism – The role of scale in understanding the impacts of ecotourism. Source: Hall (2007)](image)

### 2.6.1 Environmental Benefits and Costs of Ecotourism

Ecotourism has been adopted by numerous LDCs to protect and preserve endangered species and to enhance livelihoods and economies in order to support long-term sustainability (Brooks et al., 2006). As ecotourism has become internationally recognised, its concept has been extended to integrate ideas concerning ecotourism responsibility, destination management and sustainable development for host populations (Torquebiau & Taylor, 2009). By visiting CBET initiatives, tourists may
acquire an understanding of nature, local ecosystems and natural attractions. Ecotourism can also raise environmental consciousness and encourage regular participation in environmental conservation efforts (Higham, 2007). In the Okavango Delta in Botswana, ecotourism has become the key livelihood activity for the surrounding host population, substituting a number of local traditional livelihood activities (e.g., farming, livestock, hunting and gathering) that have negative impacts on the environment (Mbaiwa & Stronza, 2010). When CBET is properly planned and managed, it can play a role in responsible community development and encourage local communities to engage fully in environmental conservation (Eshetu, 2014).

CBET can also facilitate local residents’ protection and preservation of the environment in the tourist destination by raising public awareness and education concerning environmental issues. For example, the Koh Yao Noi CBET in Thailand has assisted local residents in planning and management by raising awareness regarding environmental preservation, as well as supporting appropriate sanitation, waste management control and safety in the tourism industry (Thailand Community Based Tourism Network Coordination Centre, 2013). Another good example of the environmental benefits of CBET is the Jernigan Ekowisata Desa project in Bali, Indonesia which has brought environmental benefits such as involving local people in tourism planning, decision-making and management; channelling financial support from tourism to community development and environmental conservation; and minimising the negative impacts of tourism activities on the environment (SNV and the University of Hawaii, 2013).

However, according to Salafsky et al. (2001), the proponents of preservation should understand the variations of resources and land use. If significant changes occur in oversized areas in order to achieve conservation goals, then ecotourism is not expected to be an effective tool, as it displaces people from land on which they are reliant for their livelihood. Walpole and Goodwin (2001) emphasise that host communities are willing to support conservation as long as ecotourism can generate some benefits, without affecting their main livelihood. Moreover, a study carried out in Madhav National Park in India showed that ecotourism had offered a great natural experience to visitors; however, littering, erosion and harm to vegetation had become big issues (Dixit & Narula, 2010). These issues had occurred due to a lack of proper management,
overuse of forest areas and overloading, and had become potential sources of degradation to the natural areas (Dixit & Narula, 2010). In order to minimise the downsides of ecotourism activities, Weaver and Lawton (2007) recommend the undertaking of comprehensive research on the environmental impacts of ecotourism pressure, in particular relating to carrying capacity, the ecological footprint of ecotourism projects and eco-tourist behavioural impacts. Kirkby et al. (2011) highlight that the motivation of tourists to visit ecotourism attractions is to interact with flora and fauna: this motivation has the potential to be detrimental as growing numbers of tourists ruin the wildlife attractions. This situation can be challenging and expensive to mitigate.

In the case of marine ecotourism, researchers found that ecotourism in Rio de Janeiro had generated negative impacts on the marine environment as a consequence of diving activities involving poor litter disposal, oil pollution and inappropriate anchoring (Brotto et al., 2012). The researchers proposed that special attention should be paid to training for diving guides and instructions for beginner divers, sensitive ecosystems should be avoided for basic level divers, and training on correct underwater movements and swimming should be included in the diving course curriculum (Brotto et al., 2012).

2.6.2 Economic Benefits and Costs of Ecotourism

Economic benefits are defined as the profits that have been gained from ecotourism business activities and can be quantified by the number of job opportunities created and the amount of money earned (Liu et al., 2014). Marine megafauna ecotourism, for example, generated earnings of over US$2.1 billion for tourism-related businesses, including handicraft sales, restaurants and hotels, in 119 countries (O’Connor et al., 2009). According to Andereck et al. (2005), the economic benefits of ecotourism include: all of the economic revenue generated in local communities through job opportunities, such as working in ecotourism ventures; direct income from small ecotourism businesses such as lodges, handicraft sales and food stalls; and income from leasing land or other property. Ecotourism programmes in Kerala, India, have been tremendously successful in generating economic benefits for the local communities by creating jobs and securing their livelihoods; it has also contributed to sustainable development as the potentially exploited forest land has become an ecotourism site (Rajasenan & Paul, 2012). The benefit of tourism in the context of environmental conservation is not only about preserving and enriching biodiversity, but should also
include the economic benefits that allow host populations to improve their living standards (Naidoo et al., 2011). CBET also creates employment opportunities for women, young people and those interested in part-time or casual work. While some of the employment is skilled, there are also opportunities for people who are less skilled or who lack formal qualifications. Of particular relevance to the scope of the present study, development planning in Timor-Leste has identified tourism as an important component of sustainable, local and national economic development (Anderson & Deutsch, 2001; Basiuk, 2006; Carter et al., 2001; GERTIL, 2001; Tibirica, 2007; Ximenes & Carter, 2000).

There are examples, however, where the economic benefits of ecotourism have not been allocated appropriately due to conflicts about natural resources and land (Nelson, 2004). In some cases, the data are insufficient to prove the revenue or profits of the CBET venture; there may be insufficient quantitative data or analysis, poor reporting or unclear criteria for success (Kiss, 2004). Koening and Juska (2006) emphasise that ecotourism schemes which exclude local communities from carrying out their routine consumptive activities may create great discontent, particularly when the ecotourism is not clearly benefitting them economically. Further, an imbalance in the distribution of economic benefits has become another issue in ecotourism development. Uneven distribution of economic benefits occurs when public and private sector elites control the sector. It has been reported that the proportion of overall income from ecotourism that remains within the host communities is very low in particular states, such as the Bahamas and Nepal (Mowforth & Munt, 2008). Honey (2008) also claims that multinational corporations, including tour operators and travel agencies, hotel and resort chains, airlines and cruise ship companies, have obtained the large part of ecotourism revenue, with the large part of the revenue flowing away from the national and local level. According to Mason (2008), another economic cost of tourism is the increase in living expenses within the host population when large tourist numbers raise the demand for goods, services and property.

2.6.3 Socio-Cultural Benefits and Costs of Ecotourism

Numerous countries have implemented CBET as a poverty reduction tool, especially in developing countries. Poverty reduction through the tourism sector is achieved when
tourism brings net benefit to the poor: these benefits are not merely economic benefits, but also positive socio-cultural benefits (Ashley et al., 2001). Cultural revitalisation, including indigenous cultural preservation, has become the key principle of CBET, particularly in terms of the benefits for host communities (Zeppel, 2006). It is evident that CBET activities often prompt the conservation of cultural heritage, either as a result of increased awareness and pride, or because it can be justified on economic grounds as a tourist attraction. According to López-Guzmán et al. (2011), CBET can also encourage communities to broaden their views and embrace new ideas, providing opportunities for residents to interact with other people, lifestyles and cultures.

Attracting tourists/visitors to an area can enhance local awareness and interest, resulting in a greater sense of pride and ownership. According to Reimer and Walter (2013), CBET projects in Koh Yao Noi Island, Thailand, and the rainforests of Chambok in Cambodia prompt eco-tourists to gain knowledge of indigenous culture through participation in cultural and livelihood activities in homestay programmes. Further, CBT can stimulate the construction and expansion of community facilities and new infrastructure initiatives. Simpson (2008) emphasises a number of positive characteristics and benefits of CBT initiatives, such as providing and encouraging infrastructure development (e.g., roads, access to drinking water, food supplies, healthcare and education), conserving cultural and social heritage and local languages, and underpinning and preserving local unique crafts and skills. These benefits increase the quality of life for rural communities.

Several scholars have considered the socio-cultural impacts of tourism. For instance, Colchester (2004) argues that tourism has frequently been disastrous for local communities because it has resulted in displacement, created conflict, violence and crime, and distracted community members away from their social and cultural practices. Host communities’ perceptions and reactions to tourism might differ from one country to another. There are perceptions that tourists are excessive consumers of natural resources, food, alcohol and sex, and these perceptions could instil negative attitudes among local community members towards tourists (Gössling, 2002; Zamani & Musa, 2012). Moreover, according to Finucane (1992, p. 13), “heavy tourist exposure will result in the gradual erosion of indigenous language and culture or the creation of a commercialised culture”. For instance, Uttarakhand in the northern part of India has
experienced an influx of eco-tourists who come to enjoy camping and rafting. Without proper management and restrictions, the ecotourism has shaped a number of socio-cultural impacts on the local community surrounding the area, including a decline in traditional values and culture, a decline in traditional agriculture, animal husbandry and traditional crafts, increased out-migration, increased numbers of school dropouts, and increased family breakdown (Farooquee et al., 2008).

2.7 Community-Based Ecotourism Case Studies in Developing Countries

It is widely reported that CBET is growing in many developing countries. As an alternative to farming, fishing, hunting or mining, CBET appears to be a more sustainable sector. It can protect marine biodiversity, rainforests, rivers and other natural resources and it provides job opportunities for unskilled labourers to work without the input of capital necessary for industrialisation. This type of tourism can generate benefits for host communities through additional livelihoods. Ecotourism is seen as a potential profitable source of income in the developing world. The growth of ecotourism has boosted the motivation of governments and communities to safeguard natural areas (Yamagiwa, 2003) and is expected to demonstrate, over time, its effectiveness in guaranteeing the protection of the environment (Zambrano, Broadbent & Durham, 2010).

LDCs, specifically in the Asian region, have adopted CBET as a strategy for poverty reduction and biodiversity conservation (UNWTO, 2002). CBET in Laos is observed to be a better option for tourism development compared to other models of conventional tourism as ecotourism could extensively benefit the poor (Khanal & Babar, 2007). Kiernan (2013) has highlighted that Laos has a vision to apply ecotourism in promoting its natural and cultural preservation and economic development. CBET schemes at three national parks in Kalimantan, Indonesia, not only contribute to conservation and the local economy, but are also an important educational tool for eco-tourists and local communities to appreciate how to preserve flora and fauna (Sowards, 2010). In Central America and the Caribbean, especially in the rural regions where most ecotourism is situated, the positive impact of CBET on the local economy and livelihoods has been acknowledged (Ashley et al., 2001). The National Government of Ghana has also paid
attention to CBET development in rural areas as ecotourism has had significant positive effects on the country’s economic viability and the conservation of local ecosystems and cultures, as well as becoming part of a poverty alleviation programme (Ghana Tourism Authority, 2010). Based on a review of 251 ecotourism case studies in the literature, Krüger (2005) concluded that ecotourism brings cultural, social and economic advantages to host communities in rural areas.

On the other hand, researchers have shown that ecotourism does not always contribute to environmental preservation and substantial economic benefits in developing countries if there is a lack of proper planning and management in ecotourism development. Negative impacts of ecotourism occur when the volume of visitors is bigger than the environment’s ability to cope (Autthapon & Suthida, 2010). There are two issues of concern within CBET management that need to be considered, such as current capacity and the issue of benefit flow to the host community at ecotourism sites (Bhoj & Jan, 2007). Ideally, ecotourism should cater for a small number of visitors; however, in some cases, ecotourism sites are frequently very poorly managed in terms of controlling and monitoring carrying capacities, which leads to environmental impacts including erosion, loss of natural habit, increased pressure on endangered species and depletion of natural resources (Manu & Kuuder, 2012). Ecotourism has contributed significantly to Costa Rica’s national economy; nevertheless, ecotourism activities have also led to environmental effects such as erosion, disturbance of biodiversity loss, increasing garbage and sewage and loss of resource bases, resulting in growing dependency and economic leakage (Koens et al., 2009). Kontogeorgopoulos (2005) argues that CBET success stories remain rare because of difficulties in implementation in practice, especially in relation to the conservation of resources, local people’s empowerment, the levels of environmental education and the active participation of host communities in the ecotourism planning process. Nianyong and Zhuge (2001) also highlight the weaknesses in ecotourism development including misunderstood concepts, lack of policies and legal frameworks, poor management, inadequate staff and lack of financial support. In the context of the economic benefits of ecotourism in Kenya, the lack of empirical evidence on ecotourism’s economic benefits is a matter for concern: a few economists have evaluated the potential of ecotourism to generate income, but economic research on the impacts of ecotourism and its potential to create conservation incentives is sparse (Okech, 2008).
2.8 Summary

CBET has become an important alternative tourism model, especially in LDCs, with ecotourism being acknowledged as a sustainable form of community and livelihood development. The term “ecotourism” has been universally recognised since the 1980s owing to its growing contribution to the environment, economies and socio-cultural preservation. This literature review has provided an overview of the many different definitions, principles and characteristics of ecotourism, with the main goal of ecotourism identified as the generation and distribution of local economic benefits without undermining the value of biodiversity and cultural heritage. Numerous case studies have proven that ecotourism can not only generate additional livelihoods for local people but can also educate visitors to respect the local culture and environment. Nevertheless, developing countries still face a number of challenges in achieving successful CBET development.

A number of common factors have led to unsuccessful ecotourism development in LDCs, such as low levels of local community participation in the decision-making process; lack of capacity-building programmes; poor collaboration among all stakeholders; imbalanced distribution of economic benefits; and difficulties in market access. It has also been argued that community participation in decision-making is important but not absolutely essential. What is of utmost importance is proper management within CBET schemes, which can be achieved by involving host communities through employment opportunities and empowering them with business skills to generate better economic advantages. Further, in order to minimise any potential negative impacts on biodiversity and socio-cultural values, ecotourism should be managed appropriately through the monitoring of sustainable carrying capacities and ensuring visitors are well informed about the local culture and environment. Ecotourism is a form of sustainable tourism as it has been shown to have positive outcomes in preserving flora and fauna and local traditional culture as well as providing additional livelihoods that enable local communities to improve their living standards. Having reviewed the literature and established that environmental, economic and socio-cultural factors are the most important pillars of CBET, the next chapter discusses the research methods applied in the present study and describes the study area.
Chapter 3
Description of the Research Methods and Study Area

3.1 Introduction

This chapter presents a description of the data collection and analysis methods applied in this study, followed by an overview of the demographic, environmental, socio-economic and political characteristics of the study area and individual study sites. The selection of the research methods and study sites was guided by the aim of the study to understand the biophysical, socio-economic, national and local governance issues related to tourism planning and development on Ataúro Island, Timor-Leste.

3.2 Description of the Research Methods

Primary and secondary data collection techniques were used in this study. The primary data collection was carried out through participatory approaches, including a questionnaire and community-based participatory mapping workshops (Chamber, 1992; Kumar, 2002). The secondary data collection involved a desktop document review to gather the available published information on the legislation, regulations, policies and official reports relevant to the study site.

The research applied both quantitative and qualitative research methods in what is known as the ‘mixed method’ approach. However, the data collection was predominantly quantitative. Emphasis was placed on the quantitative approach because it could be used to measure the percentages of responses from the sample and generate figures to illustrate the results. It could also be used to generate statistics and generalise the findings, as most of the questionnaire questions were qualitative, closed-ended questions. The qualitative method was applied to collect additional information from the participants through open-ended questions which explored the participants’ views.

Prior to conducting the fieldwork, the researcher obtained a letter of formal support from the Ministry of Tourism of Timor-Leste to carry out scientific research on Ataúro Island (see Appendix 1). The letter conveyed the full support of the Government, in particular the Ministry of Tourism as the relevant ministry, for the conduct of the research. Human ethics approval was obtained from the Charles Darwin University
Human Ethics Committee to undertake fieldwork using questionnaires and participatory mapping to collect data from human subjects (Application No. H13058; see Appendix 2).

3.2.1 Document Review

The document review first covered sustainable ecotourism and alternative livelihood development through CBET in developing regions including Asia, Africa and Latin America, and then focused on these topics in relation to Timor-Leste and Ataúro Island in particular. The document review involved the critical examination of relevant e-journal articles, books, Government of Timor-Leste documents and official reports. The aim of the document review was to identify the accepted understandings, known issues and theoretical arguments related to the research topic and to refine the objectives and motives for conducting the study.

3.2.2 Participatory Mapping of Ecotourism Values and Assets

The main objective of using community-based participatory mapping was to identify the existing ecotourism values and assets (natural and cultural), infrastructure, ecotourism activities and user group conflicts on Ataúro Island relevant to CBET planning and development. The mapping activities were held in the five villages of Vila Maumeta, Beloi, Bikeli, Makili and Makadade, with a focus on the issues affecting the whole island. The participants included heads of villages, heads of hamlets, traditional leaders, village women’s representatives, ordinary members of local communities, representatives of NGOs and representatives of CBET initiatives and other tourism-related businesses. The participation of this diverse group in the mapping activities was vital as each person had relevant knowledge and information about ecotourism values and assets (see Figure 3.1). In addition to island participants, other relevant tourism businesses based in Dili (i.e., diving companies, travel agencies and water transportation), were also included in the participatory mapping.

In order to select the community representatives, the village heads of Vila Maumeta, Beloi, Bikeli, Makili and Makadade were asked to nominate suitable participants. Before the community participants were selected, they were invited to attend a community workshop. The key criterion for selection was that the participant should
have substantial knowledge of the local culture and matters of historical, religious and natural significance. It was expected that such participants were likely to have significant knowledge regarding ecotourism values and assets. The mapping activities were organised with the relevant village authority and were supported by two local NGOs, namely, ROLU and Move Forward. The activities were conducted over 10 days in the five villages, with a total of 145 participants.

**Figure 3.1.** Consultations and community-based participatory mapping – (a) Community workshop in Vila Maumeta, (b) Participatory mapping activity in Makili. Source: Author

Participatory mapping was undertaken using simple format hard-copy maps (with an aerial photograph of Ataúro Island used as a base map [see Figure 3.1b]) containing information such as tourism values/assets, infrastructure, human uses and activities. The exploration of existing and potential tourism conflicts (e.g., fishing in marine parks, access to culturally sensitive sites, pollution of coastal and marine habitats) during the participatory mapping activities in the five villages provided very comprehensive information on tourism values and assets, transportation and existing infrastructure (i.e., roads, electricity supply, the telecommunications network, water supply and jetty). Moreover, the participatory mapping assisted the local people to recognise their own ecotourism assets and identify development priorities, sustainability issues and solutions for future development. Data from individual mapping activities was also presented and cross-checked (and incorporated, where relevant), at subsequent mapping activities.

The participatory mapping was also informed by pre-existing data and spatial data layers from a range of past projects on Ataúro Island, including coral reef surveys (Burke et al., 2012; Dutra & Taboada, 2005; Erdmann & Mohan, 2013), coastal-marine
tourism values (Edyvane et al., 2009), marine megafauna (Dethmers et al., 2009) and mapping of coastal-marine habitats (Alongi, 2014; Leiper et al., 2013).

3.2.3 Questionnaires

The aim of using a survey approach by administering questionnaires was to gather quantitative data on CBET activities on Ataúro Island and, to a lesser extent, gather qualitative information on CBET development planning and management issues. The surveys included open and closed-ended questions. The questions needed to be easy to understand as it was expected that most of the respondents would have had very low levels of education. The questionnaire comprised 44 questions in four different sections (see Appendix 10). The content of the questionnaire was focused on sustainable ecotourism and alternative livelihood development through pro-poor CBET. The survey participants came from the villages of Vila Maumeta, Beloi and Bikeli. A total of 150 participants answered the questionnaire (50 participants from each village). Additional CBET data (primarily socio-economic data) were collected from 29 CBET owners or managers among the survey participants (22 from Vila Maumeta, five from Beloi and two from Bikeli).

The selection of participants for the questionnaire survey was principally based on the participants’ direct involvement or interest in CBET as owners of CBET enterprises, representatives of NGOs assisting the local community in CBET development, individuals with decision-making power in the local community, and local people who had been benefited economically, socially and environmentally from CBET activities. The targeted participants thus included owners of CBET enterprises and other tourism-related businesses, fishermen, farmers, local vendors, local transportation owners, guest house owners, craft vendors, local NGO staff, community leaders, and heads of villages and hamlets. Most of these participants were identified at the community workshops with the assistance of ROLU and Move Forward staff members. In addition, some Vila Maumeta, Beloi and Bikeli residents who were not directly involved in CBET, such as teachers and young people, were selected for participation in the questionnaire. Even though they were not directly involved in CBET, it was expected that valuable data would be gathered by learning these participants’ views about CBET development and how CBET affected their village economically, socio-culturally and environmentally. Those participants were selected randomly by the researcher.
3.3 Data Analysis

**Participatory mapping:** As discussed above, data were gathered in five villages (Vila Maumeta, Beloi, Bikeli, Makadade and Makili) through a participatory mapping activity in which local community members added information about the locations of natural and cultural assets and infrastructure to hard-copy Ataúro maps (aerial photographs). This information was translated and incorporated into a map of Ataúro Island using ArcGIS\(^1\) 10.0 software. The ecotourism assets values and infrastructure were represented by a number of symbols which were explained by a legend on the map (see Chapter 5, Figures 5.3, 5.6 and 5.9).

**Questionnaire:** The quantitative data gathered in the questionnaire were analysed by categorising and labelling all the responses, with a total number of 150 completed questionnaires answering 34 closed-ended questions. The information was categorised according to the three villages in which the questionnaire was distributed (Vila Maumeta, Beloi and Bikeli), and a comparison among the three villages was formulated using Microsoft Excel to produce statistical charts and diagrams.

The qualitative data from the ten open-ended questions were analysed using narrative data analysis of the comments provided by the respondents. All the comments were coded, categorised and compared from one village to another through content analysis. The purpose of the content analysis was to make sense of the data and to identify the important messages, features or findings in the respondents’ views on the environmental, socio-cultural and economic impacts of CBET.

Coding is one of the important stages in data analysis in qualitative research and is used to consolidate and make sense of textual data (Basit, 2003). Through this method, a researcher is able to ascertain patterns that they may have been unable to see directly in a massive amount of text (Auerbach & Silverstein, 2003). In this coding process in the present study, the questionnaire responses were allocated different codes according to the three different villages: the responses from Vila Maumeta were coded from VM1 to VM50, the responses from Beloi were coded from BE1 to BE50, and the responses from Bikeli were coded from BI1 to BI50.

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\(^1\) ArcGIS 10.0 is computer software for performing spatial analysis and creating intelligent maps.
3.4 Study Area

3.4.1 The Area and Context

Timor-Leste is the official name of the youngest nation in Southeast Asia, commonly referred to in English as “East Timor” (RDTL, 2002). Located between Indonesia and Australia, Timor-Leste is surrounded by the Timor Sea in the south and the Banda Sea in the north (Figure 3.2). The country covers the eastern half of the island of Timor (the western half being Indonesian West Timor), the islands of Ataúro and Jaco, and an enclave in West Timor called Oecusse District. Timor-Leste’s typical weather is tropical and generally hot and humid, characterised by distinct rainy and dry seasons. The Banda Sea contains the country’s largest areas of coral reefs, seagrass meadows and mangroves. A mountainous spine traverses the country from west to east, creating distinct rainfall patterns in the north and south coast (Asian Development Bank, 2014). The country has considerable potential in ecotourism and nature-based tourism because of its natural resources, including beaches, mountains and other areas of natural significance (Edyvane et al., 2009; GERTIL, 2001; UNDP & UNWTO, 2005).

Timor-Leste is divided into 13 districts (Ainaro, Aileu, Baucau, Bobonaro, Covalima, Dili, Ermera, Liquisa, Lautem, Manufahi, Manatuto, Oecusse and Viqueque), with the size of the country being about 15,000 square kilometres (NSD, 2011). Under the Constitution, Tetum and Portuguese are the official languages in Timor-Leste; however, Indonesian is still widely spoken. Timor-Leste has a complex and turbulent political history, from its occupation by both Portugal and Indonesia to its independence in 2002. Important events in Timor-Leste’s recent history include its declaration of independence from Portugal on 28 November 1975, and the country’s invasion by Indonesia shortly afterwards on 7 December 1975. Timor-Leste regained its final independence with support from the UN on 20 May 2002 after 24 years of struggle against Indonesian occupation. As a fragile, post-conflict LDC, Timor-Leste is among the most impoverished nations in the world and faces major human development challenges. In 2011 it was ranked 120 out of 169 countries on the Human Development Index based on life expectancy, adult literacy, education enrolment rate and GDP per capita (UNDP 2011). The country has a subsistence economy reliant upon natural resources and the population experiences food insecurity and low levels of income, particularly in the
rural areas (UNDP, 2012). The percentage of the country’s population living in the rural areas is estimated as 75 per cent (RDTL, 2011).

Ataúro Island is the larger of the two islands of Timor-Leste, with Jaco being the second island. During the period of Indonesian rule, Ataúro was also known as Pulau Kambing in Indonesian, which translates into “Goat Island”. Administratively, Ataúro Island forms part of the Dili\(^2\) district as a subdistrict (Figure 3.3). According to the Ataúro Subdistrict Administration Office (2014), during the Portuguese rule there were only four villages on the island (Makili, Makadade, Beloi and Bikeli). During the Indonesian administration, this was expanded by the village of Vila Maumeta (currently the capital of Ataúro Subdistrict).

To date, the Government of Timor-Leste has continued to maintain the five villages with 19 hamlets. Ataúro Island is approximately 140.5 square kilometres in area. It is situated 25 km north of Dili (NSD, 2011). Ataúro Island is also in very close proximity to the two Indonesian islands of Wetar and Alor. Wetar is approximately 21.5 km south-west and 38 km east of Alor. From the mainland (Dili), Ataúro can be reached by speedboat within 30 minutes or by the Berlin Nakroma Ferry in 2.5 hours.\(^3\)

![Figure 3.2. Map showing the geographic location of Timor-Leste. Source: UNDP (2011)](image)

\(^2\) Dili is the national capital of the Democratic Republic of Timor-Leste with a total population of 234,026 inhabitants (NSD, 2011). Among the districts of Timor-Leste, Dili District has the highest population and smallest size with an area of 364 square kilometers (NSD, 2011).

\(^3\) The Berlin Nakroma ferry was donated by Germany to Timor-Leste. It is managed and operated by the Ministry of Transport and Communications. The ferry links Ataúro Island to the capital, Dili. The Dili-Ataúro-Dili route is scheduled once a week (on Saturdays).
3.4.2 Demography

According to the 2010 census, the total population of Timor-Leste was 1,066,409 people (NSD, 2011). The country has one of the fastest growing populations in Asia with a total fertility rate of 6.97, one of the highest rates of population growth in the world (United Nations Population Fund, 2010). In 2011, Ataúro Island was inhabited by 9,327 people (NSD, 2011). Makili has the highest population (2,286) compared to the other four villages on Ataúro Island, and there are more female residents on the island than male residents (Table 3.1).
Table 3.1. Distribution of population and households by hamlets, Ataúro Subdistrict.

<table>
<thead>
<tr>
<th>Subdistrict</th>
<th>Village</th>
<th>Hamlet</th>
<th>Population</th>
<th>Households</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Vila Maumeta</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Ataúro Island</td>
<td>Eklae</td>
<td></td>
<td>552</td>
<td>Male 285</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Female 267</td>
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<tr>
<td></td>
<td>Iletikarakia</td>
<td></td>
<td>732</td>
<td>Male 374</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Female 358</td>
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<tr>
<td></td>
<td>Ilimanu</td>
<td></td>
<td>474</td>
<td>Male 237</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Female 237</td>
</tr>
<tr>
<td>Makili</td>
<td>Fatulela</td>
<td></td>
<td>775</td>
<td>Male 369</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Female 406</td>
</tr>
<tr>
<td></td>
<td>Makelihu</td>
<td></td>
<td>838</td>
<td>Male 400</td>
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<td></td>
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<td></td>
<td></td>
<td>Female 438</td>
</tr>
<tr>
<td></td>
<td>Maulaku</td>
<td></td>
<td>255</td>
<td>Male 115</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Female 140</td>
</tr>
<tr>
<td></td>
<td>Maumeta</td>
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<td>418</td>
<td>Male 198</td>
</tr>
<tr>
<td>Beloi</td>
<td>Adara</td>
<td></td>
<td>552</td>
<td>Male 287</td>
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<td></td>
<td></td>
<td>Female 265</td>
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<td></td>
<td>Arlo</td>
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<td>352</td>
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<td>Female 179</td>
</tr>
<tr>
<td></td>
<td>Maker</td>
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<td>272</td>
<td>Male 131</td>
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<td></td>
<td></td>
<td>Female 141</td>
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<tr>
<td></td>
<td>Usubemasu</td>
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<td>730</td>
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<td>Makadade</td>
<td>Anartutu</td>
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<td>703</td>
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<td></td>
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<td>Ili Timur</td>
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<td>96</td>
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<tr>
<td>Bikeli</td>
<td>Iliknamu</td>
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<td>449</td>
<td>Male 197</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Female 252</td>
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<tr>
<td></td>
<td>Ilidua</td>
<td></td>
<td>133</td>
<td>Male 65</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Female 68</td>
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<td></td>
<td>Pala</td>
<td></td>
<td>741</td>
<td>Male 381</td>
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<tr>
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<td></td>
<td></td>
<td></td>
<td>Female 360</td>
</tr>
<tr>
<td></td>
<td>Waruana</td>
<td></td>
<td>397</td>
<td>Male 202</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Female 195</td>
</tr>
</tbody>
</table>

Total 5 Villages 19 Hamlets 9327 4571 4756 1732

Source: NSD (2011)

With regard to local communities’ livelihoods, 60 per cent of the island’s population are fishermen, 30 per cent are farmers and the rest are in small business, public service, and so on (Ataúro Subdistrict Administration Office, 2014). With regard to religion, 65 per cent of Ataúrians are Protestant and 35 per cent are Roman Catholic; in contrast to the mainland population which is overwhelmingly Roman Catholic.
3.4.3 Environment and Biodiversity

Ataúro Island is largely sandstone and limestone as well as basalt rock (Tua Ko’in, 2001). The landscape in the southern part of the island is dramatic with rocky cliffs and several peak mountains, such as Manu Koko, Tutunair Inan and Hahi Hui, reaching up almost straight out of the sea (Figure 3.4). The coastal plain, where it exists, is narrow. In the direction of the north, the landscape becomes gentler with Eucalypt trees and grasses on the hills and sandstone caves and white sandy beaches can be seen around the north and west coasts, particularly from Baruana Beach to Atekru Beach (Tua Ko’in, 2001). Due to its considerable biodiversity and mountain ranges, the island of Ataúro has been identified as one of the potential sites for bird watching across the country: 84 bird species have been recorded on the island (Trainor & Soares, 2004). The marine systems that surround Timor-Leste, including Ataúro Island, are well known as migration pathways for many species of marine wildlife. These systems provide significant opportunities for marine cetacean ecotourism development (Dethmers et al., 2009).

Figure 3.4. Natural assets of Ataúro Island – (a) Manu Koko Mountain, Makadade, (b) Hills and sandstone landscape, Bikeli, and (c) Bird watching, Beloi. Source: (a), (b) Author; (c) Trainor (2007)
The environments and biodiversity of Ataúro Island are protected and managed at the national level under a range of legislative mechanisms. However, the current laws and regulatory framework are complex (and incomplete), and represent a combination of Portuguese, Indonesian and emergency UNTAET instruments, which are in the process of being replaced and updated by new national laws. Among the existing legislative mechanisms, the Basic Law of the Environment (Decree Law No. 26/2012) defines the environment as:

The set of physical, chemical and biological systems and their relations with economic, social and cultural factors, with direct or indirect, intermediate or immediate, effects on living beings and the quality of human life. (MED, 2012, p. 2)

Another government law to protect the environment is the Environmental Licensing Decree (Law No. 5/2011) which creates a system of environmental licensing for public and private projects likely to produce environmental and social impacts on the environment in terms of the Environmental Impact Assessment legislation. The main objective of the law is to minimise the negative environmental and social impacts caused by infrastructure development activities (MED, 2012).

Further, the Government of Timor-Leste implemented UNTAET Regulation No. 2000/19 on protected places to preserve biodiversity and local cultural heritage. This regulation has been used to establish protected areas on Ataúro Island, specifically Manu Koko Mountain and surroundings in the Makadade region (UNTAET, 2000). Additionally, at the time of writing, the government was in process of developing the Biodiversity Decree Law which focuses on the national policy framework concerning biodiversity planning, monitoring and inventory; protection and conservation of ecosystems, habitats and species; threats to biological diversity and resources, such as genetic resources, traditional knowledge and sharing of benefits; and biodiversity information and public awareness, including training, research, assessment and inducements (MED, 2011).
3.4.4 Society and Culture

Despite Ataúro Island’s proximity to the mainland (25 km north of Dili), government services in the areas of public administration, health services and education are still very limited. Even though a number of clinics, health centres and schools have been built in recent years, there are still insufficient numbers of professional staff. Infrastructure in the form of roads and electricity and water supplies remains one of the fundamental issues for all villages on the island. For example, road accessibility from Vila Maumeta and Beloi to Makadade and Makili is poor. Makadade is isolated as a result of inadequate road accessibility. Other infrastructures that are still needed to be developed on the island, including water supply, health services, telecommunications networks and electrical power.

Ataúro Island has three main clans called the Humungili, Adade and Manroni, each of which has different cultural traditions and dialects. Humangili is spoken in the village of Makili, Manroni in the villages of Beloi and Bikeli, and Adade in the village of Makadade. While each dialect is frequently used for daily communication, rituals and songs (Pedi, 2007), Tetum\(^4\) is widely spoken and used in the schools and public administration. The island is well known for its arts and crafts, including traditional sculpture, Ataúro dolls, weaving baskets, traditional textiles and cooking pots (Figure 3.5). The Government of Timor-Leste has provided assistance to support traditional culture, the living history, craft, music and traditional dancing in the rural communities through historical and cultural tourism (RDTL, 2011).

\(^4\) Tetum, one of Timor-Leste’s two official languages alongside Portuguese, is the lingua franca on Ataúro Island.
Figure 3.5. Handicrafts on Ataúro Island – (a) Woven baskets, (b) Traditional wood carvings, and (c) Ataúro dolls. 
Source: (a), (b) Author; (c) Turner (2011)

3.4.5 Economy

The majority of the population on Ataúro Island are fishermen, and fishing is the main source of livelihood through which the islanders support their families’ basic needs and finance their children’s education (Ataúro Subdistrict Administration Office, 2014). Agriculture is the second largest source of income, following by livestock, and then other sources of income (e.g., professional employees and small-medium enterprises). In recent years, tourism has become an important sector for local communities as an additional source of earnings. Tourism has significantly supported the local economy by increasing people’s earnings through creating job opportunities and providing new market opportunities for local agriculture products, fishing, small-medium enterprises, local transport, lodges and handicraft sales (Coimbra, 2012).
3.4.5.1 Agriculture

Most of Timor-Leste is mountainous and only a very small area of the land is suitable for agriculture; however, agriculture\(^3\) is the main livelihood for the majority of the country’s population. The principal food grown nationwide is maize, which is grown by more than 80 per cent of farmers and is complemented by cassava, sweet potato and rice (Williams et al., 2008). According to the *Timor-Leste Strategic Development Plan 2011–2030*, the Government of Timor-Leste plans to boost rice and maize production across the country in order to increase food security, while also improving rural livelihood opportunities and reducing trade deficits.

