Chapter 1
Introduction

1.1 Background

Poverty affects the majority of the world's people and nations. In terms of absolute poverty, almost half the world's population - 2.8 billion people - currently live on less than two US dollars a day, and a fifth – 1.2 billion - live on less than one US dollar a day (DFID *et al.,* 2002; World Bank, 2004). A large proportion of the poor live in developing countries – for example 44% of those living in extreme poverty (i.e., on under one US dollar per day) live in South Asia (World Development Report, 2000/2001). The eradication of poverty is therefore a fundamental issue facing developing countries across the world. This is also reflected in the UN resolution on the Millennium Development Goals, where the first goal refers to halving the proportion of people living in extreme poverty by the year 2015 - which was agreed to by 149 countries at the UN Millennium Summit held in New York in 2000 (United Nations, 2000). Today, almost every policy in the developing world is assessed in relation to its impact on poverty (Department of Census and Statistics, 2002a).

While Sri Lanka enjoys high human development indicators such as high literacy rates and life expectancy and in 1999 moved from being classified by the World Bank as a 'low income' country to a 'lower-middle income[1]' country, poverty still persists. For example approximately 45% of Sri Lanka's population fall below the US$2 per day measure according to Tudawe (2002) and the World Development Report (2000/2001). When poverty is assessed using Sri Lanka's national criteria and indicators, between a third and a fifth of the population is classified as poor[2] (Department of Census and Statistics, 2002a). Poverty is also predominantly a rural phenomenon with almost 90% of the poor living in rural areas (ADB RETA, 2002).

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[1] According to World Bank classifications, "low income" is when the per capita GDP of a country is below US $825 and "lower-middle income' is when the per capita GDP is between US$826 to US $1580 (World Development Indicators database, World Bank, 2005). Sri Lanka has a per capita GDP of US $ 1010 (World Bank Sri Lanka data sheet 2004)

[2] Poverty measurements in Sri Lanka are based on consumption expenditure. Those households spending more than 50% of their expenditure on food and average adult equivalent food expenditure is less than Rs. 1338.48 (£7.50) per adult per month are considered poor (Department of Census & Statistics Sri Lanka 2002b).

According to the 2001 census, approximately 25% of Sri Lanka's population of 18.73 million lives in the country's coastal region[3]. Poverty is a major issue affecting rural coastal communities in Sri Lanka and a majority of coastal households are considered to be among the poorest in the country (ADB RETA, 2003; Whittingham *et al*., 2003) Despite this, coastal communities are one of the least studied groups in terms of poverty and inadequate knowledge exists regarding the poverty issues that particularly affect these communities. This was clearly apparent after the Asian Tsunami, when there was a desperate need for data from pre-tsunami times to assess relative damage in terms of livelihood activities, so that the most suitable and comprehensive rehabilitation strategy could be developed and implemented. This lack of knowledge on the poverty situation in coastal communities is not unique to Sri Lanka. An extensive literature review undertaken by Bene (2003) that covered empirical studies from across the world noted that "there is almost a complete absence of references to fisheries case studies in the current literature on poverty".

As an island state, while Sri Lanka's coastal areas are of particular importance in both social and economic terms, there is also mounting pressure on marine and coastal ecosystems, especially on living resources, due to high population densities and human activities (IUCN Sri Lanka, 1998). To address unsustainable resource use practices and poverty in Sri Lanka's coastal zone, in the early 1990s a co-management arrangement called 'Special Area Management' or SAM was introduced by the Ministry of Fisheries & Ocean Resources, through their Coast Conservation Department, where communities played a role in managing coastal resources in partnership with the government in specifically designated sites (CCD, 2004). Today SAM is considered an integral component of Sri Lanka's coastal zone management policy, although no comprehensive evaluation of the long-term sustainability of the process has yet been undertaken. The initiative is expected to safeguard the coastal environment by discouraging unsustainable uses of coastal resources and by providing alternate livelihood activities, which in turn by default is expected to help reduce poverty. The focus is therefore on the ecological dimension of the issue (i.e. overexploitation of resources) rather than directly on poverty reduction.

