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THE SUSTAINABILITY OF SURFING TOURISM AT REMOTE DESTINATIONS

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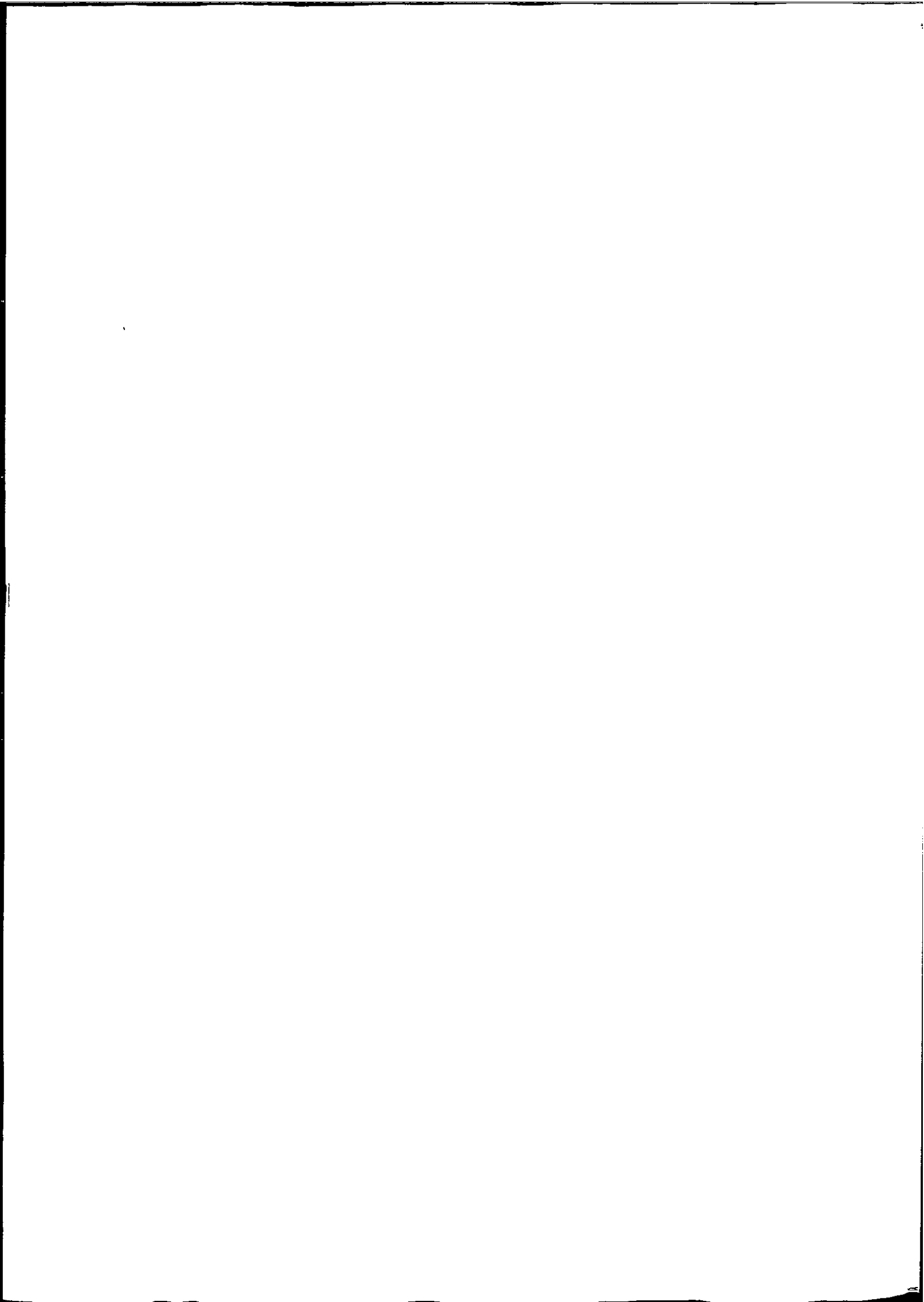
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**THE SUSTAINABILITY OF SURFING TOURISM
AT REMOTE DESTINATIONS**

EMILY KATE HUGUES DIT CILES

PhD 2009

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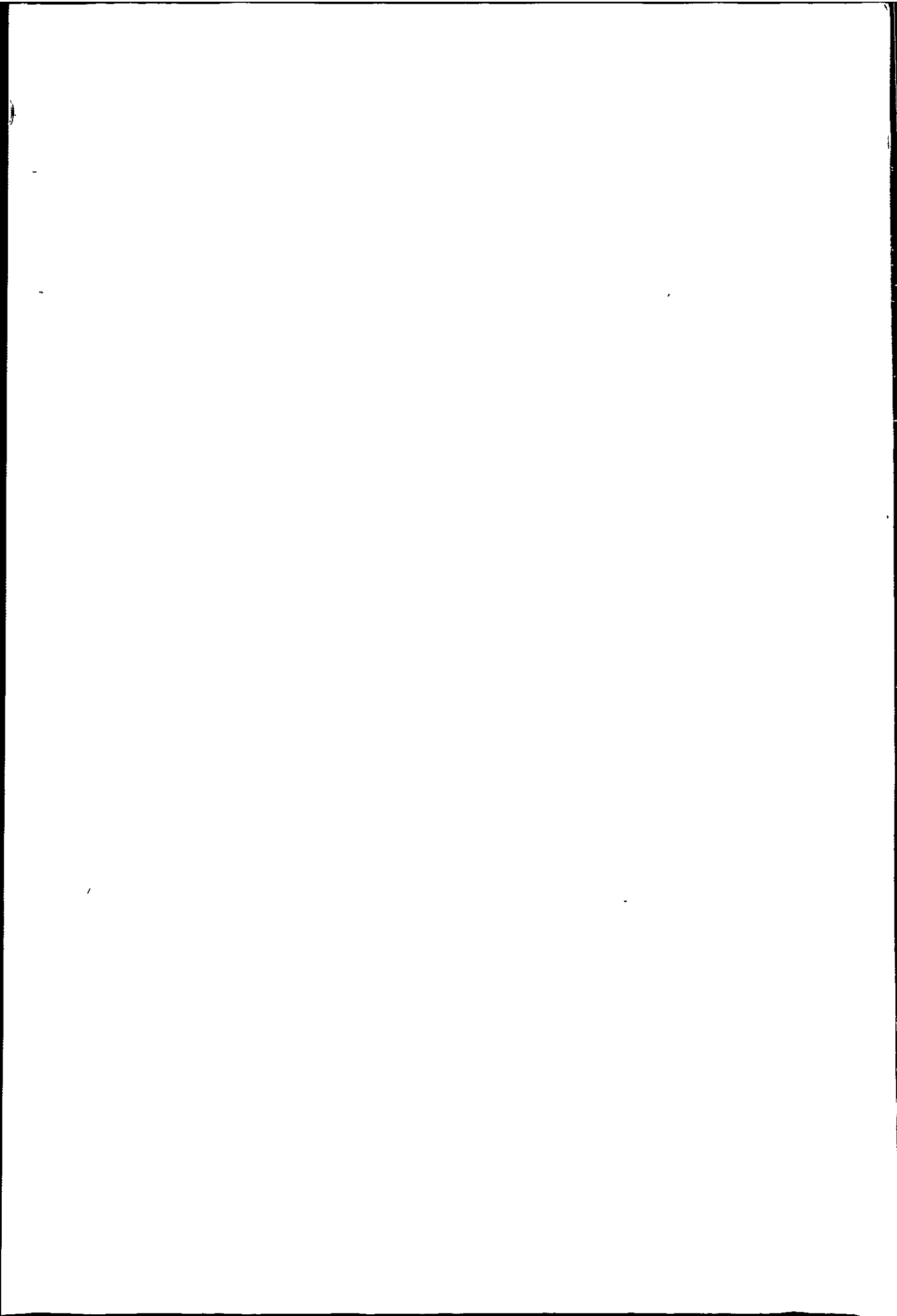
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**THE SUSTAINABILITY OF SURFING TOURISM
AT REMOTE DESTINATIONS**

Emily Kate Hugues Dit Ciles

A thesis submitted to the University of Plymouth
in partial fulfilment for the degree of

Doctor of Philosophy

School of Earth, Ocean and Environmental Sciences
Faculty of Science

2009

Abstract

Thesis title: The sustainability of surfing tourism at remote destinations

Author: Emily Kate Hugues Dit Ciles (2009)

Surfing is an increasing component of the adventure tourism sector. Growth in surfing as a lifestyle, sporting activity and industry has generated a surge of exploration and intrusion by surfing tourism into remote and vulnerable destinations worldwide in the “search” for uncrowded waves at uncharted locations. Consequently, there have been concerns at the impacts of surfing tourism on coastal, island and marine areas, often characterised by fragile environments and host communities, compounded the lack of management in isolated regions, and of the surfing tourism industry. The aim of this study was to examine surfing tourism in remote and sensitive destinations and evaluate its consequences and sustainability in relation to socio-cultural, economic and environmental parameters, and thereby, derive planning and management requirements for remote surfing destinations and the surfing tourism industry. A hybrid, multidisciplinary approach was employed based on twelve exploratory interviews, and empirical case study of three distinct remote surfing destinations: (a) Gnaraloo (Australia) – representative of unmanaged surfing tourism in a relatively pristine area; (b) Lagundi (Indonesia) which experienced rapid uncontrolled development resulting in significant environmental, socio-cultural and economic impacts; and (c) Tavarua Island (Fiji) - generally regarded as a leading example of sustainable surfing tourism. Difficulties in managing surfing tourism in remote areas include the mobility of surf tourists and the isolated and vast distribution of destinations. Impacts can be reduced with appropriate management but an educational approach and a level of self-management by surf tourists and surf tour operators is required. With planning and management, community involvement in decision-making and the use of recreational

carrying capacity as a management control for tourist numbers, surfing tourism can provide economic and social opportunities without compromising sustainability objectives.

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Authors' declaration

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Publications:

The following papers have been published or are in preparation.

Hugues Dit Ciles, E., Glegg, G. and Findlay, M., Carroll, N. and Hatton, E. 2003. Factors affecting the choices of surf tourists. *Proceedings of the 3rd International Surfing Reef Symposium*. Raglan, New Zealand. 22-25 June, 2003. p 258.

Hugues-Dit-Ciles, E., Findlay, M., Glegg, G. and Richards, J. 2004. An investigation into the nature of surfing tourism and its potential environmental impacts on relatively pristine environments: Gnaraloo, Western Australia, a case study. *Proceedings of the National Coastal Conference - Coast to Coast 2004*. Hobart, Tasmania. 19-23 April, 2004.

Hugues-Dit-Ciles, E., Findlay, M., Glegg, G. and Richards, J. 2005. An investigation into the nature of surfing tourism and its potential environmental impacts on relatively pristine environments: Gnaraloo, Western Australia, a case study. *Proceedings of 3rd Western Australian State Coastal Conference*. Mandurah-Bunbury-Busselton. 16-18 November, 2005.

Hugues Dit Ciles, E., Glegg, G. and Findlay, M., and Carroll, N. 2009. Factors affecting destination choices of surf tourists. *In preparation*.

Productions:

IMPACT, 2008. [DVD] CoastSWaP, Australia. Produced by Emily Hugues Dit Ciles and

Directed by Tim Duffy To view the documentary online refer:
www.coastswap.com

IMPACT, a surfing environmental documentary, was a CoastSWaP initiative funded by Lottery West and created in collaboration with The South West Catchments Council, The Department of Fisheries, The Department of Environment and Conservation, The South West Development Commission. A copy of the DVD is available in the thesis Appendix

Presentations:

The following report has also been presented:

Hugues-Dit-Ciles E. 2005 *Reconstruction and management plan for Lagundi bay, Nias, Indonesia*
Point presentation/Report was initially prepared for Billabong Australia and later submitted to the United Nations Development Programme (Indonesia)

Presentations at conferences:

The following papers have been presented at conferences.

Hugues-Dit-Ciles, E. 2002 Theoretical approach to the evolution of surfing tourism at destination areas. *Pastille ECI Conference on Local Sustainable Indicators*. London School of Economics, 12-13 September, 2002 (Poster presentation).

Hugues Dit Ciles, E., Glegg, G. and Findlay, M., Carroll, N. and Hatton, E. 2003. Factors affecting the choices of surf tourists *Proceedings of the 3rd International Surfing Reef Symposium* Raglan, New Zealand 22-25 June, 2003 p 258. (Oral presentation).

Hugues-Dit-Ciles, E., Findlay, M., Glegg, G. and Richards, J. 2004 An investigation into the nature of surfing tourism and its potential environmental impacts on relatively pristine environments Gnaraloo, Western Australia, a case study *Proceedings of the*

National Coastal Conference - Coast to Coast 2004. Hobart, Tasmania. 19-23 April, 2004. (Oral presentation).

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Seminar at University of Western England. March 2003

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1. General Introduction

1.1. Research context

1.1.1. Surfing tourism and the "search" for remote destinations

Surfing is a sector of adventure tourism where a significant increase in interest and participation has been noted worldwide, along with growth in the surfing tourism industry and level of surfing tourism development (Augustin, 1998; Ponting, 2001; Buckley, 2002b; Fluker, 2003). This is also evidenced by the emergence of surf schools (Pritchard *et al*, 2004), surf camps, surf charter boats (Ponting, 2001; Buckley, 2002a) and surf resorts (Augustin, 1998) at a regional, national and global level (Fluker, 2003). Over the past 10-15 years, participation in surfing has spread across all sectors of society (Renneker, 1987; Gabbard, 2000; Butts, 2001), and in Australia alone, the number of individuals actively participating in surfing during the period 2003/4 was in excess of two million, or 13% of the population (Sweeney Sport Pty Ltd, 2004). The world surfing population has been estimated to be around 20 million (Lazarow, 2007) with an estimated annual increase of 12-16% (Buckley, 2002a:407). In the US, the surfing population in the US was estimated in 2000 to be approximately 3.3 million (Leeworthy and Wiley, 2001) while in the United Kingdom, participant rate on surfboarding the surfing population was estimated to be over 600,000 (Watersports and Leisure Participation Survey, 2005).

Surfing tourism is not a new phenomenon, and Hull (1976), Ormrod (1997, 2005) and Reed (1999) noted that during the 1950s influential Californian surfers began travelling in the quest for the perfect wave and the "Endless Summer". A survey by the British Surfing Association (2002) found that 62% of UK surfers had taken a surfing holiday abroad in 2001, and anecdotal evidence from Booth (2001) suggests that many Australians tend to take annual and biannual surfing holidays. Popular surfing destinations include: Australia, Hawaii, Indonesia, Mexico, South Africa, France, Fiji, and Tahiti (Augustin, 1998;

Poizat-Newcomb, 1999b, Booth, 2001, British Surfing Association, 2002, Fluker, 2003). Increasing affluence, reduced travel costs, expanding numbers of surfers and the continual "search" for uncrowded and perfect waves in pristine and 'idyllic' destinations, fostered by the surfing media (Ponting *et al*, 2005, Ponting, 2006) and surf industry, has driven global increases in the levels of surfing tourism (Ponting, 2001; Preston-Whyte, 2002) and deflected it into a succession of relatively remote and untouched natural areas. In the context of this study, remoteness "*concerns the relative geographical distance, time and cost to travel between the 'core' and the periphery of a given land area, and therefore concerns accessibility*" (Garrod and Wilson, 2004:99).

1.1.2. The fragile nature of remote destinations

Tourism of any kind has the potential to negatively impact the social, economic and physical environment of the destination. Remote areas, however, are often home to fragile natural ecosystems and culturally sensitive communities (de Haas, 2002; Kokkranikal *et al*, 2003) and tend to be less resilient to visitor use and more susceptible to environmental (Godfrey and Clarke, 2000) and socio-cultural change (such as unplanned or excessive development in small villages or communities) (Buckley, 2002a). This is further compounded as remote locations often have limited management, regulation or enforcement, uncontrolled access and limited infrastructure to facilitate tourism. Coastal and marine environment are particularly vulnerable to degradation (Price, 1996), including damage to marine communities and fragile coastal ecosystems (Bird, 1993; Mieczkowski, 1995). This highlights the significant potential to negatively impact natural (Brown, 1998) and cultural systems in fragile, remote and pristine environments, which may be vulnerable to even very low levels of human visitation (Buckley, 2005:57).

1.1.3. Impact of surfing tourism at remote destinations

There is limited existing information on the consequences of surfing tourism at remote destinations. Anecdotal evidence and a recent study by Buckley (2002b) indicate that an increase in surfing tourism has resulted in a range of environmental, socio-cultural

and economic impacts. Studies by Ponting *et al* (2005) highlighted rapid development of a foreign-controlled surfing tourism industry and inequitable distribution of wealth generated through tourism in the Mentawai Islands, Indonesia. Reed (1999) suggested that in developing countries, surfing tourism can be a “*potential destructive kind of Neocolonialism*” with little return to the community. Solely on the basis of the sensitive and fragile nature of the surfing tourism destinations, it should receive scrutiny rather than being assumed to be an innocuous activity. That it may have profound and irreversible effects on destinations requires a comprehensive understanding of the potential factors that may “stamp down” on the sustainability of surfing tourism (Frost, 2005).

1.1.4. ‘Sustainable’ surfing tourism

Sustainable tourism development is a process that aims to achieve a number of interrelated goals: socio-cultural equity, environmental integrity, economic viability and tourist satisfaction (Puczko and Rätz, 2000). The challenges of sustainable tourism development in developing countries and in peripheral areas are recognised (Tosun, 2001), however, tourism in such areas can constitute both an opportunity and a challenge - an opportunity to diversify often limited economic activities and employment, and a challenge to manage the impacts of its development. It has been highlighted that proximate destinations to major source markets which offer a similar product have a competitive advantage over more distant destinations (McKercher, 1998). This reinforces that remote destination must remain ‘attractive’ to surfing tourists. Buckley (2002b) considers that surfing destinations are vulnerable to crowding and downmarket competition, and for a tourism product to remain appealing, the challenge in remote destination is to maintain their uniqueness.

1.2. Research significance

The phenomenon of surfing tourism has received limited empirical analysis despite increasing levels of expansion and intrusion into remote coastal and island destinations worldwide. This research addressed the gap in understanding with regard to the evolution,

and potential consequences of surfing tourism on the environment and communities in remote areas. The conceptual framework of Tourism Area Life Cycle (TALC) has been frequently examined since it was first proposed by Butler in 1980. This concept has to date been not been applied to surfing tourism destinations. The findings will be particularly relevant to planning and management for remote and fragile areas, which is presently hindered by the paucity of pertinent information and limited appreciation of the issues associated with the evolution and dynamics of surfing tourism development at remote locations. A more detailed understanding of surfing tourism, spatially and temporally, and an understanding the motivations of surfing tourists and the factors affecting destination choice as well as the factors affecting the sustainability of surfing tourism at destinations, will facilitate implementation of measures to address and reduce impacts at existing surfing tourism destinations, and allow management authorities, surfing tourism operators and stakeholders to predict, pre-empt and plan the future direction of surfing tourism development for remote areas.

1.3. Research objectives

The aim of this study was to examine the phenomenon of surfing tourism in remote and sensitive destinations and evaluate its consequences and sustainability in relation to socio-cultural, economic and environmental parameters, and in doing so, derive planning and management requirements to protect these areas.

The specific research objectives were to:

- (i) Examine the phenomenon and nature of surfing tourism and the factors affecting destination choice of surfing tourists;
- (ii) Examine the evolution and consequences of surfing tourism development at remote destinations in relation to Butler's (1980) Tourism Area Life Cycle Model;
- (iii) Investigate the environmental, economic and socio-cultural impacts of surfing tourism at remote destinations,

- (iv) Investigate the factors influencing the long-term sustainability and success of surfing tourism at remote destinations;
- (v) Investigate Recreation Carrying Capacity as a management mechanism to facilitate the sustainability and success of surfing tourism at remote destinations.
- (vi) Investigate potential planning and management options to facilitate sustainable surfing tourism at remote destinations.

1.4. Thesis outline and approach

Chapter 1 - General Introduction

Provides an outline and context of the study, the aims and objectives of the research and the significance and contribution to knowledge.

Chapter 2 - Literature Review

Provides a review of literature relevant to the research and identifies limitations with regard to existing information.

Chapter 3 - Methodology

Discusses the methodological approach and research design.

Chapter 4 - Exploratory Interviews

Details results from twelve exploratory interviews which examined the nature of the surfing tourism and its relationship to sustainability principles. These interviews generated a detailed and contemporary assessment of the phenomenon of surfing tourism and elaborated working concepts, theories and assumptions from the literature.

Chapters 5, 6 and 7 - Case studies

Present empirical case studies of surfing tourism at three distinct remote destinations.

Chapter 5 - Case study - Gnaraloo, Western Australia

Presents an exploratory and descriptive study of Gnaraloo, Western Australia, examining the impacts of surfing tourism on fragile coastal and marine environments.

Chapter 6 – Case study – Lagundi Bay, Indonesia

Presents the findings from the case study of Lagundi Bay, Nias, Indonesia which examined the evolution and consequences of surfing tourism at an unmanaged and open-access destination. It identifies significant socio-cultural, economic and environmental impacts at the destination and determined critical factors which contributed to the demise of the destination and failure in relation to sustainability criteria.

Chapter 7 – Case study – Tavarua Island, Fiji,

By contrast, Tavarua Island, Fiji is a highly successful surfing destination where access had been restricted and where the number of surf tourists has been limited around a sustainable limit (the Recreational Carrying Capacity). Predominantly positive socio-cultural, economic and environmental consequences are discussed.

Chapter 8 – Discussion

Provides a detailed review and analysis of the research undertaken and the interpretations and conclusions derived. Taken together, the four studies provide a detailed investigation of the sustainability of surfing tourism at remote destinations.

Chapter 9 – Conclusions

Provides a summary of the study's key findings. Suggestions and recommendations for further research needs are identified, and an evaluation of the significance of the contribution to knowledge offered.

2. Literature Review

2.1. Introduction

This chapter provides context for the research and a framework for assessing the sustainability of surfing tourism at remote destinations. The relevant literature spans a range of disciplines including: tourism planning/management, coastal and marine science, marine recreation, environmental management, leisure studies, and sociology. The purpose of this chapter is to provide a theoretical basis and framework for assessing the socio-cultural, economic and environmental sustainability of surfing tourism at remote destinations, and a review of concepts contained in the literature, which may direct the research process.