The inhabitants of Ataúro Island can be differentiated from those on the mainland in terms of their livelihoods, with Ataúro Islanders relying on fishing as their main livelihood owing to limited agricultural land and infertile soil structure (Ataúro Subdistrict Administration Office, 2014). The principal crops grown on Ataúro Island are sweet potato, cassava, maize and beans (Mills et al., 2013). In the course of the present research it was noted that Beloi Village has the largest and flattest area available for farming.

3.4.5.2 Fisheries

A few places in Timor-Leste, particularly coastal areas, are still heavily reliant on fishing as their main livelihood (Dos Santos Silva, 2009). However, coastline communities also engage in small-scale farming, while highland communities occasionally engage in fishing practices. Weaver (2008) estimated that, of a total of approximately 5000 fishermen in Timor-Leste, more than 1500 lived on Ataúro Island, which Weaver described as “the only place where fishing is the dominant occupation and where it has reached the highest level of sophistication in the country” (p. 19).

Most of the fishing activities on the island commonly involve local fishermen using small dug-out canoes with pedals or small 15 hp outboard motors. Locally handmade wooden spear guns, gillnetting and handline fishing are the most common methods. Snapper, sweet lip, emperor, trevally, crayfish, parrotfish and octopus are collected by spear fishing. Handlines and gillnets are used to target smaller species including

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\(^3\) According to the Timor-Leste National Directorate of Statistics, the agriculture sector contributed around 25 per cent to GDP.
The major distribution market for fish is in the capital, Dili, where there is high demand from private consumers and where restaurants are located. The foreign supermarkets in Dili generally sell imported frozen fish due to the low quality of local fresh fish (Fishery and Aquaculture of Timor-Leste, 2009).

### 3.4.5.3 Tourism

The island of Timor is a globally significant corridor for migratory marine species. For example, an aerial survey of marine megafauna in the near shore waters of Timor-Leste identified 13 different cetacean species, including the blue whale, sperm whale and dolphin (Dethmers et al., 2009). Due to this resource, marine tourism has been identified as having significant potential to generate economic growth in Timor-Leste (UNDP and UNWTO, 2007; RDTL, 2011), especially on the north and east coasts. Existing marine tourism ventures include cultural tourism in coastal areas, cetacean tourism (i.e., whale and dolphin watching) and fishing competitions (Cabasset-Samedo, 2009; Dethmers et al., 2009; UNDP & UNWTO, 2007). Nevertheless, the success of any type of tourism in Timor-Leste is entirely dependent upon the enhancement of infrastructure and tourism services (Bateman & Bergin, 2011).

The Timor-Leste Government’s *National Timor-Leste Strategic Development Plan 2011–2030* has identified the capital of Dili and Ataúro Island as the country’s central tourist zone. Dili is a portal for Ataúro Island and the Government intends to promote the island as an ecotourism destination, focused on diving and marine tourism (RDTL, 2011) (Figure 3.6). The island has become one of the prominent ecotourism destinations in Timor-Leste. The tourism sector has enhanced the local economy by increasing local job opportunities, generating local enterprise income, creating a collective source of earnings and opening new markets for host communities to sell their local products (Coimbra, 2012; Pedi, 2007). Ataúro Island also has significant potential for terrestrial tourism, such as cultural and historical tourism and nature-based tourism. However, there is still very limited accommodation (room capacity) and other tourist services and infrastructure, including roads, water distribution and telecommunications within the five villages.
3.5 Local Government Structure

The government administration hierarchy extends downwards from the district, subdistrict, suco (village) and aldeia (hamlet) level. Dili District has six different subdistricts (Ataúro, Dom Aleixo, Cristo Rei, Metinaro, Nain Feto and Vera Cruz). Ataúro alone has five villages and 19 hamlets. The smallest administrative division is the suco and under it, the aldeia. Each subdistrict is managed by a subdistrict administrator, who is appointed by the central government through the Ministry of State Administration. Each suco is led by a chefe suco or village head, who is elected directly by the local population within the village. Administration services are generally operated at the subdistrict and suco level on a daily basis. Figure 3.7 illustrates the organisational structure of the Ataúro Subdistrict administration.

The following central government departments are represented on Ataúro Island: Agriculture and Fisheries, Police Maritime, Custom Services, Public Works, Electricity, Water and Sanitation, and Health. The central government representatives live on the island and work alongside the local government structure (see Figure 3.7). At the time of writing, the Ministry of Tourism was not represented on the island.
The Ataúro Subdistrict Local Government has its own development plan that focuses on a number of key areas including tourism, infrastructure, water and sanitation, electricity, education, health, agriculture and fisheries, and telecommunication (Ataúro Subdistrict Administration Office, 2014). However, the local government often has difficulties in gaining financial support to implement its annual programmes from the central government as all annual budgets are designed by the central government through the Ministry of State Administration before allocating funds to the subdistricts in Timor-Leste including Ataúro. Local governments do not have their own budgets to develop the areas of infrastructure, health, electricity issues, education and other important sectors. Normally, the relevant central government department is responsible for its own area. For example, the Ministry of Agriculture and Fisheries distributes its own annual budget for the agriculture and fisheries sectors on Ataúro Island in order to develop the farming and fishing sectors. It coordinates with the local government but the local government itself has no budget for these activities. Local governments can only propose development plans to the central government for the allocation of funds.
In order to address the main research questions, this study employed the mixed method approach (i.e., quantitative and qualitative methods) and applied a number of data-gathering techniques including document review, participatory mapping activities and a questionnaire. During the data collection, 145 people took part in the participatory mapping activities in five villages and 150 participants were involved in the questionnaire survey in three villages. For the data analysis, the ArcGIS 10.0 software program was used for the participatory mapping data and Microsoft Excel was used for the quantitative data from the questionnaire.

Timor-Leste is situated between Indonesia and Australia. The total population of the country is less than two and a half million people, and the vast majority of the population is engaged in farming. The island of Ataúro is located north of Dili, the national capital, and has fewer than ten thousand inhabitants. Administratively, Ataúro

**Figure 3.7.** Organisational chart of Ataúro Subdistrict administration. Source: Ataúro Subdistrict Administration Office (2014)

### 3.6 Summary
Island is one of six subdistricts of the district of Dili. The island has five villages and 19 hamlets. Most of its population is reliant upon fishing. Legislative mechanisms at the national level have established protected areas to preserve biodiversity on the island, and ecotourism is becoming a significant sector to enhance local communities’ livelihoods and preserve their culture and natural resources. Nevertheless, infrastructure and human resources are key aspects in need of improvement.
Chapter 4

Tourism and Ecotourism Development in Timor-Leste

4.1 Introduction

This chapter presents an overview of tourism planning and development in Timor-Leste with a, particular focus on ecotourism and CBET. There are two main sections in this chapter. Section 4.2 provides general information about tourism planning and development in Timor-Leste including post-independence tourism development, tourism constraints and a summary of the relevant government tourism policies, strategies and programmes. Section 4.3 describes ecotourism development in Timor-Leste including the country’s ecotourism assets and potential; government support for ecotourism; NGO support for ecotourism; the challenges of developing ecotourism; and the status of CBET in Timor-Leste.

4.2 Overview of Tourism Development in Timor-Leste

Timor-Leste has the potential to become a unique, global tourist destination, having many tourist assets and attractions to offer, from nature-based and cultural assets to historical tourism. The Government of Timor-Leste considers itself to be a regional leader in ecotourism, particularly in the marine, historical and adventure tourism markets. In order to enhance tourism growth, the Government has pledged to improve tourism infrastructure including the upgrading of the Dili International Airport, and improving telecommunication networks and accessibility of the main tourist routes, such as the Great North Coast Road from Com to Balibo. In addition, there is plan to build hospitality training centres in the next five years and to establish tourism information centres in the four main districts of Dili, Maliana, Baucau and Lautem (Presidency of the Council of Ministers of Timor-Leste, 2012). However, because the tourism sector is currently a low-level contributor to the national economy, compared to other sectors like the oil and gas sector, tourism is not considered to be a main, national economic development priority (Somoudi, 2012). Despite this, it has been highlighted by the Government of Timor-Leste (2008) and Somoudi (2012) that the presence of UN missions in the country, along with other international development agencies, has had an enormous impact on Timor-Leste’s development of the tourism industry through
growth in tourist arrivals and occupancy rates of hotels and apartments. As such, the hotel industry in Timor-Leste is one of the biggest contributors to job creation (Carter et al., 2001). However, since the first withdrawal of the UN mission, hotel occupancy has dropped to 30 to 40 per cent, which significantly affected the industry (Wollnik, 2011). On the other hand, international tourist arrivals over the last four years have increased gradually, only slightly dropping off in 2012 due to the official end of the UN’s mandate in Timor-Leste (see Figure 4.1).

![Figure 4.1. Number of tourist arrivals in Timor-Leste via airport, seaport and Indonesian border (i.e., Batugade, Salele, Bobometo and Sacato border posts). Source: Ministry of Tourism of Timor-Leste (2011)](image)

In addition to the promotion of cultural, historical and nature-based tourism, the Ministry of Tourism is also promoting national and international annual events to attract more tourists to the country. These include international events such as Tour de Timor, Darwin Dili Yacht Race, Dili Marathon, International Fishing Competition, Underwater Photograph Competition and national events including horse racing, Carnival of Cultures, Caravan Festival of the Arts, Sunset Fair, and Traditional Culinary Competition (Ministerio Turismo Timor-Leste, 2013).

Three main tourism precincts or zones have been identified by the Ministry of Tourism for priority tourism development (Figure 4.2). These include the “eastern tourism zone”, which encompasses Lautem District (e.g., Jaco Island, Com and Nino Konis Santana National Park), Baucau and Manatuto District; the “central tourism zone”, which
includes Dili (Atauro Island), Ainaro District (Maubisse); and the “western tourism” zone, which embraces Ermera, Maliana (Balibo), Liquica (Maubara) and Oecusse District (RDTL, 2011).

Figure 4.2. Key tourism development zones in Timor-Leste.
Source: RDTL (2011)

4.2.1 Tourism Development in the Post-Independence Era

The development of Timor-Leste’s tourism industry since full independence in 2002 has largely started anew, mostly because of the widespread destruction of the country’s infrastructure (~70 per cent) in the wake of the Indonesian withdrawal in 1999 (Carter et al., 2001). Before looking at tourism development in the post-independence period, it is also important to look at the country’s tourism development history in the past.

During the Portuguese rule, the tourism sector in Timor-Leste was only developed in certain places (e.g., Dili and Baucau) which were attractive for foreign tourists, particularly tourists from Australia (Pedersen & Arneberg, 1999). According to Cabasset-Samedo (2009), from the end of the 1960s up until 1975, approximately 5,000 international tourists visited Timor-Leste per year, mostly from Australia.6 In the 1960s,

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Trans Australia Airlines operated flights between Darwin and Baucau Airport, stimulating the growth of international tourism in Timor-Leste by bringing school groups and leisure tourists. However, during the first years of Indonesian rule, the country was closed off to international visitors and was not reopened until 1989 (UNDP and UNWTO, 2005).

The country’s independence has brought new tourism development opportunities to what is still the youngest nation in Asia. The presence of expatriates working with the UN and other international agencies resulted in rapid growth of the hospitality sector and stimulated the number of international visitors and the development of leisure activities in Timor-Leste. Local people have benefited through the creation of jobs and the opportunity to sell products such as handicrafts and agricultural products or to make their property available for lease (Cabasset-Samedo, 2009). Further, the increase in air links has made the country more reachable from overseas. Nowadays, there are three main flights from Singapore, Australia and Indonesia to Timor-Leste with different airlines. Air Timor has direct flights between Singapore and Dili three times a week, Air North flies between Darwin and Dili on a daily basis, and Sriwijaya Air has daily direct flights on the Jakarta–Denpasar–Timor-Leste route. At the time of writing, a new flight from Denpasar to Dili had been established by Garuda Indonesia Airways. These flights have made a significant contribution to tourism development in Timor-Leste by providing a wider range of choices for potential travellers.

A number of developments indicate that Timor-Leste’s tourism industry is moving forward. These developments include: full membership of the UNWTO; the formation of the Pacific Asia Travel Association; establishment of the country’s first national park and marine park; membership of the Coral Triangle Initiative; closer cooperation with the Northern Territory, Australia; and the drafting of tourism legislation (Government of Timor-Leste, 2008). Additionally, with the aim to develop human resources, the Programme of the Fourth Constitutional Government 2007–2012 (MTCI, 2012) provided financial assistance to several tourism institutions, such as the Baucau Canossa College Training Centre, Becora Senior High School Hospitality Training Centre, Dili Institute of Technology, East Timor Development Agency and Youth Vision Foundation. These investments have enhanced human capital in the area of food service, food production (cooking), housekeeping, English language skills, front office
(reception desk and reservations), bartender training and tour guiding. This training is important in equipping young people with the necessary skills to gain job opportunities in tourism labour markets (MTCI, 2012). In addition, Timor-Leste has been proactively involved in a number of annual international tourism exhibitions to enhance the image of the country as a new tourism destination. These include the Pacific Asia Travel Association Travel Mart, *Internationale Tourismus-Börse* in Berlin, *Feira Internacional de Turismo* in Lisbon, Shanghai International Expo, Singapore Asia Dive Expo, International Ecotourism Exhibition and Award Tourism Conference, and various events in Southeast Asia (Wollnik, 2011).

### 4.2.2 Tourism Development Constraints

From a tourism marketing perspective, the image of Timor-Leste as a new tourism destination in Asia has been adversely affected by public perceptions of it being unknown and unsafe for international travellers. The safety and security concerns are a direct result of Timor-Leste’s turbulent political history. This history includes the widespread violence and upheaval (including displacement of one hundred thousand persons) surrounding the Indonesian withdrawal from the country in 1999, as well as the political and military crisis that occurred in 2006 where one thousand houses were burnt down and 150,000 people displaced (Cabasset-Samedo, 2009; Carter et al., 2001). In 2008, there were political assassinations attempts on Prime Minister Gusmão and President José Ramos Horta. To overcome these public safety and security concerns, the Government of Timor-Leste has attempted to build the country’s reputation as a holiday destination and put it on the global tourism map by seeking support from the UNWTO and the Pacific Asia Travel Association.

A wide range of barriers and challenges to tourism development have been identified for Timor Leste. In 2000, a working paper presented to the Council of Australian Tourism and Hospitality Education (Ximenes & Carter, 2000), identified 13 main barriers, as listed in Table 4.1.
Table 4.1. Barriers to sustainable tourism development in Timor-Leste, identified by Ximenes & Carter (2000, pp. 13-14).

<table>
<thead>
<tr>
<th>No.</th>
<th>Tourism Development Barriers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Inexperienced in tourism development</td>
</tr>
<tr>
<td>2</td>
<td>Insufficient tourism-related infrastructure</td>
</tr>
<tr>
<td>3</td>
<td>Lack of trained tourism workers</td>
</tr>
<tr>
<td>4</td>
<td>Shortage of tourism training facilities</td>
</tr>
<tr>
<td>5</td>
<td>Inadequately organised internal transport suitable for tourists</td>
</tr>
<tr>
<td>6</td>
<td>Absence of a public service and legislature able to initiate and administer policies directed towards tourism development</td>
</tr>
<tr>
<td>7</td>
<td>Concerns over security</td>
</tr>
<tr>
<td>8</td>
<td>Public health problems including malaria and high levels of tuberculosis</td>
</tr>
<tr>
<td>9</td>
<td>Destruction of much of the basic infrastructure</td>
</tr>
<tr>
<td>10</td>
<td>Land tenure confusion and the lack of a system for managing land transfer</td>
</tr>
<tr>
<td>11</td>
<td>Lack of a clear financial system, including currency determination necessary for orderly business arrangements</td>
</tr>
<tr>
<td>12</td>
<td>Absence of clear directions for regulating mechanisms, such as licensing</td>
</tr>
<tr>
<td>13</td>
<td>Shortage of planning and investment funds</td>
</tr>
</tbody>
</table>

In 2005, the Government of Timor-Leste, in cooperation with the UNDP and UNWTO undertook the Sustainable Tourism Sector Development and Institutional Strengthening Project. The project conducted a situation analysis of the tourism sector and in its main findings and recommendations, identified six key tourism development constraints in Timor Leste (UNDP and UNWTO, 2007), as listed in Table 4.2.
Table 4.2. Key factors constraining tourism development in Timor Leste, identified by UNDP and UNWTO (2007, pp. 13–14).

<table>
<thead>
<tr>
<th>Constraint</th>
<th>Detailed Clarification</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Security concerns</td>
<td>Issues over Timor-Leste’s unsafe image due to the events of 1999/2000, 2002 and 2006, and risk of disease (malaria and dengue) negatively affect Timor-Leste’s image. Travel advisory warnings by Australia, USA and others create doubts and render travel insurance invalid.</td>
</tr>
<tr>
<td>2. Lack of competitiveness</td>
<td>Owing to security concerns, few tourists came to Timor-Leste in 2006, and tourism marketing and promotion almost ceased. High occupancy rates and high prices of tourism products (e.g., accommodation, restaurants) are not sustainable in the long term. ‘Value-for-money’ of tourism products in Timor-Leste is not competitive with similar tourism products in Southeast Asia.</td>
</tr>
<tr>
<td>3. Weak institutional systems</td>
<td>a. Investors hesitate to invest as there are no secure land rights</td>
</tr>
<tr>
<td></td>
<td>b. Urban land use planning and regulations governing land use and zoning have been prepared but await approval</td>
</tr>
<tr>
<td></td>
<td>c. Banking and credit systems are inadequate to support tourism development</td>
</tr>
<tr>
<td></td>
<td>d. Insurance regulations have been adopted, but insurers are not yet offering insurance coverage against loss or damage of buildings, vehicles, life, etc.</td>
</tr>
<tr>
<td>4. Lack of qualified human resources</td>
<td>The human resources at all levels, existing tourism training and education system are limited.</td>
</tr>
<tr>
<td>5. Insufficient resources</td>
<td>Lack of experienced staff and at government tourism national directorate.</td>
</tr>
<tr>
<td>6. Lack of tourism and environmental awareness</td>
<td>Majority of local communities and officials do not know about the benefits and drawbacks of tourism, or about the links between a healthy environment and successful tourism.</td>
</tr>
</tbody>
</table>

4.2.3 Government Tourism Policy

The *Timor-Leste Strategic Development Plan 2011–2030* (RDTL, 2011) identifies tourism as one of the major pillars of Timor-Leste’s economy, with the expectation that tourism will become the second most significant economic sector. It has been suggested that, by 2030, this sector can contribute extensively to local economies and job creation (RDTL, 2011). However, in order for the tourism industry to be successful, it is important that the Government of Timor-Leste has appropriate tourism policies to address tourism development constraints. According to Ximenes and Carter (2000), six main policies were endorsed for tourism development during the transitional
government: tourism planning; tourism links to foreign investment, rural industries, commerce and the retail sector; conservation of tourism assets (natural, historical and cultural); product development (central facilities and services, regional destination development, heritage-based tourism, and nature and rural-based tourism); infrastructure development (accommodation and transport); and support services (marketing, promotion and institutional arrangements).

To help overcome the tourism development challenges facing the country, the UNWTO in 2008, recommended seven key policy priorities for the next five years (Government of Timor-Leste, 2008):

1. Policy options and interventions that improve infrastructure and superstructures
2. Investment promotion
3. Product development and diversification
4. Raising awareness and local participation in tourism
5. Rebranding
6. Establishment of tourism legislation

The *Programme of the Fifth Constitutional Government 2012–2017* does not include all the recommendations made by the UNWTO; nevertheless, there are many similarities in the points covered in the government’s tourism policies particularly in relation to human resource development, infrastructure improvement and improvement of the country’s international profile.

**4.2.4 Tourism Development Strategies, Programmes and Actions**

As discussed above, a number of tourism development issues and challenges need to be addressed in Timor-Leste, including security, human resources and infrastructure. Carter et al. (2001) highlight eight tourism strategic actions that should be implemented to overcome those challenges (Table 4.3).
Table 4.3. Strategic actions identified to support tourism development in Timor Leste.

<table>
<thead>
<tr>
<th>Issue</th>
<th>Type of Issue</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Health and Safety</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Image (law and order)</td>
<td>Timor-Lester currently has an image of an unsafe destination; this image and reality needs to be improved for the success of tourism</td>
<td>Achieve and promote a record of safety and a peace-loving community</td>
</tr>
<tr>
<td>Food</td>
<td>Tourists are often vulnerable to breaches of even minor hygienic practices</td>
<td>Educate community in food preparation (food hygiene)</td>
</tr>
<tr>
<td><strong>Public Utilities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Energy</td>
<td>Electrical power generation is an issue in Timor-Leste</td>
<td>Upgrade power generation capacity</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>Additional telecommunication technical skill is needed to service the tourist industry</td>
<td>Upgraded marketing and bookings services are needed</td>
</tr>
<tr>
<td><strong>Inbound Travel</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air</td>
<td>There is no international air service standard</td>
<td>Upgrade airport facilities and services</td>
</tr>
<tr>
<td>Sea</td>
<td>Port facilities are not suitable for passengers</td>
<td>Establish visitor arrival facilities</td>
</tr>
<tr>
<td><strong>Internal Travel</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Land and sea</td>
<td>Reliable internal travel is essential for tourism; Vehicle and sea craft need upgrading</td>
<td>Upgrade of vehicles to meet tourism demand</td>
</tr>
<tr>
<td><strong>Human Resources</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tourism and hospitality training</td>
<td>Skills in tourism and hospitality are low</td>
<td>Establish a tourism and hospitality course; Establish links with an overseas tertiary teaching institution; Sponsor students to study overseas</td>
</tr>
<tr>
<td>Specialist tourism skills</td>
<td>Tourism requires numerous of specialist skills e.g., chefs and managers</td>
<td>Establish specialist training programmes in Timor-Leste and overseas</td>
</tr>
<tr>
<td>Issue</td>
<td>Type of Issue</td>
<td>Actions</td>
</tr>
<tr>
<td>-------</td>
<td>---------------</td>
<td>---------</td>
</tr>
<tr>
<td><strong>Product Development</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Culinary art</td>
<td>Distinctive Timorese cooking can be lost unless actively fostered</td>
<td>Foster the documentation of traditional recipes and establish a school for teaching traditional cooking</td>
</tr>
<tr>
<td>Crafts</td>
<td>Quality authentic craft is preferred; Traditional art expressions can be lost</td>
<td>Establish a traditional arts centre for promoting and protecting arts and crafts</td>
</tr>
<tr>
<td>Authenticity</td>
<td>The danger exists that without control, traditional art expressions can be subverted</td>
<td>Establish a mechanism for identifying authentic traditional cultural expressions</td>
</tr>
<tr>
<td><strong>Accommodation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>City</td>
<td>A diversity of accommodation styles and quality needs to be established</td>
<td>Encourage and support the private sector to upgrade some accommodation facilities</td>
</tr>
<tr>
<td>Rural</td>
<td>Tourism services delivery is still poor</td>
<td>Train rural communities in tourism service</td>
</tr>
<tr>
<td><strong>Natural Resource Development</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resource and opportunity identification</td>
<td>Natural and cultural resources have not been inventoried</td>
<td>Identify and plan the sustainable use of natural and cultural resources</td>
</tr>
<tr>
<td>Facility development</td>
<td>Low level of tourism facilities</td>
<td>Plan and develop facilities to meet tourist need</td>
</tr>
</tbody>
</table>

Source: Carter et al. (2001, pp. 60–61)

As a post-conflict nation, one of the important tourism development strategies is to reposition the country’s image in the international tourism market by developing a marketing strategy. The international tourism marketing will be developed to promote Timor-Leste as a desirable tourist destination using unspoiled destination (nature-based tourism) branding (RDTL, 2011). Further, the *Programme of the Fifth Constitutional Government 2012–2017* expresses the Government’s commitment to promoting and Dili as a ‘City of Peace’ as one of the strategies to highlight Timor-Leste as a safe tourism destination. From the Government of Timor-Leste’s perspective, human resources and infrastructure are the main tourism development issues which need to be taken into consideration in the short, medium and long term. In the last five years, the Ministry of Tourism (and the former MTCI) has provided financial support to a number
of tourism institutions in Timor-Leste to deliver tourism and hospitality training as well as scholarships in Portugal and Indonesia. In addition, several main infrastructures in tourism destinations in Dili and other districts have been established and refurbished (MTCI, 2012). According to the Timor-Leste Strategic Development Plan 2011–2030 (RDTL, 2011), tourism infrastructure (i.e., road, airport, sea port, telecommunication and electricity) and human resource development will be improved in all regions by 2030 in order to attract more inbound tourists, improve local incomes and create more jobs across the country (RDTL, 2011).

4.3 Ecotourism Development in Timor-Leste

The Government of Timor-Leste has recognised that tourism, in particular ecotourism, is an important sector for economic growth and job creation opportunities (RDTL, 2011). When CBET has been established under proper conditions and guidelines in Timor-Leste, it can also significantly contribute to poverty alleviation, specifically in the rural areas. Under the Sustainable Tourism Sector and Institutional Development Project, UNDP and UNWTO are supporting CBET in the country (UNDP & UNWTO, 2007). The rapid growth of the tourism industry and ecotourism is expected to be a lucrative investment for host communities. There are huge opportunities for Timor-Leste to promote and develop this type of tourism due to its diversity, unique local traditions and rich natural resources in terms of land and marine resources (Pedersen & Arneberg, 1999). However, prior to independence in 2002, the UNTAET was unsuccessful in delivering financial assistance for the Timor-Leste Tourism Secretariat to undertake preliminary planning studies, even though the hospitality and tourism industries had grown rapidly by approximately 500 accommodation rooms in 2001 (Carter et al., 2001).

Since independence, the development of ecotourism has been developed at district and subdistrict levels in Timor-Leste by different organisations such as government bodies and local, national and international NGOs. For example, CBET development in the form of eco-village accommodation on Ataúro Island was established by local NGO ROLU. This has not only contributed to the local economy but also has assisted local communities to preserve their local culture and maintain their natural resources (Pedi, 2007). The Government of Timor-Leste has also supported ecotourism development by...
implementing the *UNTAET Regulation No. 2000/19* concerning 13 protected areas in Timor-Leste, including the first national park and marine park (Nino Konis Santana National Park in Lautem District) and the Manu Koko Mountain Protected Area on Ataúro Island. There are also various ecotourism developments in other districts supported by international agencies, as explained in more detail in the next section.

**4.3.1 Ecotourism Assets and Potential**

Ecotourism has significant potential in Timor-Leste as a new industry. There are still many tourism sites yet to be revealed. These are related to terrestrial ecotourism activities (e.g., visiting historical and cultural sites, bird watching, horseback riding, mountain climbing, hiking/trekking, trail-biking and camping) and marine ecotourism activities (e.g., snorkelling, diving, beach recreation, swimming, whale and dolphin watching, and fishing recreation) (MED, 2011). It has also been highlighted by the UNDP and UNWTO (2007) that the country has great biological and cultural diversity, which is imperative to focus on in product development in the niches of ecotourism, adventure tourism, and nature-based and rural tourism. A number of major ecotourism assets have been identified (GERTIL, 2001) as summarised in Table 4.4.
Table 4.4. Significant ecotourism attractions/assets in Timor-Leste, identified by GERTIL (2001).

<table>
<thead>
<tr>
<th>Natural Sea-Based Marine Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timor-Leste has world class scuba diving sites close to Dili, Ataúro Island, Jaco Island, Manatuto and Tutuala, as well as snorkelling activities. There is also potential for game/sport fishing in the Timor and Savu Seas, accessible mainly from Dili, Baucau and Com. The Australian cruise ship, Orion, has made several visits to Dili and Baucau with roughly 100 passengers each time. Timor-Leste also has potential as a stopping-off point for long-distance yachts and cruises from Asia to Australia.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Natural Land-Based Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Various scenic landscapes in the country include attractive beaches along the northern coast around Dili, Baucau and the Lautem-Tutuala area; volcanic scenery in the Oecussé enclave; savannah vegetation in the eastern part of the country (Baucau and Lautem); waterfalls and lakes in the central highlands around Aileu and Maubisse; and trekking through the cooler central highlands in the Aileu, Ainaro and Maubisse area. Hatobuilico is the base point for the three-hour mountain trek to Mount Ramelau with views from the top of both coastlines.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cultural Attraction Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>The diverse ethnic groups with different cultural traditions (music, dance, art and handicrafts) offer significant attractions for community-based tourism. Traditional house architecture also has regional variations in the Lospalos, Baucau, Viqueque, Ainaro, Aileu and Oecussé areas. There are grottos and caves, the best of which are located near Viqueque, that have some cave paintings dating back to 35,000 BC. There are examples of Portuguese colonial architecture throughout Timor-Leste with the most interesting in the Oecussé enclave (Fatusaba garrison), Baucau (the old market and the Pousada de Baucau) and the Maubara fort.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Religious Attraction Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>There are religious attractions such as the statue of Christ in Cape Fatucama and the six religious sites located mainly in the western highlands, of which Ainaro (canonised by the Vatican) is the most important.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Wildlife Attraction Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>The marine cetacean attractions include whale and dolphin watching along the northern coast; bird watching in the eastern part of the country, especially in the Lautem area (where 31 of the 240 bird species occur only on Timor); and crocodiles, deer and turtles in the Tutuala and Jaco Island area (which is a protected natural area).</td>
</tr>
</tbody>
</table>
4.3.2 Government Support for Ecotourism

Protected areas are an important component of ecotourism because tourists who come to visit the areas normally want to enjoy the preserved nature and wildlife. For example, in China, most of the ecotourism activities take place in protected areas including nature reserves, forest parks, scenic parks, hydrological scenic parks and geo-parks. The implementation of a protected area scheme has shaped the institutional experience of Chinese ecotourism practice (Xu et al., 2014). The Government of Timor-Leste has also supported ecotourism development by establishing the first national park and marine park, the Nino Konis Santana National Park, which is situated in Lautem District in the eastern part of the country and where the Tutuala CBET venture now takes place (MED, 2011). Since 2000, the Government has also been implementing UNTAET Regulation No. 2000/19 on Protected Places, which designates 15 protected areas in Timor-Leste (as listed in Table 4.5), with a view to establishing a national system of protected areas.

Table 4.5. Designated protected areas in Timor-Leste under UNTAET Regulation No. 2000/19.

<table>
<thead>
<tr>
<th>Site</th>
<th>Area</th>
<th>District</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jaco Island and surrounding rocks, reefs</td>
<td>-</td>
<td>Lautem</td>
</tr>
<tr>
<td>Tutuala Beach and adjacent forests</td>
<td>25000 ha</td>
<td>Lautem</td>
</tr>
<tr>
<td>Cristo Rei Beach and hinterland</td>
<td>-</td>
<td>Dili</td>
</tr>
<tr>
<td>Summit of Tata Mailau Mountain (above 2,963 m) and surrounding forest</td>
<td>20000 ha</td>
<td>Ainaro</td>
</tr>
<tr>
<td>Summit of Saboria Mountain (above 2,495 m) and surrounding forest</td>
<td>-</td>
<td>Viqueque</td>
</tr>
<tr>
<td>Summit of Marobu Mountain (above 2,000 m) and surrounding forest</td>
<td>-</td>
<td>Maliana</td>
</tr>
<tr>
<td>Summit of Diatuto Mountain (above 1,500 m) and surrounding forest</td>
<td>15000 ha</td>
<td>Viqueque</td>
</tr>
<tr>
<td>Summit of Fantumasin Mountain and surrounding forest</td>
<td>4000 ha</td>
<td>Liquica</td>
</tr>
<tr>
<td>Riverlet Clere Sanctuary</td>
<td>30000 ha</td>
<td>-</td>
</tr>
<tr>
<td>Tilomar Reserve</td>
<td>12800 ha</td>
<td>Covalima</td>
</tr>
<tr>
<td>Lore Reserve</td>
<td>11000 ha</td>
<td>Lautem</td>
</tr>
<tr>
<td>Monte Mundo Perdido and the surrounding forest</td>
<td>25000 ha</td>
<td>Viqueque</td>
</tr>
<tr>
<td>Summit of Monte Matebian (2,373 m)</td>
<td>22000 ha</td>
<td>Baucau</td>
</tr>
<tr>
<td>Monte Cablaque and surrounding forest (1,313 m)</td>
<td>18000 ha</td>
<td>Ainaro</td>
</tr>
<tr>
<td>Manu Koko Reserve</td>
<td>4000 ha</td>
<td>Dili</td>
</tr>
</tbody>
</table>

Source: UNTAET (2000)
In addition to the identification, planning and establishment of protected areas, the Ministry of Tourism has also reinforced CBET enterprises from 2007 to 2012 by providing financial assistance and promoting ecotourism businesses, especially handicrafts, lodges and local restaurants throughout the country. The main objective of this support was to involve local communities in tourism development in order to improve their livelihoods (MTCI, 2012).

**4.3.3 Non-Government Organisation Support for Ecotourism**

Many ecotourism projects have been supported by local and national NGOs and international agencies in Timor-Leste (Table 4.6). Taking two NGOs as examples, Haburas is a national NGO that implements a wide range of ecotourism schemes and environmental advocacy programmes across the country. Haburas assisted the local community at Valu in Tutuala Subdistrict (within the country’s first national park) to build an eco-lodge with four bungalows and one restaurant, in which 68 people from the local community were directly involved. The second example is ROLU, which is solely focused on Ataúro Island. ROLU established and managed the Tua Ko’in Eco-Village which first opened in 2003 with room occupancy of 20 beds (Cabasset-Samedo, 2009). Both NGOs are not only active in CBET but also in supporting the host community to preserve the local culture and biodiversity.
Table 4.6. NGO involvement in supporting ecotourism in Timor-Leste.