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3 Coastal region – made up of the Divisional Secretariat (DS) divisions with a coastal/maritime boundary, and currently comprise of 74 DS divisions. These DS divisions lie within 14 of the 25 administrative districts and cover approximately 23% of the total land area of Sri Lanka (CCD, 2004).

Poverty can be measured using different methods. Conventionally income and expenditure are used. In Sri Lanka, national poverty measurements are now based on consumption expenditure and not on income, following the international trend to measure poverty in this manner (Department of Census and Statistics, 2002c). Consumption expenditure varies regionally in the country – for example what people can buy in a rural community (their purchasing power) would differ from what they can buy in a city. But consumption expenditure is only a single measure of poverty and records data from only a single point in time. Therefore, results depend on whether the data are collected during a 'good' or 'bad' year.

In recent years, it has been increasingly recognized that poverty is a complex phenomenon which is multidimensional and dynamic in nature and extends beyond low income and expenditure levels. The concept of sustainable livelihoods is increasingly acknowledged as a means of understanding the different dimensions of poverty and its dynamic aspects and of identifying strategies to alleviate poverty (Carney, 1998; DFID, 2001a; JBICI, 2002). My study adopts a sustainable livelihoods approach to analyse poverty in rural coastal communities, as an alternative to conventional poverty analysis approaches. While the sustainability of livelihoods has many dimensions – ecological, economic and social - for the purpose of this study, I focus on mainly the social and economic aspects.

Because of my interest in studying the impact of the SAM policy process on the sustainability of livelihoods, I collected data from two SAM sites – Rekawa (which was one of the original SAM pilot sites set up in 1992) and Kalametiya (which was declared a SAM site in 2002). The reason for selecting these particular two SAM sites was because I already had a good knowledge of the two sites from my earlier work experience in the area - prior to undertaking my PhD. The Rekawa and Kalametiya lagoon systems are in the Hambantota District on the southern coastline of Sri Lanka. A range of different natural resource uses takes place at these sites, including lagoon and near-shore sea fishing, coral mining, shell mining, turtle egg-collecting and farming. Fisheries is one of the major economic sectors and the people living in the area represent a poor rural coastal community (IUCN Sri Lanka, 2000; Ganewatte *et al.,* 1995). Both Rekawa and Kalametiya were also badly impacted by the Asian Tsunami in December 2004.

While my PhD project was designed by myself as a stand-alone independent study, it did draw on the rich experiences gained during working in the area prior to my PhD as well as on the collaborative work I engaged in while undertaking my PhD. As this PhD study was multidisciplinary in nature and covered aspects of natural resource use and management, livelihoods and poverty issues, which themselves are multifaceted subject areas, attempting to understand their interactions within the coastal zone (with it's own biophysical interdependencies) was a challenging task. In this light it must be noted that not all the above mentioned subject areas were described and analysed with the same level of detail as this was beyond the scope of the dissertation. The research was also framed based on my own in-depth knowledge of the two study sites and therefore the indices developed with respect to the methodological aspects I was testing was influenced by my background knowledge of the local area and community groups. Adopting a multidisciplinary approach for this research was particularly useful I felt in terms of getting a better understanding of the socioeconomic context in which natural resource uses and management systems operate; a critical aspect which is often paid inadequate attention.

1.2 Aim and objectives

The overall aim of the study is to investigate key socio-economic and policy factors influencing the sustainability of natural resource-based livelihoods in rural coastal households.

For this purpose, I adopt a sustainable livelihoods approach as an overall conceptual framework, but focus mainly on two elements of livelihood security – food security and personal well-being. I compare food security and personal well-being approaches for their usefulness in illuminating aspects of livelihood sustainability that are not apparent in standard studies. I have selected food security, as it is a relatively easily measurable and widely used unit of livelihood sustainability. Food security is also a crucial element of poverty and household vulnerability. I have selected personal well-being because personal well-being is one aspect of sustainability which has not received much attention to date within the context of sustainable livelihoods and natural resource systems. It is also rarely analysed using quantitative techniques. In my study I also assess the value of

different qualitative methodological tools such as wealth rankings to measure the multidimensional and dynamic aspects of poverty.