2.1.1. Overview: history of surfing and development of modern surfing

To establish a context for the phenomenon of surfing tourism, this section provides an overview of the history of surfing and its modern development. The history of surfing has been reviewed (Young, 1983; Finney and Houston, 1996; Walker, 2008), however, the origins of surfing remain poorly defined, although Polynesians and in particular Hawaiians are thought to have been surfboard riding as early as 400AD. For ancient Hawaiians (Krakauer, 1989), surfriding was a spiritual way of life (Walker, 2008) and an intricate part of the local "Kapa" religion, and bound to formal courtship practices and the system of social classes (Young, 1983; Finney and Houston, 1996). With the arrival of western missionaries in the early 1800s, surfing became prohibited due to cultural repression in the South Pacific (Gabbard, 2000), and almost totally vanished from Hawaii. It was not until the 20th century when Hawaiians began surfing again solely for the enjoyment that surfing was revived (Young, 1983; Franks, 2003). Surfriding was officially introduced to the United States in 1907 by an Irish-Hawaiian Surfer, George Freeth, when he demonstrated the sport at Redondo Beach in Southern California (Cralle, 1991). Surfing

reached Australia in 1915 when athlete and Hollywood star Hawaiian Duke Kahanamoku introduced and popularised the sport (Franks, 2003), however, surfing in Australia was initially chiefly entrenched and utilised in surf lifesaving (Pearson, 1982b, Gabbard, 2000). It was only in the 1950s, with the reshaping of surfboards using balsawood and later durable polyurethane foam blanks (Booth, 1999), that the surfing revolution began and surfing was established in Australia and later in New Zealand (Pearson, 1982a).

During the late 1950s and early 1960s, the growing popularity of surf music such as the *Beach Boys*, combined with the media portrayal of the culture and sport of surfing in Hollywood movies and on television caused interest in surfing to expand (Young, 1983, Gabbard, 2000, Booth, 2001). The Columbia Pictures release of *Gidget* in 1959 dramatically altered surfing's image. *Gidget* fashioned a highly romanticised beach atmosphere, sparking the surfing 'lifestyle' across the USA (Young, 1983, Crawford, 1993) and luring inland Americans to the beach. By this time, the glamorous image of surfing, so intrinsically linked with Hollywood over a number of years, developed an image that could be termed a 'culture', and the surfing sub-culture was born. In the 1960s, surfing trends and popularity expanded geographically and the spread of surfing from places such as California gained momentum during the 1970s and 1980s.

Landmark movies such as *Endless Summer*, *Big Wednesday*, *Point Break*, *Blue Crush* and television series such as *Bay Watch*, *Hawai Five-O* and *Paradise Beach* portrayed and embellished the beach lifestyle that developed around the activity of surfing (Orams, 1999), including travelling in the search of perfect, uncrowded waves. These films inspired the imaginations of countless individuals to take up the sport, and reached landlocked communities who had never seen the ocean, to imagine what it was like to ride a wave (Cralle, 1991). The surfing image portrayed by the media and its associated lifestyle, resulted in the sport becoming a respected pursuit, a global phenomenon and a way of life for millions of people. According to Gabbard (2000) "*Surfing is more than a sport, it is a mind set, a lifestyle*".

Technological advances have significantly influenced the development of modern surfing, contributing to the evolution of the sport itself and increasing the number and diversity of participants (Hull, 1976; Young, 1983). Mass production of polyurethane foam surfboards in the 1950s and the introduction of styrofoam and fibreglass material in the 1960s, made boards cheaper, shorter, lighter and easier to manoeuvre, and resulted in the emergence of the modern short board (Young, 1983; Gabbard, 2000). The neoprene wetsuit, created by Jack O'Neill in 1952, allowed for surfing (Augustin, 1998), and other watersports (Ratcliffe, 1992; Anderson, 1996), to be practiced year round and contributed to the growth of surfing in temperate (Hull, 1976) and colder climates (e.g. Iceland, Alaska, Sweden and Norway with water dropping to well below zero degrees Celsius). The introduction of the surf leash also made the sport safer and more accessible (Cralle, 1991). The growth in personal transport (e.g. automobiles), cheap flights, increasing affluence and the incremental growth of tourism and leisure (O'Rourke, 1978; Lumsdon, 2000; Hudman and Jackson, 2002) has allowed distant areas to become more accessible with surfers travelling further in the search for waves (Anderson, 1996; Hall and Page, 1999; Lumsdon, 2000) and led to a growing number of people at the beach (Reed, 1999) and taking part in surfing.

Information technology has also contributed to surfing's boom over the past decade. Surfers once relied on simple weather forecasting and observations and their knowledge of the ocean to evaluate surfing conditions and appropriate location(s), and generally only experienced surfers were knowledgeable in forecasting swell events and variables such as tides, swell direction and height, and wind conditions. With global weather forecasting and observations, webcams, television, radio (Scures, 1986) and surf reports online, on teletext or via SMS to mobile phones, it is possible for anyone to instantaneously obtain information on surf conditions worldwide. These technologies are assisting surfers plan surf trips locally, regionally and internationally, providing long-term

forecasting for surfing conditions. The increase in daily surfing participation can also be linked to these technological advances.

2.1.2. 'Commodification of surfing and the surfing industry'

Surfing has become big business, with flourishing surf clothing and apparel (e.g. Billabong, Quiksilver) surfboard manufacturing, and surf magazines, as well as surfing events and competitions, and the surfing industry was valued at in excess of \$8 billion dollars (in 2003) (Dolnicar and Fluker, 2003b). Surfing competitions can inject large sums into local economies, and on the Gold Coast (Australia), it was estimated that a single high profile surfing event contributed in excess of AUS\$2.2M (Raybould and Mules, 1998). The surfing lifestyle has been heavily corporatised and 'surfing' has been utilised in a wide range of advertising campaigns. Orams (1999) argued that surfing and its lifestyle has been utilised by popular music groups such as the *Red Hot Chili Peppers* and *Blink 182* which perpetuates and contributes to the surfing image. Buckley (2003) commented that adventure tourism has become intrinsically linked to clothing, fashion and the entertainment sector. The same could be said for surfing and surfing tourism. The rise in interest in surfing, as a subculture, a recreational activity and a travelling holiday is evidenced by the extent of television programmes and media coverage (e.g. magazines and newspaper columns) on surfing. Today there are more than 60 surfing publications worldwide (Barlotti, 2002) as well as an increasing number of online magazines for surfing and surf travellers.

Surfing is now considered an economic opportunity. This has been reflected in the emergence of artificial surfing reefs worldwide, as well as wave pools and flowriders, and increasing interest investment in such infrastructure/facilities. Mead (2002) remarked that of fourteen artificial surfing reef projects currently underway worldwide, all but one has received a majority of its funding from local government. Surfing has reached landlock communities such as the City of Kalgoorlie-Boulder, in the Goldfields of Western Australia, where people can now experience surfing in the middle of the desert through a

publicly owned Flowrider. Economic activity associated with surfing is leading to increase research interest. A recent study by Lazarow and Nelson (2007) and Lazarow (Lazarow, 2007) examined the value of recreational surfing resources at specific locations, and researchers at UCLA are currently investigating the economic value of Californian surf spots (www.surfeconomics.blogspot.com). Yet to date, despite the importance of the surfing phenomenon worldwide, there has been limited research on the contribution of surfing to local economies.

2.1.3. Trends in modern surfing

The global surfing population has been projected to increase annually at 12-16% (Buckley, 2002a: 407) and is estimated at over 20 million (Lazarow, 2007). In Australia alone, the number of individuals actively participating in surfing during the period 2003/4 was in excess of two million, or 13% of the population (Sweeney Sport Pty Ltd, 2004). In the US, the surfing population in 2000, was estimated to be approximately 3.3 million (Leeworthy and Wiley, 2001). Participation rates in surfing in the United Kingdom was estimated in 2005 to be over 600,000 (Watersports and Leisure Participation Survey, 2005).

Over the past 10-15 years, the growth of participation in surfing has spread across all sectors of society, age, sex, class and backgrounds (Renneker, 1987; Carroll, 1991; Gabbard, 2000; Butts, 2001; Buckley, 2003). While surfing is still generally a male dominated sport, there has been an increasing uptake by women (Gabbard, 2000). Tomlinson *et al* (2005:8) wrote that "*In the UK, it has been claimed in newspaper articles [in the Observer] that surfing has become one of the fastest growth sports at the turn of the twenty-first century, particularly among women, and men in their 30s and 40s (Asthana, 2003; Tyler, 2003; Walters, 2002)*". The increasing participation of women can be seen with women only surfing lessons, day surf camps, and overnight surf camps (www.alohasurfergirls.com) as well as women only surf club such as the *Bondi Girls* (Sydney, Australia), and *Saltwater Sistas*, (Western Australia). Surf schools now also cater and/or specialise for juniors (e.g., after school junior surfing program, Broulee and Ulladulla Surf Schools in NSW, Australia) and

advanced training (e.g., high performance academy, Queensland, Australia) Magazines, the surf industry and media now also cater for different market segments (Buckley, 2002a) or groups within the surf culture, inspiring a wider audience

Surfing is no longer the domain of anti-social dropouts (Mead and Black, 2002) and has become a respected sport, reaching a broad spectrum of society. As indicated by Oram and Ververde (1994) who wrote that: "*Today's surfers include doctors, attorney, CEOs and even a 1993 Nobel Prize winning scientist*" George (1990) argued that "*surfers come in all shapes, colors and sizes Some don't even look like surfers*" More than a decade later, authors like Butts (2001) found that this was still true Surfing has gone mainstream and this can be observed especially in surfing tourism, which now even caters for luxury surfing holidays While one could potentially classify a "surfer" in a particular group or category according to their level of involvement in the sport, surfing is still very much an individual sport

2.1.4. Crowding and localism

Along with surfing's popularity, comes the issue of crowds in the surf. Davis and Tisdell (1996) wrote that the demand for coastal recreation (in this case surf breaks), can often outstrip the capacity of a destination Unlike most sports where new facilities may be created to meet increasing demand, surfing is limited to relatively few natural sites where acceptable surfing conditions occur (Walker *et al.*, 1972; Artificial Surfing Reef Committee, 1994). With the boom in surfing and an estimated 20 million surfers worldwide, crowding is increasingly becoming a well established phenomena, at both famous surfing locations (Carroll, 1991) (e.g. Jeffreys' Bay, South Africa, Sunset Beach, Hawaii) and remote destinations (e.g. Mentawais) (Tomson and Moser, 2006). This was reinforced by David Kelly (Coastal Geologist and designer of a Pratte's artificial surfing reef in Los Angeles, California) who stated that "*We've reached a point where most mainstream surfing spots have reached or exceeded their carrying capacity*" (Taylor, 1997:43). Buckley (2002b:428) wrote that, "*once overcrowding has occurred, it is not easily reversible*". The predicted 12-16% p.a (Buckley, 2002a) increase in the global surfing population and the increasing transition of population to

coastal areas are likely to exacerbate this situation. Therefore, surfers searching for uncrowded, quality waves will have to increasingly travel greater distances and to increasing more remote destinations.

Surfing is a sport that can be enjoyed with others yet, the surfing community universally dislikes crowding (Hull, 1976b; Young, 2000; Ponting, 2001; Buckley, 2002b). One consequence of overcrowding is the issue of localism (Ormrod, 1997). While the number of surfers increases, the number of surf breaks remains the same (Nazer, 2004) and crowding and conflicts increase. The increasing number of surfers competing for the same wave can often lead to territorial behaviour from local surfers and to confrontation between local surfers and surf tourists (Young, 2000; Buckley, 2002a). Localism and aggression in the water are prominent contemporary topics of conversation (Tomson and Moser, 2006) and are increasingly discussed in the literature (Sheibel, 1995; Young, 2000; Preston-Whyte, 2002; Scott, 2006).

Competition for waves and localism are heavily entwined in the surf psyche and culture. According to Sheibel (1995) "localism" refers centrally to the various exclusionary cultural practices by which a number of surfers attempt to control access to particular surfing "spots". Bennett (2004:346) wrote that "*Being a local means belonging to a particular beach or area of coastline where you were either born or have lived for some accepted period of time. Localism is simply a preference for what is local, and may be expressed through the ideas, customs, attitudes and behaviours of the surfers in your local area*". Localism can be expressed by local surfers' claim of ownership over a surf break and by locals defending through behaviours, what they consider 'their' waves. The most extreme forms of "localism" (e.g. excessive territorial behaviour) can involve intimidation and vandalism towards newcomers and sometime can lead to physical assault or property damage (Sheibel, 1995; Bennett, 2004). Localism can be a negative factor affecting surfers' selection of surf breaks (Preston-Whyte, 2002). Buckley (2002a) commented that in Hawaii, crowding and localism are severe, influencing many travelling surfers to visit other destinations.

2.2. Surfing tourism

2.2.1. Definition of surfing tourism and surfing tourists

There is no generally accepted definition for surfing tourism. For the purpose of this study, the definition of Fluker (2003b:7) will be utilised

“Surf tourism involves people travelling to either domestic locations for a period of time not exceeding 6 months, or international locations for a period of time not exceeding 12 months, who stay at least one night, and where the active participation in the sport of surfing, where the surfer relies on the power of the wave for forward momentum, and is the primary motivation for destination selection”.

Despite a growing literature on surfing tourism and surfing tourism markets (e.g. components), its participants and the destinations patronised remain poorly understood and/or researched (Dolnicar and Fluker, 2003a). Buckley (2002b) separated surfers into two groups, ‘time poor-cash rich’ and ‘time rich-cash poor’. A more comprehensive study by Dolnicar and Fluker (2003b) provided a detailed market segmentation of Australia’s surfers based on past destination choice. They identified five groups including: ‘price-conscious safety seekers’, ‘luxury surfers’, ‘price-conscious adventurers’, ‘ambivalents’ and ‘radical adventurers’. The structure and composition of the surfing tourism industry have been described by Fluker (2003) and Buckley (2003) (Table 2.1).

Surfers, like many tourism markets, are relatively heterogeneous. Dolnicar and Fluker (2003b, 2004) commented that different surfing tourism segments have disparate needs and differ in terms of motivations and preferences. Despite the contribution of definition provided, there is still little known about the behaviours and habits of each of these individual segments/markets

Table 2.1. Surfing tourism components (adapted from Fluker (2003), Buckley (2003) and Dolnicar and Fluker (2003b)).

Fluker (2003:3)	Buckley (2003:132)	Dolnicar and Fluker (2003b)
<p>Charter yacht tours where surfers stay on board a floating vessel and anchor near surf breaks,</p> <p>Land based surf tours where surfers may travel on land and stay in local accommodation close to surf breaks,</p> <p>Resort surfing where surfers stay in surf dedicated resorts.</p>	<p>Low-budget surf safaris: Take organised groups of surfers to a series of surf breaks, typically by bus (relatively small part of the surf tourism sector),</p> <p>Surf schools: where backpackers can take a day's surfing lesson as part of their travel experience (a small, but perhaps significant for the future of the industry)</p> <p>Specialist surf tour companies: Run scheduled tours to prime surfing locations worldwide, often using charter live-aboard boats and/or specialist surf resorts (Icons of the surf tourism industry)</p> <p>Free independent travellers: Experienced surfers who travel to surf who use mainstream transport and accommodation. (These are not identified specifically as surf tourism but are probably largest in traditional travel-industry terms).</p>	<p>'Price-conscious safety seekers',</p> <p>'Luxury surfers',</p> <p>'Price-conscious adventurers',</p> <p>'Ambivalents'</p> <p>'Radical adventurers'.</p>

2.2.2. The phenomenon of surfing tourism

Surfing is clearly one example of adventure tourism where increasing participation in surfing activities has occurred in association with growth in the surfing tourism industry and levels of surfing tourism development (Augustin, 1998; Ponting, 2001; Buckley, 2002b; Dolnicar and Fluker, 2003a; Fluker, 2003) and surfers travelling to regional, national and international destinations. Antony Colas (Author of the World Storm Rider Guide) stated that surfers are travelling more than ever before (Colas, 2002) and this has resulted in a boom in surfing tourism destinations and development worldwide. Surfing tourism includes surfing charter boats, surf resorts and emerging and developed surfing destinations worldwide and caters for the full spectrum of skill level and experience, with a growing number of surf schools and surf camps including "*nearly 300 worldwide ranging from exclusive one-on-one clinics with an ex-world champ to 20-kid after-school community recreation programs*" (Barilotti, 2003).

The surfing travel market is known to be significant in terms of size, mobility and commitment to the sport (Buckley, 2002a, Higham and Hall, 2003). Shaw and Williams (2003) commented that in Newquay (the UK's prime surfing center), estimates indicated that surfing tourism generated approximately £26 million per annum. According to NSW Labour (2008) over 848,000 persons per annum undertook a surfing holiday in New South Wales (NSW, Australia), and Tourism NSW estimated surf schools to contribute \$117 million per annum to the NSW economy. In Costa Rica, in 2004, the number of tourists visiting for the specific purpose of surfing reached 222,659, representing 20.5% of all visitors, and generating \$273.3 million in income. The numbers of surfers increased more than 100% between 2001 and 2004 from 101,014 to 222,659 (Costa Rica Tourism Board, 2004). There is currently a lack of empirical information on the surfing tourism market and its localised and global economic significance (Buckley, 2002a; Dolnicar and Fluker, 2004). Buckley (2003) remarked that the majority of surfers travel as part of the mainstream tourism industry. They are experienced surfers who travel to surfing destinations using conventional transport and accommodation. This component of surfing tourism is difficult to distinguish from mainstream tourism, and to measure the contribution to surfing tourism, or statistics on numbers, traveling patterns and destinations choice. Overall, there is a gap in information on the numbers of surf travellers and commercial surfing operators worldwide, yet this data is fundamental to manage and pre-empt surfing development.

Surfing tourism includes a diversity of products and an extensive choice of locations worldwide providing surf resorts, surf camps, surf schools, surf charter boats and surf clinics catering to individual needs and all skill levels and budgets. Operators are now offering surf schools and packaged surfing holidays designed specifically for groups, family, children and women. For example, surf camps such as Las Olas in Mexico are designed solely for women and include surfing instructions and equipment, plus daily yoga lessons and massages (Gabbard, 2000). Surfers can now book and organise their travels through dedicated Surf Travel companies such as World Surfers, Atoll Travel, Global Surf Trips

and Wavehunters to developing and developed destinations worldwide including Indonesia, South Africa, USA, Costa Rica, Maldives, Sri Lanka, Australia, Hawaii, Samoa, Fiji, Galapagos and Mexico.

Surfing destinations are now often rapidly exposed to the mainstream through a variety of media including websites, magazines as well as specialised surf travel books, such as the 'The World Storm Rider Guide'. A multitude a websites such as www.wannasurf.com, www.A1surf.com, www.wavehunters.com, www.globalsurfers.com and www.surfmaps.com provide information on surfing locations and surf camps and resorts worldwide, including details on wave quality and seasonality, water temperature, experience, and costs, allowing surfers to research destinations to suit the time of year, and their wave preferences, skill levels, and budget. Surf travel guides providing specific details on surf breaks (e.g. The Stormrider Guide Europe, The World Stormrider Guide, The Surfers Guide to Costa Rica, Surfing Australia, Surfer's Guide to Hawaii), are revealing once unknown and remote destinations to the general surfing population. Thus, it is reasonable to conclude that the influence surf magazines/media, surfing movies, publications and internet technology has contributing to the promotion and disclosure of surfing destinations worldwide.

2.2.3. Motivation for surfing tourism

This philosophy of surfing, and outdoor sport in general, appeals to participants for a variety of reasons. Augustin (1998:589) claims that "footloose sports" which he defines as the gliding and sliding sports like surfing, windsurfing, parasailing, snowboarding, are "*freedom-loving activities, rejecting floats and markets and searching for virgin and boundless sites*". McCormack (1994) added that surfing appeals to participants who enjoy the freedom and independence that the sport offers and generally draw people who do not want to join clubs or societies. The influences upon travellers have been categorised as "push" and "pull" factors (Leiper, 1990; Hall and Page, 1999; Hudson, 1999). The "push" factors are those that encourage individuals to travel (e.g. escape from mundane environments, crowds

and cold weather). The “pull” factors are those that influence the location of travel and are influenced by aspects of the destination environment (e.g. idyllic tropical locations). Studies have been conducted to investigate surfers’ motivations (Farmer, 1992; Butts, 2001), preferences of surf locations (Preston-Whyte, 2002) and the factors affecting satisfaction in relation to the surfing experience (Hetzler *et al.*, 1995). Farmer’s (1992) early study in Carolina, USA, found that vertigo, catharsis and aesthetic rewards were central to surfers. Despite a large literature on surfing and surfculture, surfing tourism, has received comparatively limited attention. The most comprehensive study by Dolnicar and Fluker (2003b) on Australian surf tourists destination choice based on past destinations, revealed that while all five groups of surf tourists (i.e. ‘price-conscious safety seekers’, ‘luxury surfers’, ‘price-conscious adventurers’, ‘ambivalents’ and ‘radical adventurers’) had different preferences when choosing surfing destinations, the lack of crowds in the surf was a key parameter to all in selecting surf tourism destinations. Surfers are known to travel in search of perfect and uncrowded surfing destinations (Hull, 1976b; Ormrod, 1997; Butts, 2001, Preston-Whyte, 2002; Ormrod, 2005).

2.2.4. Influence of surfing media, industry and travel guides on surfing travel

The continual quest and search for the perfect wave fed by surf movies, the media and surf industry, is driving increasing numbers of surfers to travel. Surf movies encourage surfers to travel (Hull, 1976b, Young, 1983; George, 1990a, Reed, 1999, Ponting, 2001). Hull (1976) contended that surfing movies fascinated surfers as they showed the best waves on earth being ridden by the most popular surfers. Taylor (2007:932) wrote that “*Perhaps the two most perennial themes in surf movies, whatever differences inherent to them, are surfing as an ecstatic and mystical experience, and the pursuit of perfect waves and paradisiacal surfing places*”. Bruce Brown’s *Endless Summer* in 1964, has been referred by many (George, 1990b, Ormrod, 1997, Ormrod, 2005; Taylor, 2007) as the movie that triggered the search for the perfect wave, as it depicted “*the image of the globe trotting lifestyles, the real soul of surfing, portraying the romance of*

Menges (2000:119) argued that surfers "...must sooner or later go out and search for the perfect wave. Even if you have a surf spot right on your doorstep, you will one day travel to another country to surf unknown waves". Consequently, the perfect wave is "the source of a quest that leads surfers in search of spaces where the wave can be found" (Preston-Whyte, 2002:211).

Butts (2001) contended that surfers today continue to travel worldwide in their quest for what he defines as the "elusive perfect wave". Increasing number of studies have identified the search for the 'perfect wave' as the drive behind surf travel (Booth, 1995; Diel and Menges, 2000; Butts, 2001). Shane Dorian (Cited in Bennett, 2004:172) wrote that "The essence of surf travel and adventure is simple: Finding the perfect wave and surfing it with friends". Cralle (2001) defined the perfect wave as "a wave that files off or peels, with mechanical perfection". Yet, there is a general consensus that a definition of the "perfect wave" is highly subjective. Preston-Whyte (2002) argued that the "perfect wave" is believed to exist and represent for surfers, the ideal and possibly, unattainable vision. Reed (1999) argued surfers travelled "in realms of geographic fantasy. Ponting *et al* (2005) explored the surf tourist space or what they called 'wonderland' and argued that this latter is based upon: adventure, the search for the perfect wave, uncrowded breaks and absent or compliant local communities. A more recent study by Ponting (2006) based the mythical surfing tourist space, in the context of the Mentawaiis, upon four symbolic elements: perfect surf, uncrowded conditions, cushioned adventure and an exotic tropical environment. Despite the insights into surfing tourism, future investigations are required on the elements of the surfing tourist space.