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Nature of Ecotourism</th>
<th>Location</th>
<th>District</th>
<th>Funded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haburais</td>
<td>Handicrafts/eco-lodge</td>
<td>Maubara</td>
<td>Liquica</td>
<td>JICA</td>
</tr>
<tr>
<td>Haburais</td>
<td>Edo-lodge</td>
<td>Tutuala</td>
<td>Lautem</td>
<td>EU</td>
</tr>
<tr>
<td>Haburais</td>
<td>Eco-lodge</td>
<td>Maubisse</td>
<td>Ainaro</td>
<td></td>
</tr>
<tr>
<td>ROLU</td>
<td>Eco-lodge/advocacy</td>
<td>Ataúro Island Dili</td>
<td>Australian Conservation Foundation</td>
<td></td>
</tr>
<tr>
<td>Move Forward</td>
<td>Eco-lodge/advocacy</td>
<td>Ataúro Island Dili</td>
<td>AusAID</td>
<td></td>
</tr>
<tr>
<td>Alola Foundation</td>
<td>Handicrafts</td>
<td>Dili</td>
<td>Dili</td>
<td>RDTL</td>
</tr>
<tr>
<td>Leeuwin Care</td>
<td>Handicrafts</td>
<td>Eraulo</td>
<td>Aileu</td>
<td>-</td>
</tr>
<tr>
<td>Women’s Weaving</td>
<td>Handicrafts/textiles</td>
<td>Dili</td>
<td>Dili</td>
<td>-</td>
</tr>
<tr>
<td>East Timor</td>
<td>Handicrafts</td>
<td>Dili</td>
<td>Dili</td>
<td>-</td>
</tr>
<tr>
<td>Youth Vision</td>
<td>Tourism training</td>
<td>Dili</td>
<td>Dili</td>
<td>RDTL</td>
</tr>
</tbody>
</table>

Source: Created by the author

Significantly, local and national NGOs have played important roles in supporting ecotourism in Timor-Leste. Although they limited financial ability to support CBET development directly themselves, they have obtained financial assistance from international NGOs or international agencies such as USAID, the Portugese Institute for Development Support, the Australian Conservation Foundation and AusAID to help local people take part in tourism development (Wollnik, 2011).

4.3.4 Challenges in Developing Ecotourism

Ecotourism is heavily dependent upon nature and wildlife as the main attractions for eco-tourists to experience. Nevertheless, local communities in Timor-Leste still lack environmental knowledge and awareness in preserving their natural resources and wildlife due to poverty, even though a number of protected areas have been established to protect flora and fauna. According to the MET (2011), there are several protected areas, including Nino Konis Santana National Park (Lautem), Mundo Perdido (Viqueque), Tata Mailau (Ainaro) Mota Clere/Lake of Modo Mahut (Same) and Manu Koko (Ataúro), that are rich in biodiversity and offer substantial potential for ecotourism. However, there are a number of major concerns in these areas including
illegal logging, illegal hunting and fishing, land degradation and nomadic farming. Biodiversity conservation management is still a relatively new concept for Timor-Leste and, due to a lack of management of the national parks, there are impacts on local community livelihoods in the surrounding areas (Cullen, 2012). In addition, while CBET enterprises have been growing in number, there are still some barriers to ecotourism development including the lack of government support and the influence of gender norms which preclude women from engaging in tourism activities development (Pedi, 2007). The UNDP and UNWTO (2007) identified ten main challenges in CBET development in Timor-Leste, as set out in Table 4.7.

Table 4.7. Key challenges to CBET development in Timor Leste, as identified by the UNDP and UNWTO (2007).

<table>
<thead>
<tr>
<th>CBET Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Shortage of a domestic tourism market, reliance on long-haul tourist arrivals</td>
</tr>
<tr>
<td>• Difficulty in linking with tourists</td>
</tr>
<tr>
<td>• Complexity in marketing and promoting products owing to isolated and remote locations</td>
</tr>
<tr>
<td>• Difficulty in communicating with tourists before and after they arrive in the community due to a lack of foreign language and tourism skills</td>
</tr>
<tr>
<td>• Unwillingness to deal with large tour operators and camp operators (due to lack of trust)</td>
</tr>
<tr>
<td>• Short length of visits: insufficient attractions/activities to ensure long-term stay</td>
</tr>
<tr>
<td>• Lack of transport access due to remote, isolated location of communities and underdeveloped transport infrastructure (roads, signs, public transport, etc.)</td>
</tr>
<tr>
<td>• Lack of business management and organisational skills (make business plans, keep accounts and records, conduct financial (cost/benefit) assessments, deal with tour operators, agents, etc.)</td>
</tr>
<tr>
<td>• Unbalanced distribution of revenues and responsibilities between community members</td>
</tr>
<tr>
<td>• Lack of financial capital</td>
</tr>
</tbody>
</table>

4.3.5 Current Status of Community-Based Ecotourism

Timor-Leste has enormous potential for ecotourism because of its unspoiled nature-based resources and wildlife. CBET has been developed in several places across the country such as on Ataúro Island (Dili District), Tutuala (Lautem District), Maubara (Liquica District) and Maubisse (Ainaro District) (Edyvane et al., 2009; MED, 2011;
Based on the researcher’s observations, CBET has been growing considerably in the last three years in Timor-Leste, specifically in the areas where most of the potential ecotourism resources are located, including Ainaro (Maubisse and Hato Bulico), Baucau, Dili (Ataúro Island), Ermera, Liquica, Maliana and Viqueque Districts. For example, on Ataúro Island alone, approximately 15 new CBET enterprises have been established in the past three years, not including expanding CBET businesses. Those new CBET enterprises are in four main categories of businesses: local transport (tiga roda), lodges, handicraft sales and production, and kiosks.

Even though the CBET enterprises have increased in number, the local communities themselves still encounter a number of challenges in CBET development, in particular a lack of CBET promotion and marketing, land disputes, shortage of financial capital, and lack of human resources and infrastructure (Carter et al., 2001; UNDP and UNWTO, 2007). In the case of Ataúro Island, land tenure has become one of the essential issues that need to be solved. As a consequence of land disputes, the first CBET venture on the island, namely, the Tua Ko’in Eco-Village, has been provisionally closed after ceasing operations for almost three years despite having been an excellent role model for other CBET ventures. A land dispute also arose in relation to the CBET development at a popular tourist destination on the coast at Com in Lautem District. The bungalows and facilities were burnt down as a result of a land dispute between two villages.

CBET development in Timor-Leste is still in the early stages and the Government does not have any particular ecotourism policy, regulation, planning, management or guidelines for local communities to develop this sector further. Although the importance of CBET in economic development has been declared in the Timor-Leste Strategic Development Plan 2011–2030, there are still no specific strategies policies, regulations and planning and management guidelines in place within the Ministry of Tourism to support CBET in rural areas, where the highest levels of poverty and the most abundant natural resources exist.

Tua Ko’in Eco-Village contributed significantly to the local economy and cultural and environmental preservation (Coimbra, 2012; Pedi, 2007). Its model of CBET development has been followed by Haburas and applied in several districts including Liquica, Lautem and Ainaro Districts.
In 2007, the UNDP and UNWTO (2007) identified seven criteria to guide the selection of sites for CBET development (Table 4.8). Based on these criteria, 14 sites were identified for CBET development. Of these areas, Vila, Beloi and other communities on Ataúro Island (ie. Tua Koin) were identified for support for ecotourism development (ie. beach lodges, homestays, eco-lodges, diving, hiking and tours), in partnership with the local communities and local NGOs. While these activities were not implemented by the Ministry of Tourism, UNDP and UNWTO (due to financial and human resource constraints), CBET development on Ataúro Island has continued - largely with support from private operators, local communities, and the support of local NGOs (ROLU, Move Forward).

**Table 4.8.** Criteria for selection of community-based ecotourism sites in Timor Leste, proposed by UNDP and UNWTO (2007).

<table>
<thead>
<tr>
<th>Attractions:</th>
<th>Existence of prime tourism attractions such as coral reefs, dive sites, attractive scenery, agro-tourism, handicrafts, cultural/historical sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activities:</td>
<td>Existence of a range of activities such as sightseeing, trekking, water sports (fishing, snorkelling, scuba diving, kayaking, surfing, sailing, etc.)</td>
</tr>
<tr>
<td>Motivation:</td>
<td>Community enthusiasm/cohesiveness and a record of undertaking community projects (water system, church, pre-school, agricultural production marketing)</td>
</tr>
<tr>
<td>Access:</td>
<td>Good physical and market accessibility of the location to key towns (e.g., no more than four hours from point of entry and one hour from a district capital)</td>
</tr>
<tr>
<td>Partnership:</td>
<td>Potential for effective partnership development that should include interest in the case study from private sector travel industry, NGOs and local government administration</td>
</tr>
<tr>
<td>Amenities:</td>
<td>Basic level of amenities and services (clean, attractive environment and infrastructure or, at least, conditions for ease of provision)</td>
</tr>
<tr>
<td>Land Tenure:</td>
<td>Areas with clear, traditional community land rights</td>
</tr>
</tbody>
</table>
4.4 Summary

Timor-Leste has significant potential in the tourism sector because the country has a wealth of natural, cultural and historical resources. The Government, through the *Timor-Leste Strategic Development Plan 2011–2030* (RDTL, 2011), has placed tourism as one the important sectors for economic development. It has identified three main tourist zones (western, central and eastern zones) and pledged support in improving tourism-related infrastructure. Tourism in Timor-Leste has been developed since the period of occupation and, to date, the industry has been improving steadily in the area of infrastructure, human resources development and tourism promotion. However, the country still encounters numerous tourism challenges, such as the lack of infrastructure and human capital. In order to address those issues, it has been recommended that roads, electric power, human resource development and air and land transport connections should be improved.

Ecotourism has also been identified as having much potential to contribute to economic growth and support poverty alleviation, particularly in rural areas in Timor-Leste. The abundance of natural, cultural and historical assets makes ecotourism a significant opportunity for further development. Additionally, several protected areas have been established in order to promote ecotourism development under the UNTAET regulations, and international agencies have funded national and local NGOs to undertake CBET schemes in the different regions of Timor-Leste. Despite the significant opportunities that ecotourism offers to the national economy and the livelihood benefits to local communities, the Timor-Leste Government needs to plan and implement national strategies to ensure this occurs in a way that is sustainable and in a direction that enhances the well-being of local people.
Chapter 5
Ecotourism Values and Programmes on Ataúro Island

5.1 Introduction

This chapter presents the results from the fieldwork related to the ecotourism values and programmes on Ataúro Island. The chapter begins by presenting the results on ecotourism values and assets with three key maps that illustrate the ecotourism infrastructure components in the five villages. In order to understand CBET development on the island, it is also important to know the demographic and socio-economic conditions of local communities in the three main study sites. The chapter also describes the findings on current CBET enterprises, the benefits to the local community and the socio-cultural, economic and environmental effects.

5.2 Ecotourism Values and Assets on Ataúro Island

A number of studies have highlighted how Ataúro Island has enormous potential for ecotourism development owing to its natural, cultural and historical assets (Coimbra, 2012; Dutra et al., 2011; Edyvane et al., 2009; GERTIL, 2001; Pedi, 2007). However, there is still a lack of comprehensive evidence to demonstrate the potential of ecotourism assets (i.e., natural, cultural and historical assets) and supporting infrastructure on the island as well as the locations of the ecotourism attractions. This section presents details on the ecotourism values, assets and infrastructure maps based on the results of the participatory mapping completed through local community discussions in five villages as well as other stakeholders’ input, such as tourism operators on the island.

5.2.1 Natural Assets

According to the participatory mapping results, the island has huge potential for ecotourism development due to its nature-based tourism (Figures 5.1 and 5.2). As shown in the map in Figure 5.2, the southern part of the island around Makadade and Makili Villages has three stunning mountain ranges: Tutunair Inan, Hahi Hui and Manu Koko (the latter being the highest mountain on Ataúro, at approximately 999 metres above sea level). These three mountains have significant potential for ecotourism...
activities, including trekking, bird watching and photography. Manu Koko has also been designated as a protected area under *UNTAET Regulation No. 2000/19*, and it was reported by the local community in Makadade that a great variety of bird species can be seen in this protected area. There is also a newly established MPA situated in Vila Maumeta that is high in natural values. Further, most water springs and waterfalls are located around the areas of Makadade, Makili, and Vila Maumeta, which are potential natural attractions for visitors. Two of the main saltwater hot springs are situated in Bikeli, which includes mangrove forest. Another hot spring is located in Makili Village.

![Figure 5.1](a) Manu Koko Protected Area, Makadade, with potential for bird watching and hiking; (b) Saltwater hot springs, Bikeli. Source: Author

In particular, Ataúro Island has a wide range of outstanding coastal-marine ecotourism assets (Figures 5.2 and 5.3). There are a number of attractive beach spots for recreation and swimming around the island, however, Baruana (Bikeli), Acrema (Bikeli), Adara (Beloi), Atekru (Beloi) and other beaches around Beloi Village are the most commonly visited sites owing to their infrastructure and the nearby Ataúro seaport where the public ferry usually stops. According to local community members and dive tourism operators, there are also numerous sites with potential for diving and snorkelling on Ataúro Island. The spots with the best potential for these activities are situated in the northern and southern parts of the island, namely Beloi, Bikeli and Vila Maumeta. The sites notable for dolphin, dugong and whale watching and turtle nesting are located near the three main villages of Beloi, Bikeli and Makili. The island of Ataúro is one of the major corridors for the migration of marine mammals in Timor-Leste (Dethmers et al., 2009). It was observed by local people in Maker (Beloi) and Makili that the northern and
southern coasts of the island are the major passages for whales and dolphins during the rainy season (November to February).

Figure 5.2. Map of natural ecotourism assets on Atauro Island. Source: Created by the author
5.2.2 Cultural, Religious and Historical Assets

Cultural, religious and historical assets are an important part of the ecotourism assets on the island. The participatory mapping results indicated that a wide range of cultural, religious and historical site, with the potential for ecotourism development. All of the cultural, historical and religious assets on the island are marked on the map in Figure 5.4. These include stone cave cemeteries located in Bikeli, which, according to the local community, are filled with human skeletons that are still preserved. Beloi has the most historical caves and sacred places compared to the other four villages. There are also religious monuments, including one in Beloi which is regarded as the “first baptised, Catholic monument”, which marked the beginning of the first Catholic baptisms on Ataúro (Figure 5.5). The legacy of wine production is also an attraction for visitors who want to know the history of wine production during the Portuguese era on Ataúro. Another tourist attraction is traditional cooking pot production, which is currently nearly extinct. There are only two elderly women who know how to produce these traditional cooking pots. A NGO called Imprezza Diak is attempting to preserve this tradition it by assisting the elderly women to teach the younger generation in Arlo (Beloi).
Figure 5.4. Map of cultural, historical and religious ecotourism assets on Ataúro Island.
Source: Created by the author
Vila Maumeta has important historical and religious sites that are frequently visited by tourists, such as the Cave of Our Lady Mary, as well as prisons that were used during the Portuguese occupation (Figure 5.6). In addition, Makili has a number of important cultural, religious and historical sites including traditional wooden carvings, sacred sites and a statue of St Peter. The traditional fishing festival and statue festival are well known in Makili, and local communities have celebrated these annual events for a very long period of time. Traditional massage only exists in Makadade, while the production of its traditional textiles is also a unique and interesting visitor experience. In this village there is also a festival that involves climbing nut trees and a traditional bee farm. Traditional customary law (*tara bandu*) has been utilised to preserve these areas from the impact of human activities for many years. There are still many cultural ecotourism assets to be investigated, however, owing to traditions and cultural conditions, some cultural values are not permitted to be exposed.
**Figure 5.6.** Cultural assets in Vila Maumeta – (a) Cave of Our Lady Mary; (b) Historical, Portuguese prison. Source: Author

### 5.2.3 Ecotourism Infrastructure

Infrastructure is one of the major challenges for ecotourism development on the island of Ataúro. The results from this study demonstrate that accessibility is one of the main concerns, especially the accessibility from Makili and Makadade to the island’s capital, Vila Maumeta. The road conditions are poor and unsafe and it is risky for travellers to use any type of land transport on these routes during the dry and rainy seasons, even though both villages are potential ecotourism sites. None of the roads on Ataúro are asphalted (Figure 5.7). This makes road accessibility a key challenge to the movement of visitors. Refurbishment and maintenance of roads is a service provided mainly in Vila Maumeta, Beloi and Bikeli as these are the main roads on the island. Based on the researcher’s observation during the data collection period, Vila Maumeta and Beloi have better road conditions compared to the other villages. As a result, both villages have a greater advantage in tourism development. Power is also a major infrastructure issue on the island, as the island remains heavily reliant on the limited capacity of electrical generators, particularly in rural and remote areas. As such, the distribution of electrical power is limited in villages and operates only for about six hours a day (during the night), compared to the mainland which has a constant 24-hour supply of electricity. Significantly, important potential ecotourism sites such as Maker, Atekru, Adara and Baruana, all have limited access to electricity.
Water supply is another issue for CBET development. The existing water resources are sufficient for the entire island, with four main water springs located in Makadade, Makili and Beloi from which water is distributed to the other villages. However, the main problem is a lack of water supply management and maintenance of the existing water canalisation (Figure 5.8(a)). As a result, some villages and hamlets have difficulty accessing fresh water, in particular Baruana, Adara, Atekru and Makili. In terms of telecommunications networks, there are still limitations, including mobile telephone signals in certain areas, specifically in rural areas that have potential ecotourism attractions, such as Makadade, Maker, Atekru and Baruana. The crucial infrastructure, such as the seaport and airport are located in Beloi. With this infrastructure, Beloi Village receives the most domestic and international visitors on the island (particularly on the weekends). Public ferries frequently stop over for 3–4 hours (Figure 5.8(b)), which is also an advantage for Beloi in terms of CBET development. The map of the ecotourism infrastructure on the island is presented in Figure 5.9.
Figure 5.8. Key infrastructure issues on Ataúro Island – (a) Poor water infrastructure and limited access to water; (b) Beloi is the only seaport with jetty access on Ataúro Island.
Source: (a) Leeson (2011); (b) Bonte Bloke (2012)
Figure 5.9. Map of ecotourism infrastructure on Ataúro Island. Source: Created by the author
5.3 Community-Based Ecotourism on Ataúro Island

Since the country gained its independence, CBET enterprises have been steadily developing on Ataúro Island due to the increased number of international visitors. A variety of CBET enterprises operate in the five villages on the island. The CBET ventures can be categorised into eight main types of enterprises, namely, lodges, local transport, production and sale of handicrafts, kiosks, food and beverage providers, production of traditional textiles, traditional massage and traditional singing groups.

CBET lodges are mostly located in Vila Maumeta (five lodges) and Beloi (three lodges). However, other types of CBET such as kiosks and handicraft sales are available in all five villages with a greater focus on these activities in Vila Maumeta. The large majority of local transport providers specifically those providing the *tiga roda* (three-wheeler) are only available and owned by the local community in Vila Maumeta and Beloi. Local community members and visitors can book the *tiga roda* via mobile phone and this is the most commonly used type of local transport. The other types of local transport, such as cars, are operated by the local community in Vila Maumeta, Beloi and Bikeli. Local fishing boats can be leased on the mainland (Dili) and used to travel around the island upon request. Local fishing boats are available for hire in the five villages, providing an additional livelihood for the local fishermen.

Makadade is very well known for traditional massage and visitors can use these services upon request. Massage was also available at Tua Ko’in Eco-Village for its guests. There is no accommodation available in Makadade or Bikeli Villages. A traditional singing group, *Zona Mesak*, is available for entertaining visitors on request in Vila Maumeta. The group has represented the island in national competitions for traditional singing. Most of the CBET enterprises on the island are concentrated in the two main villages of Vila Maumeta and Beloi. This is likely to be due to the accessibility, transport and infrastructure in these villages. Having provided an overview of CBET enterprises on Ataúro Island in this section based on the participatory mapping results, the next section focuses on the three main villages of Vila Maumeta, Bikeli and Beloi as the key case study sites including the demographic and socio-economic profiles of the local communities and the existing ecotourism values, assets and infrastructure based on the questionnaire results.
5.4 Demographic and Socio-Economic Profile of Vila Maumeta, Beloi and Bikeli

5.4.1 Demographic Profile

Table 5.1 compares the demographic profiles of the survey respondents in the three case study villages of Vila Maumeta, Beloi and Bikeli in terms of gender, nationality, age groups and levels of education. A total of 150 people participated in the survey, with 50 participants from each village.

Table 5.1. Summary of demographic profile of survey respondents in the three case study villages (Ataúro Island).

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Vila Maumeta</th>
<th>Beloi</th>
<th>Bikeli</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td><strong>Human Demographics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Gender:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Males</td>
<td>28</td>
<td>56</td>
<td>42</td>
<td>84</td>
</tr>
<tr>
<td>Number of Females</td>
<td>22</td>
<td>44</td>
<td>8</td>
<td>16</td>
</tr>
<tr>
<td><strong>Total participants</strong></td>
<td>50</td>
<td>100</td>
<td>50</td>
<td>100</td>
</tr>
<tr>
<td>Male: Female Ratio</td>
<td>1.27:1</td>
<td></td>
<td>5.25:1</td>
<td></td>
</tr>
<tr>
<td><strong>Nationality:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timorese</td>
<td>49</td>
<td>98</td>
<td>49</td>
<td>98</td>
</tr>
<tr>
<td>Australian</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total participants</strong></td>
<td>50</td>
<td></td>
<td>50</td>
<td></td>
</tr>
<tr>
<td><strong>Age Group:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17-25 years</td>
<td>3</td>
<td>6</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>26-35 years</td>
<td>13</td>
<td>26</td>
<td>20</td>
<td>40</td>
</tr>
<tr>
<td>36-45 years</td>
<td>13</td>
<td>26</td>
<td>18</td>
<td>36</td>
</tr>
<tr>
<td>46-70 years</td>
<td>21</td>
<td>42</td>
<td>9</td>
<td>18</td>
</tr>
<tr>
<td><strong>Total participants</strong></td>
<td>50</td>
<td></td>
<td>50</td>
<td></td>
</tr>
<tr>
<td><strong>Educational Attainment:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illiterate</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Primary school</td>
<td>19</td>
<td>38</td>
<td>15</td>
<td>30</td>
</tr>
<tr>
<td>Secondary school</td>
<td>11</td>
<td>22</td>
<td>18</td>
<td>36</td>
</tr>
<tr>
<td>Senior high school</td>
<td>18</td>
<td>36</td>
<td>13</td>
<td>26</td>
</tr>
<tr>
<td>Undergraduate degree</td>
<td>2</td>
<td>4</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total participants</strong></td>
<td>50</td>
<td></td>
<td>50</td>
<td></td>
</tr>
</tbody>
</table>

In all three villages the vast majority of respondents were male (74 per cent males compared to 26 per cent females). The respondents were predominantly local community members of Timorese nationality. This group accounted for 98.7 per cent compared to the foreign respondents who accounted for 1.3 per cent. The age groups in the survey ranged from 17–25 to 46–70 years, with some differences in the dominant age groups in the villages. Among the respondents in Vila Maumeta and Bikeli, the largest group had completed primary school as the highest level of education (38 per cent and 21 per cent, respectively). Among the respondents in Beloi, the largest group had been educated to secondary school level (36 per cent). Those who had attained a
higher education level were educated to Bachelor degree level, with only six per cent in Beloi and four per cent in Vila Maumeta completing this level of education.

5.4.2 Socio-Economic Profile

Table 5.2 provides a summary of the socio-economic profile and primary occupations of the survey respondents in the three case study villages.

Table 5.2. Socio-economic profiles and primary occupations of survey respondents in the three case study villages (Ataúro Island).

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Vila Maumeta</th>
<th>Beloi</th>
<th>Bikeli</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>Socio-Economic Profile</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current Primary Occupation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CBET</td>
<td>22</td>
<td>44</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Fishing</td>
<td>4</td>
<td>8</td>
<td>22</td>
<td>44</td>
</tr>
<tr>
<td>Rental computer</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Farming</td>
<td>17</td>
<td>34</td>
<td>14</td>
<td>28</td>
</tr>
<tr>
<td>Hotel</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Construction</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>NGO</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Student</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Local leader</td>
<td>3</td>
<td>6</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Livestock</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Teacher</td>
<td>2</td>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total participants</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
</tr>
</tbody>
</table>

As shown above in Table 5.2, fishing was the major primary occupation in two out of the three villages, with 44 per cent of respondents in Beloi and Bikeli undertaking fishing activities. In contrast, only eight per cent of the respondents in Vila Maumeta engaged in fishing as their primary occupation. In this village, CBET was the major primary occupation, with 44 per cent of respondents engaged in this activity.

Even though the main livelihoods of the local community in the three study villages were fishing and farming, CBET enterprises were also growing gradually in several places, in particular Vila Maumeta and Beloi. For example, in 2005, there were only two tiga roda transport operators on the island but at the time of the survey approximately eight to ten were in operation. The number of kiosks was also growing in all three villages. New CBET enterprises providing accommodation had been developed in Vila Maumeta, Adara (Beloi), Atekru (Beloi) and Bikeli. According to the survey results, CBET enterprises also support other livelihoods especially fishing and farming as the lodges and restaurants often purchase fish and agricultural products locally.
Figure 5.10 compares the net average household income per month among the three case study villages.

According to the results of the survey of local community members, most of the households in all three villages earned a monthly income in the range of US$50–100. Overall, Vila Maumeta had the highest average net monthly household income, with the highest number of households earning over US$500 compared to the other two villages. Beloi had the highest number of households earning income in the US$101–250 range.

Figure 5.11 compares the activity-based, average net household income per month among the three case study villages. With the exception of Vila Maumeta, most of the respondents were involved in fishing and farming as their main livelihood. The incomes of the respondents in these two livelihood categories were lower than the incomes in other livelihood categories including involvement in CBET enterprises, working for NGOs and raising livestock (see Figure 5.11). Local community members generally farm for self-subsistence and sell only the surplus, which is not significant income. Additionally, the island of Atauro is not a main agriculture area as it has limited productive land. Most of the available farming area is located in Beloi. In Bikeli, fishing is the local community’s major livelihood. The income from fishing is invested mostly in building houses and supporting children to attend school. According to the
researcher’s observation, the living standards in Bikeli are better than in the other villages.

CBET is a major source of income for coastal hamlets on Ataúro Island. As shown above in Figure 5.11, among all livelihoods, the highest average net household incomes per month in Vila Maumeta and Beloi came from CBET activities. In contrast, the highest source of income in Bikeli (among all livelihoods) was livestock. Fishing was also a major source of income for all three villages. While farming was a major primary occupation in all of the villages, it contributed the lowest average net household income, in comparison to monthly income from fishing and CBET.

The results indicate that CBET enterprises provided the highest average net household income per month, reaching nearly US$350 in Vila Maumeta. However, farming was the lowest average net household income per month, reaching only US$52 in Vila Maumeta compared to the other two villages. Beloi had the biggest average net income per month in farming, with almost US$20–US$43 more than the other villages. Looking at the average net income per month from fishing, Bikeli had the highest average net household income per month (more than US$150) and Vila Maumeta had the lowest average net household income per month (more than US$100). Working for NGOs in Beloi yielded the lowest average net household income per month (US$50).
5.5 Current Community-Based Ecotourism Enterprises and Activities

Figure 5.12 presents the results on the local community members’ level of knowledge and understanding of CBET activities in the three case study villages on Ataúro Island.

Figure 5.12. Level of community knowledge and understanding of CBET in the three case study villages (Ataúro Island).

From the figure, it can be seen that community awareness of CBET was highest in Beloi, followed by Vila Maumeta and Bikeli. In contrast, the lack of community knowledge and understanding of CBET was highest in Vila Maumeta, followed by Bikeli. It is noted that, across all three villages, there was a significant number of non-responses.

With regard to level of local community members’ knowledge of ecotourism, Vila Maumeta and Beloi had better levels of community knowledge in comparison to Bikeli. A successful CBET model (Tua Ko’in Eco-Village) had been established in Vila Maumeta and the local community from the neighbouring village (Beloi) was also actively involved in that CBET development. That is probably why the local community members from both villages had experience in ecotourism development. As stated by a respondent in Beloi, “Ecotourism is a type of tourism which can promote our natural resources, our culture, and benefitting our local community” (BE21, Beloi).
A total of 29 CBET owners (and activities) were recorded for the three case study villages: 22 in Vila Maumeta, five in Beloi and two in Bikeli (Figure 5.13). According to the CBET respondents, kiosks, tiga roda transport and accommodation were the most common CBET activities in all three case study villages. Vila Maumeta had the highest number of CBET activities across all CBET categories (except restaurants). In contrast, additional CBET categories in Beloi only included restaurants. CBET was the most limited in Bikeli, with kiosks being the only CBET type reported by the CBET respondents.

![Figure 5.13. Types of CBET activities undertaken in the three case study villages (Ataúro Island).](image)

In Bikeli, the types of CBET enterprises were still limited compared to Vila Maumeta and Beloi, with most CBET enterprises being kiosks. There were no lodges and restaurants available for visitors. Visitors often stayed overnight in Beloi and Vila Maumeta as both villages had a range of accommodation. Although one CBET initiative (lodge) had been developed recently in Bikeli, financial capital constraints and land issues had caused the initiative to temporarily cease. Land transport is vital to connect Bikeli and Beloi as tourist hubs; however, no CBET enterprises related to transport were offered in Bikeli due to its infrastructure challenges (i.e., steep roads in poor condition).
According to the CBET respondents, individual ownership of CBET enterprises was the primary form of ownership in all three villages (Figure 5.14). The total number of CBET enterprises was the highest in Vila Maumeta (62 per cent of total CBET). Most of these were individual-owned CBET enterprises. The number of cooperative CBET enterprises was highest in Vila Maumeta (14 per cent of total), followed by Beloi (three per cent of total). In contrast, there were no CBET cooperatives in Bikeli, with all CBET enterprises being individually owned.

**Figure 5.14.** Type of ownership of CBET enterprises in the three case study villages (Ataúro Island).

In Vila Maumeta and Beloi, there were no CBET cooperatives in the area of local transport (*tiga roda*) and kiosks. Most of the handicraft sales and production ventures were owned by cooperatives such as **Biojoia de Ataúro** (Vila Maumeta), **Koperativa Boneca de Ataúro** (Vila Maumeta) and **Grupo Harikus** (Vila Maumeta). **Boneca de Ataúro** and **Biojoia** had been operating for approximately nine years and **Grupo Harikus** had been established recently. **Boneca de Ataúro** had received assistance from the central government in the form of financial capital, equipment and training to improve the quality of the handicraft products.

Further, the CBET respondents also undertook farming, livestock and fishing activities, in addition to their CBET enterprises (Figure 5.15). In Vila Maumeta, a large number of the CBET respondents undertook additional non-CBET livelihoods (particularly farming and livestock).
Figure 5.15. Key non-CBET livelihoods in three case study villages (Ataúro Island).

As seen above in Figure 5.15, 48 per cent of the CBET respondents who were involved in CBET also farmed and raised livestock as their alternative livelihoods in Vila Maumeta. In Bikeli and Beloi, only 10 per cent and 7 per cent were involved in raising livestock, and 10 per cent and 7 per cent were involved in farming, respectively.

A majority of the local community members in all three villages who were involved in CBET enterprises also engaged in additional livelihood activities, such as farming, animal husbandry and fishing. Every household had its own plot of land for planting cassavas, sweet potatoes, maize and vegetables. The objective of this farming was mainly for personal consumption, not selling. Further, community members who were involved in CBET enterprises were also involved in small-scale livestock activities such as sustaining pigs, chickens, goats and other animals. This is part of the culture of local communities who prepare livestock such as pigs and goats for traditional ritual ceremony activities and family wedding ceremonies.

According to the local community respondents, a wide range of CBET activities was undertaken on Ataúro Island (Figure 5.16). Nature-based CBET activities were highest in Vila Maumeta. In contrast, the CBET activities in Beloi and Bikeli were dominated by lodges, local transport (including boats), kiosks, souvenirs and handicrafts. In Vila Maumeta, the local community respondents reported a low number of kiosks and
restaurants. Similarly, souvenir shops and cultural festival activities were lowest in Bikeli. The results from the local community members contrast with the results from the CBET respondents (see Figure 5.12 above) and demonstrate a general lack of knowledge about local CBET activities among community members.

![Figure 5.16](image)

**Figure 5.16.** Range of individual CBET activities undertaken in the three case study villages (Ataúro Island).

According to the results of the survey, the local community respondents and CBET respondents identified different types of CBET activities in their villages, as local community members had insufficient information about the existing CBET activities. Among the CBET activities in all three villages, there were no activities involving scuba diving, recreational fishing, marine wildlife watching, scientific research, mountain hiking, and terrestrial flora and fauna. The existing CBET activities were only related to lodges, handicrafts, transport, kiosks, mini markets, traditional textiles and traditional singing groups.
5.6 Benefits of Community-Based Ecotourism Enterprises and Activities

The overwhelming majority (94–98 per cent) of the local community respondents in the three villages reported that CBET was important for their local economy (Figure 5.17). Only a small number of respondents (2 per cent) in Beloi and Bikeli indicated that there were no local economic benefits from CBET activities. Across the three villages, only a few respondents were unsure about whether or not CBET was important for the local economy.

![Figure 5.17. Community opinion on the importance of CBET for the local economy in three case study villages (Ataúro Island).](image)

The local community members’ positive perceptions about the importance of CBET for the local economy were likely to be due to two factors. First, Tua Ko’in Eco-Village provided a good example to all the residents on the island as an ecotourism initiative that can improve the local economy and preserve the local culture and natural resources. The success of this initiative inspired local communities in other villages to establish their own CBET enterprises. Second, the growing CBET initiatives, particularly in Vila Maumeta and Beloi, had created a number of income-generating opportunities, including farming, fishing, livestock and local transport for local people. Therefore, it was not surprising that the respondents in the three villages realised that CBET initiatives played an important role in their local economy.
According to the 29 CBET respondents, CBET was a major contributor to local employment through a range of village activities (Figure 5.18). Local handicrafts, mini markets, eco-lodges and restaurants (in order of priority) were identified as the major sources of employment through CBET activities. Vila Maumeta had the highest number of people employed in CBET activities for all three villages and across all CBET categories except eco-lodges and restaurants. Beloi had the highest number of people employed in eco-lodges and restaurants.

![Figure 5.18](image)

**Figure 5.18.** Number of persons employed in CBET activities in the three case study villages (Ataúro Island).

The survey results showed that handicrafts had the highest number of employees compared to other types of CBET activity, with 74 people in Vila Maumeta employed in handicrafts. Local transport (*tiga roda*) had the lowest number of employees, with only one person employed by a transport provider (in Vila Maumeta).

As shown above in Figure 5.18, CBET in the form of handicrafts accounted for the lowest number of CBET enterprises in comparison to mini markets and kiosks. However, in terms of its contribution to job creation, handicraft was the highest provider of employment on the island. *Boneka Ataúro* handicraft in Vila Maumeta was
the biggest supplier of jobs. In the category of eco-lodges, Barry’s Place in Beloi was the largest contributor of employment.