Figure 1.1 Overview of the Analytical Framework used in my study
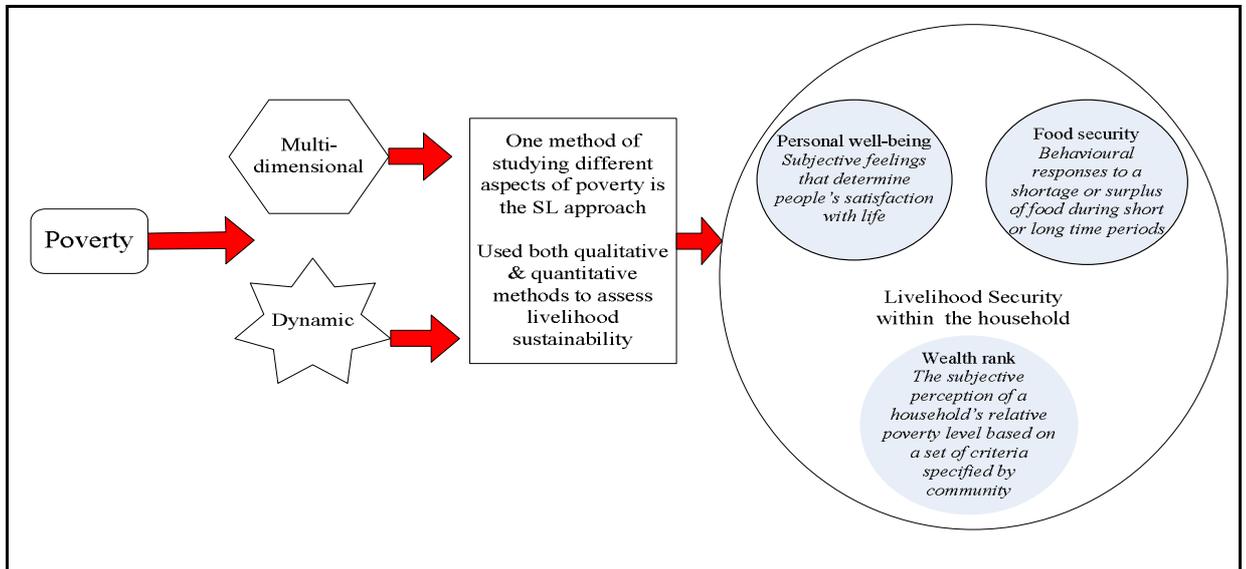
The research has three broad objectives:

- To investigate the merits and limitations of using qualitative tools to determine which factors influence the poverty dynamics of a rural coastal community engaged in natural resource based livelihoods.

- To investigate the merits and limitations of using two elements of sustainable livelihoods – food security and personal well-being, to measure livelihood sustainability at the household level.

- To contribute to policy formulation for the sustainable development of rural coastal communities in Sri Lanka. This will be achieved through applying the above methodology to:
    - o Assess the impact of the Special Area Management (SAM) policy process on the sustainability of rural coastal livelihoods and poverty at the household level.
    - o Assess the effects of natural disasters on livelihood sustainability and contributing to rebuilding efforts, by studying the impact of the Asian tsunami on the communities in the study site and their livelihoods.

1.3 Novelty of research

From a methodological perspective, methods such as food security and personal well-being indices combined with the wealth ranking scores offer an alternate and novel way of measuring poverty at the household level. When used together these approaches potentially provide useful complementary information on different aspects of poverty that are difficult to analyse through conventional methods. My study evaluates the potential for these indices as tools for the analysis of the sustainability of livelihoods in communities whose livelihoods are based on natural resources.

From a policy perspective, my research findings can contribute to an improved understanding of co-management initiatives such as the SAM process, especially in terms of their role in addressing poverty. The study will also be useful to gain insights into methods for poverty reduction in the region and will help in the formulation of policy on ensuring sustainable livelihoods while at the same time achieving sustainable coastal resource use. With respect to the impact of the tsunami on coastal livelihoods, the fact that I had baseline data from my study site since 2002 presented me with a unique opportunity to contribute to the policy debate on tsunami rehabilitation, taking into consideration the pre-tsunami situation.