2.2.6. The search for the perfect waves: encroachment on remote and isolated destinations and communities

Destinations for early surf travellers such as Hawaii, Indonesia, Mexico and South Africa remain the most popular. However, while most surfing as a recreational activity is pursued in and around urban areas, the continual search for uncrowded and pristine environments, to get away from crowded urban surf beaches and local surf breaks, often directs surfers to travel to relatively remote and untouched natural areas. Bartholomew

(1994:13) wrote that “*The surfer’s horizons are expanding Surf spots up and down the coast no longer offer new mystery and challenge He begins to cast his eyes further afield, ravenously consuming information on places like Hawaii, France, South Africa, Morocco, California and Australia*”. In the past, inaccessible destinations and coastal and marine environments were protected from tourists and marine recreational activities and due to the “*safety concerns and the relatively high cost of recreation in the sea*” (Orams, 1999) However, with the increasing affluence and freedom to travel, many remote destinations are now relatively accessible (Ratcliffe, 1992). The increasing access of surfing to remote, sensitive and previously untouched areas is becoming a global phenomenon Locations such as the Galapagos Islands, the Maldives and the Mentawais (Ponting, 2001; Buckley, 2002b; Buckley, 2002a), are examples of areas which have been subject to an upsurge of visiting surf tourists and surfing tourism operations In addition, some surf resorts and surfing tourism developments have occurred within marine parks and marine reserves For example, Haatafu Beach Resort situated on the North Western Peninsula of Tongatapu Island, Tonga, developed around a lagoon, which is a “natural marine reserve” and hosts outstanding marine life. Other examples of surf breaks in National Parks include *Witches Rock* (Santa Rosa National Park, Costa Rica), *Cloud Nine* (Siargao Island – UN protected area, Philippines); and *Yardie Creek* (Ningaloo Marine Park, Western Australia). The occurrence of surfing tourism within such fragile coastal and islands destinations raises issues in relation to its sustainability in these areas

2.3. A review of the literature on surfing tourism

While there is an extensive literature on surfing, there is a less expansive but developing literature on surfing tourism Poizat-Newcomb (1999b, a) in his papers. “*The genesis of a sport tourism activity surfing I*” and “*The genesis of a sport tourism activity surfing II*” offered a largely historical and anecdotal account of the environmental and economic sustainability of surfing tourism in Puerto Rico While the author commented that surfing tourism had no negative social or environmental impacts (in Puerto Rico), this was not substantiated with data. The most comprehensive studies of surfing tourism (to date) have

been conducted by Buckley (2002a, b). Buckley (2002a) provided a review of surfing tourism with an emphasis on commercial surfing tourism in the Pacific Islands and an overview of environmental and social impacts of surfing tourism on small islands. A subsequent study (Buckley, 2002b), investigated crowding, recreational capacity and capacity management systems in relation to commercial surfing tourism industry in the Indo-Pacific Islands. Ponting (2001) in a study "*Managing the Mentawaiis: An examination of Sustainable Tourism Management and the Surfing Tourism Industry in the Mentawaiis Archipelago, Indonesia*" examined crowding of surf charter boats (in the Mentawaiis) and the requirement for a management framework for surf-charter operations "*to stop the boat war*". A recent study by Ponting *et al* (2005) investigated surfing tourism in the Mentawai Islands of Indonesia, and found an inequitable and unsustainable distribution of wealth generated from foreign tourists accessing local resources. These studies, however, did not investigate the environmental impacts of commercial surfing tourism development. Researchers including Reed (1999), Ponting *et al* (2005) and Ponting (2006) have increasingly questioned the influence of the surfing media and surfing industry on surfers and surfing tourism destinations. Reed (1999) argued that surfing magazines and films emphasise and elevate both real and imagined exploration of "*foreign territory, while rarely, if ever reflecting on the ideological, economic and cultural effects of these journeys*". This highlights the issue of responsibility of the surf media, surfing industry and individual surfers, particularly in remote and fragile destinations.

The existing literature on surfing tourism is generally site-specific, has had a strong focus on commercial surfing tourism, particularly in the Mentawaiis, and provides insight into the significance of this tourism sector and contributes to an understanding of the current growth of surfing tourism, however, the available information is limited in its examination of the broader issues of the growth of surfing tourism. Buckley (2002a:406) highlighted that "*Surfing tourism has become a social phenomenon of sufficient economic, social and environmental significance to justify academic attention*".

Table 2.2. Compilation of the existing literature on surfing tourism

Author(s)	Study / book title	Topics	Location
Augustin (1998)	Emergence of surfing resorts on the Aquitaine littoral	The study highlighted the emergence of surfing resorts in the Aquitaine Littoral of France and gave evidence of the recent creation of increasing number of surfing resorts along that the coast from Soulac to Hendaye on the Aquitaine littoral in France	Aquitaine Littoral, France
Buckley (2002a)	Surf tourism and sustainable development in Indo-Pacific islands I The industry and the islands	Introductory overview of surfing tourism and look more specifically at commercial surfing tourism	Indo Pacific Islands
Buckley (2002b)	Surf tourism and sustainable development in Indo-Pacific islands II Recreational capacity management and case study	The study investigated crowding, recreational capacity and capacity management systems in relation to commercial surfing tourism industry in the Indo Pacific Islands	Indo Pacific Islands
Buckley (2006)	Adventure Tourism	This book provides an analysis of a wide range of adventure tourism activities in various parts of the world including surfing tourism operations	Worldwide
Dolnicar and Fluker (2003a)	Behavioural Market Segments Among Surf Tourists Investigating Past Destination Choice	The aim of the study was to gain an insight into the travel patterns of the surf tourism market of Australia	N/A
Dolnicar and Fluker (2003b)	Who's Riding the wave? An investigation into demographic and psychographic characteristics of surf tourists	The aim of this study was to provide a more comprehensive description of individual in the surf tourist segments	N/A
Fluker (2003)	Riding the wave defining surf tourism	The paper aimed to introduce, define and provide a understanding of the surfing tourism sector	N/A
Persoon (2003)	Conflicts over trees and waves on Siberut Island	The paper described recent developments with respects to logging operations and the surfing tourism industry on the Island of Siberut, Indonesia The paper highlighted that the local community had limited control over the largely internationally owned and operated surfing tourism industry active in the region	Western Sumatra, Indonesia
Poizat-Newcomb (1999b)	The Genesis of a Sports Tourism Activity: Surfing (Part I)	The study investigated the genesis of the sport of surfing tourism at a sport activity in Puerto Rico	Puerto Rico
Poizat-Newcomb (1999a)	The Genesis of a Sports Tourism Activity: Surfing (Part II)	The study discussed the environmental and economic sustainability of surfing tourism in Puerto Rico	Puerto Rico
Ponting (2001)	Managing the Mentawais An examination of Sustainable Tourism Management and the Surfing Tourism Industry in the Mentawai Archipelago, Indonesia	Examined the sustainable tourism management of commercial surfing tourism industry in the Mentawai Archipelago, Indonesia	Mentawai Islands, Indonesia
Ponting (2006)	Castles made of sand The 'Nirvanification' of the Mentawai Island	The study analysed the links between surfing tourism and the media It further developed a theoretical framework for understanding media/socially constructed surf tourist space and presented the findings of the research into the role of the media in the 'nirvanification' of the Mentawai Islands off the coast of West Sumatra, Indonesia	Mentawai Islands, Indonesia
Ponting <i>et al</i> (2005)	De-constructing Wonderland surfing tourism in the Mentawai Islands, Indonesia	The paper deconstructed the surfing space in the Mentawai Islands, Indonesia and highlighted that the distribution of wealth generated through foreign tourists accessing local resources was currently inequitable and unsustainable	Mentawai Islands, Indonesia
Reed (1999)	Waves of Commodification A critical Investigation into Surfing Subculture	The study looked at the "contentious and complex relationship between a spatially distinct subcultural practice, surfing, and the underlying social and economic structures in which it takes place"	Mentawai Islands, Indonesia

2.3.1. Unplanned tourism development at surfing destinations

It is widely acknowledged in the tourism literature that unplanned tourism at destinations can cause unforeseen and unacceptable environmental degradation and socio-cultural costs, and the literature is replete with such examples. Rapid and uncontrolled increase in tourist flows has resulted in significant negative impacts on the natural, socio-cultural, and built environment (Mathieson and Wall, 1982). With regard to surfing tourism, there is a limited of empirical studies on the development and consequences of surfing tourism at destinations. There is indication, however, that once discovered, surfing locations and destinations undergo rapid transformation (Barilotti, 2002; Buckley, 2002b). In Panama, the discovery of Santa Catalina (a remote area where surf breaks were located from passing aircraft) was soon accompanied by a horde of travelling surfers within a few years (Taylor, 1999). It seems that it is just a question of time before newly discovered surfing locations become tarnished by development and increasing visitation (Abraham, 1988). Anecdotal evidence from surf journalist, Barilotti (2002) in the article *"Last Horizons: surf colonisation in the 21st Century"*, suggested that from *"the discovery of a surf location, outposts are set up, then villages, and eventually full blown suburbs"*. Barilotti (2002) also contended that although the activity of surfing *per se* is essentially non-exploitative, *"once surfers set up a collective around a marquee surf break (such as Jeffrey's Bay or Uluwatu), the impacts of human colonisation trash, roads, erosion, water pollution, development, environmental degradation, resource depletion, inevitably follows"*. Film producer Bill Leimback's 1976 *"Balinese Surfers"* documentary showed the changes Bali had seen since the arrival of the first foreign surfers. The surf culture has embedded itself to such an extent that Bali has become an international surfing destination for the masses (Stancliffe, 1998; Barilotti, 2002). Buckley (2002b) cited Raymond (1998) and Wall (1997) who highlighted, that many open-access destinations in Indonesia and other parts of the world have experienced high numbers, high crowding, low yield and dissatisfied tourists. Dolnicar and Fluker (2003b:10) commented that the more popular and crowded surfing tourism destinations become, the less attractive they become.

Buckley (2002b) remarked that surfing destinations are vulnerable to crowding and downmarket competition. He argued in relation to remote Pacific Islands that once overcrowded and degraded, the destinations can lose their appeal, and no longer have competitive advantage over proximate destinations to major source markets which offer a similar product (Buckley, 2002b). As Manning (1999) highlighted tourists are highly mobile and can rapidly desert damaged or hostile destinations. Despite some evidence of surfing tourism's changes on destinations, no study to the author's knowledge has investigated the evolution and consequences of surfing and surfing tourism at destinations.

2.3.2. Impacts of tourism at remote and peripheral destinations and implications in relation to sustainability

Challenges of sustainable tourism development in developing countries (Lea, 1988, Doggart and Doggart, 1996; Tosun, 2001), fragile environments (both environment and socio-culturally) (Tallantire, 1993, Taylor, 1994; Bramwell, 1995; Price, 1996), national parks (McNeely and Thorsell, 1989; Obua and Harding, 1997, Byers, 2005, Maldonado and Montagnini, 2005) and in peripheral areas have been discussed by numerous authors (Zurick, 1992, Godde *et al.*, 2000; Gosling, 2001, Diagne, 2004; Garrod and Wilson, 2004). It has been widely reported that remote and peripheral regions are environmentally and socio-culturally highly vulnerable to major changes from tourism development (Hohl and Tisdell, 1995; Weaver, 2002, Xie, 2004) For example, rapid tourism development for trekking in Mount Everest National Park, without preparation or planning, has led to unprecedented changes to the region's economy, environment and culture (Nepal, 2000). Mount Everest National Park experienced rapid growth of trekking tourism from approximately 20 trekkers in 1964 to more than 17,000 trekkers per year currently, to the extent that Mount Everest has now been labelled the 'world's highest junkyard' (Nepal, 2000) To date, there has been limited analysis of the economic, environment and socio-cultural impacts of surfing tourism in remote areas. Yet tourism is known to be a major agent of change on the socio-cultural, economic, political and environment systems of

destination areas (United Nations, 1999; Ondicho, 2000). Crnjar and Sverko (1999) commented that particular areas, and more specifically environmentally vulnerable areas (e.g. national parks, special nature reserves) can be further threatened by spatial concentration of tourists. Impacts of tourism are varied, complex and interrelated, and the current research adopted a holistic approach to address economic, environmental, social and cultural parameters.

2.3.3. Environmental impacts of surfing tourism

Tourism and recreation can both have direct and indirect impacts on the natural environment. Environmental consequences of tourism have been described elsewhere (Gössling, 2002) and the environment impacts of recreation and tourism have been extensively researched and reviewed (Ratcliffe, 1992; Agardi, 1993; Davis and Tisdell, 1995; Mieczkowski, 1995; Liddle, 1997; Backhurst and Cole, 2000; Buckley, 2001; Harriott, 2002; Burger *et al.*, 2004; Priskin, 2004). Both islands and coastal areas are critical and vulnerable environments (Halpenny, 2001) and the fragility of the coastal-marine ecosystems is well recognised (Mieczkowski, 1995). Tourism and recreation, even if managed to be ecologically sensitive can induce negative environmental impacts (Buckley, 2000; Buckley, 2001). Davenport and Davenport (2006) in their review of the impact of tourism and personal leisure on coastal environments, commented that even with good management, relatively innocuous pursuits such as swimming, surfing and sailboarding, marketed for their environmentally friendly nature, can for example, lead to measurable degradation of the world's coral ecosystem. Yet, maintaining environmental quality is critical for tourism (Pendleton, 1994; Mieczkowski, 1995; Huybers and Bennett, 2003) and as Hall (1992) notes, in adventure tourism, the preservation of the environmental setting is critical since experience is reliant upon this resource. In addition, anthropogenic impacts associated with tourism development including natural resource depletion, pollution, environmental degradation and activities can jeopardise and impair ecosystem function. Yet, in developing countries and remote destination communities, coastal habitats and marine ecosystems can

play a significant role in daily activities (livelihoods, economic output and food supply). Environmental degradation and tourism demand on resources can have long-term repercussions on subsistent communities (Zurick, 1992, Gossling, 2001) Higham (1998) pointed out that if wilderness recreation necessitates untouched natural settings in the total absence of facility and visitor management, then these resources are more predisposed to degradation than any other natural tourism resources. Archer *et al* (1995) highlighted that the magnitude and nature of the environmental and ecological damage created by tourism was linked to several factors including (a) the scale of development (b) volume of visitors, (c) concentration of usage both spatially and temporally; (d) nature and characteristic of the environment visited; and (e) planning and management at the destinations. The major types of marine tourism impacts as identified by Harriott (2002:6) include

- (i) Coastal tourism development (population pressures, construction activities),
- (ii) Island-based tourism infrastructure (marinas, sewage discharge, construction),
- (iii) Marine-based tourism infrastructure (pontoons, moorings, fish feeding),
- (iv) Boat-induced damage (anchoring, ship grounding, litter, waste discharge),
- (v) Water based activities (diving, snorkelling, reef walking, fishing),
- (vi) Wildlife interactions (seabirds, turtle-watching, whale-watching).

With increasing numbers of surfing tourists visiting fragile and peripheral destinations, it is critical to investigate and understand the potential impacts of their recreational activity, and tourism and associated development, on the coastal fringe and the marine environment, to guide planning and management and protect environmental values in these areas.

2.3.4. Socio-cultural and economic impacts of surfing tourism

The socio-cultural impacts of tourism have been extensively documented and it is widely acknowledged that an upsurge of visitors and tourists can have negative repercussions on local populations (Buckley, 2002b; Herath, 2002). Socio-cultural impacts are varied, complex (McCabe and Stocks, 1998) and greatest where large gaps in cultural

and social norms exist between the host communities and visitors (Ryan, 1991), and depend on the resilience of the culture of the host communities (Zurick, 1992). Conversely, communities can benefit from tourism through the development of infrastructure, access to medical treatment, education, and general improvements in standard of living. Reed (1999) commented that surfing tourism could be intrusive to host communities in developing nations, yet to date, there has been little empirical investigation into the socio-cultural consequences of surfing tourism at destinations.

Economic benefits that accrue to destinations are numerous and well-documented (Mathieson and Wall, 1982; Lea, 1988). Tourism can be an important contributor to the economic and social advancement of developing countries. Positive impacts include job creation and employment increases, infusion of hard currency, and economic diversification, however, where there is little or no community involvement in tourism planning and development, leakages of tourism earning outside the community, land price rise, resettlement, and loss of access to resources can occur. If surfing tourism aims to be sustainable it is important to understand if it can contribute to socio-cultural and economic sustainability at destinations. Yet to date, there have been little empirical studies on the socio-cultural and economic impacts of surfing tourism on local communities.

2.3.5. Management of surfing tourism and the surfing tourism industry

The surfing tourism industry is highly fragmented, has a complex market (Shaw and Williams, 2003) and is unregulated. The surfing tourism industry, as with many forms of adventure tourism, has diffused and developed worldwide unnoticed and as a *'fait accompli'*. It is surprising that despite the expansion of surfing tourism, there has been limited assessment of its consequences at the destination level or its long-term sustainability. Recently, however, countries such as Papua New Guinea and the Nation of Kiribati (Christmas Islands) have instigated measures (including limiting the number of surfers and requiring local ownership of surfing operations) for the long-term sustainability of surfing tourism. They aim to secure the return from their surfing resources and surfing tourism to

the local people following sustainability principles. A Native Surf Right was established in October 2008 for the Nation of Kiribati: "*This set of regulations provides exclusive ownership and operating rights of the surfing resources to the native people, allowing them to shape the future of their home with income and stability without the threat of corporate take overs or land rushes commonly associated with "secret" surf destinations*" (www.catchthepperfectwaveatfanningisland.com/xmas.html) There are, however, limited examples of management practices of the surfing industry and surfing tourism at destinations.

2.3.6. Summary: impacts of surfing tourism on remote destinations

The purpose of this section was to give a brief account from the literature of potential socio-cultural, economic and environmental impacts of tourism. Russell *et al* (2005:77) argued that "*Successful management of any destination, especially fragile environments, depends on comprehensive awareness of the impacts or potential impacts that may inhibit sustainability*". Only with additional research on the socio-cultural, economic and environment impacts of surfing tourism at a destination level, can an appreciation be derived of the magnitude of the associated problems and appropriate management strategies. The shortfall of empirical studies and the current gap in our understanding of the impacts and consequences of surfing tourism at destinations, dictates further research on this topic.

2.4. Theory on the development of tourism at destinations

There is extensive literature that explores theoretical perspectives on the evolution and development of tourism destinations, notably the work of Plog (1974), Cohen (1972) and Butler (1980). Plog (1974) separated personality types of tourists into broad categories related to destination preference, with the two extremes being the psychocentric and allocentric. Psychocentric tourists were identified as likely to visit recognised destinations, often in groups, whereas allocentric tourists tended to "get off the beaten track" and away from other tourists. Cohen (1972) similarly identified a process of evolution of tourist types at destinations from 'drifters', 'individual mass', 'organised mass' and 'mass tourism'. One

destinations, the attitude of the local people towards tourists becomes negative and the community progresses from 'euphoria' to 'antagonism'. This provides a useful insight into the progression of communities attitudes to visitation and allows for the examination of residents reaction to tourism. Negative impacts on host communities can influence the socio-cultural sustainability of tourism.

Table 2.3. Doxey's index of irritation (Irridex) (adapted from Mowforth and Mount (1998)).

Doxey Irridex	Social Relationship
Euphoria ↓	Initial phase of development; visitor development and investors welcome
Apathy ↓	Visitors taken for granted; contacts between residents and outsiders more formal (commercial)
Annoyance ↓	Saturation points approached; residents have misgivings about tourist industry;
Antagonism	Irritations openly expressed; visitors seen as cause of all problems

2.5. Tourism sustainability: concepts and definitions

Liu (2003) highlighted that sustainability, sustainable tourism and sustainable development are well-established terms which are employed broadly and often interchangeably in the literature. Mowforth and Munt (1998:105) remarked "*sustainability and sustainable tourism are rich fields of discourse and debate, potentially never-ending; for the academic community*". Academics (Hunter, 1997; Garrod and Fyall, 1998; Bramwell and Lane, 1999; Hardy *et al.*, 2002; Ko, 2005; Northcote and Macbeth, 2006) have debated the meaning, definition, applicability and semantics of sustainable tourism, sustainability and sustainable tourism development. The operational definition of sustainable tourism is unclear, which has led to ambiguities as to how it can be achieved (Swarbrooke, 1999). Mbaiwa (2005:159) stressed that "*The three concerns of economic, social, and ecological sustainability are inter-related. Impacts on one are likely to affect all others*". Failing to address environmental, socio-cultural and economic issues will impede on the success and sustainability of surfing tourism at

destinations. A broad definition of sustainable tourism by Hohl and Tisdell (1995:533) "*If the overall goal of tourism development is to achieve economic, social, and ecological sustainability, it must provide a first quality visitor experience, conserve natural and cultural resources, and bring substantial benefits to local communities*." In the context of this study, it is argued that surfing tourism must account for environmental, economic and socio-cultural parameters at destination areas. For the purpose of this study, the following definitions of sustainability were employed

Environmental sustainability:

In this thesis, ecological sustainability refers to "*the need to preserve the integrity of ecological subsystems, viewed as critical for the overall stability of the global ecosystem.*" "*Ecological sustainability thus becomes vital to avoid the negative environmental impacts of tourism in destination areas*" (Mbarwa, 2003:464)

Economic sustainability:

In this thesis, economic sustainability "*refers to a level of economic gain from the activity sufficient either to cover the cost of any special measure taken to cater for tourists and to mitigate the effects of the tourist's presence or to offer an income appropriate to the inconvenience caused to the local community visited – without violating any of the other conditions – or both*" (Mowforth and Munt, 1998:106). In this definition, business sustainability was omitted, therefore, for the purpose of this study, the following statement will be included to economic sustainability: "*For a destination to develop in a sustainable way, business must be sustainable*" (Dwyer and Kim, 2003:392).

Socio-cultural sustainability:

In this thesis, social sustainability "*refers to the ability of a community, whether local or national, to absorb inputs, such as extra people, for short or long periods of time and to continue functioning either without the creation of social disharmony as a result of these inputs or by adapting its functions and relationships so that the disharmony created can be alleviated or mitigated*" (Mowforth and Munt, 1998:106). Cultural sustainability "*refers to the ability of people or a people to retain and adapt elements of their culture which distinguish them from other people*" (Mowforth and Munt, 1998:106)

Local participation and involvement in tourism:

Involvement of local inhabitants has been proposed as a key principle to successful development of sustainable tourism at destinations (Echtner, 1999; Croy and Hogg, 2003). Local involvement, integration and effective participation in tourism planning and management can increase local socio-economic benefits and reduce leakages outside the community (Mansfield and Ginosar, 1994; Mitchell and Eagles, 2001; Som and Baum, 2004). Swarbrooke (1999:41) reasserted this point and argued that "...*sustainable tourism is about stakeholders whose interests have to be balanced*". There is the suggestion that without strong local support and involvement, tourism ventures have little hope of succeeding and for local economic and community development to emerge (Laws, 1995; Echtner, 1999; Elliott *et al.*, 2001; Charnley, 2005; Enright and Newton, 2005). Without community involvement and participation, local communities, particularly in developing countries, have received little more than the "costs" of tourism. Local participation, involvement and control of tourism are important parameters in tourism planning to create a more successful and sustainable tourism at destination.