According to the CBET respondents, Vila Maumeta had the highest net monthly income for CBET activities of all three villages (Figure 5.19). This income was largely derived from mini markets, followed by handicrafts, lodges and kiosks. The singing group in Vila Maumeta contributed the lowest monthly net income (US$50 per month). In Beloi, the highest net income was earned through *tiga roda* compared to other types of CBET (e.g., restaurants, kiosks).

![Figure 5.19](image)

**Figure 5.19.** Average net monthly income (US$) from CBET activities in the three case study villages (Ataúro Island).

In Vila Maumeta, two mini markets (i.e., *Manu Tasi* and *Fitun Galilea*) had the highest net income per month (US$3,200). These mini markets sell a comprehensive range of basic needs compared to other small kiosks in the other two villages. Basic needs are important necessities for all local communities on the island. Local people prefer to purchase basic goods on Ataúro rather than in Dili, which incurs greater cost. The mini markets are not reliant on tourists, unlike lodges and handicrafts which are very much dependent upon the tourist season. In other words, if tourist numbers decline then it is likely to affect the net income of CBET initiatives in accommodation and handicrafts.
According to the local community respondents in all three villages, CBET had contributed significantly to local livelihoods and poverty alleviation (Figure 5.20). The majority of respondents in Vila Maumeta, Beloi and Bikeli reported that CBET had contributed to local job opportunities, sales of local produce and utilisation of local transport. In addition, CBET had provided an additional source of income, utilised local construction materials and enabled workforce training. Although workforce training was the lowest of all categories of benefits, the reported level of benefit was high, with 24 per cent, 34 per cent and 31 per cent of the respondents in Vila Maumeta, Bikeli and Beloi reporting this benefit, respectively.

![Figure 5.20. Community perceptions of the contribution of CBET to local livelihoods and poverty reduction in the three case study villages (Ataúro Island).](image)

According to the survey results, CBET initiatives were the biggest job contributor on the island compared to other sectors. At the time of this study, there were no small or medium primary industries on Ataúro to create jobs except CBET. CBET had also made local products, such as agricultural products, handicrafts, fish and livestock, readily marketable. CBET activities provided extra income for fishermen who can rent out their fishing boats to visitors. Further, the vast majority of lodges used local materials, such as timber, thatch, coconut leaf and bamboo, for construction. In terms of local transport on the island, there had been an increase from 2005 to 2014 due to increasing visitor demand.
5.7 Impacts of Community-Based Ecotourism Enterprises and Activities

The majority of the local community respondents (68–80 per cent) in the three case study villages reported that CBET enterprises had limited or no negative environmental, social or cultural impacts (Figure 5.21). In Vila Maumeta, there were very few respondents who did not know whether or not CBET activities had negative impacts. On the other hand, 22 respondents (44 per cent of respondents) in Bikeli and Beloi claimed that CBET enterprises had a negative impact on local cultures. The specific issue was the wearing of bikinis. All the respondents affirmed that there had been no disturbances to local customs, cultural activities or ceremonies in any of the three villages.

![Figure 5.21. Community perceptions of the negative environmental, social and cultural impacts of CBET in the three case study villages (Ataúro Island).](image)

The number of visitors on Ataúro Island is still limited in comparison to other popular tourist destination islands in the region, such as the islands of St Lucia, Palau and Bali; therefore, the environmental, social and cultural impact of tourism remains very low. The survey results did, however, reveal local community concern regarding the socio-cultural impact of CBET activities, specifically related to wearing bikinis in Bikeli and
Beloi as a consequence of lack of information for tourists who come to the island about the inappropriateness of wearing bikinis.

A local community member in Bikeli described the issue of wearing bikinis as follows: “Our concern is tourists who come to our place by wearing inappropriate swimwear [bikinis], while they are going to the beach, this kind of thing is still unacceptable to our society here” (BI37, Bikeli).

The local NGO, ROLU, has supported local communities and visitors by running tourism awareness campaigns, not only on the socio-cultural impacts of tourism, but also on environmental issues related to tourism activities. ROLU and local leaders have also established their own regulations and a tourism handbook to minimise the negative socio-cultural and environmental impacts of tourism on the island.

Low numbers of respondents reported unsustainable fishing, damage to coral reefs, pollution, littering and erosion as negative impacts from CBET. However, unsustainable fishing and damage to coral reefs have become issues for local NGOs and the central government, especially as local fishermen frequently used dynamite fishing during the era of Indonesian occupation. This practice posed a significant threat to marine ecosystems and fishing populations. Other threats to the marine ecosystems include the hunting of marine mammals such as dugongs and turtles for local consumption and the use of turtle shells to make handicrafts (e.g., jewellery and replicas of boats). Even though local communities throughout the island have been informed about marine wildlife conservation, the ongoing economic difficulties mean that local people, particularly fishermen, continue to endanger marine wildlife.

In terms of disturbance to local customs, no significant issues were raised by the local community respondents in any of the villages. The local communities have been well informed by local NGOs and religious leaders and are able to spread information to the tourists visiting their village to respect the local culture and traditional sacred sites. There are a number of certain sacred places that tourists are not allowed to visit, such as several sacred places in Maker (see Figure 5.6 above). CBET owners have adequate information about the sites that can and cannot be visited by tourists, and local tour guides are available for visitors if necessary.
5.8 Summary

The five villages on Ataúro Island, namely, Vila Maumeta, Beloi, Bikeli, Makadade and Makili, have significant potential in ecotourism owing to their natural, historical, religious and cultural assets and values. The participatory mapping results indicate that marine and coastal ecotourism are the main tourism attractions in terms of marine wildlife watching, diving sites and recreational beaches on the island. These ecotourism assets are more significant ecotourism attractions than other ecotourism assets, including the historical, religious and cultural assets. However, infrastructure and accessibility remain significant challenges for Ataúro Island in developing its ecotourism, particularly in Makadade Village and Makili Village.

The socio-economic data on the case study villages of Vila Maumeta, Beloi and Bikeli indicated that the main livelihoods in Vila Maumeta, Beloi and Bikeli the three villages were fishing and farming; however, CBET enterprises were increasing steadily in several places, specifically in Vila Maumeta and Beloi. Vila Maumeta had a higher monthly household income compared to Beloi and Bikeli. Vila Maumeta and Beloi had the highest average net household income per month from CBET enterprises and Bikeli had the lowest number of CBET enterprises compared to Vila Maumeta and Beloi. Local community members in the three villages who ran CBET activities also engaged in alternative livelihoods, namely, farming and fishing.

Most of the CBET enterprises in the three villages were individually owned. CBET initiatives in the area of handicrafts had the highest number of employees in Vila Maumeta, compared to other types of CBET initiatives in Beloi and Bikeli. CBET had contributed significantly to local livelihoods and poverty alleviation through job opportunities and the purchase of local produce and local transport services, as well as providing an additional source of income and utilising local construction materials. However, local communities, in particular in Beloi and Bikeli, were concerned about CBET activities that had created socio-cultural issues in the host communities, such as wearing bikinis.
Chapter 6
Community-Based Ecotourism Planning and Management
on Ataúro Island

6.1 Introduction

This chapter presents the results of the questionnaire survey conducted in Vila Maumeta, Beloi and Bikeli Villages with local community members and those involved in CBET initiatives to explore their views on CBET planning and development. The results are presented in five sections addressing: the key issues and constraints of CBET programmes; the sustainability of CBET planning and development; future CBET planning and development; the success factors in CBET planning and development; and the success and failure factors of ecotourism development (Sections 6.2 to 6.6). SWOT analysis was also conducted to identify the ecotourism development strengths, weaknesses, opportunities and threats on Ataúro Island (Section 6.7).

6.2 Key Issues and Constraints of Community-Based Ecotourism Programmes

According to the survey of local community members, there are a number of key challenges in CBET planning, development and management in Vila Maumeta, Beloi and Bikeli (Figure 6.1). The vast majority of respondents reported that land ownership disputes, closely followed by a lack of human resources and capacity, were the major issues facing CBET development in the three villages, with 100 per cent of the respondents from Villa Maumeta and Bikeli reporting that land ownership was a key issue in CBET development.
Figure 6.1. Current perceived challenges, issues and limitations in CBET planning, development and management in the three case study villages (Ataúro Island).

Land ownership is not only an issue on Ataúro Island but also more generally across Timor-Leste as a whole. The country does not have land laws to deal with this issue and there is no system to provide formal certificates for those who are entitled to land rights. On the island of Ataúro alone, CBET initiatives and other developments frequently encounter land ownership issues because there is uncertainty regarding land ownership and possession. A number of land disputes have occurred on the island, many of which have involved CBET initiatives including Barry’s Place (Beloi), E-papana Eco-Lodge (Bikeli) and Tua Ko’in Eco-Village (Vila Maumeta). In the case of the Tua Ko’in Eco-Village, the traditional owner demanded there be no extension of the property lease even though he had no official certificate to verify a right to land tenure. This case remained unresolved at the time of writing.

A lack of understanding about business among members of the community was identified as an inhibitor of CBET development. Local communities have limited experience and knowledge about ecotourism business in terms of how to make their business sustainable in the long term and how to compete with non-CBET enterprises in the area of services, hospitality and marketing. Another challenge for CBET initiatives is that they often face a lack of financial capital to improve and expand their activities. In Adara, for instance, Mario’s Place planned to add more rooms to meet growing
demand; however, insufficient financial capital was a major barrier to achieving this vision. In addition, one respondent reported that the major challenge to CBET development on the island was a “lack of electricity power, transport and water supply” (BE33, Beloi).

6.3 Community-Based Ecotourism Planning, Development and Sustainability

6.3.1 Planning and Management of Existing Community-Based Ecotourism Enterprises

According to the survey results, the vast majority of community respondents did not know whether or not the local government has a strategic approach for sustainable tourism planning and management in the three villages (Figure 6.2). Across the three villages, 22–30 per cent of respondents stated that there was no strategy at local government level for sustainable tourism in their village. Only two per cent of the respondents in Vila Maumeta and Beloi reported that local government has a strategy for sustainable planning and development, with none of the respondents in Bikeli believing that any such strategy is in place.

![Figure 6.2. Community knowledge of local government strategy for sustainable tourism planning and development in the three case study villages (Ataúro Island).](image)

These results reflect the reality, according to the document review conducted in this study, that the local government has no strategic plan for developing CBET. In addition, at the central government level, there is a policy broadly related to tourism development but nothing specifically focused on CBET. Nevertheless, ecotourism is identified
considered as one of the country’s most important niche markets in the *Timor-Leste Strategic Development Plan 2011–2030* (RDTL, 2011). CBET needs to be well planned through long-term strategies established and endorsed by government. An example of this approach is Hainan Island in China, where the Provincial Government has clear ecotourism policies and strategies to support ecotourism development and maintain its sustainability: the island is now one of the prominent ecotourism destinations in China (Stone & Wall, 2004).

Figure 6.3 identifies the key initiator of CBET enterprises, with local NGOs identified as the primary initiator in all three villages. In Vila Maumeta, the majority of community members claimed that the local NGO was the pioneer of CBET, followed by the local community (cooperative) and individual community members. In Beloi, half of the respondents stated that the local government was the initiator of CBET in their village.

![Figure 6.3. Initiator of existing CBET enterprises, according to survey respondents in the three case study villages (Atauro Island).](image)

The first CBET initiative on Atauro Island was Tua Ko’in Eco-Village which was established in 2002. Located in Vila Maumeta, it was developed by the local NGO, ROLU, which has played a proactive role in ecotourism development and advocacy on the island. Local communities have also taken the initiative of establishing CBET
initiatives without assistance from organisations. Most of the CBET enterprises initiated by individual community members were in the form of kiosks, handicraft production and sales, accommodation, restaurants and local transport.

As shown in Figure 6.4, the survey respondents in all three villages reported that the CBET activities on Ataúro Island are largely regulated and managed at the community level, by local NGOs, local government and the local community (i.e., by cooperatives and individuals). It was reported that central government, international agencies and conservation NGOs have limited or no roles in the management of local CBET activities in the three case study villages.

![Figure 6.4. Regulation and management of existing CBET activities, according to survey respondents in the three case study villages (Ataúro Island).](image)

As seen above in Figure 6.4, 66–82 per cent of the respondents reported that CBET was more likely to be regulated and managed by local NGOs than by other organisations. None of the respondents believed that the central government played a role in CBET regulation and management. In the case of Tua Ko’in Eco-Village CBET enterprise, it was initiated by ROLU, which also regulated and managed it. The positive outcome of CBET enterprises managed by local NGOs such as ROLU is likely to have convinced the local community that local NGOs are more capable of regulating and managing CBET on the island than other organisations. Several CBET initiatives have also been
successful in regulating and managing their own businesses such as Boneca Ataúro, Trisan House and Barry’s Place.

According to the community members’ responses, there were few co-management agreements for CBET activities on Ataúro Island (Figure 6.5). The reported number of agreements was highest in Vila Maumeta (nine), which was more than twice the number of agreements in Bikeli (four) and Beloi (five). However, general community awareness of existing agreements may be low. Approximately 60 per cent (i.e., 30 of the 50) of the respondents in Vila Maumeta did not know whether or not formal co-management agreements were in place to assist CBET activities in their village. In Beloi and Bikeli Villages, the vast majority of community respondents (74 per cent) said that there were no co-management agreements to assist CBET development.

The survey results reflect the reality that, as at the time of the survey, there were no formal co-management agreements, local forums or cooperatives in any of the three villages to support CBET development. The island had only recently established a tourism association, called the Ataúro Tourism Group, as an umbrella organisation for all CBET and general tourism enterprises. The objective of the Ataúro Tourism Group is to define future tourism development and address tourism challenges.

![Figure 6.5. Existence of co-management agreements to assist CBET, according to survey respondents in the three case study villages (Ataúro Island).](image-url)
When asked how problems in CBET development can be overcome, the overwhelming majority of the community respondents (94%) across the three villages stated that mediation conducted by local leaders and authorities and traditional approaches were the best ways to solve problems in CBET development (Figure 6.6). In contrast, in Bikeli, more than half of the respondents (68%) stated that CBET problems must be addressed through legal action (the courts).

![Figure 6.6. Approaches to problem resolution in CBET development, according to survey respondents in the three case study villages (Ataúro Island).](image)

The local communities on Ataúro Island have preserved the tradition of solving minor and serious problems through the intervention of traditional leaders, local leaders and local authorities rather than directly through legal action. Community members usually prefer to find a solution through dialogue among local leaders. In the case of Tua Ko’in Eco-Village, for example, the traditional owner and ROLU have been trying to resolve the land dispute through dialogue and assistance from local leaders as well as through mediators from the Ministry of Tourism.

The majority of local community respondents in Vila Maumeta (31 respondents) claimed that there were major problems in CBET planning, establishment and management. In Beloi and Bikeli, 23 respondents and 14 respondents held this view, respectively (Figure 6.7). Many of the respondents in Bikeli (29 out of 50) did not know whether or not there were problems with the planning, establishment and management
of CBET. Only five, seven and twelve respondents in Vila Maumeta, Bikeli and Beloi, respectively, reported that there were no issues in the planning, establishment and management of CBET.

![Figure 6.7. Major problems during planning, establishment and management of CBET, according to survey respondents in the three case study villages (Ataúro Island).](image)

The main problems in CBET establishment were typically land tenure issues, financial constraints and a lack of human resources. Land disputes and lack of financial capital had led some CBET initiatives to suspend their operations and expansion. For instance, in Bikeli, the development of the E-papana Eco-Lodge had stopped due to land disputes and lack of finance to complete its construction. As one respondent explained, “Land issues and a lack of human resources are the challenges in CBET planning and development. We need land law, government should help us in providing training in tourism” (BI48, Bikeli). Another typical problem is inadequate knowledge and experience in CBET business. Several CBET businesses in lodging and catering often lose customers as they do not know how to provide adequate services to meet their customers’ wants and needs.
6.3.2 Level of Support for Existing Community-Based Ecotourism Planning and Development

Figure 6.8 presents the results on the specific type and level of assistance and training support required for CBET development, according to the survey respondents. Support for existing CBET enterprises was identified across a range of assistance categories in Vila Maumeta and Bikeli. Basic business management training, financial support, marketing and promotion were identified as the main forms of assistances that were needed by CBET enterprises. In Beloi, the respondents identified three types of necessary development assistance, namely, financial support, language skills training and basic business management training.

![Figure 6.8. Level and type of assistance and training needed for CBET development, according to survey respondents in the three case study villages (Atauro Island).](image)

Various forms of assistance are needed by CBET enterprises in all three villages to help the businesses become successful and sustainable over time. According to the survey results, CBET enterprises lack knowledge and experience in tourism business management and the promotion and marketing of their products and services, as well as requiring extra financial capital to support their initiatives. Most CBET enterprises in lodging and catering have not received any training in the area of basic business management, hospitality, promotion and marketing from the government or other
organisations. Figure 6.9 shows the types of organisations supporting CBET initiatives, according to the CBET respondents in the three villages.

![Figure 6.9. Type of organisation supporting CBET development, according to survey respondents in the three case study villages (Ataúro Island).](image)

According to the CBET stakeholders, very little support had been provided to assist existing CBET enterprises. No support had been provided by private sector organisations to CBET in Vila Maumeta, Bikeli and Beloi. No support had been provided by any other organisations to CBET in Bikeli. In Vila Maumeta, 14 per cent of the CBET respondents reported that they had received support from the central government, compared to Bikeli where none of the respondents and Beloi where only about three per cent of the respondents reported that they had received central government support.

CBET enterprises in Vila Maumeta had received the highest level of CBET support from different organisations including government and international organisations (e.g., the ILO and AusAID). The CBET ventures that had been assisted in Vila Maumeta included accommodation (Vila Gracia), a traditional singing group (*Zona Mesak*), kiosk (Fitun Galilea), lodging and restaurant (Manu Koko) and handicraft producer (Boneca de Ataúro). These CBET initiatives have been supported by government and international organisations, with the type of support varying from financial assistance to capacity-building programmes.
Figure 6.10 shows the results on the type and level of support provided by the central government for CBET in all three villages. The community member participants mostly reported that the central government had provided no support for sustainable tourism development (34, 33 and 26 respondents in Vila Maumeta, Bikeli and Beloi, respectively). Some respondents from the three villages stated that the central government had supported sustainable tourism development through promotion and integration with conservation and/or protected areas. In Beloi, 12 respondents reported that the central government had supported CBET through the promotion of protected areas, compared to four respondents and two respondents in Bikeli and Vila Maumeta, respectively.

![Figure 6.10. National government support for assisting and promoting sustainable tourism development, according to survey respondents in the three case study villages (Ataúro Island).](image)

The central government had supported sustainable tourism development by establishing protected areas in Makadade (Manu Koko Mountain) under *UNTAET Regulation No. 2000/19*. However, basic infrastructure within the protected area had not been developed. Moreover, at the time of writing, the central government, through the Ministry of Agriculture and Fisheries, was working on establishing the first MPA in Vila Maumeta as a pilot project. According to the project timeline, the MPA was planning to be declared officially in 2014.
Figure 6.11 illustrates the type and level of local government support provided for sustainable tourism development in all three villages. Many of the community member participants across the three villages reported that the local government had offered no support in assisting and promoting sustainable tourism development (50%, 40% and 30% in Vila Maumeta, Beloi and Bikeli, respectively). Some respondents asserted that local government had provided support by promoting environmental conservation (11, 12 and 7 out of the 50 respondents in the villages of Vila Maumeta, Beloi and Bikeli, respectively).

![Figure 6.11. Local government support for assisting and promoting sustainable tourism development, according to survey respondents in the three case study villages (Ataúro Island).](image)

In terms of promoting sustainable tourism development on the island, the local government is often reliant upon the central government’s policies and regulations. It is also limited by human resources and has few resources to assist or promote sustainable tourism development.

As shown in Figure 6.12, the respondents reported that local NGOs provided support in assisting and promoting sustainable tourism development in the three villages, in contrast to the lack of support from other organisations such as the central government (see Figure 6.10 above). Most of the respondents claimed that local NGOs had contributed in various areas, including sustainable tourism advocacy, promotion of...
environmental conservation and the provision of training and education in sustainable tourism.

Figure 6.12. Local NGO support for assisting and promoting sustainable tourism development, according to survey respondents in the three case study villages (Ataúro Island).

The survey responses confirm this study’s analysis in the document review that local NGOs play an important role in assisting and promoting sustainable tourism development on Ataúro Island. For instance, ROLU set up the Tua Ko’in Eco-Village, which became a role model across the country. ROLU also assisted the local community and local leaders in establishing their own ecotourism regulations in order to minimise the negative impacts of tourism activities on the local culture and environment. Move Forward also actively worked in collaboration with ROLU in establishing MPAs in Bikeli. Move Forward also provides mangrove conservation programmes and capacity-building programmes such as computer skills and English language training.

According to the community respondents, international NGOs had provided no support in assisting and promoting sustainable tourism development in the three villages (Figure 6.13). The highest numbers of respondents who asserted that international NGOs had provided no support were in Bikeli and Beloi (24 and 21 respondents, respectively). A few respondents in each of the villages stated that international NGOs had provided a range of support, such as advocacy in sustainable tourism, promotion of environmental
conservation/protected areas, and training and education in sustainable tourism. Several respondents did not know what types of support had been provided by international NGOs.

![Figure 6.13. International NGO support for assisting and promoting sustainable tourism development, according to survey respondents in the three case study villages (Ataúro Island).](image)

The survey responses confirm the conclusion from the document review that there were no international agencies undertaking any sustainable tourism programmes on Ataúro Island at the time of this study. However, local NGOs such as ROLU and Move Forward had obtained financial assistance from the Government of Timor-Leste and from international organisations including AusAID, USAID and the ILO. This financial support was utilised not only for sustainable tourism programmes but also for environmental conservation programmes on the island and for community development in the areas of health, education and water supply systems.

According to the community respondents from all three villages, the private sector had offered no support in assisting and promoting sustainable tourism development (Figure 6.14). A few respondents in the three villages claimed that private sector organisations had supported the promotion of environmental conservation. In Vila Maumeta, 40 per cent of the respondents did not know whether the private sector had assisted in promoting sustainable tourism development in their village.
Figure 6.14. Private sector support for assisting and promoting sustainable tourism development, according to survey respondents in the three case study villages (Ataúro Island).

There are very few private sector organisations involved in ecotourism on Ataúro Island and most of these are based in Dili. Few of the private sector organisations have particular programmes for assisting and promoting sustainable tourism development. One exception is the private sector tourism venture based in Dili called Compass Charters which offers diving activities and accommodation in Adara in the northern part of the island and has supported local communities to establish CBET initiatives. For example, at the time of this study, the company was helping a local community develop the skills to build lodgings using local building materials and resources.
6.4 Future Community-Based Ecotourism Planning and Development

6.4.1 Community-Based Ecotourism Planning and Development

Figure 6.15 presents the results on local community aspirations for establishing new CBET enterprises. The overwhelming majority of the community respondents in all three villages wanted new CBET enterprises developed in their village (96 per cent, 94 per cent and 88 per cent in Vila Maumeta, Bikeli and Beloi, respectively). It is noted that 12 per cent of the respondents in Beloi were unsure about further CBET development in their village.

![Figure 6.15. Community aspirations for developing new CBET enterprises, according to survey respondents in the three case study villages (Ataúro Island).](image)

The survey results indicate that local community members in all three villages were enthusiastic about developing more CBET initiatives in their villages. They believe that CBET can create new job opportunities and new markets in which to sell local products. However, the challenges in establishing new CBET initiatives include lack of financial capital, lack of knowledge and expertise, and land ownership issues. Local communities hope to receive assistance from the central government and other organisations in the form of financial capital. Due to insufficient financial capital, a few local people who have land near the seaside have leased their property to foreigners who establish new tourism ventures.
The vast majority of respondents in all three villages reported that they prefer CBET development to mass tourism in their villages (Figure 6.16). The highest number of respondents with this view was in Vila Maumeta. A few respondents did not know whether CBET or mass tourism was the best choice for their village.

![Figure 6.16](image.png)

**Figure 6.16.** Community aspirations for future tourism development (CBET or ‘mass tourism’), according to survey respondents in the three case study villages (Ataúro Island).

ROLU has informed local communities about the advantages and disadvantages of ecotourism and mass tourism. For example, as part of a sustainable tourism development campaign, the NGO produced a booklet containing information on how ecotourism can benefit the local economy, preserve the local culture and conserve the local environment. At the time of this study, ROLU planned to organise a large workshop involving NGOs, CBET enterprises, local leaders from five villages, local authorities, religious representatives and the central government. The objective of the workshop was to define ecotourism as the suitable model of sustainable tourism that can be developed on the island. The workshop was being organised in response to concerns among local communities and NGOs about the future of tourism development following the island’s designation as a special economic zone under the Timor-Leste Constitution.

Local community members in all three villages believed that CBET development needs to be regulated in order to minimise its negative socio-cultural and environmental impacts (Figure 6.17). An overwhelming majority (just less than 95 per cent) ‘strongly
agreed’ or ‘agreed’ with the need for regulations to minimise the environmental and socio-cultural impacts of CBET activities. Very few respondents ‘disagreed’ that CBET needs regulation and management. The survey responses indicated a strong community commitment to the sustainability, regulation and management of CBET activities on Ataúro Island.

**Figure 6.17.** Need for CBET to be regulated to minimise negative environmental and socio-cultural impacts, according to survey respondents in the three case study villages (Ataúro Island).

According to the study's analysis, Ataúro Island has established its own regulations on ecotourism development; however, the regulations have not been fully implemented and are not legally binding. It is therefore the hope of the local communities in all three villages that the central government, specifically the Ministry of Tourism, can establish special regulations to regulate all CBET enterprises around the country and provide proper guidelines to minimise the impacts on local cultures and environments. Such regulations would, for example, require all CBET enterprises to be certified. Without certification, anyone can claim that the tourism activities they offer are categorised as CBET.

As shown in Figure 6.18, most of the respondents in all three villages had suggestions about how the government can improve CBET development and support local communities to participate in CBET development. The village with the highest number of participants with suggestions was Vila Maumeta. Very few respondents across the three villages had no suggestions about how government could support CBET.
development. For example, one of the local community respondents stated that “Government needs to create CBET policy to support locals who had initiatives, modernise basic infrastructure, establishing more water transports, and promote ecotourism on the island” (VM28, Vila Maumeta).

Figure 6.18. Suggestions on how government can support local people to develop CBET, according to survey respondents in the three case study villages (Atauro Island).

As stated previously, at the time of the study, there was limited support from central government for CBET-initiated development in terms of financial assistance and capacity-building programmes. Further, the Ministry of Tourism had no short, medium or long-term strategies for CBET development. Several local leaders and local communities had presented proposals to the central government seeking support for CBET initiatives, but there had been no response.

The vast majority of community respondents in all three villages viewed local NGOs as the best organisations to plan and manage CBET development (Figure 6.19). Vila Maumeta had the highest number of respondents in agreement with this statement compared to the other two villages. Other respondents stated that it is also important for local community groups (cooperatives) and individual community members to plan and manage CBET development in the villages.
In addition to CBET management and planning, local NGOs on Ataúro Island have produced positive results from CBET initiative developments, such as Tua Ko’in Eco-Village in Vila Maumeta. In addition, local NGOs are more proactive in community development and environmental conservation programmes in comparison to other organisations, including government agencies, private sector organisations and international NGOs. Consequently, local communities consider local NGOs to be more responsible in managing CBET than other organisations. Moreover, the results indicated that other organisations, such as national and local government agencies and international NGOs, offered little support for sustainable tourism development on Ataúro Island (as presented in Figures 6.10, 6.11 and 6.13 above) and private sector organisations provided no support at all (Figure 6.14 above).

6.4.2 Support for Community-Based Ecotourism Development

As shown in Figure 6.20, most of the respondents in the three villages reported that specific assistance from local and national government authorities was required to establish CBET, particularly technical assistance and training in enterprise development and co-management. Bikeli had the highest number of respondents requesting training in enterprise and co-management (44 respondents) and technical assistance to establish
CBET (46 respondents). Few respondents identified the provision of comparative studies on CBET as a useful form of support. As stated by one of the respondents, “National and local government need to help the existing CBET initiatives which have been established on Ataúro Island as our local community still have many limitations” (VM01, Vila Maumeta).

![Figure 6.20. Ways in which authorities (local and national government) can assist in establishing and supporting CBET in the village, according to survey respondents in the three case study villages (Ataúro Island).](image)

According to this study’s analysis, local communities in all three villages need specific support in initiating and establishing successful CBET enterprises. Most local people still lack knowledge and experience in CBET management. For example, for CBET in rural areas such as Adara (Beloi), local communities have insufficient information about ecotourism development, particularly how to promote and market their CBET initiatives.

### 6.4.3 Customary Laws in Community-Based Ecotourism Development and Management

The majority of the community respondents in Bikeli (88 per cent) and Beloi (80 per cent) believed that customary law can be used to protect the environment from tourism activities and other human activities (Figure 6.21). However, several respondents in Vila Maumeta and Beloi held the view that customary laws cannot be used to protect the environment from tourism activities.
In Timor-Leste, customary law (*tara bandu*) is a system of traditional regulation that has been used for many generations. On Ataúro Island, several areas have implemented customary law, specifically in Bikeli and Beloi. Local communities believe that *tara bandu* can help them to protect their resources. When a palm or coconut leaf is placed in a way and in a certain place, it means that the place has been protected and nothing must be taken from it. If an individual wants to enter or collect something from these areas, they must request permission from the owner. A person guilty of breaking *tara bandu* will be fined by having to hand over a certain number of livestock depending on the seriousness of the incursion. Figure 6.22 presents the results on the main function and use of customary law in Vila Maumeta, Beloi and Bikeli.
Figure 6.22. Main purposes and uses of customary laws/regulations (*tara bandu*), according to survey respondents in the three case study villages (Ataúro Island).

The community respondents in all three villages reported that the main function of customary laws was to protect natural resources on the land and in the sea. Beloi had the highest number of respondents who stated that customary laws should be used for preserving resources compared to Vila Maumeta and Bikeli. A small number of respondents from Bikeli asserted that customary laws can also help to preserve cultural heritage.

Local communities on the island usually practice *tara bandu* to protect their natural resources from the irresponsible behaviours of some individuals towards others’ personal belongings (e.g., stealing and damaging), particularly with regard to natural resources such as trees, coconuts, bamboo and other agricultural products. *Tara bandu* is applied in mangrove conservation in Bikeli. Anecdotal evidence from the local community suggests that practising customary law to protect mangroves had significantly reduced the cutting of the mangroves for firewood. In Makadade, local communities also use *tara bandu* to safeguard nut trees and traditional bee farms.

Most of the community respondents in all three villages believed that customary knowledge, practices and laws can be used for specifically managing CBET development (Figure 6.23). The largest group of respondents who held this view was in Bikeli. Vila Maumeta had the highest number of respondents who did not know whether or not customary laws could be used to manage CBET in their villages. Only two
respondents in Beloi stated that *tara bandu* could play an important role; one of these respondents stated that “Ecotourism depends on natural resources so *tara bandu* can help to minimise the negative impact of human activities on natural resources” (BE09, Beloi).

![Figure 6.23](image)

**Figure 6.23.** Use of customary knowledge, practices and laws to manage CBET, according to survey respondents in the three case study villages (Ataúro Island).

*Tara bandu* can be used to protect and preserve the natural resources that local communities rely upon. As stated previously, Bikeli and Beloi have been effectively implementing *tara bandu* to protect their natural resources. As a form of local customary regulation still exists on the island, there is the potential to apply it in CBET management, specifically to preserve the environment from irresponsible tourism and other damaging human activities.

### 6.4.4 Potential Future Community-Based Ecotourism Activities

Figure 6.24 presents the results on the potential CBET activities that the community believed could and should be developed in the future. According to the community respondents, a wide range of potential CBET activities could and should be developed in the three villages. The majority of respondents reported that scuba diving and snorkelling, marine wildlife watching, terrestrial flora and fauna, and assisting researchers were potential CBET activities in all three villages. Only a few respondents (in Beloi and Bikeli) stated that no CBET activities should be developed in the future.
All three villages have the potential for future diving and snorkelling activities. However, according to the results of the participatory mapping (Chapter 5, Figure 5.3), Beloi has the greatest potential for scuba diving and snorkelling activities. In terms of marine wildlife watching, Makili has significant potential for cetacean watching, while Bikeli has potential sites for dugong watching. Bikeli also has the most hot spring sites on the island. While Vila Maumeta is the capital of the island, with the greatest concentration of CBET activities, including lodging, handicraft, kiosks and local transport, the community is interested in further diversification of CBET.

### 6.5 Success Factors in Community-Based Ecotourism Planning and Development

Figure 6.25 illustrates the major factors that make CBET successful according to the community respondents in Vila Maumeta, Beloi and Bikeli. As shown in the figure, an overwhelming majority of respondents reported that local community consultation and involvement as well as effective planning, regulation and management are the main factors that make CBET successful. Only a few respondents from the three villages claimed that promotion of Atauro Island as a major ecotourism destination in Timor-Leste was one of the factors that make ecotourism successful. One of the respondents
stated that the important success factors were: “Tourist education and information concerning local culture, expectations, limitations, environment, etcetera [and] control numbers of tourists” (VM16, Vila Maumeta).

Figure 6.25. Major factors that make CBET successful, according to survey respondents in the three case study villages (Ataúro Island).

Lack of local community knowledge and experience in running CBET enterprises is one of the key constraints of CBET development on the island. Local and national governments also have limited expertise and experience to support local communities in the effective planning, regulation and management of sustainable CBET. Figure 6.26 presents the local community members’ opinions on how to improve CBET planning and development to benefit the local economy and support poverty reduction.
Figure 6.26. Ways in which CBET planning and development can be improved to support local economy and poverty reduction programmes, according to survey respondents in the three case study villages (Ataúro Island).

As seen above in Figure 6.26, the large majority of community respondents suggested that CBET planning and development can be improved by actively involving local people in the decision-making. This can ensure that CBET benefits the local economy and supports poverty alleviation in all three villages. All of the participants in Vila Maumeta held this view, and 45 out of the 50 respondents in both Beloi and Bikeli also held this view.