1.4 Overview of thesis

My thesis is presented in nine chapters. Chapter 2 is broadly divided into two sections; a literature review which discusses how to assess the sustainability of livelihoods and describes the historical and theoretical background of the sustainable livelihoods framework and its use in supporting the data collection process. This section also conceptualizes the link between the food security and personal well-being concepts and livelihood sustainability. The second part of the chapter includes a review of Sri Lanka's coastal zone management policy, with a focus on the SAM process, looking at its historical background. The use of co-management arrangements (similar to the SAM process) in coastal zone management in some other countries is also briefly discussed here.

In Chapter 3, the data collection process is discussed. A combination of participatory approaches and more conventional survey methods were used. This Chapter also describes the three broad methods of data analysis undertaken in the study. First, major qualitative trends and influences on the household livelihoods are drawn out. Second, the differences between households within and between villages and between female and male respondents were analysed using univariate analyses. Finally, regression analyses (general linear models and logistic regressions) were used to relate the dependent variable such as food security or personal well-being indices to a number of explanatory variables. Chapter 4 introduces the two study sites Rekawa and Kalametiya and characterizes the sample population in terms of the different dimensions of the sustainable livelihoods framework. It also describes how the SAM process operates in the two sites.

Chapter 5, 6 and 7 present the analyses carried out for the different components of my analytical framework and addresses the first two objectives of my research. Chapter 5 investigates whether using qualitative research tools such as wealth rankings and case studies can provide a more holistic understanding of the conventional quantitatively assessed poverty indicators. Moreover, I investigate whether these qualitative tools can provide a deeper understanding of certain dimensions of poverty which are difficult to determine using conventional statistical methods. In Chapter 6 food security indices are developed that concentrate on access to food and specifically the behavioural responses adopted by individuals at the household level to cope with crisis and non-crisis situations both in the short and long term. The chapter evaluates the usefulness of these different indices in measuring food security variations at the household level. In Chapter 7 a simple personal well-being (PS) index scoring system is developed and how people feel overall is linked to 7 different domains of their livelihood system. The chapter evaluates the usefulness of the PS system and highlights the fact that while there have been qualitative studies undertaken on personal well-being; my study is unique in including a quantitative assessment. In relation to SAM, as assessing its impact on overall livelihood sustainability at the household level was part of the methodology testing, the findings of SAM are interwoven into the three analyses chapters.

Chapter 8 presents an overview of the impact of the tsunami on the livelihoods of the coastal communities in my research site in the context of the baseline data already available since 2002. The methodology I developed previously was adapted to assess how

the community coped in the immediate aftermath of the tsunami and how their sense of personal wellbeing had been affected. In addition, the community's perceptions on how best rehabilitation should be undertaken in the area and the role they can play in rehabilitation efforts are some of the other aspects that are highlighted.

Finally, in Chapter 9 a synthesis of the different analytical approaches (food security, personal well-being and wealth ranking) is undertaken and the relationship between the different approaches discussed. Conclusions are drawn on the usefulness and limitations of using these analytical techniques within the sustainable livelihood framework. The methodological novelty and policy relevance of the research undertaken is also highlighted in this chapter.

Figure 1.2 An overview of the chapters and how they link with one another

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                    │      Chapter 1          │
                    │      Introduction       │
                    │ An overview of study –  │
                    │ its aims, objectives and│
                    │ my analytical framework │
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Chapter 2
Background
Literature review SL approaches and SAM process

Chapter 3
Methodology
Data collection methods and analyses

Chapter 4
Case Study 1
Two SAM sites pre-tsunami

Chapter 5
Using qualitative tools to measure poverty
Wealth rankings and case studies (in-depth interviews)

Chapter 6
Food Security
Indices for crisis and non-crisis situations in the short and long term

Chapter 7
Personal Well-being
An index that links how people feel to different domains of their livelihood system

Chapter 8
Case Study 2
SAM sites post-tsunami – the impact on people's livelihoods

Chapter 9
Conclusion
A synthesis of the different analytical approaches (food security, personal well-being and wealth rankings) and policy implications of research findings