Small-scale tourism development:

Sustainable tourism should in general be associated with small-scale development (Gössling, 2001) and be sensitive to both the environment and local community. Remote destinations and fragile environments, particularly islands and coastal areas, are vulnerable to large-scale development and high tourist numbers (de Haas, 2002). Similarly remote and fragile communities can rapidly become overwhelmed with high tourists numbers. While large scale tourism developments, often with outside capital investment, generally excludes local communities, small scale developments with minimal capital requirements can allow for tourism with a direct community opportunities and benefits (Hampton and Hampton, 1998; Gartner, 1999; Hampton, 2003; Hill *et al.*, 2006).

2.6. Management mechanisms for sustainable tourism

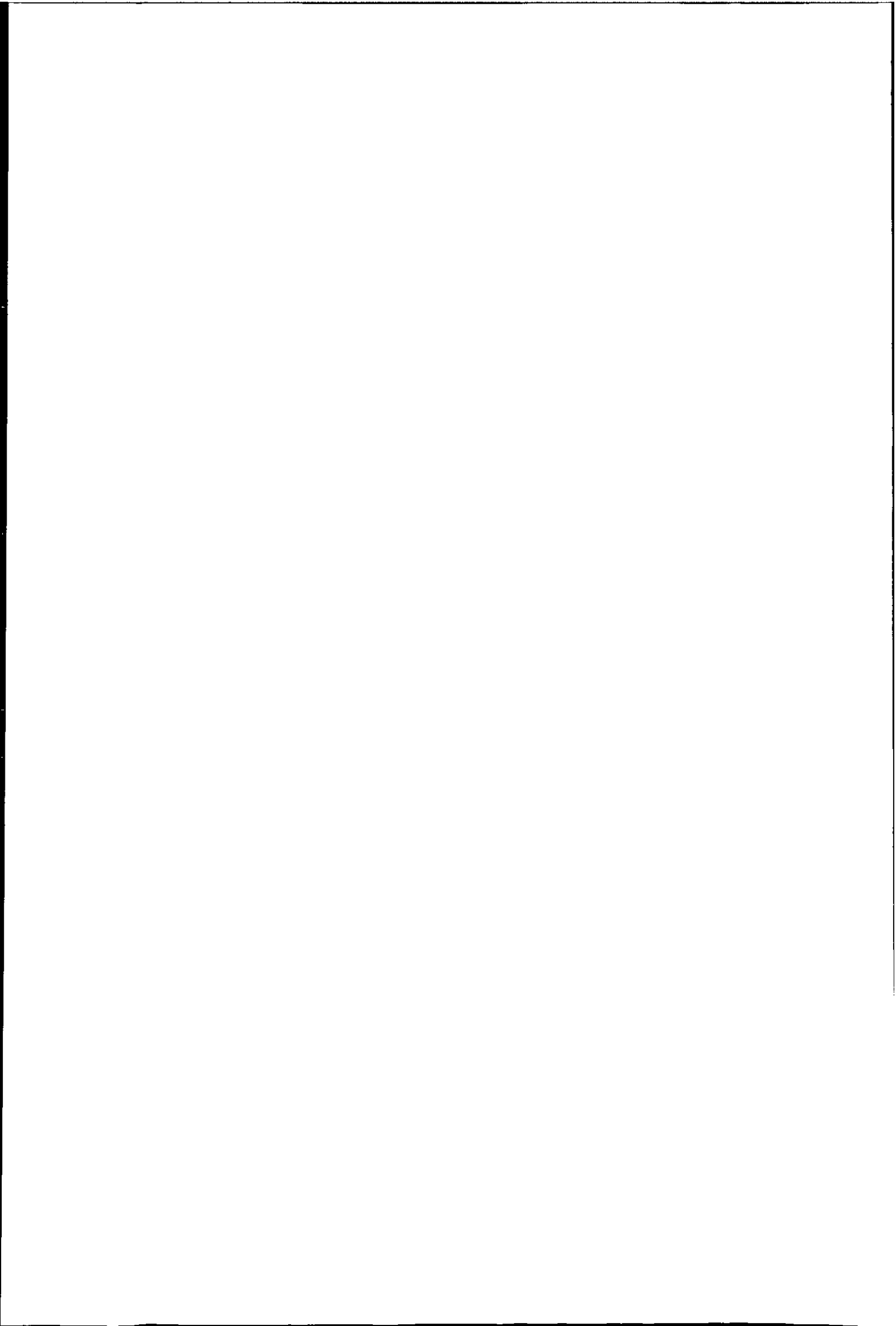
Sustainable tourism requires careful management of tourists and tourism development to minimise negative effects on the environment, host communities and visitor satisfaction (Buultjens *et al*, 2005) Mowforth and Munt (1998) provide a list of mechanisms which may facilitate sustainability objectives including area protection, industry regulation, visitor management techniques, environmental impact assessment, carrying capacity calculations, consultation/participation techniques and sustainability indicators Orams (1999) presented a conceptual model for the management of marine tourism which incorporates four principal strategy options: regulatory, physical, economic and educational. Tools and management techniques have been discussed elsewhere (Harriott, 2002).

2.6.1. Recreational Carrying Capacity (RCC) as a management tool

Many practitioners as well as academics value the concept of carrying capacity as a management tool in tourism planning and development (Shelby and Heberlein, 1986; Davis and Tisdell, 1995; Maldonado and Montagnini, 2005) although some have referred to carrying capacity as an ambiguous and ill-defined concept (Lindberg and McCool, 1998, McCool and Lime, 2001). Mathieson and Wall (1982:121) defined tourism carrying capacity partly in terms of '*unacceptable decline in the quality of experiences gained by visitors*', although there are no accepted definitions of carrying capacity. In general however, there are three dimensions to carrying capacity: social, economic and environmental. The social capacity refers to the number of tourists beyond which social disruption or irrevocable cultural damage will occur. The economic capacity refers to the number of tourists that can be welcomed before the local community negative economic consequences (e.g increased housing values and land prices). The environmental capacity refers to the number of tourists that can be accommodated before damage is caused to the environment.

2.6.2. Recreational Carrying Capacity (RCC) in the context of surfing tourism

In the context of surfing tourism, the concept of RCC has been investigated by Buckley (2002b). Buckley examined crowding, recreational capacity and capacity management in the context of commercial surfing tourism in the Pacific Islands. His premise was that many islands' surf breaks supported a limited number of surfers at any one time before crowding was experienced and the surf tourists experience degraded. He argued that the "*identification and management of the carrying capacity is particularly critical to maintain an economically, social and environmentally sustainable tourism industry*" (Buckley, 2002b:440). Buckley (2002b) thus argues that the limiting factor for the RCC in surfing tourism is a social one, and thus should be defined on a social basis. Similar conclusions were drawn by Clark (2003). Brown *et al* (1997:316) argued that "*the sustainability of tourism is hence directly tied to maintaining the integrity of that attraction and mediating the interaction between the tourists and the attraction over time, such that interest is maintained*". As previously explained, for remote surfing destinations to remain appealing, competitive and for surfing tourism to be viable, the challenge is to retain their uniqueness and key attraction (in the case of surfing tourism - uncrowded waves). Inherently, this requires management measures to control the number of surf tourists in order to avoid crowding. Since most surfing destinations are limited by their surfing resources and based on Buckley's findings, it is contended that the RCC could be a management mechanism to facilitate the sustainability and success of surfing tourism at remote destinations. This assumption will be investigated in this thesis.



3. Methodology

This chapter presents the rationale underpinning the research design, the methodological approach, the techniques used in data collection and the subsequent analysis. Due to the paucity of specific knowledge on surfing tourism, this research was explorative in nature and required an empirical approach where information was gathered to provide a foundation on which to build the concepts and theories relating to the phenomenon of surfing tourism (Veal, 1997). This study was descriptive and interpretive in order to establish an understanding of the surfing tourism phenomenon and to answer some of the main assumptions in this field.

3.1. Rationale behind the exploratory approach to the methodology

The literature review clearly highlighted that surfing tourism has been poorly studied both from a practical and theoretical perspective (Buckley, 2002a). Due to a limited understanding of the phenomenon of surfing tourism, its consequences and the processes that contribute to the sustainability of surfing tourism at destinations, elucidation of the subject relied on the development of empirical data. In this study, empirical data were generated through case studies at selected surfing tourism destinations.

Twining-Ward and Butler (2002:382) remarked that "*Past experience and social learning can be used to recognise key areas of sustainable tourism development in a specific area*". This type of primary data can be obtained *via* people's lives, experiences, behaviour, emotions, and feelings (Strauss and Corbin, 1998). "*This divorced the study from a quantitative analysis, so typical of tourism studies, as it involved the evaluation of the exercise based on the individual's subjective interpretation of their experiences that applied*" (Croy and Hogh, 2003:86). This requires qualitative research. Accordingly, this study aimed to explore holistically and transparently, the perceptions and attitudes of those involved or impacted upon directly or indirectly by surfing tourism, including stakeholders, key informants, host communities, surf tourists and surf operators. Subjective matters such as

feelings and perceptions are generally difficult to extrapolate, quantify, or determine through standard research methods such as surveys (Strauss and Corbin, 1998). In addition, whilst it is recognised that the distinction between the qualitative and the quantitative is far from absolute (David and Sutton, 2004), a methodology based on the collection of quantitative data and the use of statistics alone would not be appropriate in an exploratory research study

The multidisciplinary nature of the topics examined in considering all three dimensions of sustainability of surfing tourism at destinations (i.e. socio-cultural, economic and environmental), as well as the particular research questions under investigation in this study, were key factors in deciding against a “concrete” methodology (Flick, 2002). Moreover, due to the complexity of the intrinsic and interlinked relationships between socio-cultural, economic and environmental factors at tourism destinations, conventional research methodologies are not necessarily the most suitable or effective (Walle, 1997). Gillham (2000) took this further by asserting that experimental approaches can be *“ill-suited to the complexity, embedded character, and specificity of real-life phenomena”*. Qualitative methodologies are advocated for their flexibility and their appropriateness in research of an exploratory nature, where resources are limited (Jones, 1997; Strauss and Corbin, 1998). A qualitative approach can derive underlying explanations and has the ability to uncover the unexpected (Creswell, 1998). A significant portion of the tourism literature support and employs a typical multidisciplinary approach and qualitative methods to investigate various tourism phenomena, including ecotourism (Backman and Morais, 2001).

3.2. The requirement for a multidisciplinary and hybrid methodological approach

As this study examined the three dimensions of sustainability (i.e. socio-cultural, environmental and economic), a multidisciplinary approach was required. Research in tourism utilises a variety of research strategies, but there are no definitive research designs (Patton, 2002). Tourism is an evolving subject area where methodologies are accordingly still under development. Jamal and Hollinstead (2001:78) argued that “ *what is lacking in tourism research and academic settings is discussions and debate on the diverse qualitative research approaches that can be employed to do justice to the inter-disciplinary domain of tourism studies – and hence to facilitate legitimization of*

the area of tourism scholarship". Consequently, it can be contended that each discipline must unearth its own approach to conducting research for advancing theories (Whyte, 1984) and must espouse pragmatism to answer the study's questions and to produce a complete piece of work. Additionally, the breadth and complexity of tourism and its phenomena cannot be understood and investigated by a single methodology as "*the reliance upon a single research method is bound to impede the process of science*" (Whyte, 1984:149). Morse (2002) argued this point further by stating that to comprehend complex phenomena, it is essential to triangulate results of multiple sources of information that have been derived through different methodologies. In the field of tourism, this has been reflected in a move towards an interdisciplinary approach (also called pluralistic) to selecting tourism research methods (King, 1997; Walle, 1997), mainly on the grounds that this is necessary when dealing with complex phenomena. This type of approach now characterises much of tourism research as a result (King, 1997). In such an approach, no methodology should be excluded simply because they are labelled 'quantitative' or 'qualitative'. David and Sutton (2004:44) argued that "*there is no absolute separation between the qualitative and the quantitative in social research and that the boundary between qualitative and quantitative research is not set by any single or agreed set of principles*".

The present study employed a hybrid and multidisciplinary approach. The merits of selecting such an approach were that from the rich range of tools and methodologies available, each respective research assumption and question could be addressed accordingly (Jamal and Hollinshead, 2001). This provided the opportunity to explore and capture the multifaceted and complex nature of the topic (Walle, 1997; Fennell and Weaver, 2005). This research approach allowed the capture of data that were required to investigate as many different aspects of the issues as possible (Flick, 2002) and to examine different perspectives on the subject (Finn *et al.*, 2000) in order to produce a complete picture of the subject under investigation (Mason, 1996; Walle, 1997).

While the acceptability, applications and evaluations of qualitative research are criticised and contentious, qualitative (Jamal and Hollinshead, 2001), hybrid and multidisciplinary methodology approaches are widely used in tourism and coastal planning and

in doctoral research. Those in favour of qualitative and hybrid methodologies argue that the aforementioned issues are counteracted by the triangulation of data. Whyte (1984) contended that studies utilising a single methodology are often more disposed to errors than those utilising multiple methodologies. The provision of data from the various sources offers a triangulated picture of the phenomenon which is intuitively more credible (Brewer and Hunter, 1989) and thus has the advantage of improving the validity of findings (Finn *et al.*, 2000). Hybrid methodological approaches also have the advantage of limiting methodological biases and open the way for richer and potentially more valid interpretation (Decrop, 1999:158). In a similar vein, Brewer and Hunter (1989:13) contended that the diversity of methods permits opportunities for cross-validating as well as “*cross-fertilizing research procedures, findings, and theories*”. Multi-methodology approaches capitalise on the individual strengths of each method while compensating for their limitations, bias and weaknesses (Brewer and Hunter, 1989; Silverman, 2000).

The intricacy of the study, owing to the complex intrinsic relationships between socio-cultural, economic and environmental factors, as well as planning and management issues, which are interlinked components of sustainability at surfing tourism destinations, called for an elaborative methodology and research design which allowed the researcher to gain an in-depth understanding of the phenomenon of surfing tourism. This hybrid approach facilitated research that did justice to surfing tourism as a research topic and to answer some of the most pertinent questions (Jamal and Hollinshead, 2001) guiding this thesis. Nevertheless, the author accepts and recognises some inevitable gaps due to the difficulty in discussing and highlighting every aspect of social-cultural, economic and environmental issues associated with surfing tourism. Yet this was a justifiable forfeit in obtaining a “holistic” picture (King, 1997) of the surfing tourism phenomenon at destinations and to establish a strong foundation on which to develop the concept and theories behind the sustainability of surfing tourism.

3.3. Research process and stages

The diverse theoretical perspectives and concepts of tourism and surfing tourism, and the requirements for assessing its sustainability determined the research framework (Flick,

- (viii) The role of restricting or controlling the numbers of surfers at a surf breaks and; recreational carrying capacity as concepts to ensure sustainable surfing tourism at destination.

Refer to Section 3.4 for a detailed rationale for the exploratory interviews, interview design, sampling and analysis.

3.3.2. Case studies

This stage constituted the substantive proportion of this study and consisted of three case studies. The use of case studies has been explained simply by Godde *et al* (2000:20): "*Case studies serve as the most valuable tool for guiding the future of tourism, they offer us foresight into the possible peaks and pitfalls of tourism and help work out current issues of debate*". A methodology investigating a phenomenon should look empirically and holistically at the processes and interrelationships of the phenomenon within real-life contexts and natural settings (Finn *et al.*, 2000). This required information to be obtained through immersion in the phenomenon under examination (Blaikie, 1993). This highlights the need for on-site and ethnographic fieldwork and; the importance of site-specific case studies.

Whilst the exploratory interviews served to 'set the scene' and highlighted some of the salient issues associated with surfing tourism, these were not sufficient to provide conclusive understanding of the phenomenon for several reasons. Firstly, because perceived changes and impacts induced by surfing tourism cannot be investigated under controlled conditions or solely *via* a series of morphological statements obtained from interviews. Mitchell (2000) stated: "*clearly one good case can illuminate the working of a social system in a way that a series of morphological statements cannot achieve*". Furthermore, Whyte (1984:161) argued that "*...without historical data, our theories of development and change are bound to be faulty*". Yet at each case study site, due to the lack of existing archival records and publications on the destination itself and its evolution and the changes over time brought by surfing tourism, data needed to be collected *in situ* and from local stakeholders. This required the collection of data in context as well as the perceptions and perspectives of local communities and other stakeholders (including surf

tourists, early travellers to the destination area, land managers) involved and affected by surfing tourism at the destination. Secondly, the perspective on the perceived changes and evolution of the surfing destination at specific case studies needed to incorporate the views of all the stakeholders involved and affected by surfing tourism, and not solely an outsider's viewpoint and perspectives. Moreover, case studies permitted investigation of theoretical inferences regarding the phenomena. Ellen (1984) describing case studies as "*detailed presentation of ethnographic data relating to some sequence of events from which the analyst seeks to make some theoretical inference*".

In this investigation, three individual, specific and bounded case studies were selected for detailed analysis in order to answer specific research questions. A case study at Gnaraloo in the north-west of Western Australia was designed to examine explicitly the nature of surfing tourism, its associated activities and its potential for environmental impacts on the marine and coastal environment. Two other case studies, at Tavarua in Fiji and Lagundi Bay in Indonesia examined the phenomenon of surfing tourism, holistically through its evolution at a destination in relation to lifecycle theory as well as the changes and effects of surfing tourism (including the socio-cultural, economic and environmental impacts) on the destination. These case studies also aimed to identify the factors that make surfing tourism at destination areas either a success or failure in relation to sustainability. They also provided the opportunity of discovering the factors inducing change at destinations and of investigating their dynamics and interrelationships in context. Tavarua provided an example of a managed and regulated surfing destination, established on a controlled access and with a limited number of surfers at any one time based on the recreational carrying capacity (RCC). Lagundi Bay, by contrast, represented an uncontrolled and unmanaged open access surfing tourism destination, and an example of the serious long-term ramifications of this scenario.

The three case studies aimed to investigate: (a) the evolution and development of the surfing tourism destination and the consequences on the destination; (b) the salient issues associated with surfing tourism imposed on the host community (when applicable) and local environment, and (c) the critical factors and their interrelationships that make surfing tourism

at the destination(s) level, either a success or failure in relation to sustainability. Each respective case study, however, aimed to answer different research questions and investigated various working assumptions defined earlier on in the study. Thus the case studies involved a mixture of inductive and deductive approaches. For analysis purposes, each case was treated and analysed individually, as each case provided a focused and bounded phenomenon in its own context (Miles and Huberman, 1994). The conclusions of each main stage constructed, and contributed to the final discussions and conclusions of the thesis. The circularity in the design process compelled the researcher to reflect continually on the research process as well as on individual steps in relation to each other and subsequently reinforced and strengthened the study's approach (Flick, 2002). A more detailed rationale behind the case studies' selection, design, fieldwork and data collection, analysis and limitations can be found in section 3.5.

3.4. Exploratory interviews

3.4.1. Rationale behind the exploratory interviews

Given the current lack of understanding and empirical evidence on the phenomenon of surfing tourism, with regards to its consequences and sustainability in relation to socio-cultural, economic and environmental parameters, it was essential that the research approach allowed for in-depth exploration, an unimpeded exploration of issues and view points (Martin, 2008). Interviewing has been the mainstay of many forms of qualitative methodology (Silverman, 2000) and is probably the most widely employed method in qualitative research (Bryman, 2001). Particularly where there is limited existing information, people are often the best source of additional information (Gold, 1997). Interviews are therefore a suitable method for exploring a new topic area and gaining additional information and has been widely used in tourism studies for that reason (Campbell and Smith, 2006; Hritz and Cecil, 2008; Martin, 2008). Furthermore, interviews are valuable as they can provide empirical information to reveal problems and introduce issues in an uncharted area (Kvale, 1996) as well as acting as vehicles for gathering 'authentic data' and in-depth information in order to capture the true essence of a phenomenon (Seale, 1998). Interviews gave the advantage of immediate openness to the information and a high response rate not necessarily achievable by other means

(Brenner *et al.*, 1985) In the first stage of this study, exploratory interviews were directed toward generating empirical information to provide the foundation of the research and to assist in the formulation of the concepts to be investigated. This stage provided empirical evidence to investigate and readjust key assumptions and theories and, generated core information for developing an in-depth understanding of the subject to answer the main research questions. This exploratory method was devised to generate a breadth of perspectives from lived experience and perceptions on the salient issues associated with surfing tourism, and to identify key issues and implications which require attention as well as management and mitigation measures to minimise impacts. These exploratory interviews served as a foundation and guide to subsequent stages and analysis of the research (Oppenheim, 1992).

A level of trust and rapport building between the researcher and participants was critical to an interview's success (Fontana and Frey, 1998). Firstly, this allowed the researcher to gain an empathetic appreciation of the respondents' perceptions and experiences, and secondly, permitted respondents to discuss more openly the truth rather than distort their accounts, or conceal information (Seale, 1998). In this study, personal, in-depth and semi-structured interviews with open-ended questions were employed. As Newsome *et al.* (2002) pointed out the more personalised the level of contact, the higher the response rate. Open-ended questions facilitated the gathering of multi-perspective, broad and detailed information (Marvasti, 2004) to deepen understanding on the phenomenon as well as to uncover complex issues. This approach also offered the respondent(s) the scope to introduce their views, and enabled the generation of detailed descriptions (Marvasti, 2004) on the subject. Qualitative interviews moved away from fixed-answer questions (Stroh, 2000) and provided the flexibility to facilitate a process of discourse, involving the respondent in "*a conversation with purpose*" (Burgess, 1991). This approach had the advantage of facilitating spontaneous opinions around misunderstanding (Yuksel *et al.*, 1999) and the interviewee could freely and liberally express their views while preventing potential bias from restricting answers to the researcher's own predetermined categories (Ryan, 1995; Veal, 1997) and thus the researcher's own views on a topic. Open-ended questions with a series of prompts allowed the exploration of new

directions (Marvasti, 2004) and the gathering of additional and complementary information by enabling the researcher to pose additional questions (Bryman, 2001). Interviews were carefully constructed in a clear and simple format and any contradictory statements, ambiguities or inconsistencies encountered in the course of the interview adjusted by the investigator who asked additional questions for clarification (Kvale, 1996; Brunt, 1997).

3.4.2. Interview design

Interviews were generally carried out in person, or by telephone when time and constraints required. While face-to-face interaction is preferable, it is still possible to establish rapport with respondents over the telephone which sways participants to trust the authenticity and significance of the research (Czaja and Blair, 1996). In this study, phone interviews did not appear to preclude participants from discussing issues freely. All respondents exhibited enthusiasm about the subject and were eager to share their views. In terms of bias, the different interview approaches were not considered an issue since differences in responses between telephone and face-to-face interviews were not recorded (Doolee, 1995). The interviews were conducted according to the interviewee's schedule, availability and in the setting of their choice (i.e. either at their home or their work place). While most interviews were scheduled and pre-arranged, some interviews were conducted spontaneously in informal settings. Before starting the interview, the researcher gave each participant an outline of the context of the overall study, the aim of the research and the manner in which the information was to be utilised. In addition, each interviewee was requested to consent to participate to the research and was briefed on the issues of confidentiality. An interview guide containing the central themes to be explored in the course of the interview provided the interview structure and the basic line of enquiry to be investigated. This guide was aided by questions and prompts which aimed to elicit information regarding the core themes (David and Sutton, 2004).