The local communities strongly believed that if host communities are actively involved in tourism development, particularly in CBET initiatives, it can generate benefits to the local economy. The land ownership issue has also become a key challenge in CBET development in all three villages. Host communities expect the central government to establish a land law to overcome the land disputes currently faced by local communities. Several CBET enterprises have also been put on hold due to uncertainty of land ownership. Indirectly, this has affected CBET development and resulted in negative impacts on the local economy and well-being on Ataúro Island.
6.6 Success and Failure Factors of Ecotourism Development

6.6.1 Tua Ko’in Eco-Village Case Study

Tua Ko’in Eco-Village is located in Vila Maumeta on the southern coast of Ataúro Island and was established in 2002. This eco-village has eight thatched bamboo cabins and one large common room with the model of construction based on the traditional Ataúro corn-storage houses. The entire development used local materials and local builders from the island in order to benefit local people. Prior to the establishment of the eco-village, local consultations were initiated involving a number of workshops among local communities, local leaders from five villages and NGOs. The main objective of the consultations and workshops was to define the proper concept of the sustainable tourism model that can be applied to generate socio-economic benefits to the local community without ruining the environment and socio-cultural elements on the island (Figure 6.27).

![Figure 6.27](image)

*Figure 6.27. Tua Ko’in Eco-Village initiative in Vila Maumeta. Source: (a) Travel Buddy (2012); (b) Tua Ko’in (2012)*

Before initiating the eco-village scheme, local communities were well informed about the benefits and disadvantages of tourism on the island, specifically in relation to Tua Ko’in Eco-Village via consultations and workshops. Local communities and local leaders were therefore given opportunities to make their own decisions in the tourism planning stage to decide the type of tourism to be developed. Further, local community and several ROLU staff had participated in various capacity-building programmes prior to managing and operating the eco-village initiative. Preparation of the human resources before a project begins is an important step in CBET development. Local participation and human resources are vital in community development (Diamantis, 2004; Christens, 2012; Timothy, 2007); however, these factors need to be taken into consideration in the
early stages of the development of a project. If local communities have knowledge and capability, they will be able to manage their resources and will fully participate in the tourism development.

The eco-village contributed to the local economy by creating direct jobs for local community members in Vila Maumeta and other villages. Tua Ko’ín also supported PPT even though it did not significantly benefit the poor at large. The profit generated from the eco-village initiative was reinvested in several community development areas such as health, education, water and sanitation, and environmental conservation. Pedi (2007) pointed out that the CBET approach on Ataúro Island, such as Tua Ko’ín Eco-Village, had brought socio-economic and environmental benefits to the poor.

Tua Ko’ín Eco-Village became a good example for CBET development across the country in terms of its planning, management, utilisation of revenue for community development and approaches to minimising the negative environmental and socio-cultural impacts of CBET activities. The model has been followed by Haburas, a well-known national NGO based in Dili, which has applied it at the district level, including in Lautem, Liquica and Ainaro Districts. In order to implement ethical ecotourism principles, Tua Ko’ín has taken concrete actions focusing on:

- greywater recycling and permaculture in the bathing areas;
- water-efficient bathrooms;
- composting toilets;
- rubbish recycling;
- solar power;
- use of invasive du’ut weeds for grass hut roofs;
- rubbish composting for garden, use of natural building materials;
- and site design which did not require the cutting down of trees. (Pedi 2007, p. 60)

In particular, the model of toilet composting has been followed by other CBET lodges on Ataúro Island, such as Manu Koko Lodge (in Vila Maumeta) and Barry’s Place (in Beloi).

In 2011, the Tua Ko’ín Eco-Village closed, in what was supposed to be a temporary measure while ROLU and the traditional owner of the land tried to determine suitable solutions to resume operations and bring back benefits for both sides as well as the local community as a whole. The Ministry of Tourism also attempted to negotiate a resolution to the land ownership issue affecting the eco-village but, as at the time of writing, the problem remained unresolved. The provisional closure of Tua Ko’ín has affected a number of local livelihoods, such as fishermen, farmers, handicraft producers and local community members who were working in Tua Ko’ín. It is a matter of
concern that a role model for CBET in the country has failed to overcome such problems with the traditional owner. Tua Ko’in Eco-Village had begun to gain recognition from international tourists, particularly from Australia, and was listed in the 2006 Timor-Leste *Lonely Planet* as an example of ethical and ecological tourism. Tua Ko’in had applied for listing as a Green Globe 21 affiliate before it ceased operations (Pedi, 2007).

**6.6.2 Adara CBET Case Study**

There are currently two successful CBET initiatives situated in Adara⁸ (Beloi) in the northern part of Ataúro Island. The CBET is in the form of accommodation, named Mario’s Place and Adara Dive Camp (Figure 6.28). Mario’s Place is a typical Ataúro-style building, built exclusively from local materials. Built in 2012, it has three rooms and a small common room. It is owned by the Adara local community. Accommodation at the Adara Dive Camp is supported by the Dili-based, Compass Charters dive tourism company, which conducts diving and snorkelling activities in Adara. Established in 2008, with all the local building materials and workers paid for by Compass Charters, the Adara Dive Camp can accommodate up to 21 guests in five bungalows.

![Figure 6.28. CBET development at Adara – (a) Mario’s Place; (b) Adara Dive Camp. Source: Author](image)

Adara has become one of the most successful models of CBET development on the island. It can be seen that the local communities have developed their own CBET initiatives, while the private sector partnership with the local community has also been well developed. It is essential for a partnership between private sector tourism providers and the local community to share benefits in order to reduce the potential for conflict.

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⁸ Adara is one of the hamlets of Beloi Village with 277 residents in 52 households (Ataúro Subdistrict Administration Office, 2014).
(see Ashley & Jones, 2001; Duffy, 2008; Forstner, 2004; Weaver & Lawton, 2007). In the case of Adara, the decisions on CBET development were made by the local communities themselves and they own and manage the CBET enterprises alongside the private sector. All the CBET development has been created consistently through community consultation. It is therefore necessary for local community members to recognise the advantages and disadvantages of CBET activities with regard to socio-economic, environmental and cultural impacts as local people still have a lack of knowledge in tourism development. This model of CBET has brought economic advantages for the local people in Adara by creating a small number of job opportunities. The economic benefits are not only in the creation of jobs for local people but in the creation of new markets for host communities to sell their local products and services including fish, agricultural products, handicrafts and boat hire. While the economic benefits are lower compared to the benefits experienced in Vila Maumeta and Beloi, the Adara communities have experienced some benefits from the CBET initiatives. As one of the respondents stated:

Most local communities here, their main livelihoods are fishermen, but the number of fish has already declined, so we have to look at tourism as an additional livelihood for our local people—even though this lodge is not generated much cash at least every weekend local people can gain a little cash for their basic needs. (BE50, Adara, Beloi)

A number of factors have led to the success of Adara as a CBET initiative. First, all the CBET development involved local community participation; for instance, communities were involved in consultations and discussions prior to CBET establishment. This resulted in local communities being enthusiastic and supportive of the development. Second, the CBET initiatives are controlled and governed by the local communities together with the private sector. According to Yaman and Mohd (2004), for CBET to be successful, the local communities need to be empowered to control their own tourism development enterprises. This can help to reduce economic leakage. Third, the local community that runs the CBET enterprises has close links with the private tourism operator based in Dili. This partnership enables the CBET enterprise to share economic benefits as well as promote Adara as an ecotourism destination. Compass Charters regularly brings guests from Dili to Adara as one of its main tourism spots and encourages its customers to purchase food and beverages locally so that they contribute at least some money to the local economy.
The case studies of both Tua Ko’in Eco-Village and the Adara CBET initiatives have illustrated a number of similarities and differences in CBET development in terms of planning, management and governance. The similarities are that both enterprises are forms of CBET, and both involved community consultation prior to establishment, which gave the local people the opportunity to understand the advantages and disadvantages of CBET activities on the local economy, socio-culture and environment. Community consultation is an important way of encouraging host communities to participate in CBET initiatives. The consultation process allows local communities to make decisions on CBET development, including whether or not they accept the development of CBET in their village. For example, a study of CBET in the Eastern Black Sea region of Turkey found that the host population considered their participation in the decision-making stage of the ecotourism development to be important (Kaplan, 2013). According to Baral and Heinen (2007), the participation of local people in ecotourism management offers greater opportunities to identify development priorities and motivate local enterprises.

Two main factors made Tua Ko’in successful in terms of CBET initiative planning. First, the CBET began by fully consulting local communities, allowing them to have their say on the CBET development as well as giving them the opportunity to take part in the decision-making process. Diamantis (2004) states that local communities must be encouraged to participate in the early stages of public dialogue in order to allow them to influence the decision-making process and the distribution of profits from tourism development. Second, before Tua Ko’in commenced its business activities, the local people involved in the CBET management participated in capacity-building training, such as finance and administration management, language skills and hospitality. Community empowerment, effective leadership and community capacity building have been identified as imperative success factors for CBET enterprises (Manyara & Jones, 2007).

Tua Ko’in has provided significant socio-economic benefits to local people by creating jobs (in turn spreading benefits to household members), helping increase tourism awareness in 19 hamlets, and improving health, education and water supplies (Pedi, 2007). Some ROLU staff members were also paid from revenue generated through the
Tua Ko’in enterprise. During the ROLU management of Tua Ko’in, the NGO has also assisted the development of other CBET enterprises such as handicrafts, traditional massage, local transport and farming by creating market access and promoting the products and services to visitors. For example, Tua Ko’in provided booths for local handicrafts to sell their items near the eco-lodge.

The main factors leading to the temporary closure of Tua Ko’in were land ownership issues, perceptions of extensive control on the part of ROLU in managing and governing the enterprise, and suspicions among stakeholders about the distribution of the Tua Ko’in revenue. Both Tua Ko’in and the landowner have different interpretations about the lease agreement, which specified that the land must be leased only on 10-year terms and that the lease renewal depends on the traditional landowner. From the traditional owner’s point of view, Tua Ko’in should be handed over to the local community to be managed and governed because it has been controlled by ROLU for some time. From the point of view of ROLU personnel, the traditional owner has no experience and knowledge in managing a CBET business.

There are significant differences between Tua Ko’in Eco-Village and the Adara CBET enterprises in the area of management and governance. Tua Ko’in was owned by the host community and under the management of ROLU. The Adara CBET initiatives were managed and governed by local people. Although one of the Adara CBET ventures is leased by the local community to a private sector tourism operator, it remains in control of the host community. In terms of external support, ROLU had received sponsorship from international organisations, unlike the Adara CBET, which has lacked sponsorship. Consequently, Tua Ko’in had more financial capital investment and more resources to promote and manage the venture such as a website and human resources. Due to being more advanced in promotion and marketing via its website, Tua Ko’in had become recognised nationally and internationally. Adara CBET still lacks support from other organisations, which is probably a result of its remoteness, which makes it difficult for host communities to participate in networking. In terms of the CBET revenue, Tua Ko’in reinvested its profits in community development areas such as education, health, water supply and environmental conservation programmes (Pedi, 2007). Tua Ko’in also had good waste management and conservation systems as part of
its contribution to minimising the negative impacts of CBET activities; the Adara CBET does not have these advantages due to a lack of human resources and financial capital.

### 6.7 SWOT Analysis of Community-Based Ecotourism

A SWOT (strengths, weaknesses, opportunities and threats) analysis of CBET development on Ataúro Island was undertaken. The SWOT analysis was introduced in the 1960s (Learned et al., 1965) and has been used widely to identify development challenges and success factors in tourism development, such as in Fiji (Narayan, 2000) and Japan (Hiwasaki, 2006). The present study builds on a preliminary SWOT analysis of tourism development on Ataúro Island (Coimbra, 2012), but focusing specifically on CBET with an emphasis on alternative coastal-marine livelihood development.

SWOT analysis aims to identify the strengths and weaknesses of an industry or organisation and the opportunities and threats in the environment. Having identified these factors, strategies can be developed that may build on the strengths, eliminate the weaknesses, exploit the opportunities or counter the threats. The strengths and weaknesses are identified by an internal appraisal of the industry or organisation and the opportunities and threats by an external appraisal. The internal appraisal examines all aspects of the industry or organisation covering, for example, personnel, facilities, location, and products and services, in order to identify the industry’s strengths and weaknesses. The external appraisal scans the political, economic, social, technological and competitive environment with a view to identifying opportunities and threats. A variation of SWOT analysis is the TOWS matrix (Table 6.1), which is used in this study. In the TOWS matrix, the various factors are identified and then paired; for example, an opportunity is paired with a strength with the intention of stimulating a new strategic initiative (Dyson, 2004). For pro-poor CBET development on Ataúro Island, TOWS is a useful analytical framework to assist future strategic CBET planning and management.
Table 6.1. TOWS matrix (Dyson, 2004).

<table>
<thead>
<tr>
<th></th>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Opportunities</strong></td>
<td>SO Strategies</td>
<td>WO</td>
</tr>
<tr>
<td><strong>Threats</strong></td>
<td>ST</td>
<td>WT</td>
</tr>
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</table>

According to SWOT analysis, Ataúro Island has numerous strengths that can be used to develop CBET enterprises further. The island’s natural, cultural and historical values make it one of the most prominent ecotourism destinations in the country, with a number of potential ecotourism activities that can attract visitors including diving and snorkelling, trekking, marine cetacean watching, and handicraft shopping. As a result of the proactive involvement of local NGOs and host communities in CBET initiatives, CBET has increased in Vila Maumeta, Beloi and Bikeli. As discussed previously, a good example of a CBET model in Timor-Leste is the Tua Ko’in Eco-Village project, which was supported by the local NGO, ROLU. In order to contribute to sustainable tourism development, the island has established its own ecotourism regulations which are applied alongside customary law to protect the natural and cultural resources and keep crime rates low compared to the mainland. This makes Ataúro an attractive destination for visitors.

On the other hand, poor infrastructure including roads, electricity, and water and sanitation systems is a weakness of CBET planning and development on the island. These limitations have challenged CBET establishment, particularly for local people who are living in rural areas, such as Bikeli, Adara, Maker, Baruana, Arlo and Atrekru. A consequence of poor infrastructure has been uneven CBET development and benefit sharing among the villages. Another weakness is that local people and visitors still lack ecotourism awareness. For example, the local community occasionally poaches marine cetacean and turtle shells for handicrafts. These kinds of activities must be prohibited by substituting them with other livelihood options in terms of CBET initiatives to promote ecotourism. From the visitors’ side, they have insufficient knowledge about local culture and traditions. Consequently, some villagers complain about tourists’ behaviour such as walking through their village wearing a bikini which is inappropriate for local people since they hold strong in religious beliefs and traditions. Better information is required about customs and protocols through the dissemination of visitor guidelines.
and raising awareness via electronic and non-electronic media for local people and visitors.

There are many limitations on CBET development on the island that need to be considered, including land issues, government policy, strategy, regulation of ecotourism, proper management of the marine and protected areas, intensive promotion of Ataúro Island’s ecotourism, improved accessibility and visitor number controls specifically in the sensitive areas (i.e., marine and protected areas). Stakeholders have to overcome those weaknesses by creating a specific CBET strategic plan for the island.

Although the island has numerous strengths and opportunities in CBET development, it is important to identify the potential main threats that might undermine ecotourism activities, such as tourist behaviours and attitudes towards local culture; controlling visitor numbers in sensitive areas; a lack of regulation to control ecotourism activities such as diving, snorkelling and fishing; and limited preparedness for natural disasters (e.g., sea level raise, tsunami, earthquake). If SWOT analysis is implemented effectively in tourism development planning, it can help the relevant government agencies to identify and overcome the CBET weaknesses and threats, using the opportunities and strengths to achieve the main objectives of ecotourism, namely, preserving the natural and cultural resources, and generating economic benefits to host communities. The detailed SWOT analysis of CBET on Ataúro Island is presented in Table 6.2.
Table 6.2. SWOT analysis of CBET on Ataúro Island.

<table>
<thead>
<tr>
<th>Internal</th>
<th>Strengths:</th>
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<tbody>
<tr>
<td>1.</td>
<td>Ataúro has been a good model of ecotourism in Timor-Leste (e.g., Tua Ko’i’n Eco-Lodge and Barry’s Place)</td>
</tr>
<tr>
<td>2.</td>
<td>Ecotourism can help protect and preserve local culture and natural resources as well as bring economic benefits to local people</td>
</tr>
<tr>
<td>3.</td>
<td>The island is rich in marine bio-diversity, cultural heritage and history</td>
</tr>
<tr>
<td>4.</td>
<td>Ataúro is a well-known tourist destination in Timor-Leste</td>
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<tr>
<td>5.</td>
<td>Local NGOs engage and support ecotourism development (sustainable tourism)</td>
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<tr>
<td>6.</td>
<td>The local community on Ataúro Island is hospitable and welcoming of visitors</td>
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<tr>
<td>7.</td>
<td>The island offers a wide range of tourism activities including diving, snorkelling, fishing, hiking, trekking, whale and dolphin watching, craft shopping, etc.</td>
</tr>
<tr>
<td>8.</td>
<td>The level of crime is low on the island, which is an important factor for ecotourism</td>
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<tr>
<td>9.</td>
<td>Local communities place their own regulations on ecotourism</td>
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<tr>
<td>10.</td>
<td>Local communities use customary law to protect their natural resources</td>
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<table>
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<tr>
<th>External</th>
<th>Weaknesses:</th>
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<tbody>
<tr>
<td>1.</td>
<td>Local communities and visitors lack environmental awareness</td>
</tr>
<tr>
<td>2.</td>
<td>No promotion of Ataúro Island as an ecotourism destination</td>
</tr>
<tr>
<td>3.</td>
<td>Limited internal and external accessibility (transport) to/within Ataúro</td>
</tr>
<tr>
<td>4.</td>
<td>Poor infrastructure including roads, electricity, water supply, sanitation</td>
</tr>
<tr>
<td>5.</td>
<td>Limited tourism capacity (accommodation) and low quality of services</td>
</tr>
<tr>
<td>6.</td>
<td>There is no ecotourism certification framework in Timor-Leste</td>
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<tr>
<td>7.</td>
<td>Lack of government policy, strategy and regulation for the development of ecotourism</td>
</tr>
<tr>
<td>8.</td>
<td>Land tenure issues</td>
</tr>
<tr>
<td>9.</td>
<td>Lack of a strategic plan at central government level about tourism development on Ataúro and specifically ecotourism</td>
</tr>
<tr>
<td>10.</td>
<td>Lack of proper management of protected areas</td>
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<tr>
<td>11.</td>
<td>No tourism management to control the number of tourists who visit Ataúro Island</td>
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<table>
<thead>
<tr>
<th>Opportunities:</th>
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<tbody>
<tr>
<td>1. Huge potential for ecotourism</td>
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<td>2. Unspoiled coastal and marine resources</td>
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<td>3. Increasing visitors from the mainland particularly on weekends</td>
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<tr>
<td>4. Ecotourism on Ataúro Island has been recognised by many Australian tourists</td>
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<tr>
<td>5. More local communities have participated in CBET</td>
</tr>
<tr>
<td>6. Enormous opportunities for investors in developing the ecotourism sector</td>
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<td>7. Many forms of water transport have been operating, especially from the mainland</td>
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<tr>
<td>8. Tourism events, including sport fishing and traditional events, have attracted many visitors</td>
</tr>
<tr>
<td>9. Local NGOs have been actively involved in capacity building for young people (e.g., language skills, tour guiding, and hospitality services)</td>
</tr>
<tr>
<td>10. Domestic and international visitors have a positive view about ecotourism on Ataúro</td>
</tr>
<tr>
<td>11. The central government has initiated its support for community-based tourism on Ataúro Island</td>
</tr>
<tr>
<td>12. Ecotourism has created extra livelihoods for local people (e.g., sale of local products, crafts, fishing, transport)</td>
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<tr>
<th>Threats:</th>
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<tbody>
<tr>
<td>1. Tourists’ behaviours and attitudes might influence and change local traditions in the long run</td>
</tr>
<tr>
<td>2. Lack of government planning in tourism development might lead to negative impacts on the environment, society and culture in the future</td>
</tr>
<tr>
<td>3. There is a lack of support for ecotourism programmes from both the government and private sectors</td>
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<tr>
<td>4. The failure to control the number of visitors will cause social and environmental problems on the island</td>
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<tr>
<td>5. Natural disasters (e.g., sea level rises, tsunami)</td>
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<tr>
<td>6. Infrastructure development that is unbalanced with the tourism growth may threaten the environment</td>
</tr>
<tr>
<td>7. There are no regulations to control tourists’ activities (e.g., diving, fishing, snorkelling), which will threaten the natural resources</td>
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<tr>
<td>8. Too much foreign investment on the island may lead to economic leakage</td>
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</table>
6.8 Summary

Although Ataúro Island has become a role model of CBET in Timor-Leste, CBET planning, development and management are challenges on the island due to limited human resources and capabilities, land issues and financial constraints, specifically in the three main villages of Vila Maumeta, Beloi and Bikeli. Neither the local nor national government has developed sustainable tourism development strategies to guide CBET development. However, local NGOs have been proactive in supporting CBET development, and local communities now prefer to have local NGOs manage and regulate the CBET development on the island.

In terms of the level of support for existing CBET planning and development, the three main villages of Vila Maumeta, Beloi and Bikeli still need assistance in the areas of basic business management training, financial support, marketing and promotion and language skills training. Very little support has been provided by government or international agencies to help the existing CBET. Vila Maumeta has received more assistance in supporting CBET initiatives from government and international agencies compared to the other two villages.

For future CBET development, the results indicate that there is significant potential for scuba diving, snorkelling, marine wildlife watching, terrestrial flora and fauna and facilitation of research in all three villages. For CBET to be successful over time and benefit the host communities, the involvement of local people, proper planning and proper management are the key success factors. The overwhelming majority of community respondents, particularly in Bikeli and Beloi, reported that customary law (tara bandu) can be used to protect local natural resources and support sustainable tourism development.

The Tua Ko’in Eco-Village and the Adara CBET projects are useful case studies for understanding the success and failure factors in CBET planning, development and governance. The case studies reveal several obstacles to CBET development on Ataúro Island including land issues and human resource constraints. A SWOT analysis identified several factors that need to be considered in the design of CBET development strategies and the support of further CBET development on Ataúro Island.
Chapter 7
Discussion

This chapter discusses the results of the study in five main sections. The first section discusses the ecotourism values of Ataúro Island, including the natural, cultural, religious and historical assets and the ecotourism infrastructure. The second section discusses the nature of CBET enterprises on the island. The third section discusses the key issues and constraints based on the economic and livelihood benefits and environmental and socio-cultural impacts of CBET. The fourth section discusses the existing CBET planning and management issues on the island, such as land ownership, human resources, marketing and promotion, financial issues, and policy and planning. Finally, the last section discusses future directions in CBET planning and management on Ataúro Island, including priorities for CBET development, potential future CBET activities and the role of customary law in CBET management.

7.1 Ecotourism Values, Assets and Infrastructure on Ataúro Island

The results of this study confirm that Ataúro Island, off the north coast of Timor-Leste, has major ecotourism values and assets, and significant potential for ecotourism development, particularly pro-poor CBET. These findings accord with previous studies on Ataúro Island which have documented its wide range of natural, cultural and historical values (Basiuk, 2006; Coimbra, 2012; Dethmers et al., 2009; GERTIL, 2001; Pedi, 2007; UNDP & UNWTO, 2007). However, in contrast to the findings in previous studies, the current research focused specifically on identifying the diversity and extent of ecotourism values, through a survey of local knowledge and detailed participatory mapping (as discussed in Chapter 5). The outstanding natural and aesthetic values and assets on Ataúro Island (e.g., coral reefs, beaches, mountains, hot springs, caves, mangrove forests, freshwater springs, and wildlife, particularly marine megafauna and birdlife) (Coimbra, 2012; Dethmers et al., 2009; Edyvane et al., 2009; Pedi, 2007; Trainor & Soares, 2004) are confirmed in this research.

Situated within the Coral Triangle and Indo-Malay global centre of tropical terrestrial and marine biodiversity (Ministry of Agriculture, Forestry and Fisheries, 2004), Timor-Leste has high levels of terrestrial and marine biodiversity and endemism, and also a
number of threatened and endangered species (Burke et al., 2012; Edyvane et al., 2009; MED, 2011). While much of the biodiversity of Timor-Leste is relatively understudied, surveys have confirmed the significance of Timor-Leste and Ataúro Island, particularly for birdlife (Mauro, 2003), coral reefs and marine biodiversity (Dutra & Taboada, 2005; Erdmann & Mohan, 2013; Wong & Chou, 2004), marine megafauna (Dethmers et al., 2009) and herpetological fauna (Kaiser et al., 2013). Ataúro Island is recognised internationally as an important bird area, containing significant populations of threatened species endemic to the islands of Timor and Wetar (e.g., Turacoenamodesta, Treronpsittacea) (Mauro, 2003; Trainor et al., 2008). Several undescribed lizard species (Cyrtodactylus, Eremiascincus and Varanus), endemic to the island, have also recently been recorded (Kaiser et al., 2013).

The waters surrounding Ataúro Island and Timor-Leste are particularly important as a globally significant corridor for migratory marine species (Molcard, Fieux & Syamsudin, 2001). In particular, the deepwater passage of the Ombai Strait between Ataúro Island and the north coast of Timor is a major pathway for migrating marine megafauna (i.e., whales, dolphins, turtles, sharks and rays) (Dethmers et al., 2009; Double et al., 2014). The presence of significant resident birdlife and marine megafauna populations (particularly cetaceans, dugongs and turtles) underscores the significant potential for further CBET development on Ataúro Island (Dethmers et al., 2009; Edyvane et al., 2009), particularly to extend or add value to existing adventure-based tourism activities (i.e., hiking, diving and snorkelling), through bird watching and marine wildlife watching activities. The results of this study confirm the strong support and interest from local communities in developing more wildlife-based tourism on the island. The absence of any recorded crocodile sightings on Ataúro Island (Kaiser et al., 2013) also adds to the public safety appeal of marine-based ecotourism activities.

One of the key natural values and ecotourism assets on Ataúro Island is coastal and marine-based assets (i.e., beaches, coral reefs and marine wildlife) and activities (e.g., diving, snorkelling and marine wildlife watching). In a review of the state of coastal and marine tourism in the Coral Triangle region, Crabtree (2007) highlights its significance for the national and local economies of the region (particularly Malaysia, Indonesia, the Philippines and Fiji). As such, marine tourism has the potential to provide a major contribution to local economies. Cetacean watching, snorkelling and diving, in
particular, have brought significant revenues to developing countries. For example, in Raja Ampat, Indonesia, 70 per cent of the revenue from the large dive tourism industry is allocated to the development of Raja Ampat’s 89 coastal local communities, including conservation, health and education programmes (Mangubhai et al., 2012).

Ataúro Island has major cetacean populations (Dethmers et al., 2009) and has been recognised as one of the “top five” places for manta diving in the Coral Triangle region (Harvey, 2014). With 91 manta dive sites, the Maldives is a global destination for manta diving: in the 2006–2008 period, tourists undertook an estimated 143,000 dives and over 14,000 snorkelling trips each year, generating approximately US$8.1 million annual revenue (Anderson et al., 2011). However, manta diving and snorkelling activities are also having major negative impacts on the manta population in the Maldives. Therefore, the implementation of tourist education and regulations on diver numbers and behaviours is vital to minimise impacts on manta populations (Anderson et al., 2011). Other potential negative impacts of rapid coastal and marine ecotourism also need to be considered prior to developing this sector. For instance, cetacean tourism can grow rapidly, attracting a large number of visitors, but often before management measures can be put in place. An example is dolphin watching in the Mekong River at the Kampi and Chiteal Pools, Cambodia, and at Lovinna in Bali, Indonesia, where rapid growth in international visitors has contributed to significant economic benefits for local people. However, the lack of management and the growth of unregulated dolphin watching has also had major negative impacts on dolphin populations (Beasley, Bejder & Marsh, 2010; Mustika et al., 2012) and on the visitor experience (Mustika et al., 2013).

In Asia, ecotourism has become one of the fastest growing niche products in the international market (UNWTO, 2012). As a mountainous island surrounded by coral reefs, Ataúro Island has significant potential to deliver marine (dive) tourism as a core product and mountain tourism as a complementary product as recommended for Timor-Leste by the UNDP and UNWTO (2007). While dive tourism has enormous potential in Timor-Leste, the risk of economic leakage is also high. Local communities near popular diving reefs receive few, if any, benefits (UNDP & UNWTO, 2007). A number of international studies and dive tourism reviews highlight the importance of reducing economic leakage in order to benefit local communities (Daldeniz & Hampton, 2013;
Garrod & Gössling, 2008). The challenge is to re-structure dive tourism so that communities near popular dive sites receive benefits from tourism, and to protect and maintain coastal and marine tourism resources (such as the beaches, reefs and fish stocks) to ensure that the communities continue to enjoy these benefits. By adopting and promoting mountain tourism (i.e., mountain sightseeing, guided trekking, bird watching, homestays and handicrafts), dive tourists also have the opportunity to provide local economic benefits through extending and diversifying their visit to Timor-Leste.

Reflecting the complex and turbulent political, cultural and social history of Timor-Leste, the results of this study also confirm the rich cultural, historical and religious values present on Ataúro Island (e.g., sacred places, historical caves, religious monuments, indigenous Ataúrian traditional festivals and cultural sites). A number of studies have highlighted the rich cultural history of Timor-Leste, particularly indigenous communities, traditional arts and crafts and customary festivals (Barrkman, 2009; Edyvane et al., 2009; McWilliam, 2003; Palmer & de Carvalho, 2008). The results of the present study also confirm the presence of a wide range of cultural handicrafts, practices, customs and events, including a nut festival on Ataúro Island, as well as a particularly strong historical and cultural tradition of boat building, wood-carving and pot-making (Avelino Fernandes, personal communication). Much of this cultural heritage, however, is poorly documented. Further, visitors need to appreciate fully the values of these assets for them to be protected from irresponsible behaviour (Hall & Page, 2006; Honey, 2008; Kiper et al., 2011). Today, Ataúro continues to be the most important fishing and boat building location in Timor-Leste (Mills et al., 2013). The diversity of its cultural and historical values and assets will enable individual local communities to develop a range of potential CBET enterprises. As well as restaurants, accommodation, transport and trade (kiosks), local communities can also potentially establish cultural and adventure tourism enterprises such as local tour guiding, hiking, horseback riding and pottery. The results of the study also indicate that there is the potential to attract visitors for hiking, trekking, climbing, landscapes, nature, parachuting, diving and snorkelling in the eastern and southern parts of the island such as Makadade, Atekru, Maker and Adara.

Edyvane et al. (2009) highlights the major potential for historical and religious tourism in Timor-Leste, particularly in relation to the struggle for independence and historical
sites associated with Portuguese colonisation and Indonesian occupation. Large, fortified Portuguese settlements are common on the mainland (Lape, 2006), but few colonial sites exist on Ataúro Island. Where they do exist, they are degraded and primarily located in Vila Maumeta. There are few historical or oral records of any significant Fretilin resistance history and events on the island. There are, however, a number of traditional sacred sites and places of worship (e.g., the Cave of Our Lady). Further, in contrast to the strong Catholic tradition in Timor-Leste, Ataúro is relatively unique both nationally and within the broader region in its dominant and active Protestant tradition (Ataúro Subdistrict Administration Office, 2014). The strong Protestant faith of islanders (and associated conservatism) has implications regarding the potential social impacts of beach-based and marine tourism (e.g., bikinis, excessive drinking and beach parties). This is discussed further in Chapter 7 (Section 7.3).

The lack of basic infrastructure such as roads, water and electricity remains a major obstacle to ecotourism development on Ataúro Island. Most of the existing ecotourism on the island is currently situated in regions with established basic infrastructure (particularly Vila Maumeta and Beloi), while most of the outstanding ecotourism assets are predominantly situated in remote areas (i.e., Makadade and Makili). These remote areas are ideal for adventure tourism development. Adventure tourism is recognised as one of the world’s fastest growing tourism niche markets, particularly for tourists from Europe, North America and South America, and contributes substantially to global community development, particularly in LDCs (UNWTO, 2014). This type of tourism does not require substantial infrastructure, but only requires basic infrastructure to support the activities of adventure travellers.

Adventure tourists have fewer requirements for ‘hard’ tourism infrastructure (such as airports and sealed roads), but they might require more ‘soft’ tourism infrastructure, such as good signage, clean trails and well-trained guides (UNWTO, 2014). However, on Ataúro Island, even soft infrastructure is lacking. For example, no basic infrastructure is available in the Manu Koko Protected Area, the island’s first (and largest) protected area, despite being designated as a protected area in 2000. This includes lack of signage indicating that it is a protected area. In protected areas in other developing countries, such as the Komodo National Park in Indonesia, visitors are willing to pay high entrance fees to fund basic infrastructure, interpretation and
additional flora and fauna conservation programmes, and this approach has generated further economic benefits and improved local livelihoods surrounding the protected area (Walpole & Goodwin, 2001).

The lack of access, and particularly geographic isolation, can add to the visitor experience, particularly in niche adventure tourism. In the Himalayas, the growth of international tourism in the form of trekking since the 1960s has resulted in major social and environmental transformations in Nepal’s Khumbu region; nevertheless, Khumbu residents have mostly positive perceptions about how their region has changed (Nyaupane, Lew & Tatsugawa, 2014). This reflects general improvements in the physical and cultural landscapes of the Khumbu over time, as well as its continuing geographic isolation, which has helped to slow the rate of globalisation, while also keeping the region a dynamic and popular tourist destination (Nyaupane et al., 2014).

The findings of the present study highlight the critical role of participatory mapping in pro-poor CBET development. Mao-Ying and Pearce (2014) adopted a pro-poor, asset-based community development approach to the study of tourism in Lhasa, Tibet. They used photo-elicitation interviews, focus group interviews and a questionnaire-based survey of Tibetan youth to identify and classify potential local tourism assets for future development. The tourism assets they identified included world heritage sites, religious sites, traditional Tibetan yards, daily life and customs, and Tibetan medicines. Local residents’ perceptions on the value of the assets, as well as the difficulty and desirability of their development in the future, were also mapped (Mao-Ying & Pearce, 2014). By mapping the human, social, financial and physical assets in the community, a more comprehensive, bottom-up approach to CBT development can be undertaken. Importantly, this can provide more ideas about the community’s common vision for tourism and community development (Mao-Ying & Pearce, 2014). The present study on Ataúro Island represents the first study to use both an asset-based and values approach to CBT development through community-based participatory mapping of natural, cultural and historical heritage assets and values, as well as mapping the key infrastructure required for CBET development (e.g., road access, power, water and telecommunications). Research on the socio-economic and livelihood profiles of the island’s communities has also been undertaken (Mills et al., 2013). Further detailed studies are required to assess particular ecotourism assets and local-scale infrastructure
requirements. Ecotourism mapping has been implemented in one of the most popular tourist destinations in Thailand, namely, Surat Thani Province in the south of Thailand. The mapping has identified appropriate sites for future planning and development as well as the natural, historical and cultural resources for sustainable ecotourism development (Bunruamkaew & Murayama, 2012).

7.2 Current Community-Based Ecotourism Programmes on Ataúro Island

As with many regions in the Asia Pacific and Coral Triangle region (Crabtree, 2007), CBET is becoming a major economic sector and important livelihood on Ataúro Island (Coimbra, 2012; Dutra et al., 2011; Pedi, 2007). CBET activities and enterprises on Ataúro Island encompass a wide range of activities and are primarily individually owned and rapidly growing. The findings of this research indicate that a number of CBET enterprises and activities currently operate in the three main villages of Vila Maumeta, Bikeli and Beloi, including accommodation, transport (tiga roda), kiosks, mini markets, handicrafts, restaurants and traditional singing groups. The majority of these existing CBET enterprises are community-initiated and individually owned. There has been a rapid increase in CBET enterprises on the island, particularly over the past decade.

Infrastructure planning and development is critical to the success of ecotourism planning and development in LDCs (Gurung & Seeland, 2011; Kiss, 2004; Ormsby & Mannle, 2006). On Ataúro Island, CBET development and growth is directly linked to the availability of basic infrastructure. For example, Vila Maumeta has more developed CBET enterprises in the areas of handicrafts, accommodation, restaurants, tiga roda, kiosks and mini markets. However, it could also be argued that as Vila Maumeta is the capital of the island, its development needs to be prioritised before developing the other villages. It is important for the capital to have good basic infrastructure, specifically roads, water supply and electricity, in order to support public services, such as local hospitals, local government administration and police stations. The sustainability of CBET development very much depends upon the basic infrastructure where the CBET initiatives are taking place (Kiss, 2004). Ecotourism development in Masoala National Park, Madagascar, for example, has encountered challenges due to the lack of
infrastructure and accessibility (Ormsby & Mannle, 2006). In the Wolong Nature Reserve for Giant Pandas in China, ecotourism ventures that are closer to the main road leading to the reserve (and its infrastructure) have benefited (He et al., 2008). As such, infrastructure is still the main issue that needs to be solved in order to encourage the establishment of new CBET initiatives in Bikeli Village. In contrast, Beloi Village has a strategically advantageous location because of its proximity to the main seaport and airports. It has the advantage of attracting more weekend visitors, which benefits CBET enterprises in the area of restaurants, handcrafts, lodges and transport providers.

Public–private sector partnerships have been a key driver in the growth of ecotourism, particularly for marine tourism in LDCs, such as Indonesia and the Philippines (Crabtree, 2007; White et al., 2005). The key ecotourism activities on Ataúro Island are driven by diving and snorkelling tours controlled by companies based on the mainland (Dili) which have the expertise, knowledge and finances to establish these businesses. Local communities are only involved as employees in these activities. If the local community can control the resources by establishing CBET in the areas of diving and snorkelling, then it will create more economic benefits to the host communities in the three main villages. Although outside companies currently control the ecotourism diving activities, those companies have generated economic benefits to local communities on the island by providing them with jobs and financial assistance to develop CBET in their villages. As CBET partnerships with the private sector increase, it is vital to maintain and ensure effective benefit sharing (Ashley & Jones, 2001; Duffy, 2008; Forstner, 2004; Mbaiwa, 2004).

Human capital and financial aspects are the main factors contributing to the success of small tourism ventures (Haber & Reichel, 2007). On Ataúro Island, outside companies only dominate in tourism businesses where local communities do not have sufficient expertise or financial capital. The CBET businesses on the island typically include kiosks, land transport providers, handicrafts, restaurants and local accommodation. However, with support, there are considerable opportunities for local communities to develop other types of CBET activities on the island, including wildlife watching, diving and snorkelling, and guided tours. Nevertheless, owing to a lack of business skills, knowledge and financial capital, those types of CBET enterprises are difficult for
local communities to establish themselves. Elsewhere, these issues have also impeded CBET development at the local community level, such as in Iran (Aref, 2011).

CBET development has a very high level of local community support on Ataúro Island. The research findings indicate three main locations where most of the existing CBET enterprises are located. In these locations, the vast majority of respondents were supportive of ecotourism development in their villages, compared to other forms of tourism development such as mass tourism. There are a number of developing countries (e.g., the Maldives, Indonesia, Cambodia and Namibia) where ecotourism has generated socio-economic benefits to host communities (Anderson et al., 2011; Baksh et al., 2012; Beasley et al., 2010; Naidoo et al., 2011). It could be argued that the host communities that have experienced the economic benefits of ecotourism on Ataúro Island are those that have fully participated in the ecotourism development process (for example, in the case of the Adara CBET and Tua Ko’in Eco-Village). Therefore, local people have a preference for developing ecotourism rather than other types of tourism.

A major reason for the high level of community support for tourism development, particularly CBET, on Ataúro Island is the past experience of economic, socio-cultural and environmental benefits from CBET enterprises (like Tua Ko’in Eco-Village) as established in the present study and in the literature (Coimbra, 2012; Dutra et al., 2011; Pedi, 2007). The results of this study also show that an overwhelming majority of respondents in all three main villages were supportive of additional CBET development in their village. This indicates that, once ecotourism generates socio-economic and environmental benefits to host communities at large (with the local people included or benefiting from local tourism development), these communities typically will support, participate in and champion further sustainable ecotourism development. For example, in Ilijan Batangas City, the Philippines, it was found that the local community acknowledged the importance of CBET development due to the positive contribution of ecotourism to the local economy, socio-culture and environment (Aguila & Ragot, 2014).
7.3 Benefits and Costs of Community-Based Ecotourism and Contribution to Pro-Poor Tourism

CBET has been recognised as an important community development tool for poverty alleviation in developing countries (Ashley et al., 2001; Chok, Macbeth & Warren, 2007; Khanal & Babar, 2007; Krüger, 2005; Naidoo et al., 2011; Pedi, 2007). The findings of the present study confirm that, while ecotourism is not a major livelihood (like fishing or farming) on Ataúro Island, CBET activities have had a major positive impact on local economies, as also highlighted in previous studies (Coimbra, 2012; Dutra et al., 2011; Pedi, 2007). For example, the results from Beloi and Bikeli revealed that CBET enterprises (while low in number) provided the highest net monthly income compared to the other key livelihoods of fishing and farming. Further, CBET businesses had also created numerous new jobs for host communities, through handicrafts, mini markets and accommodation.

Since the development of CBT, governments, development agencies and NGOs around the world have placed considerable emphasis on tourism as a development model (Bhoj & Jan, 2007; López-Guzmán et al., 2011; Stronza & Gordillo, 2008). However, CBT has been strongly criticised with respect to its low economic impact in terms of jobs and income, the negligible outcomes from small-scale interventions, the lack of sustainability after external funding ends, the monopolisation of benefits by local elites, or the lack of business skills to make it operational (Zapata et al., 2011). However, while CBT might not be the solution for all impoverished rural areas, tourism offers better labour-intensive and small-scale opportunities compared with other non-agricultural sectors (Boudreaux, 2008; Rajasehan & Paul, 2012; Yaman & Mohd, 2004). Under certain circumstances, CBT can contribute both to economic diversification and to the consolidation of small-scale agriculture exploitation by providing complementary revenue (Zapata et al., 2011). Further, CBT is strongly associated with biodiversity and environmental preservation (Hall, 2010), with over 89 per cent of the CBT schemes analysed by Jones and Epler Wood (2008) in Latin America offering programmes in protected areas. The potential contribution of tourism to rural poverty alleviation and nature protection makes it important to consider the CBT model (Zapata et al., 2011).
PPT studies in developing countries, including Namibia, Botswana and the Caribbean, and in Southeast Asia, have highlighted that CBET can contribute to job creation by generating a number of new job opportunities for host communities (with low levels of skill), enhancing their livelihoods and opening new markets for local products (Mbaiwa & Stronza, 2010; Naidoo et al., 2011; Scheyvens, 2009; Simpson, 2008). At the time of this study, there were no primary industries on Ataúro Island, except CBET enterprises, which are a main source of local employment. However, local farmers and fishermen also worked in CBET enterprises as part-time workers. CBET initiatives had not only improved the economy of local communities through local employment and the creation of alternative livelihoods, but had also improved local trade in rural areas. This is because CBET also provides improved market access opportunities for local communities to sell their products and services.

It is important that benefits be well distributed within the host communities; otherwise, an uneven distribution of benefits can create social disharmony (Coria & Calfucura, 2012). He et al. (2008) observed that the distribution of benefits from ecotourism in China could become an issue if it is unequal among the local communities. A village that has more CBET enterprises will receive more benefits. On Ataúro Island, the number of CBET enterprises had increased in Vila Maumeta and Beloi. There were no significant CBET initiatives in Bikeli and the local community had no knowledge or prior experience of CBET development. Bikeli therefore received fewer economic advantages than the other two villages, with the economic benefits of ecotourism unevenly distributed among the three villages. In contrast, in the case of Vila Maumeta, most of the people who had been employed in CBET enterprises, such as handicrafts, kiosks, accommodation and restaurants, were local people who lived near the CBET initiatives. Some of the CBET enterprises in Vila Maumeta and Beloi employed local people from other villages, but in very low numbers.

CBET activities also have great potential to address environmental issues and actively promote conservation. In other developing countries, such as Thailand and Indonesia, CBET has significantly supported and promoted environmental conservation through targeted tourism awareness and education campaigns on the environmental impacts of tourism activities, as well as providing financial support for environmental conservation (SNV & University of Hawaii, 2013; Thailand Community Based Tourism Network
Coordination Centre, 2013). Further, proper planning and management of ecotourism development can help encourage local communities to participate actively in protecting their local environment and contribute to environmental conservation (Eshetu, 2014). On Ataúro Island, CBET activities have also contributed positively to environmental conservation, particularly in the three main villages in which most of the CBET enterprises are located. In particular, there are a number of specific CBET accommodation enterprises (i.e., Tua Ko’in, Barry’s Place and Manu Koko) that have applied innovative, eco-friendly waste management (e.g., composting toilets based on the ventilated pit latrine using natural ventilation). The composted waste can be utilised for fertiliser for fruit trees. The conservation of water can be achieved by filtering used bathroom water via reed beds for use in the garden. This model of waste and water management was first introduced by Tua Ko’in Eco-Village, and had since been applied as the model for other CBET accommodation initiatives in Beloi and Vila Maumeta.

Marine tourism, particularly diving and snorkelling, also has significant potential to contribute to marine conservation (i.e., MPAs) and to generate income for local communities adjacent to MPAs. Depondt and Green (2006), in a review of dive tourism fees in Southeast Asia and the Indian and Pacific Oceans, highlighted the potential of MPAs in Southeast Asia (like the Wider Caribbean Region) to raise revenue for conservation via the implementation of diving user fees, but noted that this potential is largely unexploited. With diving and snorkelling being major attractions for Ataúro Island, there remains significant potential for introducing a diving user fee system, particularly in areas adjacent to MPAs. While the local communities currently do not charge diving companies or divers a user fee or tax to access local reefs, Barry’s Place Eco-Lodge in Beloi had recently introduced a so-called reef tax for its customers. Funds from the tax will be used to protect local coral reefs and regenerate other reefs from both bleaching and damage caused by dynamite fishing during the Indonesian era. However, for CBET enterprises at Adara, implementing user fee systems and taxes could be significantly more difficult. As Depondt and Green (2006) highlight, it is necessary to resolve complex problems linked to governance and revenue collection when introducing diving user fees.
CBET enterprises also have the potential to have a major impact on the conservation, preservation and celebration of local cultures, customs and practices and sites of cultural significance. According to the Green Globe 21 International Ecotourism Standard (2004) (Ashley et al., 2001; Zeppel, 2006), cultural and heritage conservation is one of the key principles of CBET development. In the case of Thailand and Cambodia, CBET projects have promoted local culture through homestay programmes which enable foreign tourists to experience local communities’ way of life and learn local culture, including local food, cultural performances and languages (Reimer & Walter, 2013). On Ataúro Island, CBET has had a major impact on local cultural and heritage promotion and preservation. For instance, CBET in the area of culture and arts has promoted cultural values through the sale of typical Ataúro carved sculptures, the performance of traditional dancing and singing to entertain visitors on request, and the services of traditional massage using traditional herbal oil. In these ways, the local communities can introduce their culture and arts to their guests. These types of activities have also been implemented in Thua Thien–Hue Province, Vietnam, where CBET has provided cultural benefits including supporting the cultural performance group to maintain its traditional costumes and musical instruments, helping host communities construct traditional buildings, and supporting cultural restoration (SNV & University of Hawaii, 2013). CBET development in LDCs such as Timor-Leste is therefore vital, as CBET will not only generate economic benefits to the local communities but will also encourage and support the host communities to preserve and promote their cultural heritage.

The impacts of ecotourism on the environment are frequently unavoidable, due to the difficulty in controlling visitor numbers and behaviours (Brotto et al., 2012; Dixit & Narula, 2010; Khanal & Babar, 2007). This is supported by several case studies which have shown the significant environmental consequences of a lack of visitor management, in particular with regard to visitor numbers (carrying capacity) and activity-based management regulations. For instance, in Rio de Janeiro, insufficient visitor management in marine ecotourism activities has led to negative environmental impacts including oil pollution and littering (Brotto et al., 2012). Similarly, Khanal and Babar (2007) report major environmental threats in key ecosystem destinations in the GMS as a consequence of the difficulty in controlling visitor numbers and the lack of monitoring and regulation of carrying capacity. However, the findings of the present
study confirm that the environmental effects of CBET activities on Ataúro Island (in the three case study villages) are very low. This includes the environmental impacts from human activities, such as erosion, pollution, littering, impacts on marine wildlife and damage to coral reefs. This low level of impact is very likely a consequence of the low numbers of visitors to the island. However, any future increase in visitor numbers is likely to result in increased negative environmental impacts, if unmanaged.

Ecotourism activities (including CBET) also have the potential to cause significant socio-cultural impacts. In particular, the behaviour of visitors can have major social impacts on host communities in ecotourism settings (Pearce, 2013). The impacts of socio-cultural tourism can change the social value system, social relationships, personal behaviours and ways of life, community structures and nature of expression (Page et al., 2001; Pearce, 2013). In Uttarakhand in the north of India, the increasing number of tourists undertaking ecotourism activities (such as camping and rafting) without appropriate management, restrictions or regulations, has resulted in considerable environmental and socio-cultural impacts on nearby local communities (Farooquee et al., 2008).

According to Grosspietsch (2005), if tourists’ behaviour is in contradiction with the local cultures and religious beliefs, it might prompt some religious groups to take action in an inappropriate way and this can be a risk for tourism development. In the present study, minimal socio-cultural impacts of CBET activities on Ataúro Island were found with the exception being community concern about visitors who wear bikinis. This issue was also identified in a previous study (Dutra et al., 2011). The issues arises because the local communities on Ataúro Island have strong cultural and religious (Protestant) beliefs and consider the bikini an inappropriate form of dress.

Rachmawati (2014) highlights that the development of ecotourism should consider the social and cultural context of local communities. In certain Muslim countries, the wearing of swimwear is restricted or prohibited in public (such as beaches and pools) and foreign visitors who are not aware of local traditions or values may encounter significant problems. For example, Iran has enforced behavioural rules for both foreign visitors and local Muslims to follow Islamic law in the wearing of swimwear. The wearing of bikinis is prohibited on public beaches but permitted in designated swimming pool areas where male and female swimmers are separated (Nawar, 2014).
In some countries, strong religious beliefs present major challenges to tourism development. For instance, while the Socotra Islands in Yemen possess significant marine tourism resources, it is a conservative society ruled by tribal cultures and strong Islamic beliefs and traditions. As such, the negative perceptions about Western visitors and low tolerance towards contemporary lifestyles and behaviours including socialising between men and women, the wearing of modern and transparent clothes, and holding parties and consuming alcohol, have become a major impediment to tourism development (Kasim & Al-Gahuri, 2015).

Establishing an effective management framework for guiding CBET enterprises is essential in developing a sustainable CBET sector. To avoid the negative impact of ecotourism activities on both the culture and environment, the most important factor is for government to take responsibility for establishing strict policies and regulations to ensure that visitor management is in place and that visitors’ activities in sensitive areas are well-regulated. The APEC Tourism Working Group established a best practice manual to assist effective CBT (Asker et al., 2010). This provides guidance on CBET management structures, processes and systems; issues in resourcing CBET enterprises (including financing strategies and benefit sharing); developing local community and other stakeholders’ skills and capacity; developing and marketing the tourism product or visitor experience; and building relationships with tourism stakeholders. Weaver and Lawton (2007) also highlight the need for comprehensive research on the environmental impacts of ecotourism pressure, especially research relating to carrying capacity, the ecological footprint of ecotourism projects and eco-tourist behavioural impacts.

Although Ataúro Island is still relatively unaffected by the negative impacts of CBET activities, it is vital for government and the tourism sector (in consultation with local communities) to start providing visitors with proper guidelines about which ecotourism activities can and cannot be carried out in particular places, such as sensitive cultural sites or MPAs. Tour operators also have the responsibility to educate and provide information on the potentially negative impacts on the environment and local culture as part of their ecotourism awareness campaigns. These approaches may help in reducing the negative impacts of ecotourism activities, not only on the environmental level but also in relation to the social impacts arising from a lack of knowledge of local customs. In addition, with increasing tourism interest, the numbers and behaviours of tourists also
need to be regulated in order to control and minimise any negative environmental and socio-cultural impacts. Pearce (1995) states that, all too frequently, the socio-cultural component of ecologically sustainable development is given secondary and cursory attention in the planning of future development options, including tourism development. Further, he argues, specific educational, research and human resource development strategies that empower visitors, train tourism professionals and educate host communities in the nature of cultural interaction are all necessary activities in order to move from a paradigm of culture shock to one of cultural exchange, and hence, to ensure ecologically sustainable socio-cultural development.

7.4 Existing Community-Based Ecotourism Planning and Management on Ataúro Island

7.4.1 Key Issues and Constraints Facing Community-Based Ecotourism Development

The local communities on Ataúro Island were found to have implemented good initiatives in CBET planning and development without being reliant on external organisations; however, the local communities in the three main villages still faced a number of challenges, issues and limitations. The main challenges included land tenure issues, lack of human resources and capacity, lack of financial capital, lack of government support (i.e., training, policy and management), and lack of CBET planning and regulation. These issues are commonly faced by LDCs in their efforts to develop a tourism industry, especially CBET (Agrawal & Redford, 2006; Barrett et al., 2001; López-Guzmán et al., 2011; Mbaiwa, 2004; Moscardo, 2008).

The land tenure issue has been a national problem since Timor-Leste gained its independence from Indonesia in 2002, due to a vacuum in law legislation (Fitzpatrick, 2001). On Ataúro Island, the lack of clarity in land tenure has resulted in land ownership disputes, causing some successful CBET enterprises to discontinue business operations and discouraging the development of new CBET enterprises. For example, as discussed previously, the Tua Ko’in Eco-Village initiative was closed as a result of an indigenous land tenure dispute. The land issue may also discourage investors who want to establish tourism businesses on the island in collaboration with CBET enterprises.
According to Fitzpatrick (2001), land ownership has become one of the fundamental issues in Timor-Leste as a result of the country’s history of occupation. Land title disputes arise from the existence of various claims such as claims based on Portuguese titles, claims based on Indonesian titles and claims based on non-traditional long-term occupation. Resolution of the land tenure issue is critical for long-term, sustainable CBET planning and development on Ataúro Island and in Timor-Leste more generally, for both local communities and potential ecotourism investors. Land issues can also lead to poor people becoming further economically marginalised. The Land and Property Directorate, which is responsible for the land tenure issue, should, as a matter of priority, expedite new land legislation in order to give land titles to local communities and empower local communities to explore community-based, local business enterprises such as ecotourism. Similar land issues have also occurred in Latin America as a result of ineffective state institutions and weak land law, which is not favourable to indigenous land title (Stocks, 2005).

As a result of improving local communities’ capacity building, including skill development and income generation training programmes around the Chitwan National Park in Nepal, ecotourism has improved local livelihoods significantly (Nyaupane & Poudel, 2011). The findings in the present study indicate that local communities Ataúro Island need numerous specific types of assistance and training in order to help their enterprises become sustainable over time. These include basic business management training, financial assistance, marketing and promotion, regulation, planning and management, infrastructure support and language skills. Most CBET enterprises do not have proper financial management and cash flow due to the absence of basic business management skills. Capacity building for local communities is an essential precondition for tourism development, meaning that the lack of community capacity and lower levels of understanding about tourism have posed a challenge for LDCs in tourism development (Moscardo, 2008). In order to overcome the challenge of limited human resources in CBET planning and management, governments have a responsibility to assist local people, specifically those who have initiated CBET initiatives and need assistance in the area of capacity building, such as basic business management, basic marketing and promotional skills, hospitality and food preparation. If there is no intervention from other organisations, it will be difficult for local communities to develop their CBET enterprises professionally and compete with non-CBET businesses.
In the case of Malaysia, the government has taken serious steps to support tourism development by improving human capital and the two main institutions responsible for human resource development, namely the National Tourism Human Resource Development Council and the National Vocational Training Council. These institutions provide training to improve the quality of tourist services, foreign language skills including Arabic, German, Japanese and Spanish and tour guiding (Bhuiyan et al., 2011).

While local communities on Ataúro Island have very limited financial capital, they have been successful in initiating and establishing CBET enterprises in their villages. To this end, several local communities have had considerable vision in developing new CBET enterprises, as well as expanding existing enterprises, particularly in Beloi and Bikeli. For many rural communities, the limited availability of financial capital to establish CBET might be a result of low cash income levels in Timor-Leste in general and on the island in particular. The income gained from wage employment, agriculture, livestock and fishing is commonly used to support living expenses and children’s education. Due to financial constraints, many local communities with a strong interest in developing CBET are unable to realise their aspirations. For that reason, it is important to provide local communities with financial assistance such as microcredit to enable local people to develop and establish new CBET enterprises and enlarge existing ones. For example, a microcredit scheme was implemented in Sirigu in Ghana to provide financial support for CBET businesses (Manu & Kuuder, 2012). The microcredit model has also been implemented in Albania to support ecotourism projects and reduce poverty. To guarantee the success of microcredit in supporting CBET, there are four key important phases: ensuring that the tourism project needs financial assistance, defining the criteria of tourism projects, measuring the project’s capacity to benefit the poor, and assessing the marketing situation and cost-effectiveness (Bazini & Nedelea, 2008).

Marketing and promotion are essential for the development of the CBET sector. On Ataúro Island (and in Timor-Leste), there is no advertising or promotion of local CBET enterprises, nor do local communities currently have basic knowledge of what customers want and need. It is therefore important for the Government of Timor-Leste, particularly the Ministry of Tourism, and the tourism sector, to assist in promoting the existing CBET enterprises on Ataúro Island. Local people who run CBET enterprises
generally do not have enough experience and financial capital to promote and market their ecotourism businesses.

A number of marketing and promotional tools can be used to promote CBET enterprises on the island, including the internet, brochures, local newspapers, radio and television. Online promotion and marketing has been widely applied in ecotourism enterprises, particularly for eco-lodges in Latin America and the Caribbean (Lai & Shafer, 2005). In Malaysia, the national government has specific ecotourism planning and marketing strategies to develop the ecotourism sector. The main objectives of the ecotourism strategies are to protect natural resources, preserve cultural heritage and enhance local economic development (Bhuiyan et al., 2011).

7.4.2 Community-Based Ecotourism Planning, Development and Management

Ataúro Island is one of the best-known ecotourism destinations in Timor-Leste because of its natural and cultural resources and the successful initiatives of the local communities in developing a variety of CBET enterprises. However, there remain no specific policies or planning and management frameworks for CBET development on the island at the national and local government level. The Ministry of Tourism, for example has no specific policy with regard to CBET planning and development. This can be an obstacle for CBET development, not only on the island but also in Timor-Leste as a whole.

Government policy is essential in setting directions for tourism development, including directions for local communities in developing pro-poor CBET. For example, Chambok is one of the largest and most successful CBET developments in Cambodia because of its clear CBET policy on infrastructure, human resources, financial management, environmental management, women’s empowerment, and marketing and promotion (Rith, 2010). If the Government of Timor-Leste is serious about developing CBET, it should have a comprehensive policy framework and action plan for developing CBET. For instance, the Thailand Government has a clear National Ecotourism Policy and Ecotourism Action Plan to support local communities in generating economic benefits from ecotourism activities, including CBET, as well as to conserve natural resources from tourism activities; with a specific focus on CBET, these policies can minimise the
negative impacts on the environment and improve rural income (Laverack & Thangphet, 2009; Leksakundilok, 2004).

The Government of Timor-Leste has established terrestrial and marine protected areas on Ataúro Island. While these initiatives contribute significantly to ecotourism development on the island (through ecotourism activities, such as diving, snorkelling, trekking and bird watching), they have largely been driven by nature conservation goals (such as membership of the Coral Triangle Initiative), rather than livelihood or tourism development. Accordingly, these initiatives have been implemented by the relevant environment and fisheries agencies, with no input from the Ministry of Tourism. This underscores the need for stronger linkages and coordination between ecotourism and nature conservation planning in Timor-Leste as tourism becomes important for livelihood development within the protected areas. A number of developing countries take an integrated tourism and conservation approach to local livelihood enhancement, including Nepal, China, Cambodia, Laos, the Philippines and Botswana (Aguila & Ragot, 2014; He et al., 2008; Khanal & Babar, 2007; Mbaiwa & Stronza, 2010; Nyaupane & Poudel, 2011).

In addition to the lack of CBET policies in Timor-Leste, the results from this research also highlight the significant lack of government support for CBET development and management, particularly business management training, financial support and assistance with marketing and promotion. Without a national ecotourism policy and national and district-level tourism planning, it will be difficult to identify national and district-level priority areas and resources to develop and support ecotourism development. Rith (2010) suggests that policy and planning are necessary to facilitate the type and extent of assistance (e.g., infrastructure, training and marketing) required by local communities to support CBET development. Useful examples can be seen in the policy and planning frameworks implemented in Thailand and Malaysia to support ecotourism in the areas of conservation and CBET enterprises (Bhuiyan et al., 2011; Laverack & Thangphet, 2009; Leksakundilok, 2004). However, it could be argued that the Government of Timor-Leste (through the Ministry of Tourism), despite support from the UNWTO, still has limited human capacity, skills and experience in national and local scale tourism planning and development, with this limitation affecting its ability to undertake ecotourism policy and planning.
Due to successful planning, management and development surrounding and within the Chitwan National Park in Nepal, ecotourism has extensively enhanced local livelihoods and generated income for small-scale and local ecotourism enterprises (Nyaupane & Poudel, 2011). The findings of the present study highlight the absence of a strategic approach to sustainable tourism development at the local government level on Ataúro Island. Neither the local nor national governments have specific strategies and planning mechanisms to support CBET development. In the three villages investigated in this study, the local communities initiated and undertook their own CBET planning and development. However, these communities experienced many difficulties in CBET development, particularly during the planning and management stage, due to financial constraints and a lack of experience and knowledge about CBET enterprises. This highlights the need for the provision of assistance to local communities if they are to meet their long-term CBET sustainability. In the case of Chitwan National Park, integrated planning and management takes place among local communities and CBET ventures including capacity building, income generation training, microfinance opportunities and market access for local farms (Nyaupane & Poudel, 2011).

While CBET development provides for direct community participation and benefits, local communities can potentially benefit from ecotourism without community participation. For instance, several nature-based eco-lodges in the Brazilian Amazon have delivered benefits to communities despite the community having no level of ownership or control nor playing any role in planning or decision-making (Simpson, 2008). However, it is important to note that these are not considered to be ecotourism operations as they do not contribute towards conservation, interpretation and community participation (Simpson, 2008). On Ataúro Island, strong customary practices, traditions and unclear land tenure underscore the essential need for community participation in all CBET planning and development (Pedi, 2007). Without this local support, even the most successful enterprise (as seen in the example of Tua Ko’in Eco-Village) can be abruptly terminated.

International NGOs (in partnership with government agencies and local NGOs) can play a major role in tourism development in developing countries. A large number of CBET initiatives have been carried out by various institutions with the cooperation of local communities in LDCs, including Indonesia, Malaysia, Vietnam, Cambodia, Thailand,
Namibia, Papua New Guinea and Fiji (Farrelly, 2011; Hitchner et al., 2009; Khanal & Babar, 2007; Lapeyre, 2010; Reimer & Walter, 2013; Sakata & Prideaux, 2013). These countries have recognised the importance of CBET initiatives as an important tool for environmental and socio-cultural preservation and local livelihoods development. External and internal institutions can also support the development of tourism and CBET policies and strategies, such as those developed in Chambok, Cambodia (Rith, 2010).

The majority of CBET enterprises on Ataúro Island have taken bottom-up approaches to CBET, that is, they have been initiated and managed by local NGOs and local communities. Local and national government agencies and international organisations and donors (e.g., UNWTO, ILO, UNDP) have played little part in initiating CBET development on Ataúro Island. In short, many of the CBET businesses on Ataúro Island provide excellent examples of community-initiated and community-managed enterprises. Further, local NGOs on the island have played a major role in initiating, facilitating and managing community-based enterprises. An excellent example of this was the Tua Ko’in Eco-Village which was initiated, owned and managed by the local community through the local NGO, ROLU. The Tua Ko’in Eco-Village generated significant economic and environmental benefits to host communities on Ataúro Island, as well as becoming a local and national model of effective community development and CBET (Pedi, 2007). In contrast, the top-down approach to CBET, such as the Compass Charters diving camp at Adara, has provided significantly fewer economic benefits to local communities (i.e., jobs and income).

Adaptive co-management or collaborative management is an increasingly important and common approach for planning and managing CBET enterprises, with benefits for both conservation and livelihood development. This approach has been effectively applied in ecotourism and community-based natural resource management, particularly in relation to protected areas (Plummer & Fennell, 2009). Co-management agreements assume an equal access to information, with the local community partner having access to traditional knowledge and the government partner having access to scientific knowledge. Co-management models of governance have been successfully implemented in protected areas in Botswana (Mbaiwa & Stronza, 2010) and in MPAs in Indonesia and South Africa (Clifton, 2003; Hauck & Sowman, 2003). However, history
has revealed a lack of collaboration and the existence of many contentious relationships within the domain of protected area tourism (Plummer & Fennell, 2009). Perhaps one of the most pressing challenges, especially in the LDC context, is that collaboration is hampered by the fact that “developing nations are ruled by a small group of well-organised powerful elites to a larger extent than developed countries are” (Tosun, 2000, p. 613). Community participation in tourism development is thus controlled by centralised decision-making, the lack of coordination, lack of information, domination by elites, lack of expertise, lack of an appropriate legal system, lack of a trained workforce, high cost of community participation, lack of financial resources, limited capacity of the poor and apathy in local communities (Tosun, 2000). Adaptive co-management is an important approach for CBET development and it is fundamental that local communities and governments understand their roles, particularly in sensitive areas and marine and terrestrial protected areas. According to Berkes (2009), adaptive co-management can be defined as a problem-solving process involving negotiation, deliberation, knowledge generation and joint learning. Governance directs attention to broad participatory approaches, and complex systems theory emphasises transformative changes and an integrative perspective that couples human and natural systems (a social–ecological system) (Plummer & Fennell, 2009). Adaptive co-management bridges governance and complex systems by bringing together cooperative and adaptive approaches to management. While adaptive co-management is clearly not a universal answer, experiences and knowledge from natural resource management raise salient prospects for the approach to be insightfully applied to protected areas for sustainable tourism (Plummer & Fennell, 2009).

In line with the pre-dominance of community-initiated and community-managed ecotourism enterprises on Ataúro Island, there are very few co-management arrangements or formal management agreements between local communities and other organisations to support and assist CBET enterprises. Vila Maumeta was found to have the highest number of agreements (twice the number found in Bikeli and Beloi). A common and increasing form of agreement is a land lease private agreement, with control resting with the host community (such as the dive camp managed by Compass Charters and local communities at Adara). In this respect, with increasing private sector involvement and development interest in Ataúro Island, there are significant
opportunities for private sector partnerships, adaptive co-management and the development of formal management agreements with local communities.

In relation to co-management arrangements with government, there are significant opportunities for more formalised, legally binding co-management agreements on Ataúro Island, particularly in relation to protected areas. Government initiatives to establish an MPA at Vila Maumeta involved consultations with local communities, with management arrangements that were likely to be formalised through local tara bandu regulations. Formal agreements between governments and local communities for the co-management of protected areas provide a wide range of new CBET and livelihood opportunities for traditional owners and local communities both within and adjacent to the protected area (e.g., tour guiding, bird watching, trekking, boat hire, recreational fishing, diving/snorkelling, accommodation, catering and handicraft sales). In order for protected areas to be successful in reaching conservation and livelihood development goals, it is essential to establish integrated planning that considers local customary rights to use local resources. Livelihoods need to be integrated in the planning and decision-making processes of protected areas rather than marginalising local communities and their ways of life (Sowman et al., 2011). Studies in Costa Rica and Thailand have highlighted that protected areas not only reduced deforestation and enhanced environmental conservation, but also reduced poverty in the remote areas where protected areas tend to be located, by generating economic benefits to the host communities through the supply of ecosystem services, the promotion of tourism and the improvement of infrastructure (Andam et al., 2010).

7.5 Future Community-Based Ecotourism Planning and Development

7.5.1 Success Factors in Community-Based Ecotourism Planning and Development

The approach to CBET development and governance is critical to success, sustainability and pro-poorness outcomes. As such, CBET planning and development can be improved through the full involvement and participation of local people in planning and decision-making, as well as their participation in training in CBET enterprise development. When host communities fully participate in CBET development, in terms of planning and management, they will not only gain economic benefits but also become fully engaged in environmental conservation (Eshetu, 2014). Khanal and Babar (2007) argue
that local communities may not participate fully in a top-down approach to ecotourism planning and development; as a result, the host community will not benefit economically.

Zapata et al. (2011) explored the viability of the CBT model to support socio-economic development and poverty alleviation in Nicaragua. They examined the characteristics, effects and impacts of different modes of community tourism, with the results showing that traditional top-down CBT enterprises that were created and fully funded by external organisations led to low economic impacts (i.e., jobs and income), low sustainability (at the end of external funding), monopolisation of benefits by local elites and a lack of business skills to make the enterprise operational (Zapata et al., 2011). In contrast, bottom-up CBT enterprises that were created as a result of local initiatives demonstrated longer-term sustainability, faster growth, and more positive impacts on the local economy. Their findings suggest a shift is required in the attention of donors and policymakers towards redistribution policies that strengthen the skills, resources and conditions of micro-, community-based and family entrepreneurship, together with a stronger orientation towards domestic markets (Zapata et al., 2011).