To enhance the natural flow of the interview, the interview questions were responsive to the individual, circumstances and emerging information (Veal, 1997). Interviews were

modified for each participant by varying the questions and prompts to suit, and altering the sequencing of the questions accordingly. The concern of potential digression by the interviewee during the interview was surmounted by the flexibility of the approach which allowed the researcher to refocus the questions (Flick, 1998). This flexibility allowed any ambiguities and contradictory statements to be clarified and elaborated by the interviewer. A consideration was the potential of bias from the interviewer, who by selecting divergent questions may inhibit or render comparability of answers between each separate interview data difficult (Brunt, 1997, Bryman, 2001). This was addressed by the consistent use of the interview guide which ensured that all the relevant topics included in the guide were covered in each interview. Each interview was one to two hours in duration. To prevent any potential distortions of interview data and to report information as neutrally as possible, each interview was tape-recorded in full (with permission) and later transcribed (Wengraf, 2001). Additionally, each interviewee was sent their transcript to verify their answers during interview and, were asked to make any changes they felt necessary, as well as to specify if any of their comments should be removed or if they wished to remain anonymous.

3.4.3. Snowballing and opportunistic sampling

In order to gain particular insights which would enable detailed exploration and understanding of the central themes, the study required the perspectives and views of individuals with the ability to offer, teach and enlighten the researcher on the subject (Crabtree and Miller, 1992). This exploratory phase sought suitable respondents with knowledge and/or experience of surfing tourism and, who had travelled worldwide to numerous surfing destinations and witnessed changes at certain surfing destinations over the years and/or in their lifetime. Individuals with expertise or involvement in surfing tourism and the surfing industry include academics in surfing tourism, surf tour operators, pioneer surf travellers, adventurers and key figures in surfing industries (See Table 3.1).

Table 3.1. Profile of interviewed respondents and their connection (direct or indirect) with surfing tourism.

Name	Location	Position	Organisation/ field of expertise.
Dr Pierce Flynn	California	Former Executive Director of the SurfRider Foundation	Member of environmental and beach access advocacy group and former executive director of SurfRider Foundation. PhD in the field of sociology and ethnography.
Jess Ponting	Australia	Academic/consultant in surfing tourism and related issues	Academic working on surfing tourism in the Mentawaiis.
Owners of Tavarua resort	Fiji	Surf tourism operators/ owners of a Fijian surf resort	Owners and managers of a Fijian surf resort.
Kevin Lovett	Bali, Indonesia	Surf traveller and writer	Australian surf adventurer. First person to have surfed Lagundi Bay in early 1975 and revised Lagundi 25 years later to do a documentary "The Golden Pig", critiquing the changes of Lagundi. Environmental campaigner and resident of Bali
Anonymous	USA	Surf traveller, adventurer and journalist	Surfer and adventurer, now based in US. Traveller for almost 10 years in the search of perfect waves
Paul Edmiston	Perth, Australia	Surf operator and academic in surfing tourism	Studied surfing tourism impacts in Indonesia. Currently a surf tourism operator based in Western Australia.
Steve Barilotti	California	Surf journalist and editor of a surfing magazine	Special advisor to the board of the Mentawai Islands Foundation. Career surf journalist and Editor-at-large of <i>Surfer Magazine</i> based in California. Surfer is the oldest (45 years) and most respected surf publication, often called "The Bible of The Sport". Barilotti writes extensively on surfing tourism in <i>Surfer</i> , <i>The Surfer's Journal</i> , and several international surf publications.
Tim Baker	Australia	Surf Journalist	Surf journalist with an interest issues associated with surfing tourism.
Anonymous	UK	Surfing tourism operator	British surf travel operator. Advertises his company as ethically correct and promotes sustainable surfing tourism destinations.
Peter Troy	Australia, Noosa	Surf explorer and traveller from the early 1960s	Australian traveller, adventurer and surf explorer who discovered and surfed many surf breaks worldwide. He was also responsible for introducing surfing to Brazil.
Steve Hawk	California	Former long-time editor of an American surf magazine	Senior Editorial Consultant for American surf magazines. Also a freelance surf writer.
Anonymous	Australia	Surfing industry	Formerly CEO of a surfing body and formerly involved in the organisation of International surfing competitions.

While, 'expert' opinions have been utilised intensively in tourism planning and destination life cycle theory (Getz, 1992), accessing such individuals was constrained by two factors. Firstly, as surfing tourism is a relatively recent field of research, 'experts' are not necessarily yet recognised, and secondly, such individuals were not readily available, as

they are dispersed worldwide. Thus a snowballing sampling technique was conducted. Individuals initially identified as "well-situated" were asked to recommend other individuals who might have knowledge or expertise in the field (Bunce and Gustavson, 1998; Horochowski and Moisey, 2001, Patton, 2002) in order to generate relevant information on the nature of the phenomenon. The merit of snowballing sampling was that it enabled access a certain group (May, 1997) which would have not otherwise been known or accessible and/or who may have otherwise refused to be interviewed (Seale, 1998). This snowballing process permitted access to respondents *via* a networking process between peers which was critical to strengthen trust and openness from participants, who responded positively in taking part in the interview. The researcher encountered no refusals from individuals introduced by intermediaries. There are no defined parameters for sampling size in qualitative enquiry (Patton, 2002), and the researcher ceased conducting interviews once it was determined that no new issues were being identified. In total, twelve in-depth interviews were conducted. This in-depth exploratory stage did not intend to generate statistically representative data (Devereux and Hoddinott, 1993; Stroh, 2000) but rather aid in producing a framework of a common understanding or description of phenomena and contentious issues in relation to surfing tourism and its sustainability. As Robson (1993) points out, the concern with qualitative study is not with statistical generalisation but with analytical generalisation. The findings from the exploratory interviews are not intended to be representative of the views of the surfing community as a whole. The assumption is that these participants have unique backgrounds, careers and expertise which will elicit empirical and pertinent information on the phenomenon of surfing tourism. They are considered to be in the best position to provide valuable accounts of the surfing tourism phenomenon and its most significant impacts. However, it is recognised that this referral chain or network created by snowballing sampling may potentially introduce some bias by restricting the type or genre of individuals interviewed and/or by offering a group sharing many similar characteristics (Burton, 2000a).

3.4.4. Analysis of the data

The analysis was inductive. The outcomes and *'verbatim'* transcriptions from interviews were regrouped and a systematic process of sifting, charting and sorting of material according to key issues and themes resulted in the creation of a 'framework' or 'thematic chart' of responses. Interview transcripts were processed using 'framework' analysis identified by Ritchie and Spencer (1994) and Pope *et al* (2000) which allowed the identification of themes and sub-themes. Data analysis followed the framework approach, in the following stages:

- (i) Familiarisation: Immersion in the raw data via repeated review of tape recordings of interviews, and analysis of transcripts and notes to identify key ideas and recurrent themes.
- (ii) Identification of a thematic framework: Refinement and decision on emergent issues, themes or concepts within which data were categorised.
- (iii) Indexing: Refinement and reduction in numbers of categories - this systematic indexing of the thematic framework was applied to all the data in textual form.
- (iv) Charting: Formation of a chart containing distilled summaries of views and experiences from the data. The data from the transcripts were rearranged according to the corresponding section of the thematic framework and the chart separated into heading and subheadings.

The charts focused on the broad commonalities, but significant differences in the informants' views are also highlighted. The findings from the "framework" analysis were utilised as the basis for redefining original research questions and assumptions, as well as in selecting the case studies. Some later interviews were also inserted throughout the course of the study.

3.5. Case studies

3.5.1. Why conduct case studies?

Case study are one of the most popular and frequently applied research designs in the tourism literature (Backman and Morais, 2001) and have been utilised for research in anthropology, tourism and ecotourism. A case study approach has been used extensively in the tourism literature in the evaluation of the consequence of tourism, of resort development (Simpson and Wall, 1999a) and in the evaluation of ecotourism (Ross and Wall, 1999) A qualitative case study approach is utilised where the purpose is to explore, describe, or explicate a particular situation (Aita and McIlvain, 1999) and/or phenomenon and, is preferred by researchers working within interpretative or key theoretical frameworks (McBeath, 2002). The merits of case study approach for this investigation were its adeptness in assessing complex issues in a real context and the capacity to gain detailed and rich description of a phenomenon Case studies also allow the determination of causal processes within a phenomenon (Hammersley and Gomm, 2000) and examination of the interrelationships of variables. This approach offered a holistic view of a phenomenon in its setting (Dann *et al.*, 1988) and avoided isolating individual components. Case studies are also one of the most effective methods for disclosing the impacts of human activities on natural systems (Strain and Macdonald, 2002) and can assist in learning from past mistakes. Goddle *et al* (2000:20) stated that “*case studies serve as the most valuable tool for guiding the future of tourism; they offer us foresight into the possible peaks and pitfalls of tourism and help work out current issues of debates*”. Thus the case study approach was well suited to the current study’s objectives as it offered strong potential to learn from existing surfing destinations and to reveal the complexities of the surfing tourism phenomenon Robson (1993:146) contended that a case study is “*a strategy for doing research which involves an empirical investigation of a particular contemporary phenomenon within its real life context using multiple sources of evidence*” A case study using ethnographic fieldwork can facilitate the collection of valid and reliable qualitative data and the development of an understanding of the history and current characteristics of

the study area and its community in order to affectively assess the phenomenon in context. Thus, case study research was a suitable methodology to employ given the explorative nature of the study and limited information on the topic (Ap and Wong, 2001).

3.5.2. Selection of case studies

The case studies selected in this investigation were chosen to investigate adequately specific research questions and test working assumptions. The selection process was aided by findings from a series of informal and exploratory interviews as well as an extensive review of the existing literature and surfing literature. When selecting the specific case studies, there were a number of considerations. Firstly, when assessing tourism's impacts, it is often difficult to differentiate the impacts directly attributable to tourism from other factors (Harriott, 2002). Thus, when specifically evaluating the environmental impacts associated with surfing tourism at destinations, surfing tourism impacts *per se* must be distinguished from other human activities any other types of tourism and their activities (Mieczkowski, 1995). The case studies had to be isolated from other potential activities and pressures. Secondly, as Walker (1991) remarked, there is the need to ensure that the area studied had not been previously damaged or degraded as a result of human activities, so that changes specifically attributable to surfing tourism could be examined. To assess the phenomenon of surfing tourism as a whole, it was also essential from a practical perspective to identify and select case studies that would be geographically focused with a relatively homogenous and small area, where the assessment could be manageable and feasible within the time frame and resources available. Taking the above considerations into account, it was critical to find 'isolated' case studies in order to identify and separate the impacts attributable directly (and to an extent solely) to surf tourism. Yet the study recognised that no case study can guarantee this completely. Any potential and/or economic activities which may incidentally impact both the environment and communities at the destination studied have been highlighted. Mitchell (1984: 239) elaborated this point further by stating that: "*A good case study, therefore, enables the analyst to establish theoretically valid*

connections between events and phenomena which previously were ineluctable. From this point of view, the search for a "typical" case for analytical exposition is likely to be less fruitful than the search for a "telling" case in which the particular circumstances surrounding a case, serve to make previously obscure theoretical relationships suddenly apparent"

Three case studies were selected including: Gnaraloo in Western Australia, Tavarua in Fiji, and Lagundi Bay in Indonesia. All were long-established world renowned and remote destinations where surfing tourism was the pioneering tourism activity. The inception of surf tourism at each of the case studies occurred around the same time in the early to mid 1970s. When selecting the case study locations, utilising information generated from the exploratory interviews (Appendix, Table A9) and surfing literature review, certain potential locations were rejected, such as Kuta (Bali) where surfers were not the pioneering visitors at the destination (Williams, 2001), making it difficult to assess the consequence of surfing tourism when intermeshed with other forms of tourism. Similarly, Tavarua (Fiji) was selected rather than Nihiwatu (Sumba), for being a world-class and more widely recognised surf break (when compared to Nihiwatu), associated with detailed information on the introduction of surfing and surfing tourism to the location. Each case study was selected for being "telling" case and for their suitability to answer specific research questions.

- (i) Gnaraloo, Western Australia: a world-renowned surfing destination which offered the opportunity to examine the environmental impacts associated with unmanaged surfing tourism in a relatively pristine environment. This case study aimed to gather baseline data to investigate and describe the unchecked nature of surfing tourism and some of its most significant impacts on fragile coastal and marine ecosystems

(ii) Lagundi Bay, Nias, Indonesia: a long-established surfing destination which developed without management or controls. The emphasis of the inquiry at this case study was to investigate the environmental, economic and socio-cultural impacts of surfing tourism, the manner in which surfing tourism had evolved over time, and the factors associated with the success or failure of this location as a surfing tourism destination.

(iii) Tavarua, Fiji: selected as an example of a managed and regulated destination with a controlled number of surfing tourists based around the Recreational Carrying Capacity (RCC). This case study enabled examination of the RCC as a management mechanism restricting the number of surfing tourists to that which maintains the competitiveness and desirability of the destination, retains the environmental integrity of the area, and is compatible with aspirations and welfare of the local community.

As explained in the introduction and rational to the thesis, it is important to understand the dynamics of change, evolution and development and impacts of tourism at the destination as well as the key factors influencing the tourism destination. Both Tavarua and Lagundi Bay allowed the investigation of the evolution, changes and consequences of surfing tourism at destination as well as the factors influencing the success and/or failure and sustainability of surfing tourism at destinations. Both case studies focused on evaluating the critical factors and their relationships (if any) that make a surfing destination a success or failure. They offered the opportunity to investigate the factors associated with the collapse/decline and/or success of surfing tourism in relation to sustainability. The case studies also examined the most significant socio-cultural, economic and environmental effects and impacts of surfing tourism. The motivations for visiting the respective destinations and perceptions of their surf tourists experience and satisfaction were also examined.

3.5.3. Case study design and data capture

Design of case studies

A qualitative and descriptive case study approach (Yin, 1989) was adopted due to the exploratory nature of the study and the scant information available on the topic (Ap and Wong, 2001). Detailed and rich data and valuable insights into the contextual situation surrounding surfing tourism at each destination could not be obtained with quantitative methods and required a qualitative approach. The use of qualitative methods is an appropriate approach where baseline data do not exist and the intention is to examine issues or problems “*in their temporal or historical context and explain them from it*” (Flick, 2002: 13). In addition, the aim was not to determine the impacts of surfing tourism on the local environment and community at one point in time, but rather to look at changing and dynamic relationships at that destination. It is recognised that changes over time are often better evaluated utilising qualitative techniques (Veal, 1997). In addition, due to the complexity of tourism phenomena, a single method and data source would not be adequate to develop a detailed evaluation of the case study nor would it facilitate a holistic understanding of surfing tourism from a diversity of viewpoints. United Nations (1999) guidelines indicate in relation to qualitative data that more than one methodology should be utilised. Thus in this study data triangulation utilising a wide array of qualitative methods and tools for data collection (Creswell, 1998) was appropriate. Multiple data collection and data triangulation have been used heavily in tourism research (Decrop, 1999; Finn *et al*, 2000, Brunet *et al*, 2001, Hardy and Beeton, 2001, Hardy *et al*, 2002). Since no single methodology is totally satisfactory (United Nations, 1999), the merit of data triangulation is that it permits examination of the same phenomenon and research questions from different aspects, drawing data and obtaining evidences from a range of perspectives (King, 1997), offering more credible and dependable information. The corroboration of information and evidence from the various techniques and diverse view points develops a richer and potentially more valid interpretation (Decrop, 1999, Robson, 2002) and identification of

convergent lines of enquiry. At each case study, ethnographic fieldwork techniques (Hampton, 1998; Ap and Wong, 2001; Mitchell and Eagles, 2001; Trousdale, 2001) were employed, including a series of semi-structured interviews with key informants, focus groups with surf tourists, direct observations and participant observations, as well as the analysis of secondary data of multiple types. Individual techniques are described in Section 3.6.7. This general approach has the advantage of offering flexibility to follow and explore leads and refine the initial line of inquiry (Whyte, 1984) as well as to identify discrepancies in the data. This permitted evaluation of the internal validity of the case study findings.

Fieldwork and data collection at case studies

The *modus operandi* of fieldwork and data collection for the case studies was flexible and fitted into local circumstances. A generic fieldwork and data collection approach is given below and the specifics of each respective case study are highlighted. Prior to fieldwork, a comprehensive review of existing data and documents for background and historical information was conducted. Where limited information was available, collection and compilation of secondary data, oral histories and baseline data (including socio-economic, cultural and environmental; policy and management data, history and development) was undertaken during the fieldwork period at each case study (Brunet *et al.*, 2001). Information was also gathered on site during meetings with government officials, University academics, non government organisations (NGOs), independent experts, heads of communities and villages and other key informants familiar with the case study area (Simpson and Wall, 1999a; Horochowski and Moisey, 2001). Socio-economic data were derived from various sources from a village, district and government level. Primary data were collected: (a) Gnaraloo (based at Three Mile Camp) - July 2003; (b) Tavarua (based at Tavarua Resort and Nabila and Momi villages) - August 2003; and (c) Lagundi Bay, Nias (based in Sorake Beach) - June 2004.

Primary information during fieldwork at each case study, was obtained from semi-structured interviews with key informants, including community members, and focus group

with surf tourists on an informal basis (Table 3.2). Key informant interviews permitted the collection of factual data, as well as attitudes and opinions (United Nations, 1999). These interviews sought data on the (a) historical profile of the destination and information on the development of tourism in the community (Lewis, 2001); (b) changes experienced at the destination over time, and (c) significant perceived impacts associated with surfing tourism and management issues at the destination.

Focus groups in all case studies examined surf tourists' motivations and factors affecting surfing holiday destination choice, perceptions on the level of crowding in the surf, the optimum recreational carrying capacity (RCC) of the surfing destination and level of satisfaction at each destination, as well as opinions on the perceived impacts and management issues of surfing tourism at destination and the potential mitigation measures to reduce these impacts.

Informal conversation/interviews with scholars, government officials, NGOs and a review of existing literature (e.g., ecotourism and backpackers research studies) was carried out to gain an understanding of the economic, socio-cultural and environmental impacts and changes caused by surfing tourism. These informal interviews with individuals with unique expertise highlighted impacts as well as appropriate mitigation measures at surfing tourism destinations. Important information was gained from less formal contacts (Bunce and Gustavson, 1998) *via* participant observations and direct observations (United Nations, 1999). This involved observing what people (i.e. local community members and surf tourists) did and said but also direct observation of issues such as coastal erosion and signs of pollution etc. This assisted to substantiate and verify interview (Buultjens *et al.*, 2005) findings by gaining previously unknown or unexpected responses and attain contact with individuals who may not have been agreeable or were too reticent to be officially interviewed. Informal conversations during encounters were also carried out with community members and surf tourists.

Table 3.2. Focus groups, key informants interviews and informal interviews conducted at each respective case study.

Case study	Contact with research/ management agencies, NGOs and others individuals with knowledge/ expertise/ experience on the area	Key informants selected for semi-structured interviews at each respective case study	Focus Groups
Gnaraloo Western Australia	<ul style="list-style-type: none"> • Dept. for Planning and Infrastructure (DPI) • Ningaloo Reef Outback Coast Association • Dept. of Conservation & Land Management • Western Australian Tourism Commission • Local geologists and marine scientists • Academics in tourism and environmental sciences (Murdoch, ECU and Curtin University) 	<ul style="list-style-type: none"> • Care taker - Gnaraloo station • Staff - Gnaraloo station • Care taker - Red Bluff surf camp • Recurring surf tourists 	5 focus group which included 5-8 people each
Tavarua, Fiji	<ul style="list-style-type: none"> • Ministry for Tourism, Culture and Heritage and Civil Aviation • Department of Lands and Surveys • Department of Environment • Representatives of provincial government • Fiji's Visitor Bureau • South Pacific Tourism Organisation • Fiji National Tourism Office • President, Tourism Resource Owners Assoc. • Fiji Surfing Association • Surf and dive operators • Environmental consultant • Diane Walker, Marine biologist for Mamanuca Environmental Society (NGO) • Ed Lovell, Marine biologist • The Fiji Coral Reef Conservation Project • Academic, University of South Pacific, Suva • Surfing tourists visiting Fiji • Local surfers • Local nurses 	<ul style="list-style-type: none"> • Chief of Tavarua Island • Local teachers • Mayor of Momi village • Priest of Nabila • Tourism promoter • Surf operator – Momi Bay • Resort owners (Dave Clark and John Roseman) • US based surf traveller and adventurer • Fiji Visitors Bureau • Nadroga/Navosa Provincial officer • Department of Lands and Survey • Recurring surf tourists 	3 focus group which included between 4-6 people each
Lagundi Bay, Nias	<ul style="list-style-type: none"> • Academic at Bung Hatta University (West Sumatra) • Australian Surfing Professional (ASP) officers who had previously organised surfing competitions in Nias • Local Niasan anthropologist • BUPATI Officers at Kantor Bupati Nias Selatan (including the Manager of the Law Bureau, and Secretary of the local/ regional planning board • Community, environmental and social development specialist (Mentawaiis) • Surf charter boat operator in the Mentawai Islands who'd previously taken clients to Nias • District Bureau of Statistics, Nias • Jason Child, surf photographer. One of the first surf photographers to have publicised Nias • MERPATI Airline District manager, Medan • Staff of Sorake Beach Resort • SUCOFINDO researcher (SBU Forestry Marine Fisheries and Environment), Jakarta • Yayasan Minang Bahari foundation (Padang) • Sean Doherty, Editor of Tracks Magazine • Peter Troy, Surf travellers and adventurer. • Tom Terrel, owner of Island Surf Board. First visited Lagundi in 1980. • Written communications with an academic and anthropologist working for the Nordic Institute of Asian Studies 	<ul style="list-style-type: none"> • BUPATI tourism officer and local historian • Chief of Botohilli/Sorake; Head of Nias surf club • Local landowner and elder – opened first losmen in Lagundi; founder PPPLS • Losmen owner and landholder - first losmen owner in Sorake • Secretary of the desa of Botohilli (elder) • Kevin Lovett, surf traveller • Tour guide; losmen owner • Tour manager for PT Nias Tour & Travel and former employee at Sorake Beach • European woman married to a Niasan and living in Lagundi • Young losmen owner (Surfer) 	3 focus group which included between 5-6 people each

Table 3.2 provides a comprehensive list of the semi-structured interviews, focus groups and informal conversations with key organisations, informants and community members for each respective case study.

All semi-structured interviews and focus group discussions were recorded and annotated with comments and later transcribed. An assistant in Lagundi Bay was utilised as a translator to assist with the interviews. During participant observations, detailed descriptions and notes were taken during field work on matters such as activities, areas used, crowds in the surf and behaviours (Gillham, 2000) and supplemented by photographic evidences (Buerger *et al.*, 2000). The researcher ceased gathering information once the 'theoretical saturation' was reached (Gold, 1997). This involved ceasing the sampling of key informants, the focus groups, participant observations and observation and integrating further materials once enough data had been compiled to give an in-depth picture. Saturation was defined as the point at which no additional data were being generated and no new themes emerged (Flick, 2002).

Negotiating access and establishing rapport and trust

Immersion was found to be one of the most critical issues at case studies. In order to investigate properly and successfully complete research, accessing settings, gaining access to people and data and rapport building were essential (Burton, 2000b). The establishment of rapport and intimacy between the investigator, the community and the surf tourists at each case study aided the researcher to develop trust and overcome any defences and falsity of the participants (Seale, 1998), which alleviated the initial apprehension and concerns (Razavi, 1993) and allowed people to confide more readily (Devereux and Hoddinott, 1993).

It also facilitated participants to more readily discuss sensitive issues (e.g., drugs and prostitution) and illegitimate activities (e.g., surf tourists spear fishing outside season) (De Lane, 2000). At each case study, the key to accessing settings and people was the use of impartial and well-respected families and/or individuals within a community, known as

'gatekeepers'. 'Gatekeepers' were personally identified prior to and/or on arrival at each field study sites and were key in negotiating access (Whyte, 1984) and for introducing the investigator to the community (Razavi, 1993), and for assisting the investigator to become integrated and accepted as a temporary member of the community.

Assistant and Translator

While a majority of persons at all three case studies spoke English, the assistance of a translator was used in Nias to ensure a good understanding of the local culture and to reach some individuals who were not English speakers (some community members spoke only their local dialect). The researcher has an understanding of Bahasa Indonesian, and the use of a translator assisted in ensuring clear communications. The translator who assisted the researcher had extensive experience in conducting such fieldwork.

3.5.4. Analysis of case studies

During fieldwork at each case study, the review and analysis of all interview transcripts, observations, field notes and secondary information was critical and done systematically throughout the fieldwork to understand the salient issues and events. Categories and patterns emerged from the data, allowing the researcher to identify gaps in the information collected, and identification of conflicting information. This protocol promoted internal consistency within each case studies and increased the validity of findings (Reed, 1997). The majority of the information gathered consisted of verbal statements. An in-depth analysis of verbatim transcripts from interviews, focus groups, participant observations, field notes and other secondary data documents was compiled and developed for each case study. Each type of data (i.e. all interviews, participant observations, observation, focus groups and documents analysis) was classified, coded, sorted, simplified, organised and later structured into key themes and categories through content analysis. During this process, the assimilation and structuring of data was essential. The author combined the narrower themes into overarching perspectives, and related these to the literature. The results were triangulated into a comprehensive whole (Silverman,

2000). Following Reed's (1997:575) suggestion, a story line on the development of surfing tourism was formed based primarily on interviews with key informants which were incorporated into and corroborated with the other sources to form the basis for the descriptive analysis presented

The results on the consequences and impacts of surfing tourism were separated into broad categories including socio-cultural, economic and environmental (Simpson and Wall, 1999b), although it is acknowledged that these categories are interconnected and overlapping (Wall, 1996) It was not the intention of the study to give a comprehensive account of all impacts, but rather to focus on those determined to be most significant To ensure reliability and reduce the distortion of the data, the researcher plainly reported in as much detail as possible observations and recordings from the field Finally, due to the inherent degree of subjectivity of the qualitative techniques and data therein the case studies, based on people's perceptions and the author's personal observations, the magnitude of various impacts was not quantified All three case studies were written in a descriptive and interpretive format so as to best illustrate the phenomenon and most significant issues uncovered during the fieldwork (Ely *et al*, 1997; Travers, 2001)

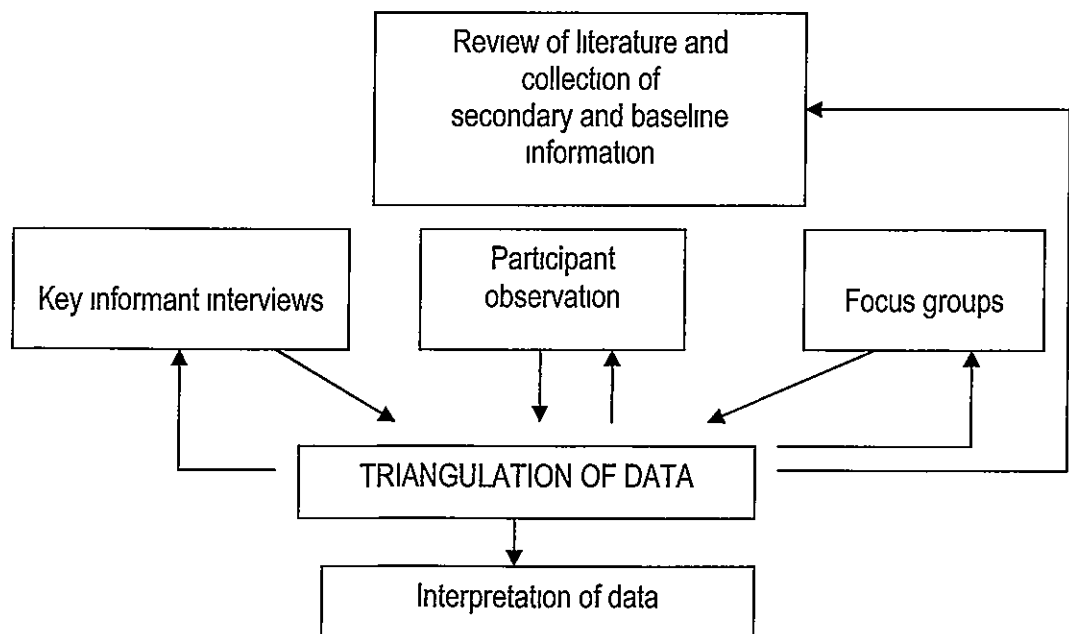


Figure 3.2. Flow diagram of analysis of information gathered at each case study

Limitations of the case studies

Time

To gain trust and acceptance by the community at each case study, it was important to spend sufficient time at each site. It is acknowledged that there is “no ‘correct’ or ‘ideal’ length of time for undertaking fieldwork” (Devereux and Hoddinott, 1993:37). While long-term fieldwork is standard in anthropological studies (De Laine, 2000), this was not a prerequisite for this study. At each case study, the fieldwork was carried out over at least a one month period. The relatively short time period at each case study and the lack of a longitudinal component to the research could be considered a limitation, offering a “snapshot” in time at a location (Xiao and Smith, 2006). A longer period of investigation, incorporating the off-peak tourist season, may have facilitated investigation of a larger stakeholder group (including visiting surf tourists) and potentially captured nuances in their responses and views on key issues. Time was however, sufficient to capture the required information and develop a detailed understanding of the case study location (Backman and Morais, 2001). It was also sufficient time to gain trust from both the community and surf tourists and for them to become accustomed to the presence of the researcher. This was particularly critical when carrying out participant observation. However, this relatively short period also prevented the researcher’s views from being “tainted” by the introduction of bias from close personal involvement with the communities and particular individuals, and a consequential loss of objectivity and perception (Flick, 1998; Thomas, 2003).

External validity of the case studies

The case studies depicted some of the distinctive problems associated with the development of surfing tourism and illuminated the different ways it had affected destinations. It could be argued, however, that the case studies chosen are not typical. One of the suggested limitations of the case study approach is the issue of external validity, which is the degree to which findings can be generalised from the specific example in the study to a wider context (Backman and Morais, 2001). The question is whether the results

found are applicable in “*different settings, with different subjects and/or under altered conditions*” (Jones, 1985) Another issue highlighted by Simpson and Wall (1999a:283) is that “*generalisation as well as the assessment of consequences in specific situations, are frustrated by the complexity of the phenomenon*” Each destination is highly varied with unique and divergent characteristics (e.g, cultures, physical environment, ecosystems and legislations) This implies that at each case study may face unique sets of impacts from surfing tourism. Thus, great care should be taken in analytical inference from each case study’s identified impacts as these should not be lifted out of their immediate context, nor be generalised without qualification. Nevertheless, whilst case studies findings, like findings of any qualitative studies, cannot be generalised in a statistical sense (Yin, 1984), these can nevertheless be transferable (Backman *et al*, 2000) Advocates of the case-study approach argue that this technique can not only draw out the uniqueness and features specific to each case study, but also exemplify issues (Creswell, 1998) and highlight insight and features which are generally applicable (Aita and McIlvain, 1999, Finn *et al*, 2000). This study adopted the premise that the findings of all three case studies would permit a better understanding of the issues/processes which are specific to each site, but also those which are shared and applicable to other destinations (e.g, RCC, opened and restricted access, management issues) The three case studies offered a framework to form a better understanding of the themes explored in the study (Hammersley, 1992, Hammersley and Gomm, 2000, Hammersley *et al*, 2000); including theories, insights and predictions regarding potential destination changes, impacts and management issues at surfing tourism destinations, and may guide future planning, management and policy orientated decision-making for surfing tourism locations.

Reliability

A criticism of the case-study approach would be the degree to which the results are repeatable (Jones, 1985) When dealing with highly complex and dynamic situations, it is recognised that sources of variation including different time periods, events, observers and

observations can influence results (Veal, 1997). Due to the naturalistic approach at each case study including informal, impromptu and spontaneous observations and interactions, it would be difficult to replicate the findings precisely. Humans are dynamic and over time can alter their position and opinions on topics, particularly as the environment around them changes. This does not lessen the reliability of the results but mirrors the dynamic nature of the situation (Veal, 1997). Mitchell (2000:183) concluded that "*case studies are a reliable procedure of social analysis*".

Internal validity and data triangulation

The notion of internal validity relates to the degree of confidence in the findings from each case study. Qualitative techniques are often criticised for introducing bias (Robson, 1993). This highlights the issue of bias from the key informants and the validity of their views as well as validity of the subjective information gained from the other qualitative techniques. Yet as explained discussed, the utilisation of a variety of techniques and data sources removed any substantive social bias (Brewer and Hunter, 1989). Any bias was also mitigated by the corroboration and cross-validation of information generated in each case study (Robson, 2002). The benefits of adopting a multiple methods approach and data triangulation is that the information collected (from a variety of sources), with a number of different methodologies and data analysis techniques permits the researcher to build on the strengths of each approach, while reducing the weaknesses of any particular technique (Patton, 1987). In other words, the internal validity of case studies is enhanced by data triangulation by: (a) limiting researcher's bias; and (b) reducing the biases of each individual technique (Decrop, 1999). It is argued here that substantial and detailed description of the history of the development surfing tourism and background information for each case study offered a stringent understanding of the current situation. Confidence in the case studies' was also due in part to the detailed description of the phenomenon within their true context, in other words, the assessment of the contemporary phenomenon within its real life context, at each case study, addressed the issues of relevance and

strengthened the internal validity at each case study (Miles and Huberman, 1994) The circularity in the process involving data collection and concurrent reflective analysis of the data fortified the internal validity (Flick, 2002)

3.6. Qualitative research techniques utilised at case studies

3.6.1. Interviews with key informants

Due to the gap in information on surfing tourism in general and background information for each case study, principal sources of information were individual's experiences, behaviour, attitudes and feelings (Strauss and Corbin, 1998) In order to obtain detailed descriptions of the changes and effects of surfing tourism and a comprehensive perspective of the historical development of surfing tourism (Mitchell and Eagles, 2001) at each respective destination, qualitative semi-structured interviews with local key informants were used (Yuksel *et al.*, 1999) Views and perceptions were useful in understanding what has happened and potentially why (Patton, 1987; Patton, 2002). Oral history is a valid source of information to gain baseline data and historical understanding of a topic and/or changes across time (Summerfield, 2005), and to compliment the 'written' record. A semi-structured interview approach (Godfrey and Clarke, 2000) and key informants interviews is a common methodology used in fieldwork studies (Whyte, 1984) and tourism studies (Kneafsey, 1998, Mitchell, 2001, Mitchell and Eagles, 2001; Fallon and Kiriwoken, 2003). Semi-structured interviews with open-ended questions facilitated an overall understanding of the situation at each case study and the breadth of concerns on issues associated with surfing tourism at destinations. In other word, these interviews enlightened the researcher on the "Why" and "How" of the destination' current situation and identify a number of common issues and implications to be addressed. The key informant interviews followed the same protocol as the exploratory interviews (for further information on semi-structured interviews and their advantages, disadvantage and limitations as well as more comprehensive information on the interview design and data analysis please refer to section of this chapter detailing the exploratory interviews).

Key informants were questioned following an interview guide (see Appendix 10.1) containing the central themes to be explored in the course of the interview. Key informant interviews were an opportunity to gain background information on the area, its community, as well as the tourists' profile and their motivations for visiting the area, however, the interviews were designed specifically to elicit perspectives concerning the following central themes:

- (i) the historical development of surfing tourism, the evolution and changes seen since the arrival of surf tourism at the destination, and in the case of Lagundi, the causes for the collapse of tourism;
- (ii) the factors for the success and/or failure of surfing tourism at the destination;
- (iii) the most significant perceived socio-cultural, economic and environmental impacts (both positive and negative) arising from surfing tourism on the community and on the destination;
- (iv) perceptions on the current level of surfing tourism and crowding in the surf in relation to the RCC as well as the potential management tools and solutions to mitigate these impacts.

Key informant interviews were conducted in person and generally in an informal setting. Before each interview, participants were briefed on the aims of the project and the manner in which the information generated would be utilised. To reduce any potential distortion of interview data and to reduce interviewer bias (Kvale, 1996), all interviews were taped recorded (with permission) and transcribed. During the field component of the study, comparisons of key informants' interviews were conducted and examined for commonalities and divergence (Mitchell and Eagles, 2001), results corroborated, and any discrepancies in the findings investigated (Yuksel *et al.*, 1999).

Semi-structured interviews were conducted informally with community members (ranging from 6-10 persons). The sample size for each case study was considered appropriate since empirical generalisation does not require a large sample size or a sample

selected on the basis of statistical sampling theory (Hammersley, 1992, Burton, 2000b). In addition, due to logistical constraints and the explorative nature of the inquiry, it was impossible to interview all members of the community. Key informants were chosen not to be statistically representative of the community, but rather for having first-hand knowledge and being in the best position to offer perspective on the historical development of surf tourism and/or its main associated issues (Creswell, 1998). The key informant selection was based on their position to (a) provide accurate, dependable and comprehensive information on the phenomenon under investigation and articulate their knowledge, (b) have an historical understanding and/or have observed changes at the destination since the arrival of surfing tourism, and (c) have a sound knowledge of the area and the community. For example, some of the key informants included pioneer surf travellers thought to have been the first to have discovered the surf break at that destination, owner(s) of surf resort and surf tourism operators, local residents (generally respected key figures in the community (e.g., mayor, chief and village heads of village etc), local government officials and recurring surf tourists. At all three case studies, the use of evidence from early foreign visitors' accounts and photographs (Stevens, 2003) were used to corroborate information when possible.

On arrival at location for each case study, the researcher identified initial key informants. Opportunities for interviews also developed spontaneously from field contact (Flick, 1998; Flick, 2002). A snowballing sampling approach was conducted (Horochowski and Moisey, 2001) where initial key informants were requested to identify others who would be able to provide an overview of the surfing tourism phenomenon locally, along with its salient issues. Data analysis of the key informant interviews followed the same process as the exploratory interviews (Section 3.4). For ethical reasons and to protect the interviewee(s), some interviews were reported anonymously. The differences in perceptions, recollections and accounts between the different community members on surfing tourism are prone to be influenced (a) by their degree of involvement in tourism

and (b) by their position within the community (Whyte, 1984). Yet, key informants should not necessarily be regarded as "...*having a truth value, as being correct or false and all data must be scrutinized*" (Cohen, 1984:223). Furthermore, it is essential to acknowledge the unsuitability of some interviewees as well as the difficulties of recollecting past feelings and attitudes about certain events and/or situations (Whyte, 1984). Some may inadvertently omit to discuss and/or may conceal, withhold or distort certain aspects or may not accurately remember facts since retrospective accounts may add a layer of bias. Yet, the corroboration of the interviews, focus groups findings and participant observations during the data triangulation increases the reliability of the study's findings.

3.6.2. Focus groups

Focus groups have been widely used as a research tool in destination choice (Mackay and Fesenmaier, 1997) and tourism management and planning. They are utilised within triangulation to supplement other methods in multi-methodology research strategies (Finn *et al.*, 2000). In addition, contradictory perspectives arising during focus groups assist the researcher during later investigation and clarification. Focus groups were an efficient way to reach a greater number of people and develop information (Finn *et al.*, 2000) in a shorter period of time (Suter, 2000). One of the advantages of focus group was that it allowed an exchange of views and opinions among participants. The interactions between tourists generated a diversity of answers and opinions within groups (Gillham, 2000). In addition, the synergistic approach of focus groups whereby participants retort to and build on what others in the group may have said, produced more in-depth and transparent information and boosted discussion among participants. Focus groups assisted with description and interpretation of surfing tourism at destinations and to develop the working assumptions of the investigation (Mackay and Fesenmaier, 1997; Ap and Wong, 2001).

The main objectives of the focus groups at all three case studies were to allow the exchange of views and opinions among surf tourists to: (a) gain a better understanding of

the motivations and factors affecting destination choice when travelling to surf tourism destinations; (b) evaluate the surf tourists' perception on the level of crowding in the surf at that destination, their satisfaction with the destination and to identify the perceived RCC at the destination, and (c) gain surf tourists' perceptions on their own impacts and surfing tourism's potential effects (both positive and negative) on the destination, potential mitigation measures, as well as the current issues at the destination.

Since the nature of the research was exploratory and inferences about the population were not to be made, opportunistic sampling was utilised (Clark, 1991). At each case study, a mixture of surf tourists were intercepted informally during the day and invited to take part in a focus group after being given a brief account of the study. At each case study, 3 to 5 focus groups comprising of 4 to 8 people each were conducted (Table 3.2). Prior to the commencement of each focus group, participants were briefed on the purpose of the focus groups as well as on the overall aims of the study. The focus groups were conducted in an informal basis to create a relaxed environment (Walpole and Goodwin, 2000), and each was 1 to 1.5 hours in duration. This informality facilitated interaction between the focus groups participants and consequently individuals were more willing to offer information (Gillham, 2000). The focus groups took the form of guided discussions based on series of themes, with prompts in the form of open-ended questions. To allow the research to interact more freely with the members of the focus group, each focus group was tape recorded (with permission) and transcribed. Focus group's transcripts were analysed and themes that emerged were corroborated during data triangulation with the other qualitative techniques used in the case study.

3.6.3. Field research and observations

One of the ways to investigate outdoor recreation activities, in this case surfing, is to observe the phenomenon as it is happening. Direct observations were conducted at each case study. As in Tribe *et al* (2000), the researcher identified all activities undertaken at the site and identified how these may potentially impact the area. The broad literature on

impacts of tourism and recreation provided sound parameters of physical evidence of impacts including track formation, erosion, loss of vegetation and broken coral. To gather evidence, the researcher walked and snorkelled on an informal basis to identify areas which showed signs of physical impacts, such as erosion, trails, rubbish, pollution, reef damage and rubbish. Notes were recorded daily and supplemented with photographic evidence. These were corroborated with other data sources during the data triangulation process as previously described.

3.6.4. Participant observation

In the context of field research, participant observation is widely utilised (Flick, 1998) and is often used as part of a multi-method approach to complement other fieldwork methods. Participant observation is well established in anthropology and has been adopted by other disciplines including tourism and leisure studies (Kneafsey, 1998; Bowen, 2001; Mitchell and Eagles, 2001; Sorice *et al.*, 2003; Davis and Morais, 2004; Sonnino, 2004; Yarnal, 2004). Participant observation involved examining and listening to participants (Sorice *et al.*, 2003), and partaking in informal conversations (Kvale, 1996; Trousdale, 2001). Naturally occurring conversation and informality of interviews and non-directive questioning formats allow gaining closeness to people (De Laine, 2000) and may elicit information more freely and spontaneously (Seale, 1998).

To gain a better understanding of the behaviour of surf tourists, their interaction and impacts on the local people and the environment, reliance exclusively upon key informal interviews and focus groups could potentially lead to the misrepresentation of the situation at each case study. Participant observation was a complementary tool that allowed collection of reliable and valuable information, which could not be attained by other means (Heyer, 1993; Lee, 2000) and has the advantage of serendipity (Whyte, 1984). It revealed unexpected behaviours and 'unintended' impacts which would not have been identified by other means and uncovered issues that could be explored further (Bunce and Gustavson, 1998). It has been widely recognised that there is a general divergence between what people

say about themselves and what they actually *do* (Gillham, 2000). For example, surf tourists may not wish to admit to certain activities which may damage the environment. Moreover, individuals may ignore or omit willingly or unwillingly certain facts and issues during interviews or focus groups. Another merit of participant observation is that it allowed recording of real occurrences, behaviour and attitudes (United Nations, 1999) in their own context and settings. In the context of fieldwork within a community, as a significant amount of the information had been generated from key informant interviews, participant observation accessed groups and individuals who may have been otherwise overlooked (Fontana and Frey, 1998). Informal discussions and conversations were a very efficient way to gain information from certain individuals, generate multiple perspectives on the situation at each case study and discover any divergence in information obtained from key informants and focus groups.

The purpose of participant observation in all three case studies was to permit the researcher to evaluate the behaviour and potential impacts of surf tourists on the local environment and on the community. In Gnaraloo, the emphasis of participant observation was to examine resources use, the activities undertaken by surf tourists, tourists' behaviours and their potential impacts. In Tavarua and Lagundi Bay, the emphasis of participant observation was on the surf tourists' behaviours at destinations and their interaction with the local community. It also evaluated the community members' attitudes and perceptions towards surf tourism and its development, along with its main issues at the destination. In addition, for all three case studies, as in Bowen (2001), participant observation was used to capture tourists' satisfaction *in situ* with respect to crowding as well as the carrying capacity at each destination and of their general experience of the destination. To avoid focusing on the most apparent and noticeable behaviours from observation, triangulation of data from various sources dictated that both specific behaviours and noted impacts were not exaggerated. Findings obtained from participant observation were subsequently checked and clarified with further questions to individuals and, balanced by informal discussions

(Bowen, 2001). Whyte (1984:96) stressed the importance of linking interviewing and observation and contended that "*Observation guides us to some of the important questions we ask the respondent, and interviewing helps us to interpret the significance of what we are observing*". In other word data was reflectively analysed by the researcher.

3.6.5. Secondary data analysis

In order to comprehend and examine phenomena effectively and situate the case study, it is essential to consider its historical context and settings (i.e. historical physical, social, and/or economic setting) (Creswell, 1998). In addition, the appraisal process of each case study, if examining how surfing tourism has and/or can affect a destination, can only be achieved through a lucid understanding of the history and contemporary characteristics of the area and its community. A description of the existing environment and physical characteristics was vital (Branch *et al.*, 1984). Compilation of baseline information and analysis of secondary information was essential to set the scene clearly and adequately and to assess accurately the phenomenon studied. The review of secondary data was important to form a more detailed understanding of the area and to verify interview data. Secondary data examined included: articles in journals, books, newspapers, unpublished reports, government records, non-government and academic reports, socio-economic studies, local history, and maps. Other valuable material included documentaries, films, and videos of relevance to the case study(s) (Sorice *et al.*, 2003). While the author recognised the potential lack of accuracy and trustworthiness for some of these resources, they provided background for each of the case studies.