The findings of the present study further confirm the importance of participatory, bottom-up approaches to CBET development and social enterprise development in developing countries. To this end, Ataúro Island has become an important national model for pro-poor, bottom-up or participatory CBET development in Timor-Leste (Basiuk, 2006; Coimbra, 2012; Pedi, 2007; UNWTO-UNDP, 2007). In particular, the socio-economic, environmental and cultural benefits of this approach have been well demonstrated and documented in the successful case study of Tua Ko’in. Importantly, local community members were fully involved in the initial stages of planning and establishment, benefited from the significant employment opportunities, and also participated in the management of the enterprise through the local NGO, ROLU (Pedi, 2007). The closure of Tua Ko’in in 2011 over a land dispute with the traditional landowner highlights the need for a clear and transparent land tenure and property framework, as well as the highly complex and precarious nature of sustainable CBT development in developing countries.

A bottom-up, locally initiated, non-monetised approach to small-scale, community-based indigenous ecotourism in Papua New Guinea was found to have generated
substantial community support and benefits (Sakata & Prideaux, 2013). These include contributions to community welfare, economic benefits and positive conservation outcomes, without—from the viewpoint of the community—imposing any adverse cultural impacts (Sakata & Prideaux, 2013). This initiative is unique in the following aspects: it was initiated by a community member; external assistance was advisory only; no external financial assistance was given; and it has taken place in a non-monetised economy. The keys for success included the development of strong community agency and high community participation, and individual rather than community ownership (Sakata & Prideaux, 2013).

In order for CBET development to be successful, local communities not only require full participation in planning and management, they also need adequate human resources to participate and implement CBET development (Moscardo, 2008). The key challenges frequently encountered by local people include a lack of skills, lack of knowledge, and financial limitations. As a consequence of these issues, local people are unable to participate effectively in community development (Hunt, 2005). A study of CBET in Tambaksari Village in East Java, Indonesia, found a lack of local community participation in the CBET management due to limited knowledge and skills in CBET development among local community members (Baksh et al., 2012). That study concluded that the key success factors in CBET planning and development are capacity building for the local community, local consultation and participation, and effective local planning and management (Baksh et al., 2012). Tolkach and King (2015) propose that a national CBT network could support and strengthen the development of CBT and help enterprises confront the challenges of deficient knowledge, funding and marketing, thereby potentially improving rural livelihoods.

While Ataúro Island has strong community agency and high community participation in CBET development, the lack of local tourism planning, regulation and management (by local and national governments) continues to impede future sustainable CBET development. The need to strengthen CBET policies and plans (and formalise existing bodies such as the Ataúro Tourism Group) is urgent because of the island’s status as a special economic zone. As such, there is a potential risk of major external investment in mass tourism on Ataúro Island, driven by transnational corporations. As policymakers, the relevant government agencies need to respond to local communities’ initiatives in
developing proper planning to support CBET development and sustain PPT. This could be achieved through policies and regulations that support local initiatives such as those implemented in other LDCs including Malaysia, Thailand and Cambodia (see Bhuiyan et al. (2011), Laverack & Thangphet (2009) and Rith (2010)). Without proper planning and management in ecotourism tourism destinations, greater negative impacts may be imposed on the local environment (Dixit & Narula, 2010). Moreover, local CBET initiatives struggle to become sustainable over time if there is a lack of support to overcome their planning and management challenges including limited human resources, financial limitations and land tenure issues.

7.5.2 Priorities for Community-Based Ecotourism Planning and Development

The results of this study reveal that the local communities on Ataúro Island strongly support CBET as the preferred tourism development model, and that they support additional CBET development in their villages in the future. However, Ataúro Island communities continue to encounter many challenges in terms of land tenure issues, limited human resources and capacity, lack of planning, regulation and management, lack of government support, and financial limitations. These issues are also the main challenges for tourism development in Timor-Leste (UNWTO & UNDP, 2007) and need to be considered and resolved in progressing CBET development on Ataúro Island, and in Timor-Leste generally.

While host communities have shown strong motivation and willingness to develop more CBET in their villages, there are major challenges for local communities, including inadequate experience, knowledge and skills in operating CBET enterprises, as well as financial constraints. These aspects may result in unsustainable development of CBET in the future. The research also reveals that local communities strongly prefer the planning and management of CBET development to be carried out by local NGOs in their villages, rather than external actors. This strong support for local community agency in CBET development is due to the positive outcomes from existing CBET enterprises (e.g., Tua Ko’in Eco-Village and Adara CBET). Local NGOs have a good reputation in CBET enterprise development on Ataúro Island. As such, local NGOs have an important and critical role in supporting local communities in future CBET and PPT on the island. International NGOs can also play a role in future CBET development through the involvement of local people or local NGOs to facilitate community
participation. For example, SNV has been successful in implementing CBET and PPT programmes in other developing countries, including Laos, Vietnam, Bhutan, Bangladesh and Nepal (SNV & University of Hawaii, 2013). International agencies can also provide important technical support for community-initiated CBET. For example, in the development of Tua Ko’in Eco-Village, Australian organisations (i.e., AusAID and Australian Volunteers International) provided vital technical expertise and financial support (Pedi, 2007).

Participation of the local community in future CBET planning and development on Ataúro Island is essential. Before establishing an ecotourism strategy and action plan for Ataúro Island, local communities from all five villages must be involved in determining what type of tourism is suitable for preserving their natural resources and generating socio-economic benefits. It is paramount to involve the community in the decision-making process in order to achieve community development objectives (Diamantitis, 2004; Christens, 2012). As a policymaker, the national government needs to take the initiative to establish an ecotourism strategy and plan for Ataúro Island by involving the local communities and other stakeholders. This would be a positive step towards actualising the national government’s vision, as set out in the Timor-Leste Strategic Development Plan 2011–2030, for ecotourism to be developed as one of Timor-Leste’s niche markets (RDTL, 2011).

In establishing an ecotourism strategy and plan, it is also essential to engage other key tourism stakeholders such as the ILO, local NGOs, the Ataúro Tourism Group, relevant government departments and others. This approach has been successfully implemented in Cambodia’s CBET development (Rith, 2010). It is important to involve all stakeholders in order to avoid the duplication of ecotourism planning and programmes. Further, an ecotourism strategy and action plan for Ataúro Island needs to have a clear community vision for ecotourism development and identify the key locations and tourism precincts as well as the key infrastructure needs and training needs. Importantly, it needs to respect the aspirations of local communities for the nature and type of future tourism development on the island. Based on the results of this study, the preferred future tourism development is clearly CBET development, not mass tourism.

Village-level consultations and island-level planning and feasibility studies are required for future CBET development on Ataúro Island. Host communities need to consider
what types of CBET activities are going to be developed in the future. Communities also need to understand their customers’ needs and wants. For example, if local communities simply copy the existing types of CBET enterprises (such as more kiosks and more local transport providers), it will not be as profitable as developing new types of enterprises. Diversification of ecotourism activities and products is also needed to increase visitor numbers and generate more income for host communities (Barkin, 2003). It is important for external organisations to assist local people by conducting CBET business feasibility studies to identify the local communities that would like to develop new CBET initiatives. The conduct of feasibility studies will also help host communities identify their strengths and weaknesses and will produce comprehensive information for CBET planning.

A number of authors have asserted that CBET plays an essential role in community development in terms of generating economic benefits and preserving socio-cultural and environmental resources (Khanal & Babar, 2007; López-Guzmán et al., 2011; Reimer & Walter, 2013; Simpson, 2008). In addition to future CBET planning and development, the findings of the present study show that the vast majority of local community members prefer to develop ecotourism in their village rather than other types of tourism such as mass tourism. It can be assumed that local people favour ecotourism since ecotourism enterprises have already demonstrated positive impacts on their local economy, culture and environment, such as the Tua Ko’in Eco-Village initiative. In that case, the model ecotourism initiative introduced by ROLU promoted ecotourism and motivated local people to participate in ecotourism enterprises for community development.

To date, government support for CBET on Ataúro Island has been very limited. The Ministry of Tourism has assisted only two CBET enterprises (in Vila Maumeta and Beloi). This assistance needs to be strengthened and extended, particularly to the western and southern parts of the island (i.e., Adara, Atekru and Makili). Host communities continue to require major assistance from the central government, especially in the area of infrastructure, capacity building and financial support. In order to assist CBET initiatives, it is also important for local communities to engage with other institutions such as local and international NGOs. This approach has been successfully implemented in Cambodia, Laos, Thailand and Indonesia among other
countries (Khanal & Babar, 2007; Rith, 2010; SNV & University of Hawaii, 2013). To support CBET on Ataúro Island, it is important to focus on the areas of financial support, human resource development, and infrastructure including roads, water and sanitation, and electricity. To address the infrastructure issues, the relevant government departments, such as the Departments of Infrastructure and Tourism, as well as local authorities have to identify the priority areas of ecotourism development that need to be developed in the short and medium term.

An ecotourism management framework, including a legal framework with regulations, is essential for sustainable ecotourism development on Ataúro Island and in Timor-Leste, particularly to minimise the environmental and socio-cultural impacts of tourism. Studies in Africa highlight the problems caused by the absence of specific regulations on ecotourism (Lubbe, 2014; Mbaiwa & Stronza, 2010). Local communities on Ataúro Island strongly support the introduction of national regulations to minimise the negative socio-cultural and environmental impacts of ecotourism activities. While the local government and local NGOs have established their own regulations on ethical tourism, the regulations have not been fully implemented, are of limited scope, and contain no penalties for violations. As such, the regulations imposed on visitors to respect the local culture and preserve the local environment are not legally binding.

In contrast, in Botswana, effective regulations have been applied in national parks to minimise the negative impacts of tourism activities and support benefit sharing (Mbaiwa & Stronza, 2010). On Ataúro Island and in Timor-Leste, it is vital for the central government to create special regulations for ecotourism development in order to regulate ecotourism activities such as scuba diving, snorkelling, recreational fishing, hiking, bird watching and marine cetacean watching. Other local human activities also need to be regulated (and importantly, the regulations need to be enforced) to minimise negative impacts, such as forest burning, illegal logging, marine wildlife hunting and turtle egg harvesting, that can harm the environment and the marine wildlife. While laws and regulations do exist to prevent illegal logging and the harvesting of protected species, there is little compliance or enforcement in Timor-Leste. Examples of existing government environmental regulations are the Decree Law No. 26/2012 (Basic Environmental Law) and Decree Law No. 5/2011 (Environmental Licensing) (Ministry of Commerce, Industry and Environment, 2013). However, these regulations only focus
on environmental activities, and do not include specific ecotourism activities. Model frameworks in other countries include the specific regulations in Mexico that minimise the negative impacts of ecotourism activities on marine wildlife through codes of conduct for tourist operators, boat owners and operators and swimmers (Cardenas-Torres, Enríquez-Andrade & Rodríguez-Dowdell, 2007). Similar specific ecotourism regulations are required for Ataúro Island’s key ecotourism activities (e.g., cetacean watching, diving, snorkelling and cultural tourism).

7.5.3 Potential Future Community-Based Ecotourism Activities

Coastal and marine tourism has major potential for further CBET development on Ataúro Island. In particular, dive tourism has been a major profitable form of marine tourism for the coastlines and reefs of many LDCs, particularly in the tropics (Garrod & Gössling, 2008). Marine tourism, particularly diving, has not only contributed significantly to the local economy but has also considerably contributed to marine conservation through diving user fees in Southeast Asia and the Caribbean (Depondt & Green, 2006). While marine tourism (particularly diving and snorkelling) on Ataúro Island has been a major drawcard for visitors to the island, its benefits to the community need to be expanded outside of Beloi and Adara. Major diving and marine wildlife locations for manta rays (Manta Cove and Makili), cetacean (whale and dolphin) watching (south and eastern Ataúro Island), turtle nesting sites (Atekru and Bikeli) and dugong feeding areas (Makili and Bikeli) all hold significant potential for CBET development with local communities. These marine-based activities can also include additional CBET opportunities for recreational fishing, boat hire, sailing and facilitation of scientific research.

As a mountainous island, Ataúro Island also has significant potential for further development of mountain tourism, including trekking, mountain climbing, bird watching and camping, particularly in the Manu Koko Protected Area (Makadade). These terrestrial nature-based activities also have significant potential to be combined with cultural and historical tourism (e.g., festivals, traditional dancing, music, traditional art and handicrafts, and sacred places and religious monuments). Together, these activities provide a diverse range of potential ecotourism experiences and assets,
with significant potential for development of a growing niche ecotourism market targeting international tourists (UNWTO, 2014).

This study’s findings on the major community priorities for future CBET development on Ataúro Island specifically highlight the potential for new types of CBET enterprises. The local communities are interested in establishing CBET activities that do not yet exist in their villages, rather than copying the CBET activities that already exist (i.e., kiosks, tiga roda and rental boats). Further, the local communities would like to initiate or collaborate in existing and future ecotourism activities with outsiders. In all three case study villages, there were no local, community-operated CBET activities related to diving and snorkelling, trekking, mountain hiking, enjoying terrestrial flora and fauna, and marine wildlife watching, which was primarily due to the lack of experience or knowledge in those areas. While all these CBET activities (especially diving, snorkelling and marine wildlife watching) did exist on Ataúro Island, they were largely controlled or managed by companies based on the mainland. Facilitating direct community involvement in these activities is a major CBET development priority for Ataúro Island.

7.5.4 Role of Customary Laws/Regulations in Community-Based Ecotourism Management

Customary law has the potential to support sustainable CBET on Ataúro Island, particularly to minimise environmental and socio-cultural impacts. Local customary law, or tara bandu, has been recognised formally by the Government of Timor-Leste, specifically through Decree Law No. 26/2012 on the basic environmental law. In particular, Article 8 specifies the importance of tara bandu in supporting government-made laws to combat irresponsible human activities that can threaten and harm natural resources and the local environment (Ministry of Commerce, Industry, and Environment, 2013). The findings of the present study indicate that customary law can also be used for environmental protection from the impacts of tourism activities and other human activities on the island. Tara bandu is widely recognised by individuals and by government in Timor-Leste and has been applied across the country to support natural resource management (Palmer & de Carvalho, 2008).
In particular, *tara bandu* has an important function in preserving and managing local natural resources (Palmer & de Carvalho, 2008). The results indicate that the main functions of *tara bandu* are protecting natural resources on the land and sea; protecting mangroves, reef, fish and forests; protecting the environment; and preserving cultural heritage. The findings indicate that *tara bandu* was only being formally applied in certain villages (including Makadade and Bikeli) at the time of this study. However, the vast majority of the local people still follow *tara bandu*, particularly in the three main villages on the island. For example, in Bikeli, several MPAs were established by the local people themselves through the application of *tara bandu*, with the result that the cutting of mangroves and other type of trees in the forest had been reduced significantly. In Makadade, local people employed *tara bandu* to protect their natural resources, such as nut trees and traditional bee farming. *Tara bandu* had also been applied to protect sacred places in forests on Jaco Island, with the result that its forest remained well preserved (Sandlund et al., 2001).

There is also significant potential to use customary law to protect or minimise the social-cultural impacts of tourism. *Tara bandu* can help visitors respect local natural resources and local customs when undertaking CBET activities on the island, in addition to minimising the negative impacts of human activities (e.g., forest burning and illegal logging). The local communities on Ataúro Island are clearly concerned about the social-cultural impacts of CBET activities, particularly female visitors wearing bikinis. If all visitors to the island were made explicitly aware of *tara bandu* and the need to respect local customs and preserve local natural resources, this would help minimise such socio-cultural impacts. This could be assisted through disseminating the relevant information through ecotourism flyers and tour operators on Ataúro Island, as well as imposing fines for those who violate local customary law. Such an approach is necessary to raise awareness of the need to minimise both environmental and social-cultural impacts in order to achieve sustainable ecotourism development.

### 7.5.5 Support for Community-Based Ecotourism Planning and Development

In relation to existing CBET enterprises, the results of this research revealed that the local communities who owned and managed CBET enterprises needed specific types of assistance and training to support their initiatives and become sustainable over time. The specific types of assistance can be grouped into six categories: basic business
management training; financial support; marketing and promotion; regulation, planning and management; hospitality and customer services; and infrastructure support. The need for these types of assistance was also highlighted in a previous study which identified weaknesses in these areas as major constraints to tourism development on the island (Coimbra, 2012). Therefore, interventions by government and other institutions are essential, not only in areas such as human resources, but also in areas such as financial assistance, infrastructure and marketing. Such interventions are often made by multiple agencies or actors. For example, in the case of the Chambok CBET project in Cambodia, a number of organisations are involved in supporting the project including government agencies, NGOs and the private sector (Rith, 2010).

Detailed assessments and feasibility studies are required to progress individual CBET enterprises on Ataúro Island. In order to give effective assistance to successful CBET enterprises, donors or benefactors first have to identify the current status and development priorities for CBET, at the village and island level. This is an important step, because sponsors or donors often have no information on CBET priorities or the needs of specific, individual CBET enterprises. A feasibility study of CBET enterprises will reveal the needs of particular CBET businesses as well as the needs of individual enterprises. For example, not all the businesses involved in transport may need assistance in mechanical training. Further, support needs to be balanced across the island and across the whole CBET sector, including support services, based on needs and community priorities. Support This should not just be targeted at the key communities with existing linkages to sponsors (i.e., Vila Maumeta and Beloi) but should also be targeted at the remote villages that have limited or no opportunities to gain assistance.

In setting up any local CBET financial assistance scheme, it is important to develop transparent criteria and processes. For example, financial assistance may be given to a CBET enterprise that is categorised as a small and medium enterprise, which entitles the owner to a soft loan of US$10,000 to US$30,000. However, those that are not classified as a small and medium enterprise may only have access to soft loans of less than US$10,000. The eligibility criteria for CBET enterprises seeking to obtain a loan should also include the requirements that they have been operating for more than one year and have a basic cash flow. Enterprises that do not meet these requirements would need to
be given some basic training prior to gaining access to the soft loan. This model has been implemented in other developing countries, such as Albania (Bazini & Nedelea, 2008).

Finally, while national and local governments have had little involvement in CBET development and PPT on Ataúro Island, there still remain major opportunities to support future sustainable CBET development and improve the livelihoods of the communities on the island. Local authorities have a limited ability to support CBET owing to limited financial and human resources, as local government relies directly on the central government for all its resources which are determined and allocated in the annual budget. Despite this limited capacity, local authorities can present formal proposals directly to the central government (on behalf of the local villages and communities) for support in CBET development, including financial assistance, human resource development and any other requirements that local people may need. In this respect, local government needs to be focused on playing a much more active role in local planning and community development, including CBET development.

To reflect ecotourism as a major national economic development priority (as stated in the Timor-Leste Strategic Development Plan 2011–2030 (RDTL, 2011)), it is critical that the central government invest more in ecotourism development. In addition, it must develop strategic priorities for CBET development. The Ministry of Tourism has a limited annual budget and limited human resources to support national CBET development (e.g., a budget of US$150,000 in 2012). Further, this funding is allocated across the entire country to cover CBET initiatives in all 13 districts (MTCI, 2012). Identifying the central government’s key financial and investment priorities is an essential element of developing a national ecotourism strategy and action plan for CBET development in Timor-Leste. The findings of this study confirm that Ataúro Island should be a major priority for national support, given its history and role as a national model of sustainable CBET, the proven socio-economic and environmental benefits to local communities, the wide range of outstanding CBET assets on the island and the strong local support for future CBET development.
Chapter 8:
Conclusion and Recommendations

8.1 Conclusion
The primary objective of this research was to answer the question, “How can pro-poor, community-based ecotourism on Ataúro Island, Timor-Leste, be developed and managed sustainably to benefit local communities, environmentally, economically and socially?” In order to answer this research question, the study focused on five principal areas of research:

1. Identification of ecotourism values and assets
2. Identification of existing CBET projects and programmes
3. Identification of the main issues and constraints affecting CBET
4. Assessment of CBET planning and management at the local level
5. Examination of CBET governance.

Together, this information provided key inputs to understanding how (current and future) sustainable, pro-poor CBET can be developed to reduce poverty, enhance local livelihoods and preserve Ataúro Island’s rich socio-cultural and environmental assets and values.

Worldwide, CBET has become an important and well-recognised instrument for community development and poverty alleviation in LDCs (Ashley et al., 2001; Khanal & Babar, 2007; Krüger, 2005; Mbaiwa & Stronza, 2010; Naidoo et al., 2011; Pedi, 2007; Rajasenan & Paul, 2012). CBET development can assist and support local communities to improve their socio-economic status and livelihoods, particularly in remote and rural areas, as well as minimise the negative environmental and socio-cultural impacts of mass tourism activities. Many developing countries have the opportunity and potential to develop ecotourism, particularly SIDS like Timor-Leste that are endowed with significant natural and cultural resources. However, the lack of human resources, financial resources and infrastructure poses major challenges and obstacles in CBET development in LDCs (Agrawal & Redford, 2006; Gurung & Seeland, 2011; Kiss, 2004; López-Guzmán et al., 2011; Moscardo, 2008).
This research has confirmed and demonstrated that Ataúro Island has considerable potential for major ecotourism development, with a wide range of ecotourism assets including natural, historical, cultural and religious ecotourism assets which can be developed further. With examples of successful CBET development and as a major ecotourism destination in Timor-Leste, Ataúro Island has become a national model for development. To assist with future development of the tourism sector, the Ataúro Tourism Group has been established, but the scope of this group is not confined to solely to CBET development.

CBET has the potential to significantly enhance the well-being of residents on Ataúro Island through economic, socio-cultural and environmental benefits. This study has clearly demonstrated the positive benefits of existing CBET development through job creation and employment, support of local livelihoods and preservation of cultural and environmental assets and values on the island. Further, successful CBET enterprises have contributed significant pro-poor benefits to local communities with little support from the central government or international NGOs. CBET development has also contributed extensively to job opportunities compared to other sectors on the island. However, the lack of infrastructure, human resources and financial resources remains the main challenge for local communities in developing CBET enterprises. Significantly, the findings of the study also indicate that any cultural and environmental impacts on the island from existing ecotourism activities are very low. The host communities are enthusiastic about developing more ecotourism enterprises in their villages and, importantly, clearly identify ecotourism as the preferred form of tourism over other types of tourism, particularly mass tourism.

8.2 Recommendations for Community-Based Ecotourism

Based on the results of the study, recommendations for CBET on Ataúro Island are made in the following areas:

- **Challenges in sustainable CBET planning and development** – While CBET enterprises have been largely successful on the island, there remain many issues and challenges in relation to sustainable tourism planning and development. These include the lack of human resources and capabilities, critical land tenure issues, limited financial resources, no specific CBET policies, regulations or plans, and a lack of integration with other key activities and sectors on the
island. For example, Ataúro Island has been designated as one of Timor-Leste’s special economic zones—with the potential for a major influx of foreign investment and development including the development of mass tourism. The findings of this research indicate that such a direction would seriously conflict with local community aspirations for CBET.

- **Local tourism development authority** – It is the role of local government, through the subdistrict administration, to initiate the establishment of an integrated tourism committee comprising local leaders, women’s representatives, religious leaders, CBET operators, private sector tourism operators, local authorities and NGOs to discuss tourism development issues in an open forum. The committee would have a responsibility to identify the types of sustainable tourism development that are suitable for Ataúro Island in order to preserve its natural and cultural resources and generate economic benefits for the host communities. The committee would then petition the central government to affirm the aspirations of the Ataúro Island population regarding tourism development preferences.

- **Development of ecotourism and CBET policies, plans and regulations** – While the *Timor-Leste Strategic Development Plan 2011–2030* (RDTL, 2011) clearly states that the tourism sector (and particularly ecotourism) is a national priority for economic development as an alternative to oil, there remains a major vacuum in tourism policies, regulations and strategies within the Ministry of Tourism. This is especially true for CBET policies. For the Government of Timor-Leste to develop effectively the ecotourism and CBET sector, the introduction of specific strategies, policies, regulations and local tourism plans (by the Ministry of Tourism) is urgently needed. These policies, legal and planning frameworks will provide local districts and local communities with a clear direction on sustainable CBET planning and development, and also provide critical support and guidance for communities in establishing new CBET enterprises, including opportunities and guidelines for private–public partnerships.

- **Integration with local (district and village) development plans** – In order for CBET policy strategies and plans to be effectively implemented on Ataúro Island, it is recommended that the CBET development be integrated with the
local government development plans (as well as village-level plans). This should include full consultation with local communities in the five villages on the island about the CBET directions and priorities. For Ataúro Island, integration with local development plans would be assisted by the establishment of a CBET taskforce, including representatives from the Ataúro Tourism Group, Ataúro Local Authority, the Ministry of Agriculture and Fisheries, Secretary of State for the Environment, and the Ministry of Tourism.

- **CBET certification and accreditation** – The Government of Timor-Leste should establish a CBET certification scheme in order to ensure all CBET initiatives meet certain requirements; otherwise, any tourism enterprise could claim it was CBET. To establish such a scheme, a committee of certification that consists of the Ministry of Tourism, Ministry of Agriculture and Fisheries, Secretary of State for the Environment, private sector tourism operators, NGOs, local community leaders and representatives of CBET initiatives should be set up. The committee should also give annual awards to local community groups that have achieved excellent results in CBET initiatives. This will encourage and motivate other local communities to get involved in CBET development, and it may also improve the quality of products and services delivered in CBET ventures.

- **Protection of natural and cultural assets** – The island of Ataúro is a very sensitive area in regard to marine biodiversity and marine wildlife, and has a rich local culture. The Government of Timor-Leste needs to consider establishing particular conservation, environmental and heritage protection laws and regulations to protect the island’s natural and cultural assets, particularly from unregulated coastal development and impacts of the tourism industry. These regulations need to be established across conservation, environment and heritage agencies (i.e., the Ministry of Agriculture and Fisheries, which is responsible for marine and protected areas in collaboration with the Secretary of State for the Environment and the Ministry of Tourism). Environmental laws and regulations are particularly required to assess and regulate the number and type of accommodation established on the island, including a statutory requirement for full public consultation and comprehensive environmental and social impact
assessments for all development applications. This is a key pillar in ensuring that the communities on the island control the direction and nature of tourism development and that the potential negative impacts of mass tourism development are minimised.

- **Protected areas as a ‘vehicle’ for sustainable ecotourism and CBET planning**
  – Protected marine and terrestrial areas are widely acknowledged as integral to sustainable ecotourism and CBET development and management, providing both the protection of ecotourism values and assets, and a mechanism for the planning and management of ecotourism and CBET development. The Ministry of Tourism is not consulted on, nor participates fully in, protected area planning and management on Ataúro Island (or in Timor-Leste more generally). There is an urgent need to include the Ministry of Tourism in protected area planning and management, along with the Ministry of Agriculture and Fisheries, and the Secretary of State for the Environment. Existing and future protected area management on Ataúro Island also requires considerable more resourcing. In Makadade, even though there is a protected area in the village, there is no signage to guide visitors and no walking trail.

- **Community-based, integrated coastal and marine planning and management**
  – With the growth of tourism on Ataúro Island, there are increasing conflicts between tourism, fishing, conservation and local communities, with impacts on local livelihoods. This increasing conflict underscores the need for integrated coastal and marine (spatial) planning and management. For example, marine tourism businesses, such as diving companies, recreational fishing, water taxis and sailing, are currently unregulated on the island, with the potential to affect marine ecosystems and resources. To protect these natural and cultural assets, both activity-based regulations (i.e., regulations on coastal development, fishing, shipping, diving, sailing and harvesting of flora and fauna) and area-based coastal planning (i.e., spatial planning) are required. With the current lack of cross-sectoral and multi-agency coordination and poor institutional capacity in Timor-Leste, bottom-up approaches, like local-scale integrated coastal management plans, provide a potential participatory, community-based approach to integrated coastal planning.
• **Access to financial resources** – The findings of this study highlight that limited financial capital has been one of the key constraints in CBET development in the three main villages of Vila Maumeta, Beloi and Bikeli on Ataúro Island. One recommendation to encourage CBET is for the central government (e.g., the Timor-Leste National Bank of Commerce in cooperation with the Ministry of Tourism) to develop a programme of microcredit (soft loans) to enable local communities to establish new CBET enterprises or expand their existing businesses. The soft loans model has the potential to guide host communities not to rely on support from government or other organisations but to manage their own financial needs through credit. Local communities have an obligation to manage their businesses properly with full responsibility to repay their liabilities.

• **Ecotourism and CBET marketing and promotion** – The island of Ataúro is widely regarded as one of the most popular ecotourism destinations in Timor-Leste. It has also become a role model for CBET development nationally, and in other countries across the region. However, the marketing and promotion of the island as an ecotourism destination has largely been driven by informal, market and non-government means such as social networking, industry trade shows and travel journalism. As such, the island lacks specific promotion by the central government as a national and international ecotourism destination. In order to promote the ecotourism industry on Ataúro, it is important to showcase this highly successful model of ecotourism, globally, via the Ministry of Tourism’s website. Additionally, it is important to produce brochures on Ataúro Island to advertise the available ecotourism assets and activities and specific CBET enterprises. The brochure could also provide information on the local culture, which would inform visitors about what they need to know, how they can respect sacred places, and what types of activities cannot be carried out while visiting the island. The brochure could include guidance on how visitors can avoid activities or behaviours that cause offense (or are insensitive) to local culture or customs as well as the establishment of tourism information centres on the island.
• **Infrastructure planning and development** – As highlighted in the results of the participatory mapping, Ataúro Island lacks basic infrastructure (i.e., road, electricity and water supply) to support future tourism development across the island, particularly in remote areas such as Makadade, Makili and Bikeli. This lack of infrastructure has also created an uneven distribution of the economic benefits of CBET activities among the five villages on the island. For example, CBET activities have largely developed in villages with good infrastructure such as Vila Maumeta and Beloi. To facilitate future tourism development, tourism planning needs to be integrated with infrastructure planning as a matter of urgency. This requires collaboration between the Ministry of Infrastructure and the Ministry of Tourism to identify and prioritise potential areas for infrastructure planning and development in the short, medium and long term. For example, Makadade has major potential for ecotourism development (and alternative livelihoods and economic benefits) for local communities through activities such as hiking and visits to historical and cultural attractions. However, insufficient roads and electricity supply remain major obstacles for ecotourism development in the village.

• **Vocational hospitality and business training** – Local communities in Vila Maumeta, Beloi and Bikeli have demonstrated very good initiatives in CBET initiatives including lodges, handicrafts, kiosks, restaurants and local transportation providers. However, the results of this study show that the local people lack knowledge and experience about undertaking CBET businesses. It is therefore strongly recommended that the Government of Timor-Leste, through the Ministry of Tourism, provides human resource development such as vocational training and basic business training programmes. Moreover, in particular CBET businesses, such as those in the area of restaurants and accommodation, it will be necessary for proper training in food services, hospitality and housekeeping to be provided in order to improve the quality of the services. Vocational training can be implemented in the short term through collaboration between the Ministry of Tourism and qualified tourism institutions in Dili such as the Dili Institute of Technology.
• **Land ownership and land tenure** – Due to the land ownership and tenure issues, CBET enterprises have encountered problems in planning and management on Ataúro Island. For example, individuals often do not have land certificates to establish rights to the land they already use and believe they own. The land ownership issue has become a major problem across the country, which not only disadvantages Timor-Leste in attracting foreign investors but also affects the planning and development of other CBET initiatives on Ataúro Island and in Timor-Leste in general. In order to overcome the issue of land tenure, the Ministry of Justice needs to accelerate the land law process to assist local communities to gain title to land. When the local people have land title it will reduce the occurrence of disputes in the planning and establishment of CBET.

• **Tourism linkages between CBET and private sector tourism** – CBET ventures frequently face a number of constraints in terms of market access, inadequate human resources and financial constraints. Therefore, local government and the Ataúro Tourism Group need to assist host communities who run CBET enterprises by linking CBET to private sector tourism operators, such as diving companies, water taxi companies and travel agencies. This approach will create many opportunities for benefit sharing among CBET initiatives and will open access to the tourism market. For example, the private sector operators can include CBET initiatives in their flyers and websites and encourage their customers to purchase locally on the island in order to support PPT.

### 8.3 Recommendations for Further Studies

To expand on the findings of the present study, the following directions in future research are recommended:

• **Broader market research analysis** – Additional research needs to be undertaken to look not only from the supply side (CBET enterprises) but also the demand side (eco-tourists) in order to understand tourists’ perceptions of CBET and the island’s most appealing attractions. The findings will identify what customers need and want in ecotourism development, including visitors’ budgets and expenditures, and their opinions about how to improve ecotourism development and CBET services. The findings would also provide information on the
characteristics of tourists who visit the island, which is important for future
ecotourism planning and development and attracting particular markets.

- **Monitoring of impacts** – Research on the environmental impacts of ecotourism
  activities on the island should be conducted in order to gather baseline data
  specifically related to coral reef damage, coastal erosion, fish degradation and
  marine wildlife destruction. The findings of such research would help to
  minimise further serious negative impacts of ecotourism development in the
  future. Baseline data are essential for long-term sustainable development and to
  assist in adaptive management through comparison with future studies.

- **Livelihoods benefits and impacts** – There is need for further studies on the
  economic benefits and impacts of CBET initiatives for local communities and
  livelihoods (particularly fishing, farming and livestock) through qualitative
  methods of data collection, such as group discussion and key informant
  interviews (rather than by means of a structured questionnaire, which was used
  in this research to gather quantitative data). Qualitative methods can explore
  more complex issues and provide more diverse and subtle forms of information,
  such as exploring how local communities feel about CBET development and
  how it affects or impacts their main livelihoods and local communities (i.e.,
  economic, social and cultural impacts).

- **Further ecotourism mapping** – Further research on ecotourism mapping can
  expand the present study by obtaining additional, in-depth information on the
  location of ecotourism assets and infrastructure, as the local community only
  indicated the existing ecotourism assets through a simple format hard-copy map
  in this study. Therefore, future research can use the results generated in this
  study as baseline data. It is also recommended that a full GIS system should be
  applied in ecotourism mapping for all ecotourism activities, in terms of using
  GIS tracking to identify the trekking route in protected areas (Makadade) and
  other potential cultural, historical and religious sites. The GIS system would
  enable the transfer of the locations into ArcGIS for correct positions.
References


Tibirica, Y. J. (2007). *The potential for sustainably managed SCUBA diving tourism to assist in both community development and coral reef conservation in developing countries - with a focus on a case study from Timor-Leste (East Timor)*. (Master’s thesis). James Cook University, Australia.


Appendices

Appendix 1: Approval Letter from the Ministry of Tourism of Timor-Leste

Dili, 28th May 2013

Human Research Ethics Committee
Charles Darwin University (CDU)
23 Ellengowan Drive Brinkin
Darwin NT 0810

Subject: Letter of Support for Master Degree by Research Project

Dear Sir or Madam,

The Timor Leste Tourism National Directorate of Marketing (TLTNDM) fully supports the research project with topic of sustainability and success factors for community-based tourism ventures on Ataúro Island, Timor Leste which will be carried out by Mr. José Filipe Dias Quintas, a MSHES candidate at Charles Darwin University.