3.6.6. Ethical considerations

During data collection, individuals were interviewed with informed consent. If any issues or comments were felt to be contentious or could possibly harm participants in the research, these were referred in the text anonymously. To protect confidentiality and to protect individuals (especially in such small communities), it was agreed not to reveal names, especially on sensitive topics.

4. Exploratory interviews

4.1. Introduction

This chapter reports the results from twelve detailed exploratory interviews with a diversity of experts on the phenomenon of surfing tourism. The thematic charts (Appendix 10.2) contain a comparative analysis of quotes from the twelve interviewees on the subject. The charts focus on the broad commonalities but, significant differences in the informants' views are also highlighted. Additionally, important quotes taken from informal conversations and interviews with other key informants on the phenomenon of surfing tourism (carried out prior to the exploratory interviews and throughout the thesis), were also added into the analysis when pertinent. It should be noted that the responses indicated that, although the respondents address the same issues with a degree of general consensus, they differ on certain aspects, and thus their views do not necessarily represent those of all individuals working in and/or associated with surfing tourism.

4.2. Nature and driving forces of surfing tourism

In the first instance, the interviewees were queried regarding the main impetus behind surfing tourism and the driving forces behind and factors affecting choice of destination by surfing tourists. In the thematic analysis (Appendix 10.2, Table A1), eleven out of twelve respondents noted that "uncrowded waves" was a key impetus, driver and factor affecting destination choice in surfing tourism. A second factor was the pursuit of a "surfing utopia"/"idyllic" surfing destination which includes warm weather, ideal surfing conditions, uncrowded waves and a tropical feel (e.g., palm-fringed beaches). The majority concluded that uncrowded waves were, for most surf tourists, the driving force in surf tourism and a prime factor in destination choice. However, the British surfing tourism operator pointed out the different preferences between the surf tourists, and indicated that uncrowded waves was not a factor affecting destination choice for people who want to

learn to surf and/or who had never surfed before. He and several other respondents explained that, while a very large majority of surf tourists has a strong preference for uncrowded conditions, other factors had to be taken into consideration. The surfing experience, cost/budget and individuals' personal preferences were all factors that could affect destination choice.

This view was exemplified by Pierce Flynn (ex-CEO of the Surfrider Foundation) *"Uncrowded waves, no question about it! That is definitely a factor in the choice of destinations. Beyond that, is it do you like warm water or cold water? Do you like reef breaks or beach breaks? Then you can break it down into the more specifics I think it can be different for every single person"* A factor affecting destination choice mentioned by some of interviewees was cost, yet there was no consensus on this with some considering that there were different markets for those with different budgets. Many commented on the media's (i.e surf magazines, surf videos and the surf industry) influence on destination choice and its important role in promoting the perfect destination as well as an image of the idyllic surfing lifestyle. It was agreed that this was a driving force in the development of new and remote areas and encourages the 'pioneer' image of surfers and the lure of isolated and uncrowded destinations. Surfing tourism was perceived by all respondents as a catalyst in opening up remote and new areas to tourism, due to "surf explorers" and/or "allocentrics", venturing in even more secluded and isolated areas in the search for new surfing destinations. According to Paul Edmiston (an Australian surf tour operator) *"Surfers are pioneering tourists in remote areas. Surfers seek seemingly endless opportunities to discover their own uncrowded surf havens"* These findings reinforced the premise that surfing tourism actively explores remote areas and highlights the need to understand the potential impacts associated with surfing tourism, especially in environmentally and socio-culturally fragile parts of the world. It is important to note, however, that these responses reflect the views of an elite and expert panel and thus may not be representative of all surfing tourism segments, particularly 'mass' forms of surf tourism and/or psychocentric surf tourists.

4.3. The evolution of surfing tourism at destinations

The interviewees were questioned on the pattern of evolution and development of surfing tourism destinations over time, and their responses summarised (Appendix 10.2, Table A2). While several respondents commented that each destination could have its own series of evolution stages, all described a stereotypical and recurring pattern; and identified and described similar and common stages or patterns in surfing tourism destinations' lifecycle observed at different destinations worldwide. Most open access destinations were found to lead to high number, low yield and high impacts tourism resulting in unprecedented environment degradation and socio-cultural costs. The following sections will summarise each of the stages identified by the respondents:

4.3.1. Discovery and involvement

Surf breaks are particularly appropriate for the discovery phase and the interviewees noted that a section of the surfing community (i.e. "allocentrics" or "adventuresome" surfers) actively searching for new sites for themselves and for commercial ventures development opportunities. Initially the destination would be disclosed by word of mouth and there would be an element of local involvement at a fairly low level including perhaps accommodation and catering surf tourists on an individual or household basis.

4.3.2. Development and growth.

As the new destination became more widely known, the interviewees reported that the next stage was publicity through the media which typically caused very rapid growth in surfer numbers. The exposure of newly discovered surf breaks through videos and surf magazines were considered to be important in attracting the psychocentric surfers and others to that destination. At this stage interviewees reported that local involvement was opportunistic, providing services to the visiting surf tourists as required. However, as publicity attracts even more tourists, including those not specifically associated with surfing, tourism develops on a larger scale along with the arrival of *en-masse* tourists (i.e. individual mass tourists). It was remarked that surfers were the forerunners of general mass

tourism. At the same time they noted that surf breaks become quickly overcrowded in otherwise remote areas. This alters the nature of the destination that had attracted the surf travellers in the first instance.

4.3.3. Consolidation and stagnation

The development of surfing destinations was reported to occur in only a few years in some cases. Many highlighted that with the increasing development of infrastructure, facilities and services, the *en masse* arrival of tourists, and commercialism, the destination becomes debased, is subject to increasing environmental degradation (e.g., pollution) and crowding at surf breaks (i.e. when the RCC has been exceeded). Several respondents also remarked that during the consolidation phase, an oversupply of accommodation and higher density development often attracts a lower budget market with a resulting change in the nature of tourism at the destination. Respondents commented that destinations then start suffering from degeneracy with crime, noise, pollution, loss of ambience, community antagonism toward tourists as well as localism and, tensions between surf tourists due to overcrowding at the surf break(s). Several respondents remarked that at this stage, degraded destinations like Lagundi Bay, are vulnerable to down-market competition, in part due to oversupply of accommodation which can bring prices down. Tourism at destinations can, with price collapse, become economically unviable. Another aspect of the destination lifecycle highlighted by several respondents was the community's progress through the Doxey's Irritation index with the change in their attitudes towards tourists (i.e. development of antagonism). Many commented that antagonism has far-reaching effects on visitors' experience with the destruction of the destination's ambience and appeal. This particularity was reported in Lagundi Bay where antagonism was perceived to have significantly affected visitors' experience. Crowding beyond the RCC of the surfing tourism destination was highlighted by all as a turning point and key pivotal factor in the lifecycle of the destination. All respondents commented that when surf breaks at a destination are overcrowded (exceeding their RCC), the quality of the surfing experience is markedly

reduced and the destination loses its appeal. This results in the displacement of certain types of tourists, particularly the 'pioneering surf tourists' or allocentric surfers who are no longer willing to visit the area and; who desert the destination in the search of new uncrowded locations. However it was noted that during this stagnation phase, there is still a segment of the surfing tourism market that will visit the destination. Edmiston explained this stating: *"What is mainstream and exploited to a seasoned [surf] traveller may be exotic and relatively untouched for a first timer"*. There was nevertheless a general consensus that an increase in visitor numbers and overcrowding in the surf, can result in the dissatisfaction and loss of appeal of the destination as a whole. This diverts surfers to search for new destinations.

4.3.4. Decline and abandonment

Certain destinations can reach such levels of deterioration and subsequent loss of appeal, that both the 'allocentrics' and even the more 'psychocentric' surfers and tourists search for more exclusive and newly-discovered destinations. As a result, established surfing destinations are abandoned and can collapse as tourists search for newer areas, as illustrated with the case of Lagundi Bay. It was remarked that the surfers' search for new surfing destinations is ongoing.

4.3.5. Summary and conclusions

This study indicated that many surfing tourism destinations have experienced rapid unplanned and uncontrolled tourism development; have shown signs of stagnation, decline and a 'boom to bust' cycle of tourism and have followed Butler's destination lifecycle from discovery, development, consolidation, stagnation and decline. Many destinations appear to have displayed many characteristics of mass tourism destinations with high number, low yield, high impact and dissatisfied tourists, along with significant socio-environmental degradation and costs. These identified trends in the evolution of some surfing tourism destinations have profound implications for the long-term viability and sustainability of surfing tourism at destinations. This will be investigated further in the case study of

Lagundi Bay (Chapter 6) and the lifecycle implications will be discussed further in Chapter 8

4.4. Social-cultural and economic impacts of surfing tourism

One of the aims of this research was to identify the most significant socio-cultural and economical impacts (both positive and negative) associated with surfing tourism. The respondents expressed the view that surfing tourism overall had both positive and negative impacts and, highlighted a wide array of direct and indirect impacts on the local community and environment. The responses are summed up in Appendix 10.2 (Table A3, A4 and A5).

4.4.1. Positive socio-cultural and economic impacts of surfing tourism

The general attitude was that surfing tourism could be a positive economic development factor, especially for marginalised communities in developing regions. Many expressed the view that, particularly in remote communities, surfing tourism can provide an alternative to a subsistence economy, and/or create a new economy or tourism market. The British surfing tourism operator expanded this point: *“Surfing tourism has opened up a lot of new markets and it has also provided tourism markets that would not have existed otherwise. When we look at Namibia in Africa, surfing tourism has opened new markets and new economies where traditionally it was purely subsistence living”*.

Surfing tourism was seen as having direct financial benefits for local community(s) by increasing local employment and alleviating poverty. A positive aspect of surfing tourism pointed out by the majority of respondents was that, it had raised the standard of living of communities through cash injection as well as; generating employment opportunities, directly in tourism and indirectly through the revitalisation or creation of other markets (e.g., crafts, arts).

Another important benefit was that surfing tourism had the potential to create a stable source of income and/or supplement income to family(s). The majority of respondents felt that surfing tourism had contributed to the improvement of the quality of life of local communities through the development of infrastructure created for tourists.

Cash injection from tourism facilitated the development of infrastructure and amenities for the community (e.g., clean water, sewage facilities) and financial support for the local community(s)'s education (e.g., fees, construction of school, etc). This was illustrated with the examples of Nusa Island Resort in Papua New Guinea and Tavarua resort in Fiji.

Another positive impact of surfing tourism raised by the majority was the inception of SurfAid International, a medical organisation which provides community-based health programs. Others also highlighted other medical programs operated by various surf resorts which offer medical care to local host community(s). Examples included the Sumba Foundation and Surf Medical Association set up by the Niiwatu surf resort in Sumba and Tavarua resort respectively. Several respondents also viewed surfing tourism as a positive instrument to bring attention to previously unknown, remote, ostracised and marginalised communities and indigenous societies, either at government level and/or internationally.

4.4.2. Negative socio-cultural and economic impacts of surfing tourism

There were mixed sentiments on the socio-economic benefits of surfing tourism. While the economic development and cash inflow to host communities were viewed positively, unfavourable economic effects were also highlighted. Some questioned the true benefits at some destinations of the shift from an indigenous subsistence economy to an alternative economy; while others scrutinized the actual economic benefits *per se* to the local community(s) commenting that surfing tourists often spent their money very sparingly while expecting the maximum from their hosts, leaving host communities with insignificant returns. Several respondents discussed the issues with communities' abandonment of traditional economies and the development of community(s) dependency upon surfing tourism. The consequence of the changes on the local economic structure and the reliance and/or dependence on surfing was viewed as having potential negative repercussions. Several respondents discussed the issue of foreign control and ownership of surfing tourism operations with economic leakages outside the destination community while others described surfing tourism as having a strong element of colonialism or neo-colonialism.

Many claimed that overall, local communities gain limited economic benefits from surfing tourism. The dominant concerns included: the economic exclusion of local community members due to outside interests taking over surfing tourism operations and the economic leakage of surfing tourism outside the host community. These issues were highlighted in many destinations including Costa Rica where United States citizens were believed to have taken over surfing tourism. The surf charter boat industry in the Mentawais was another example of high economic leakage outside the community, with the vast majority of the companies foreign-owned.

Respondents generally expressed concerns surrounding unfavourable socio-cultural influences from surfing tourism on fragile cultures and communities, as a result of progress, westernisation and aspects of the surfing subculture. The majority felt that surfing tourism has contributed to the westernisation of the host community(s), and cultural disintegration with the loss of traditional culture and customs especially in 'indigenous' populations. Yet the surfing industry representative indicated that these impacts were associated with tourism generally and were not specific to surfing tourism. On the other hand, some respondents viewed surfing tourism as a positive means to encourage cultural exchange, such as the introduction of surfing to local children, and also to have contributed to some extent to the revitalisation of some cultural traditions. For instance, in Tavarua, the owners of the resort claimed that surfing tourism has helped the revitalisation of some Fijian traditions. The majority of the respondents, however, expressed the view that surf tourists with western values have brought undesirable social ills and activities to many surfing destinations. They purported a strong association between surfing tourism, drugs, alcohol and prostitution. While noting that this was still a current phenomenon, Hawk stated the importance of not making broad generalisations regarding such behaviours to the surfing community as a whole. Other consequences of surfing tourism's potentially pervading presence at destinations included destabilisation of the social fabric and/or disruption of the host community's social system and structure. This problem was

highlighted particularly in the context of remote and fragile areas. Local youth were found to adopt the surfing lifestyle, as they saw it as a desirable way of life. Surf journalist, Barilotti argued that as a result, surfing tourism had affected family/community's organisation with youth abandoning the traditional family and/or community duties for surfing. Other examples of social damages and disruptions identified by respondents included: the inequalities of benefits among community members, the increase in land price, begging, crime and negative influences on local women. Another problem highlighted by several respondents, was the development of "localism", a produce of surfing itself, which, destroys the ambiance of a place. This has lead to tensions between local surfers and surf tourists as reported in Indonesia including Bali and Lagundi Bay. A key informant during an opportunistic interview reinforced that localism was a strong deterrent for visiting a surfing destination.

4.5. Environmental impacts associated with surfing tourism at destinations

The respondents' perceptions on the environmental impacts of surfing tourism were divided. A small proportion (i.e. three respondents) believed that the environmental impacts of surfing tourism generally were insignificant. This perspective was mainly based on the view that the waves were a renewable resource and surfing was by default an impact-free activity. Barilotti contended that aside from the fact that surfboards, wax and wetsuits are all derived from petro-chemicals, even the simple act of driving to the beach inadvertently uses fossil fuel. He commented that surfers' impacts in urbanised surfing destinations are generally minimal; however, in the case of destinations with relatively pristine and remote environments with limited infrastructure, he along with several other respondents, highlighted that the simple presence of people can affect the environment and that, the introduction of high numbers of surfers can cause unprecedented negative environmental impacts. The majority (nine participants including all three surf tourism operators) expressed that surfing tourism like any other tourism or industry, can have an impact on the environment. Surfing tourism's main environmental impacts were perceived

almost universally to be directly linked to the accessing of an area by surf tourists and development of amenities and infrastructure, all of which degrade the local environment. The dominant issues highlighted included those associated with sewage, solid waste disposal, the clearing of land, anchoring of boats on reefs and the use of natural resources such as fish and shellfish, sand (taken from the beach for construction materials) and firewood. Several of the interviewees remarked that environmental degradation was associated with tourism in general rather than surfing travellers in particular. Two respondents perceived that boat-based surfing tourism had limited environmental impacts in comparison to land-based surfing tourism which had significant impacts on coastal environments. There was divergence on the perception of surf tourists' direct impacts on the environment. Only four respondents specifically commented on surf tourists' direct impacts on the natural environment with the surfing industry representative highlighting that *"I think that there is no one at present that has got a global view of what the impacts are and [are going to be in the future]"*. Some respondents strongly believed that surf tourists did not have any direct impacts based on the ground that surfers were not using or denuding natural resources. Those who recognised that surf tourists have deleterious biological effects however refuted the above and pointed out that, surfers can deplete local resources. For example, Troy claimed that on an Island off Queensland, surfers had depleted the oyster stocks and tore trees for firewood. Other concern raised was that surfers can also damage coral through the trampling of reefs as well as through pollution. Paul Edmiston (an Australian surf tourist operator) commented that: *"Reefs get destroyed by 100s of surfers walking over them at low tide...on a particular island on Timor, I have seen the environmental damage by the presence of surf tourists"*. Several respondents also believed that surfing tourism can be an environmental enhancer and/or promote environmental conservation and protection. Some respondents claimed that surf tourists can be a driving force for environmental conservation by influencing the local community to protect their reefs or, by convincing the government to protect certain surfing areas (as is the case with Bell's Beach Surfing

Recreation Reserve, Australia). Flynn argued that surfing tourism could be a more favourable option and/or alternative economic development option to unsustainable use and destructive practices of marine resources. It can be concluded from the above that surfing tourism can have far reaching socio-cultural and economic problems on the host communities as well as environmental ramifications.

4.6. Other factors in the impacts of surfing tourism at destinations

A variety of other factors were identified and are discussed below (See Appendix 10.2, Table A6 for thematic analysis).

4.6.1. Lack of control and planning of surfing tourism development

The most dominant reasons postulated as to why negative impacts and other unsustainable outcomes of surfing tourism at destinations have occurred and will continue to occur, were related to the lack of control of and lack of planning of surfing tourism and its development. This was felt to have permitted unfettered and unrestrained development at destination with potential ruinous impacts both on the community(s) and the environment. Some respondents further asserted that the lack of control and planning of surfing tourism was further compounded by weak environmental regulations, the lack of a supportive legislative framework and/or inappropriate enforcement of current regulations in many developing countries such as Indonesia.

4.6.2. Lack of guidelines and regulations of the surfing tourism industry

The lack of guidelines and regulations in the surfing tourism industry and for its operators was felt to be a major contributing factor to surfing tourism's impacts. Ponting highlighted for instance, the absence of legislation for sewage and holding tanks on surf charter boats. Several respondents raised the issue that worldwide there was no authority regulating surfing tourism. The lack of existing regulations, policy guidelines and overseeing authority(s) were all seen as hindering the sustainability of surfing tourism. The British

surfing tourism operator explained that as a result, this had permitted "cowboy companies" to develop and operate businesses irresponsibly

4.6.3. Lack of awareness of surf tourists and responsible behaviour

The onus of the identified impacts was seen to be not only on the surfing tourism industry but on the surf tourists themselves. Six respondents commented that surf tourists' impacts at destinations were mostly due to a lack of awareness and/or naivety of their potential impacts particularly in fragile communities and/or remote and isolated environment. Another factor stated was that when on holidays, people tend to relax their morals. Views were divided in regards to the extent to which surf tourists were aware of the impacts of their activities, or simply of their presence at surfing destinations. Both the British and Australian surfing tourism operators commented that most surfers were conscious and aware of their impacts. Edmiston, the Australian surf operator, gave an example from one of his organised surf trips at a world heritage destination in Indonesia where clients refused to walk on the reef in order not to damage it. On the other hand, Barilotti had a different stance, arguing that the majority of surfers are not responsible or sensitive travellers, and in their search for waves, they have to travel to and enter fragile cultures/communities for which they have limited interest in and/or know little about. Several respondents commented that awareness, impacts and behaviour, all depended on the individuals and the circumstances. The British surfing tourism operator took another standpoint and, blamed most of surfing tourism's impacts on independently travelling surfers. He argued that those surf tourists travelling in tour groups had lower impacts than independently travelling surfers. Despite the perceived current lack of surf tourists' awareness, five respondents commented that over the last few years, there had been, through emergent discussions in the surf media (e.g., films and growing number of articles in surfing magazines) and through NGOs such as Surf Aid and Surfrider Foundation, a growing awareness on the impacts and pitfalls that uncontrolled surfing tourism could engender. The majority highlighted the need to increase environmental and socio-cultural

awareness among surf tourists. This was captured in Troy's statement: "*It is important for surf tourists to be socio-culturally aware in order to behave appropriately and in a way [which is acceptable] to the host community*".

4.7. Sustainability and requirement for management of surfing tourism

4.7.1. Sustainability of surfing tourism

There were divided views as to whether surfing tourism was sustainable (see Appendix 10.2, Table A7). Based on the grounds that waves are a renewable resource, several respondents felt that surfing tourism can be and/or has the potential to be sustainable. Edmiston, questioned however the sustainability of surfing tourism since it can lead to and/or be just another form of mass tourism. Many perceived that surfing tourism could be sustainable, only if and when planned and managed appropriately and conscientiously. Examples of perceived sustainable surfing tourism destinations included Niiwatu surf resort in Sumba, Tavarua, Fiji and Nusa Island Resort in Papua New Guinea. Other respondents felt surfing tourism could be sustainable and leave minimum impacts, if it followed the ecotourism approach and sustainability principles. Some nevertheless argued that while surfing tourism had the potential to be sustainable, it had a long way to go before achieving sustainability and that there was still definite room for improvement.

4.7.2. Requirement for management

With respect to achieving sustainable surfing tourism at destinations and ongoing surfing tourism success, there was unanimous consensus that attention to surfing tourism management was urgent arguing that without management and/or regulations, surfing tourism has led to unsustainable outcomes. As Lovett commented, "*When there is no control, you do end up with the possibilities of another Lagundi Bay, [Nias] popping up again*". Flynn argued that especially in environmentally and culturally sensitive areas, there is a pressing need to plan ahead and to manage surfing tourism at destinations accordingly. Other comments included that management should be developed on a case by case basis, should maximise benefits to the local community(s) and should be tailored to the potential visitors.

4.8. Critical factors for ensuring the success and sustainability of surfing tourism at destination(s)

One objective of the research was to determine critical factors for ensuring successful and sustainable surfing tourism at destination(s). Responses on the perceived necessary conditions and essential prerequisite for ongoing surfing tourism success and sustainable outcomes are summarised (Appendix 10 2, Table A8).

4.8.1. Tourists experience and crowding

Crowding was considered by all to be a negative factor affecting the surfing experience. Many commented on the strong relationship between crowding levels at surf breaks and satisfaction of surf tourists, explaining that crowding in the surf at a destination lessened the surfing experience. Crowding was asserted as a negative element at a surfing destination that could affect the long-term success and sustainability of surfing tourism. The majority of respondents argued that the maintenance of a high quality surfing experience was fundamental for the long-term viability and success of a surfing destination. The owner of Tavarua resort explained that a high quality surfing experience and satisfaction was crucial to keep tourists coming back, and argued that *"no one wants to come half the way around the world to be in a crowded place"*

The majority of respondents expressed the view that it was vital to limit numbers in the surf and keep the level of crowding around the RCC of the surf breaks at the destination. Otherwise the reasons why surfers visited the locations in the first place (e.g, uncrowded waves) would be lost and new destinations sought. Ponting believed that in the context of the Mentawaiis, where tourists pay a lot of money for the experience, that this destination will start seeing less surf tourists since some had been dissatisfied with their trip, due to crowding. Additionally, it was remarked that particularly at destinations where the waves are the centre of and/or sole attraction, it was critical to keep waves uncrowded to sustain the tourists' experience at those destinations. As a result, Edmiston urged that it is important to *"empower the local community to make them understand that it is in their interests to*

make it uncrowded, and make it sustainable". These findings highlighted issues relating to surfing tourists impacting on other surfing tourists and for the potential for elitism and an exclusive nature to frontier surfing tourism, raising the issue of intra and inter-generational equity of access to surfing sites, discussed further in Chapter 8.