Mr. Quintas has been worked for Tourism National Directorate almost ten years and currently, he is on study leave – his Master Degree by Research is under a joint scholarship between the Ministry of Education of Timor Leste and Charles Darwin University as part of Timor Leste’s capacity building programs. Furthermore, the community-based tourism on Ataúro Island has been supported by Tourism National Directorate since 2011, and this project is very interesting to explore issues and constraints which have been facing by local communities who are involved in tourism ventures – we do hope that the outcome of this project will be invaluable for the Tourism National Directorate as recommendations for future development of community-based tourism in Timor Leste.

The Timor Leste Tourism National Directorate of Marketing (TLTNDM) looks forward very much to supporting and assisting with this very important research project. TND is keen to coordinate with local authorities on Ataúro Island as well as NGO Roman Luan to assist Mr. Quintas during in his research including meetings arrangement, interviews and other matters which are related to his research project.

Yours faithfully,

Aquilino Santos Caéro S. sos Amd. Par
Director of TLTNDM
The Ministry of Tourism of Timor Leste
Appendix 2: Human Ethics Approval

27 September 2013

Mr Jose Quintas
Brown 1
IHD

Dear Mr Jose Quintas,

RE: H13058 Quintas, Sustainability and success factors in community-based, pro-poor tourism development on Atauro Island, Timor Leste.

Human Research Ethics Committee Project Application Approval

The Charles Darwin University Human Research Ethics Committee considered your application for ethics clearance for the abovementioned project at meeting 9/13, held on 19 September 2013.

The HREC approved this response and application.

The expiry date of ethics approval for your project is 20 June 2014. It is the responsibility of the researcher to ensure that ethics approval is renewed prior to the expiry date. If renewal is necessary, you will need to submit a progress report including a statement of compliance with ethical requirements, and detailing any proposed or actual changes to the project, which may affect its ethical acceptability. Renewal/Final Report forms are available from the Web at http://www.cdu.edu.au/researchoffice/renew_final_04.rtf or from the Office of Research & Innovation.

If any significant alterations to your project are contemplated, or if any matters arise which may conceivably affect the continued ethical acceptability of the project, you are required to immediately notify the Human Research Ethics Committee by letter.

Our best wishes for the success of your project.

Yours sincerely

Professor Sharon Bell
Chair, Human Research Ethics Committee
Appendix 3: Notification Letter of Minor Modifications

28 January 2014

Human Research Ethics Committee (HREC)
Charles Darwin University (CDU)
23 Ellengowan Drive Brinkin
Darwin NT 0810

Dear HREC,

Subject: H13058 Quinta - Notification of Minor Modifications

With regards to my human ethics research application (H13058): ‘Sustainability and success factors in community-based, pro-poor tourism development on Atauro Island, Timor Leste’, I wish to formally notify the HREC of the following minor modifications to my human ethics application (following the feedback and approval of my formal Confirmation of Candidature on December 13th, 2013):

a) refined project focus on community-based ecotourism (CBET) and livelihood development, rather than community-based tourism (CBT) and pro-poor tourism (PPT);

b) inclusion of SWOT analysis, as a theoretical framework to assess ecotourism development on Atauro Island;

c) reduced scope (and reduced duration) of field and data-collection activities – including removal of all in-depth interviews (for 3 villages) and addition of participatory mapping of ecotourism values (to accompany focus group discussions);

d) and revised project title: ‘Sustainability and success factors in community-based, ecotourism and livelihood development on Atauro Island, Timor Leste.’

Following Confirmation of Candidature, my research timeline has also been amended, with my field work on Atauro Island, now due to commence in February 2014.

Please advise if you require any further information.

Yours faithfully,

José Filipe Dias Quintas
Student ID s231214
Appendix 4: Letter of Variation Request

30 January 2014

Jose Quintas
International House, Brown Precinct
Building 4, Room Z15.

Dear Jose,

RE: H3058 - Sustainability and success factors in community-based, community-based ecotourism and livelihood development on Atauro Island, Timor Leste.

Human Research Ethics Committee – Variation Request

The Chair of the Charles Darwin University Human Research Ethics Committee (HREC) considered your variation request out of session.

The HREC Chair has approved the changes to the focus, scope and methodology of the project, the inclusion of a swot analysis and the associated change of the project title, on the condition that the following documentation is provided to the committee:

- An updated PLS that reflects the changes
- An example outline of participatory mapping of ecotourism values

Should any further significant alterations to your project be contemplated, or if any matters arise which may conceivably effect the continued ethical acceptability of the project, you are required to immediately notify the Human Research Ethics Committee by letter or email.

Please Note:

- Ethical Clearance is provided for a period of one year.
- A Final Report is due on completion of this project.
- A renewal must be submitted before the expiry date if the project is to continue.
- Any requests to vary the project should be submitted in writing.
- The HREC is unable to provide retrospective approval. Approval is granted from the date on this notice only.

Yours sincerely,

[Signature]

Professor Lawrence Cram
Chair, Human Research Ethics Committee
Appendix 5: Plain Language Statement

PLAIN LANGUAGE STATEMENT

Topic research:

Sustainable tourism and alternative livelihood development on Ataúro Island, Timor Leste, through pro-poor, community-based ecotourism.

Aim:

To identify how pro-poor, community-based ecotourism on Ataúro Island (Timor Leste) can be developed and managed sustainably, to benefit local communities, environmentally, economically and socially.

Who is running this project and what organizations are involved?

This is a Master's Degree by Research (MRSEHS) project with Charles Darwin University (CDU), and funded under a joint scholarship between CDU and the Ministry of Education of Timor Leste. The research will also be facilitated by the Ministry of Tourism of Timor Leste, in collaboration with local authorities, as well as local NGO Roman Luan on Ataúro Island, Timor Leste.

Mr. José Filipe Dias Quintas – Main Researcher (MRSEHS Student)
Professor Karen Edyvane, Principal Supervisor

Co-supervisors:
1. Professor Owen Stanley
2. Dr. Aggie Wegner
3. Julian Gorman

Who are the community participants in this project?

All participation is voluntary – you can say no! Participants may withdraw at any time.

The participants of the project will primarily be the local community from three different villages on Ataúro Island including Beloi, Siqelei, and Villa Maumeta. Participants who will be involved in filling in questionnaires and undertaking participatory mapping – will include key stakeholders at the 3 villages (Bequilli, Beloi, and Villa Maumeta), such as fishermen, local vendors, community-based ecotourism (CBET) owners, local leaders, local NGOs etc. Roman Luan is a local NGO on Ataúro Island, which has been involved in several important complementary projects, such as raising community awareness of coastal and marine environment and management issues - this NGO will be providing project assistance in facilitating community engagement and organizing community input into the questionnaires and participatory mapping.
What do project participants have to do?

Participants will be engaged in 2 research activities: (1) completing questionnaires on CBET programs on Atauro (including key issues, constraints, priorities, opportunities) and (2) undertaking participatory mapping to identify CBET values/assets and potential opportunities...

The questionnaires will be completed by participants within a length of time of approximately 45 to 60 minutes. The questionnaires are circulated to participants in the first day and will be re-collected in the next two to three days. Participatory mapping will be undertaken as a small group activity and will take between 90 to 120 minutes (depending upon the number and availability of participants). All data collection activities will be conducted at each of the three villages on Atauro Island.

What are the risks and benefits of the project?

This project provides opportunities for stakeholders to discuss community-based ecotourism development on Atauro Island, in terms of issues and limitations that they have encountered, and also, the potential opportunities and priorities for sustainable community-based ecotourism development (economically and environmentally). Furthermore, at the end of this project, local authorities and Ministry of Tourism will also receive the hard copy of the final findings of the research project (outcome), to assist with future CBET development on Atauro Island.

There are no risks in participating in this project because participants merely require engagement in the participatory mapping and completing questionnaires – it is mainly the inconvenience caused by taking up people's time.

Privacy/confidentiality.

The participants who are involved in questionnaires surveys and participatory mapping will not disclose their names unless they are requested to do so.

Samples

Pictures will be taken to assist in identification of people and places but will merely be used in the context of this research project. If people wish to have photos removed then they need to contact the researchers and the information will be deleted.

The Results

At the end of this research project, local authorities at three villages and the Ministry of Tourism will receive the hard copy of final findings (outcome) of the research project for their references for future development of pro-poor, community-based ecotourism development.

Contact Details

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English Version/Versaun Inglés
Appendix 6: Deklarasaun Linguazem Simples

DEKLARASAUN LINGUAZEM SIMPLES

Topiku Pesquisa:
Turismo sustentável no desenvolvimento subsistência alternativo iha iha Atauro, Timor Leste, através prô-pobre, ecoturismo de base comunitária

Objective Principal:
Atu identifica dinsa prô-pobre, ecoturismo de base comunitária bele desenvole no jere ho sustentavel hodi fô benefisiu ba comunidade lokal – ambientalmente, economicamente, nómos socialmente.

Se maka hała'o pesquisida ida ne'e nómos organizasaun ne'ebé deit mak envolve?
Pesquisa ne'e hanesan pesquisa nivel Mestradu nian, hała'o husi estudante ne'ebé hetan bolsu estudu liu husi koperasun enter Universidade Charles Darwin ho Ministeriu Edukasaun Timor Leste, pesquisa ne'e mos se fasidita husi Ministeriu Turismo Timor Leste no sei senvisu hamotuk ho ONG Roman Luan iha iha Atauro, Timor Leste;

Sr. José Filipe Dias Quintas – Nudar hanesan pesquisador (studante Mestradu)
Professor Kareni Adyvane, nudar hanesan supervisor prinsîpu

Membu supervisor maka hanesantur mai:
1. Professor Owen Stanley
2. Dr Aggle Wegner
3. Julian Gorman

Partisipantes Komunidade ne'ebé maka sei involve iha perquisa ne'e?
Partisipantes tomak hanesan voluntário – ita bo'ot sîra bele retira an bain hira deit no la iha obirigasaun.

Partisipantes ne'ebé envolve iha pesquisa ne'e dahułuk komunidades lokal husi sukus tolu ne'ebé la hanesan iha iha Atauro maka hanesan Beloi, Bequli, no Villa Maumeta. Partisipantes hirak ne'e maka sei envolve iha atividades preenche kuestionârius no halaio mapeamentu participativu – sei inklui mos partes interessadas iha sucos tolu (3) Beloi, Bequli, no Villa Maumeta, partisipantes sîra ne'e maka hanesan peskadores sîra, vendador lokal, nain ba ecoturismo de base komunitaria, lider komunitaria, ONG lokal sîra, no seluk tan. ONG Roman Luan ne'e hanesan ONG lokal iha Atauro ne'ebé partispa daTa barak ona iha projeto ká programas importantes maka hanesan; haso'k konheisementu konba meio ambiente no jostaun tasi no kosterá, ONG ne'e maka sei fasidita no organiza kuestionârius no envolve iha mapeamentu participativu.

Saída maka partisipantes sîra sei hato iha pesquisa ne'e?
Partisipantes sîra sei envolve iha atividades pesquisa rua; (1) kompleta deit kuestionârius konaba programas ecoturismo de base komunitaria iha iha Atauro (inklui questões, limitasaun,
Kuestionárius sira sei kompleta husi partisipantes, nia durasaun ká tempu maižumenus 45 to’o 60 minutus – kuestionárius hirak ne’e sei sírkuła ba partisipantes sira iha loron dahułuk nómos sei halibur fila fall iha loron rua ká tolú nia laran. Mapeamentu participativu sira hala’o ho grupu krik ativamente no sei persíza tempu entre minuto 90 to’o 120 nia laran (depende mos ba posibilidad número partisipantes sira). Actividades ba halibur dudas sei hala’o iha kada suco iha sucos tolú nia laran.

Risku no benefisiu saida husi pesquisa ne’e?

Pesquisa ne’e sei fó oportunidade ba partes interessadas sira hodi diskute desenvolvimentu ecoturismo de base komunitária iha Ilha Ataúro, hanesan, questões no limitasaun ne’ebé sira infrenta hela, nómos oportunidades potenciais no prioridades ba desenvolvimentu ecoturismo de base komunitária (ekonomikamente no ambientalmente), no bain hira pesquisa ne’e ramata, lokal autoridades sira iha Ilha Ataúro no Ministeriu Turismo sei simu resultado relatori (ho modelu livru) hodi ajudá utiliza ba futuru desenvolvimentu ecoturismo de base komunitária.

Sei taiva risku ruma bainhira partisipa iha actividades pesquisa ne’e tamba partisipantes sira hola parte deit iha preenhe kuestionárius no mapeamentu participativu, – iha deit maha hanesan inkonveniência balun hodi fóti tempu oetuan husi partisipantes ba actividades hirak ne’e.

Privasidade ká konfidentialidade

Partisipantes ne’ebé kompleta kuestionárius no envolve iha mapeamentu participativu sei la publika sira nia identidade kank pedidu husi partisipantes sira.

Amostras:

Fotografías mos sei hasi atu ajuda hodi identifika ema no fatin, no dokumentus hirak ne’e sei utiliza deit ba asuntu pesquisa deit. Karik pesoaal sira ne’e hakarak atu remove ká hasai antaun ema hirak ne’e tenke kontaktu pesquisaador no infomasaun hirak ne’e sei elimina.

Resultadu

Bain hira pesquisa ne’e ramata autoridade lokal husi sucos tolú no Ministeriu Turismo sei simu ká hetan livru resultado estudu husi pesquisaa ne’e, nomos sai hanesan referensia ida ba futuru desenvolvimentu pró-pobre, ecoturismo de base komunitária.

Detalhes Kontaktu

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Karik iha perguntas rumá konaba iako etikà pesquisa ne’e favor bele kontakta Universidade Charles Darwin (CDU) nia Komite Etika Pesquisa Humana.

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Appendix 7: Consent Form

Consent Form for Questionnaire and Participatory Mapping for

Project Title:
Sustainable tourism and alternative livelihood development on Ataúro Island, Timor Leste, through pro-poor, community-based ecotourism

I, ........................................................................................................ of ........................................................

hereby consent to participate in a study to be undertaken by Mr. José Filipe Dias Quintas of Charles Darwin University. I understand that this research will include the data collection on sustainable tourism and alternative development through community-based ecotourism by using questionnaires and participatory mapping.

I acknowledge that:

- The aims, methods, and anticipated benefits, and possible risks of the study, have been explained to me by Mr. José Filipe Dias Quintas;
- I voluntarily and freely give my consent to my participation in such study, and any specific cultural knowledge, including customary law “tara-bandu”, cultural narrative and images will not be used without our full consent;
- I understand that aggregated results will be used for research purposes and may be reported in scientific journals and academic journals;
- I understand that individual results will not be released to any person except at Mr. José Filipe Dias Quintas’ request and on his authorization;
- I am free to withdraw my consent at any time during the study, in which event my participation in the research study will immediately cease, and any information obtained will be returned to me or destroyed at my request.

Signature: ____________________ Date: ________________

English Version/Verseun Inglês
Appendix 8: Fómulariu Akordu

Fómulariu Akordu ba Kuestionárius no Mapeamentu Participativu ba

Topiku Pesquisa:

Turismo sustentável no desenvolvimento subsistência alternativo iha ilha Ataúro, Timor Leste, através pró-pobre, ecoturismo de base comunitária

Hau, ....................................................................................., hela fatin, .........................................................

deklara katak aseita hodi hola parte iha estudu/pesquisa ne’ebé hala’o husi Sr. José Filipe Dias Quintas husi Universidade Charles Darwin. Hau komprende katak perquisa ne’e sei inklui halibur dadus konaba Turismo sustentável no desenvolvimento subsistência alternativo através pró-pobre, ecoturismo de base comunitária liu husi intervista no mapeamentu participativu.

Hau rekonhese katak:

- Objéktivus, metodus, no antispadu benefisiu, nomos posibilidade: risku pesquisa esplika hotu ona ba hau husi Sr. José Filipe Dias Quintas;

- Hau voluntariamente no livremente fó hau nia akordu ba hau nia partisipasaun iha pesquisa no qualquer konhecimento kultural específiku, incluindo habituais lei “tara-Bandu”, narrativa kultural no imagens sei la utiliza kunadu la iha konsentimentu kompletu husi ami;

- Hau komprende katak agregadus resultadu sei utiliza ba finalidade ká objéktivu pesquisa nia no talvez sei fó sai iha jornal sientifikas nomos peródikus akadémikus;

- Hau komprede katak resultadu individuual sei la publika ba kuauker ema ida exsetu ba Sr. José Filipe Dias Quintas nia pedidu no autorizasaun;

- Hau livremente retira hau nia akordu iha kuauker momentu durante iha pesquisa nia laran, bain hira hau nia partisipasaun iha pesquisa sei imediatamente hakotu, nomos informasaun ne’ebé hetan ona sei fó fila ba hau ou destruir hau nia pedidu.

Assinatura: ___________________ Data: ___________________
Appendix 9: Brief Outline of Participatory Mapping

Outline of Participatory Mapping

The objective of using community-based, participatory mapping is to identify the ecotourism values and assets (natural, cultural), relevant infrastructure, and areas of ecotourism activity and user group conflicts, on Ataúro Island - to assist with CBET planning and development. Mapping will be undertaken for the whole island, with a focus on the three villages of research interest (Beloi, Bequili, and Vila Maumeta).

Participatory mapping will be undertaken using a simple format hard-copy map (using an aerial photograph of Ataúro Island as a base map) containing information such as: tourism value/asset, infrastructure, human uses and activities. Existing/potential tourism conflicts (i.e. fishing in Marine Parks, culturally sensitive sites, pollution of coastal and marine habitats, etc.) will also be recorded. Understanding ecotourism values, assets (and activities and potential conflicts), is essential for integrated coastal and marine spatial planning and sustainable tourism development. Participatory mapping will also, assist local people to recognise their ecotourism assets and to identify development priorities and sustainability issues and solutions. Key tourism infrastructure and access issues (e.g. roads, water supply, power, jetties, etc.) will also be identified and incorporated in the tourism mapping exercise. Together, this will assist with an integrated approach to community-based, ecotourism development on Ataúro Island, particularly in the three case study villages.

Significantly, mapping will be informed by existing data and spatial data layers from a range of recent past projects on Ataúro Island, including coral reef surveys (Dutra & Taboada, 2005; Burke et al., 2012; Erdmann & Mohan, 2013), coastal-marine tourism values (Edyvane et al., 2009), marine mega fauna (Dethmers et al., 2009), and mapping of coastal-marine habitats (Lieper et al., 2013; Alongi, 2014), as well as incorporating additional new data from community-based, participatory mapping.
Appendix 10: Questionnaire Form

Research Title:
Sustainable tourism & alternative livelihood development on Atauro Island, Timor Leste through pro-poor, community-based ecotourism

QUESTIONNAIRE FORM

Section One: Individual (& Household) Respondent Information (for all respondents):
1. What is your nationality?
   □ East Timorese □ Foreigner (Please, specify your country): ____________________

2. What is your gender?
   □ Male □ Female

3. What is your age group?
   □ 17-25 □ 26-35 □ 36-45 □ 46-70

4. What village are you from?
   □ Bequiu □ Beloi □ Vita Maumeta

5. What is your highest level of education?
   □ Primary school □ Secondary school □ Senior high school □ Other, please specify: ____________________

6. What is your current primary occupation/activity (paid or unpaid)?
   □ Farming □ Fishing □ Livestock, hunting
   □ Working for Local NGO on Atauro Island □ Community-based ecotourism (e.g., lodge, handicrafts, rental boat, tour guide, etc.) □ Other, please specify: ____________________
7. What occupation/activity is the major source of your household income (if any)?

☐ Farming
☐ Fishing
☐ Livestock, hunting
☐ Working for Local NGO on Ataúro Island
☐ Community-based ecotourism (e.g., lodge, handicrafts, rental boat, tour guide, etc.)
☐ Other, please specify: __________________________________________________________

8. What is your net, average household income per month (USD), over the past year?

☐ $50-100     ☐ $101-250     ☐ $251-300     ☐ $301-500     ☐ over $500

9. Of your net, average household monthly cash income (see Q. 8, above), how much (USD) came from the following activities (if any)?

☐ Farming
☐ Fishing
☐ Livestock, hunting
☐ Working for Local NGO on Ataúro Island
☐ Community-based ecotourism (e.g., lodge, handicrafts, rental boat, tour guide).
☐ Other, please specify: __________________________________________________________

NOTE: If you are NOT a community-based ecotourism (CBET) owner, please go direct to Section Three (DO NOT answer Section Two)
Section Two: Community-based ecotourism Programs/Projects Information (for community-based ecotourism participants/owners)

10. What type of community-based ecotourism (CBET) business (and/or support activities) are you involved in?

Please select one or more:

- Lodge or guesthouse accommodation (including cooking, cleaning, etc.)
- Handicraft production (e.g., wood carvings, weaving, etc.)
- Restaurant
- Kiosk
- Souvenir shop
- Rental boat
- Recreational or game fishing
- SCUBA diving/snorkelling
- Marine wildlife watching (dolphin, whales, turtles)
- Terrestrial fauna (birds, reptiles, etc.) & flora
- Mountain hiking
- Assisting researchers
- Cultural activity or festival (e.g., dancing, music, ceremony)
- Tour guide
- Local transport (e.g., taxi, car hire, motorbike, bicycle hire)
- Other, please specify: ________________________________

11. What is the name of the community-based ecotourism business?

__________________________

12. How long have you been operating? (When did you start)?

__________________________

13. Who owns the community-based ecotourism business?

- Local Individual
- Foreigner
- Local cooperative
- Other, please specify: ________________________________
14. How many local Atáuro people are employed in this community-based ecotourism business?

☐ 0  ☐ 01-5  ☐ 6-10  ☐ 11-15  ☐ 16-20  ☐ over 20

15. Over the past year, what was the estimated net income average per month (USD) from this CBET business?

☐ $50-100  ☐ $101-250  ☐ $251-300  ☐ $301-$500  ☐ over $500

16. Do you have any other livelihoods, apart from this community-based ecotourism (i.e. fishing, agriculture, hunting, etc.)? If yes, what other livelihood activities do you undertake?

☐ Farming
☐ Fishing
☐ Livestock, hunting
☐ Working for Local NGO on Atáuro Island
☐ Other, please specify: ________________________________

17. What type of support (if any) has the community-based ecotourism program received from others?

Please select one or more:

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Type of Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Government</td>
<td>Financial</td>
</tr>
<tr>
<td>Local (Atáuro) Government</td>
<td>Workforce training</td>
</tr>
<tr>
<td>Local (Atáuro) NGOs</td>
<td>Management</td>
</tr>
<tr>
<td>National NGOs</td>
<td>Planning</td>
</tr>
<tr>
<td>International NGOs</td>
<td></td>
</tr>
<tr>
<td>Conservation NGOs</td>
<td></td>
</tr>
<tr>
<td>Private sector</td>
<td></td>
</tr>
<tr>
<td>Other, please specify:</td>
<td></td>
</tr>
</tbody>
</table>

18. Does your community-based ecotourism business have any linkages with the private sector, in terms of promoting your CBET business and/or benefit-sharing?

☐ Yes  ☐ No  ☐ Unsure

If yes, please explain briefly what kind of promotion and benefit-sharing you receive.
19. What specific type of assistance and training do you think this community-based ecotourism business needs, to develop and be sustainable, over time?

Please select one or more:

- Basic business management training (administration, financial)
- Basic computing training
- Hospitality & customer services training
- Marketing, communications & promotion training
- Literacy, numeracy & language training
- Financial investment & private sector support
- Infrastructure support (i.e. building, electricity, water, roads/improved)
- Government support (i.e. local planning, local regulations, local management)
- Other, please specify: ___________________________________________________________

Section Three: Community-based ecotourism development & sustainability (for all respondents)

20. Do you know what ‘community-based ecotourism’ is?

- Yes
- No
- Unsure

If yes, how would you define it (ecotourism)?

21. What type of community-based ecotourism activities (and supporting activities) do you have in your village?

Please select one or more:

- No community-based ecotourism activities.
- Lodge or guesthouse accommodation (including cooking, cleaning, handicraft sales, etc.)
- Handicraft production (e.g., wood carvings, weaving, etc.)
- Restaurant
- Kiosk
- Souvenir shop
- Rental boat
- Recreational or game fishing
- SCUBA diving/snorkelling
- Marine wildlife watching (dolphin, whales, turtles)
- Terrestrial fauna (birds, reptiles, etc.) & flora
☐ Mountain hiking
☐ Assisting researchers
☐ Cultural activity or festival (e.g., dancing, music, ceremony)
☐ Tour guide
☐ Local transport (e.g., taxi, car hire, motorbike, bicycle hire)
☐ Other, please specify: ________________________________

22. Do you think community-based ecotourism is important to your village’s economy, and has brought positive benefits?
☐ Yes
☐ No
☐ Unsure
☐ No community-based ecotourism

23. In planning future tourism development, do you prefer ‘community-based ecotourism (CBET) or ‘mass tourism’ for Atauro Island?
☐ Community-based ecotourism
☐ Mass tourism
☐ Unsure

24. How have community-based ecotourism programs supported local livelihoods and reduced poverty in your village?
Please select one or more:
☐ Created employment (e.g., restaurants, local lodges, souvenir shops)
☐ Provided an additional source of income (i.e. fishermen, farmers, etc.).
☐ Enabled workforce training (e.g., hospitality, language skills, culinary, etc.)
☐ Use of local transport (i.e. rental car, motorbikes, boats, horses, etc.)
☐ Purchase of local products (i.e. agriculture products, crafts, fishes, etc.)
☐ Use of local construction materials (e.g., local timber, rocks, etc.)
☐ Other, please specify: ________________________________

25. Do you think more, new, community-based ecotourism enterprises should be established in your village?
☐ Yes
☐ No
☐ Unsure

26. What potential community-based ecotourism attractions or activities do you think could be developed, in the short-term, in your village?
☐ No community-based ecotourism attractions should be developed
☐ Lodge or guesthouse accommodation (including cooking, cleaning, handicrafts sales, etc.)
☐ Handicraft production (e.g., wood carvings, weaving, etc.)
☐ Restaurant
☐ Kiosk
☐ Souvenir shop
☐ Rental boat
☐ Recreational or game fishing
☐ SCUBA diving/snorkelling
☐ Marine wildlife watching (dolphin, whales, turtles)
☐ Terrestrial fauna (birds, reptiles, etc.) & flora
☐ Mountain hiking
☐ Assisting researchers
☐ Cultural activity or festival (e.g., dancing, music, ceremony)
☐ Tour guide
☐ Local transport (e.g., taxi, car hire, motorbike, bicycle hire)
☐ Other, please specify: ________________________________

27. Do you have any existing co-management agreements, local forums or cooperatives in your village which could assist with community-based ecotourism development?

☐ Yes  ☐ No  ☐ Unsure

28. How can authorities (local & national government) assist your village in establishing co-management structures or local cooperatives to support community-based, ecotourism development?

Please select one or more:

☐ Providing technical assistance and support to establish a local cooperative
☐ Providing training in local enterprise development and co-management
☐ Identifying and assisting potential investment and/or CBET partners
☐ Identifying and promoting potential local, sustainable CBET opportunities
☐ Providing study tour opportunities in other developing countries which have developed successful, CBET programs.

☐ Other, please specify: ________________________________
29. Do you think community-based ecotourism activities in your village have negative environmental, social or cultural impacts?

Please select one or more:

- [ ] No environmental, social or cultural impact
- [ ] Litter
- [ ] Erosion
- [ ] Pollution
- [ ] Impacts on marine wildlife (i.e. dolphins, dugongs, turtles, whales)
- [ ] Damage to coral reefs
- [ ] Unregulated or unsustainable fishing
- [ ] Loss of local fishing access to beach & coastal waters
- [ ] Unregulated or unlawful entry to sacred areas
- [ ] Higher prices for local commodities (i.e. food, fuel, accommodation, local transport, building supplies, etc.)
- [ ] Disturbance to local customs, cultural activities, or ceremonies
- [ ] Creates community disharmony through uneven distribution of benefits
- [ ] Competition for local transport (e.g., taxi, car hire, motorbike, bicycle hire)
- [ ] Other, please specify: ____________________________

30. Do you think community-based ecotourism activities and enterprises should be regulated and managed sustainably in your village, to maintain and safeguard the environment, cultural heritage and promote community well-being?

- [ ] Strongly agree
- [ ] Agree
- [ ] Disagree
- [ ] Strongly disagree
- [ ] Unsure

31. In your opinion what are the major factors that make community-based ecotourism successful?

Please select one or more:

- [ ] Local community consultation & involvement
- [ ] Effective local planning, regulations & management
- [ ] Adequate & ongoing resourcing & financial support
- [ ] Proper education, training & capacity-building of local community
- [ ] Proper community-based enterprise, with established benefit-sharing
- [ ] Promotion of Atauro Island as a major ecotourism destination in Timor Leste
- [ ] Other, please specify: ____________________________
32. How do local communities currently overcome 'conflict' with other villagers or stakeholders, in establishing or managing community-based ecotourism developments?

Please select one or more:

☐ By mediation from local leaders and authorities
☐ By traditional approaches
☐ Through legal action (Dili district court)
☐ Other, please specify: ____________________________

33. What are the current challenges, issues and limitations to community-based ecotourism planning, development and management in your village at the moment?

Please select one or more:

☐ Land tenure issues (land ownership)
☐ Lack of human resources & capacity
☐ Lack of local planning, regulations & management
☐ Lack of government support (training, policies, and management)
☐ Financial constraints
☐ Other, please specify: ____________________________

34. In your opinion, for the future, how do you think community-based ecotourism development and planning in your village could be improved to support your local village economy and support poverty reduction programs?

Please select one or more:

☐ Actively involving local communities in tourism planning & decision-making in tourism development on Atauro Island
☐ Developing clear and supportive government policies & regulations to promote pro-sustainable, pro-poor, CBET enterprises
☐ Faster resolution of land tenure issues
☐ Development of a 'strategic plan' to guide sustainable CBET planning on Atauro Island
☐ Providing support to local communities to identify and establish more CBET activities
☐ Providing training support to local communities in local enterprise development
☐ Government assistance with identifying potential private sector partnerships
☐ Other, please specify: ____________________________
35. Who starts community-based ecotourism development on Atauro Island, specifically in your village?

Please select one or more:
- Individual community members
- Local community (i.e. local cooperative)
- Local NGOs
- National NGOs
- International NGOs
- Conservation NGOs
- Private sector
- Local Government
- National Government
- Other, please specify: __________________________________________

36. Once established, community-based ecotourism in your village is generally regulated and managed by the following:

Please select one or more:
- Individual community members
- Local community (i.e. local cooperative)
- Local NGOs
- National NGOs
- International NGOs
- Conservation NGOs
- Private sector
- Local Government
- National Government
- Other, please specify: __________________________________________

37. Who do you think is best place to plan and manage community-based ecotourism development in your village?

Please select one or more:
- Individual community members
- Local community (i.e. local cooperative)
- Local NGOs
- National NGOs
- International NGOs
- Conservation NGOs
- Private sector
- Local Government
- National Government
- Other, please specify: __________________________________________
38. Has there been any major problems during the planning, establishment and management of community-based ecotourism in your village?

☐ Yes  ☐ No  ☐ Unsure

If yes, what were the main problems and how did you resolve them?

Section Four: Community-based ecotourism governance (roles/responsibilities & challenges) [for all respondents]

A) Role of organisations (government, NGOs, etc.)

39. What kind of support has been provided by the following organisations in assisting and promoting sustainable tourism development in your village?

(a) National Government:

Please select one or more:

☐ No support has been provided
☐ Policies, regulations & guidelines on sustainable ecotourism
☐ Promotion and integration with conservation and/or Protected Areas program
☐ Community awareness campaign & promotion of sustainable tourism
☐ Sustainable tourism planning & management
☐ Provision of training & education in sustainable tourism
☐ Sustainable tourism advocacy
☐ Other (please specify):

(b) Local Government:

Please select one or more:

☐ No support has been provided
☐ Policies, regulations & guidelines on sustainable ecotourism
☐ Promotion and integration with conservation and/or Protected Areas program
☐ Community awareness campaign & promotion of sustainable tourism
☐ Assistance with sustainable tourism planning & management
☐ Provision of training & education in sustainable tourism
☐ Sustainable tourism advocacy
☐ Other (please specify):
(c) Local NGOs

Please select one or more:

☐ No support has been provided
☐ Policies, regulations & guidelines on sustainable ecotourism
☐ Promotion and integration with conservation and/or Protected Areas program
☐ Community awareness campaign & promotion of sustainable tourism
☐ Assistance with sustainable tourism planning management
☐ Provision of training & education in sustainable tourism
☐ Sustainable tourism advocacy
☐ Other (please specify): ____________________________

(d) International NGOs

Please select one or more:

☐ No support has been provided
☐ Policies, regulations & guidelines on sustainable ecotourism
☐ Promotion and integration with conservation and/or Protected Areas program
☐ Community awareness campaign & promotion of sustainable tourism
☐ Assistance with sustainable tourism planning & management
☐ Provision of training & education in sustainable tourism
☐ Sustainable tourism advocacy
☐ Other (please specify): ____________________________

(e) Private Sector

☐ No support has been provided
☐ Policies, regulations & guidelines on sustainable ecotourism
☐ Promotion and integration with conservation and/or Protected areas program
☐ Community awareness campaign & promotion of sustainable tourism
☐ Assistance with sustainable tourism planning & management
☐ Provision of training & education in sustainable tourism
☐ Sustainable tourism advocacy
☐ Other (please specify): ____________________________

40. Does your village and/or local authorities currently have a strategic approach (if any) to underpin sustainable tourism planning and development?

☐ Yes     ☐ No     ☐ Unsure

If yes, please specify what kind of strategies approach?
41. Do you have any suggestions for government in order to promote, encourage or assist your village and other local communities, to become involved in community-based ecotourism?

☐ Yes  ☐ No  ☐ Unsure

If yes, please provide your suggestions?

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B) Role of the local custom & traditional leaders

42. Are there any customary laws or community regulations to protect your environment from the impacts of tourism activities or other human activities in your village?

☐ Yes  ☐ No  ☐ Unsure

If yes, please provide examples and what is the name of your customary laws (e.g., Tara Bandu)?

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43. What are the main functions and purposes for using customary law (e.g., Tara Bandu) in your village?

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44. Can customary knowledge, practices and laws be used to plan, assist and manage community-based ecotourism development in your village?

☐ Yes  ☐ No  ☐ Unsure

If so, how can this be done? Please explain.

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*Thank you very much for your time and cooperation*