4.8.2. Recreation Carrying Capacity of surfing destinations

There was a common accord that all destinations had a limited RCC. Many respondents strongly emphasised that to be sustainable, surfing tourism should be developed around the destination's RCC and that this should be set upon surf tourists' preferences. The RCC of the surf breaks at the destination was seen by the majority as a powerful and key element (or concept) on which to base surfing tourism development and; a foundation for the ongoing success of surfing tourism at destinations. Many also discussed that containing surf tourists numbers around the RCC should be a priority as this was central for ensuring that surf tourists returned to the destination. For example, Lovett highlighted Tavarua resort's success, from the perspective that the resort had been able to maximise the appeal of the location by maintaining the number of surfers around the destination's RCC. Baker took another stance, highlighting that aside from providing quality experience to surf tourists, the benefits of having low numbers of high-paying surf tourists, was a mean to reduce negative impacts on both the environment and the community(s) while, still providing economic and other benefits to the communities. Others highlighted that controlling numbers of surf tourists at surf break(s) was not only important in terms of the quality of the surf experience but from a safety perspective. Examples of destinations which have demonstrated the above principles include Tavarua and the Maldives. However, Edmiston challenged any approaches based purely on the RCC of the destination.

4.8.3. Safeguarding the destinations' natural environment, host community(s) and its cultural heritage

The quality of the natural environment was seen as playing an important part in the ongoing viability of a surfing destination. The majority believed that as part of securing the future of surfing tourism at destination(s), there was an urgent need to minimise and manage environmental impacts as well as, to protect the environment and natural settings of destinations. Several respondents argued that the environmental quality of a surfing destination was an important and strong motivational factor in destination choice for surf tourists. Edmiston concluded that as a result, it was important to make the local community(s) realise that managing the destination's local environment was in their best interest, otherwise tourists would not visit. Several respondents also raised the importance of keeping the surfing tourism development within the environmental carrying capacity of the destination. Most respondents also remarked that other key components to the sustainability (and success) of surfing tourism destinations included maintenance of good relationships with community(s) as well as the support, respect and safeguarding of local host community(s) socio-cultural heritage. Ponting raised this concern particularly in fragile and more vulnerable indigenous communities such as in the Mentawaus, warning these were vulnerable. All twelve respondents including the three surfing tourism operators underlined the need to support and protect the community(s) and surrounding villages. Edmiston advocated the need to *"Manage the area in the best interest of the local population"* and to *"account for the needs and sustainability of the local communities and environment"*

It is important to note that the key informant interviews provided an "outsiders" view of the sustainability of surfing tourism at destinations. Key informant perceptions regarding negative socio-cultural and economic changes as a consequence of the influence of surfing tourism on host communities at destinations, including abandonment of traditional economies, loss of traditional cultures and 'westernisation' of host communities, may not be shared by local communities. Romantic ideals of sustaining traditional

economies and cultures at remote destinations and regrets regarding 'westernisation' of these communities, may be perceived very differently by the local communities, local government and stakeholders in these areas who may seek and aspire for socio-cultural changes (Liu, 2003). Obviously it may be unrealistic to expect that in developing regions traditional cultures will necessarily be maintained "*for the sake of tourists who wish to seek exotic and authentic experience*" (Liu, 2003:468), despite the significant value these characteristics may constitute to tourism. Therefore, it is critical that the requirements and desires of the local community(s) at destinations are adequately addressed through community engagement and involvement during the development or management of tourism activity at a destination.

4.8.4. Community involvement and control of tourism

Sustainable tourism depends to some extent on the relationship between the tourism operator(s) and the host community(s). Baker strongly argued that surfing tourism should not be carried out "*in a paternalistic or colonial way but as an equal partnership*". The respondents almost unanimously highlighted the importance of communities' involvement as well as the increase of their input into the decision-making and planning process in the development, and management of surfing tourism at destinations. Edmiston advocated "*Locally driven planning, policies and strategies to increase local involvement in development, to empower local communities*". The majority expressed similar views that, to increase benefits to and minimise impacts on communities as well as to avert potential sources of conflicts, a crucial step, was the inclusion of the local communities' views, visions, needs and aspirations in the management of surfing tourism. Some respondents suggested ways the communities' involvement and control could be achieved, including a participatory approach and a consultation process for local people to determine what they would like to achieve from the tourism development in their area. Another important point was the need for the community(s) to have and to exercise more control over surfing tourism, and management of their natural resources. The majority perceived that partnership and ownership in surfing

tourism commercial enterprises between host communities and tourism operator(s) was an essential component of sustainable tourism and a key to success, as in the case of Tavarua. Edmiston was critical for instance of surf rights and ownership of surfing resources by parties outside the community and explained that “ *Foreign investors using surf breaks as resources purely for short-term monetary gain is short sighted and exploitative* ” and thus not conducive to sustainability. Several respondents highlighted the need for greater emphasis on community(s)’ ownership and management of their natural and surfing resources.

4.8.5. Other factors to ensure the sustainability of surfing tourism at destinations

Several respondents asserted that the success of surfing tourism was largely dependent on management and planning at the destination. Several respondents expanded by arguing that to achieve sustainable outcomes, it is critical to ensure that the planning, development and operations of surfing tourism at destinations incorporate sustainability triangle principles (i.e. environment, socio-cultural and economic parameters). For instance, it was argued that although economic viability was an important factor to surfing tourism’s success, it could be at odds with ecological and even social sustainability. Similarly, Hawk added that the success of surfing tourism at destinations should not be based solely of the tourists’ experience but also on the local community. The owner of Tavarua among others added that the destination’s RCC should be included as a parameter to the sustainability criteria. It was remarked that all components highlighted above, were necessary to ensure the success of surfing tourism and that, varying degrees of neglect of single parameters may impede the overall sustainability. Another suggestion offered was the need for surfing tourism to develop on a small scale as opposed to large and high density development to minimise impacts. Finally as part of achieving sustainable outcomes, Barilotti advocated the procurement of local products and services at destinations. The identified and highlighted key factors for achieving sustainable tourism will be further investigated in the Lagundi and Tavarua chapters and discussed in Chapter 8.

4.9. Examples of sustainable and unsustainable surfing destinations

The respondents were asked to give examples of surfing destinations which they perceived to be successes or failures and/or sustainable and unsustainable (see Appendix 10.2, Table A9). While references to specific destinations have been inserted throughout this chapter, some additional comments on each specific destination have also been tabulated (Appendix 10.2, Table A9). Successful and/or sustainable surfing tourism destinations highlighted included: Tavarua Resort (Fiji), Nihiwatu resort (Sumba), Namotu resort (Fiji), the Maldives, and Nusa Island Retreat (Surfing Association of Papua New Guinea). Seven out of twelve informants referred to Tavarua resort as a model of sustainable and well-managed surfing destination. As the surfing industry representative emphasised "*Tavarua is a wonderful working example and this is how I would have like to see a lot of these other places*". Kuta (Bali), Lagundi Bay (Nias), Uluwatu, Pucket Peninsula and Morocco were all highlighted as unsustainable surfing destinations. These destinations and/or areas are all mature surfing destinations which have reportedly suffered significant problems as a result from surfing tourism. Over half of the infomants named Kuta and Lagundi Bay as unsustainable surfing destinations. When referring to Lagundi Bay, Flynn commented "*Nias is a great example in Indonesia where surfing tourism has been a failure*". It should be noted that all destinations highlighted as unsustainable, are open-access destinations where there has been no control in the growth of surfing tourism and its development. On the other hand, all the other resorts/destinations referred to as sustainable (aside from the Maldives) are exclusive destinations with restricted access and limited surf tourist numbers. In the case of the Maldives, apart from two surf resorts where the number of surfers is restricted (Ian Lyon, *pers. Comm, Nov 2005*) most of the Maldives surf breaks are outer reefs and require boat transport. This has been a natural restricting factor for surfers to access these surf breaks unlike destinations.

These results strengthened the importance of using both Tavarua and Lagundi Bay, as benchmark and illustrative case studies to investigate both the phenomenon of surfing

tourism and the issues of sustainability of surfing tourism development in vulnerable areas when managed and unmanaged.

4.10. The potential management measures for surfing tourism

Potential management measures for surfing tourism at destinations have been summarised (Appendix 10 2, Table A10).

4.10.1. Limiting numbers of surf tourists and controlling access to surfing destinations

As a mean to offset negative impacts and ensure the sustainability of surfing tourism, there was a general consensus that regulatory measures were necessary. To preserve the quality of the surfing experience and minimise impacts on both the environment and communities, many argued to control and limit the numbers of surf tourists at surf breaks and destinations. Overall it was perceived that the long-term sustainability of surfing tourism could only be achieved by limiting the numbers of surfers at the destinations. Edmiston also commended the importance of keeping *“the number of surfers visiting popular surfing destinations to within the carrying capacity of the area”*, explaining that *“in doing so, the environmental sustainability and the local social fabric of the communities has a greater chance of being maintained”*. In the same way, the surfing industry representative stressed the importance of limiting numbers of surf tourists while charging higher rates. He believed this could permit a higher-quality surfing experience while lowering the impacts on both communities and the environment. There was also broad common support for controlling and restricting access to destinations as this was viewed as a key solution to safeguard destinations and ensuring their long-term sustainability. Several respondents remarked that while restricted access and exclusive surf rights would be more prominent and inevitable in the future, this should not be imposed at every surfing destination. Nevertheless, specifically in the case of remote and fragile destinations (both environmentally and socio-culturally), restriction was perceived as the only way forward to minimise impacts. Troy gave the example of sensitive destinations such as Nicobar and Andaman Islands in India

which he believed should remain protected and retain their seclusions from foreigners. On the other hand, in urbanised surfing destinations such as Burleigh Head, Gold Coast Australia, it was remarked that restriction of access would not be appropriate or feasible and that such areas would require other management strategies.

Despite broad common support for controlling access, the consequent dilemma between exclusivity of surf breaks and open access, as well as the notion of freedom of access to surf breaks were recurring themes. Some respondents presented alternative views and many felt uncomfortable with the restriction of access, surf rights and exclusive surf destinations. Many raised ethical issues in this regard. Ponting warned that rights over surf breaks and control of access could also negatively impinge on local community(s) access to their natural resources (e.g., fishery). The British surfing tourism operator also pointed out the difficulty in restricting access to surf breaks in certain instances and advanced that the ingrained notion of freedom to access surf breaks in the surfing subculture's where "*Most surfers have the same opinion which is that no one owns the waves and no one can stop them from surfing there*". This, he believed, will impede the implementation and future acceptance of restricting access as a management tool. Several respondents challenged this notion of freedom to access to surf breaks. For example US Based surf adventurer and journalist explained that: "*The surf population has forced me to change my opinion on the restrictions that are applied to surfing spots. So the view that the waves should be free for everyone - in theory, that is how it should be. But in reality and practicality, it does not work that way*". An alternative to restricting access which could allow for managing and conserving the ecosystem's integrity at destinations was, the creation of "surfing" reserves or natural parks where for instance, development could be limited and, activities such as fishing, banned. Several referred to Bell's Beach Recreational Surfing Reserve in Victoria, Australia as a successful scheme. Edmiston however remarked on the difficulty of implementing such a reserve system in developing countries in the near future due to their economic and political agendas. He elaborated the "alien" concept of sustainability in developing countries further explaining

that *"My experience with many people living in remote villages in 'developing' nations is that they view environmentalism as the privilege of already developed countries"*. Despite the general agreement on the need to restrict access to some destinations, these aforementioned points indicated a divergence in opinions among respondents in regards to employing and enforcing access restrictions

4.10.2. Recreational Carrying Capacity as a management tool

Another important management tool highlighted by the majority was the RCC concept. Ponting clearly asserted this point *"In terms of managing a break and surfing destination sustainably, finding the best model for a particular break is important. The closest model that one could hope to get would be based around that recreation carrying capacity"*. Many proposed ascertaining and then limiting the number of surfers to the RCC of the destination. Yet it was remarked that while the management framework could be constructed around the RCC (based on the desired resource conditions for and quality of experiences for visitors to the area), several respondents called for the need to extend the framework model beyond the destination's RCC. They argued that the environmental CC and the socio-cultural CC of the community were other important variables which needed to be taken into account. It was also pointed out that the recreational, socio-cultural and environmental CC were specific to and would differ at each destination and thus, would have to be ascertained individually for each specific destination. Another point highlighted by Edmiston was the difficulty in implementing and maintaining the management of a destination around the RCC model when priorities and agendas may be more economically and socially orientated, with an emphasis towards short-term economic returns.

4.10.3. Economic mechanisms

Many proposed limiting the numbers of surf tourists through restrictions and access closure to certain destinations while others supported a booking and reservation system (e.g., Tavarua) as a means to manage visitation levels, particularly at popular surf breaks. It was recommended that booking systems like those established for National Parks

in the USA, or San Ofre surfing beach in California could be adopted at surfing destinations. These have limits on visitor numbers and close when these are reached. This was seen an efficient way not only to control crowds but also to inherently help protect the environment. As well as regulatory measures to control the numbers of visitors at destinations some suggested economic measures, specifically revenue generating mechanisms (e.g., permit systems, operator fees, user-fees, entrance fees for accessing and utilising surfing resources) collected from both surf tourism operators and surf tourists. Revenue raised could be distributed back to provide benefits to the local community(s). The revenue system operating at Tavarua resort was illustrated as a successful example. Other respondents saw the revenue system as a potential opportunity to contribute financially to and fund the destination's management. The surfing industry representative commended on this approach: *"A fee system, like a "bed tax", charging visitors should be set up in order to manage things like sewage, all the garbage collection and other public impacts. The fee should be regarded as an on cost of having the tourists visiting the region. This pressure on the local infrastructure should not be on the burden of the local communities in-rates and taxes"*. A point highlighted was that by restricting access to areas and inadvertently discriminating users through financial measures (high prices), there was the issue of equity. Such a system could favour a minority of elite surf tourists while excluding others. On the other hand Flynn remarked that through using a booking system *"it is not elitist if everybody has an equal chance [of making a booking]"*.

4.10.4. Education and 'soft' management approaches

The majority highlighted the need for the establishment of measures to promote responsible behaviour of surf tourists as well as responsible operation of surf resorts and other surf tourism ventures. Voluntary and softer management tools to promote responsible surf tourism included codes of conduct for surf tourists as well as guidelines/best practice for sustainable surf tourism operation. The majority highlighted the importance of increasing the environmental and socio-cultural awareness of surf

tourists. This was captured with Troy's statement that *"It is important for surf tourists to be socio-culturally aware in order to behave appropriately and in a way [which is acceptable] to the host community"* On a different level, several respondents highlighted the importance of raising awareness at community level of issues such as environmental quality, and the importance of uncrowded waves to foster economically viable and sustainable surfing tourism at destinations. Communities are often unprepared for the opportunities and negative impacts of surfing tourism. Troy stated that: *"More and more it is our responsibility, to inform the local people of the potential repercussions when we go to new places"* Respondents also urged the need to raise awareness and accountability among surf tourism operators and the surf tourism industry in general. There was a call for guidelines on implementing sustainable practices which could, for example, offer suggestions on environmentally friendly, low-impact and culturally sensitive travel. Some fundamental challenges raised by several respondents included: who and how can any of the above mentioned schemes be reinforced and promoted? Another point raised, was the need to monitor surfing tourism's impacts (socio-cultural and environmental) over time. While one respondent asserted the need for governments' involvement in surfing tourism, other respondents proposed the creation of a body or an organisation to co-ordinate policies and the management of the surfing tourism industry as well as to advocate such schemes. Several respondents proposed that existing organisations such as the professional surfing bodies or Surfrider Foundation could take on such a task. Baker commented that the surf media also has a role in promoting good behaviour. Although it was agreed that measures were needed to design and implement sustainable practices, respondents commented on the complexity of accomplishing such a task.

4.11. Summary – exploratory interviews

In summary, twelve exploratory interviews were undertaken to assess the phenomenon of surfing tourism in the context of environmental, economic and socio-cultural sustainability. These provided broad insights into the phenomenon of surfing

tourism. A number of issues have emerged in relation to the sustainability of surfing tourism at destinations and these will be investigated further in the following case studies. The most significant points raised by the exploratory interviews will be discussed in Chapter 8 in conjunction with the findings from the other results chapters. It has to be noted that these views represent those of experts and/or elite surf tourists and may therefore not represent the views of the different segments of surf tourists. Caution should be taken when interpreting the findings.

5.2. Description of the study area

Gnaraloo is a surfing destination located in the Gascoyne region of Western Australia, some 1160 km north of Perth and 160 km north of Carnarvon (Figure 5.1). Gnaraloo was discovered in the late 1970s/early 1980s and surfing tourism soon developed at Three Mile Camp on an informal and *ad hoc* basis. Visitors are drawn to the world-class waves, warm weather, remoteness, and low level of tourism infrastructure. Gnaraloo is a renowned surfing destination that offers an opportunity to investigate unmanaged surfing tourism in a relatively pristine environment.

The study area covered over 60 km of coastline from Red Bluff in the south to Cape Farquhar in the North. Surf breaks are scattered along the coastline and generally suited to experienced surfers. The coastline is composed of diverse landforms including low limestone cliffs with rocky shorelines, occasional pocket beaches and some active parabolic dunes (Department of Planning and Infrastructure, 2003). The area is part of Ningaloo reef which is the largest fringing coral reef ecosystem in Australia (Collins *et al.*, 2003) stretching some 290 km from Northwest Cape to Red Bluff. At the time this research was conducted, the study area fringed the southern tip of Ningaloo Marine Park (NMP) and was within the proposed southern extension of the NMP (the extension included the area from Gnaraloo Bay to Red Bluff) as its inclusion "*would increase representativeness of the existing Park and facilitate the conservation and management of the Ningaloo Reef as a complete ecosystem*" (Marine Parks and Reserves Authority, 2003). The southern extension of the NMP was enacted in 2005. The Ningaloo marine environment is a component of a nationally significant and fragile ecosystem recognised for its terrestrial flora and fauna, and its marine biodiversity which sustains diverse and complex marine communities (Dowling, 1999).

At Three Mile Camp, limited tourism facilities are provided (primarily campsites) and land management is generally restricted and operates on a reactive basis. Coastal pastoral stations (Gnaraloo is located on a coastal pastoral station) are known to suffer

from the absence of appropriate management plans and regimes (Department of Planning and Infrastructure, 2003). The surfing season at Gnaraloo runs from May to the end of October. Visitors at Three Mile Camp are almost entirely composed of surfers, and windsurfers from October to February. The precise magnitude of surfing tourism at Gnaraloo is unknown. The maximum capacity at Three Mile Camp is currently set by the management of Gnaraloo Station at around 228 per week, and in 2002 an estimated 15,000 people came to Three Mile Camp. The majority of these were surfers. Coastal station tourism (i.e. all tourists) in Western Australia generally is composed predominantly of Western Australians with a limited number of international and interstate visitors (Wood, 2003).

5.3. Study findings

The following findings are based on key informant interviews and focus groups with surf tourists as well as participant and field observations.

5.3.1. Attraction and motivation for visiting Gnaraloo

General consensus from focus groups with surf tourists and key informants revealed that the quality of the waves at Gnaraloo was a key factor attracting surf tourists to visit the area. This was captured by one respondent's comment from a focus group when asked why people came to the area; *"It is because of the waves, they are the best in the region and better than back home"*. Aside from the quality of the waves, the quality of the experience was strongly linked to the wilderness character of the area and its natural settings. This was exemplified by a comment from an interviewee who stated that *"The pristine coastline here is a big plus driving us to come here, the isolation and the desert experience, we like the place because of the way it is. There is no real commercialism here. It's nice to sit around a fire at night, it is part of the whole deal"*. Another interviewee highlighted this point by stating *"The waves are one thing, but also the place and everything around you. The waves get you here but the rest keeps you here"*. This indicates that the "pristine/wilderness" environment is of critical importance to surfers coming to remote areas like Gnaraloo.

The freedom offered by the area was raised as part of the attraction. One respondent stated that "the nature of surfing is to be free, escape from the masses and spend time in unique locations and get it to yourself. This is what it is all about, uncrowded waves". It is argued here, that if surfing tourism destinations in remote areas are to keep their appeal to surf tourists, including the pristine character of destination, isolation factor, natural environment and uncrowded waves, it is important to investigate perceptions of destination quality, usage and acceptable crowding levels among surf tourists. While the natural environment is key to the attractiveness of the majority of travel destinations and recreational areas (Farrell and Runyan, 1991; Hall and Weiler, 1992) these findings suggest that this is also particularly true for surfing tourism in remote areas.

5.3.2. The mobility and distribution of surf tourists

For the majority of surf tourists, the main attraction for coming to Three Mile Camp was to surf Gnaraloo's main breaks. Surf tourists searched daily for the best conditions. Preferred conditions were generally large swells of six foot (2 metres) and over, and under such conditions large numbers of surfers were attracted to Gnaraloo's main breaks with crowds in the water and the car park full in front of the break. In one instance, during school holidays, with two consecutive days of waves of at least six feet (2 metres) and light offshore wind conditions, up to 70 surfers were recorded during opportunistic counts at Gnaraloo's main breaks. Crowds were expected during the school holiday period which are the busiest times of the year, nevertheless, even after the school holidays, on a day of 5-8 foot with an offshore wind, approximately 50 surfers were recorded in the water. Gnaraloo's main break was found to be the preferred surf break during the best conditions. Tow-in surfing with the use of jet skis was observed during large swells. One station caretaker remarked that "*jetskis were growing in numbers in the area and tow surfing was increasing in popularity*".

On days with waves less than three feet (1 metre) at Gnaraloo's main break, focus groups, interviews and observations revealed that surf tourists searched for bigger waves at

surf breaks other than Gnaraloo's main break. One respondent suggested that "*on smaller surfing days, its an opportunity to go and explore the area and look for other surf spots*" and this was observed with the dispersion of surfers to other breaks along the coast such as "Turtles", "Dolphins" and "Red Bluff" (Map 5.2). Surfer tourists travelled some 20 km from one surfing spot to another in one day according to varying tidal regimes, winds and swell size and direction. Crowding issues appeared to influence the distribution of surfers in the area along with wave conditions. This was illustrated by a remark from one repeat visitor to the area who commented that "*First we are going to drive and check Tombstone (i.e. Gnaraloo) and have a look at it. If it is perfect conditions and big, even if it is crowded, it probably doesn't matter so much... you will do what you have to do to get specific waves. But if the conditions are not that great, that the waves are smaller and if you know that somewhere else could be nearly as good and there won't be many people, you are better off to leave that environment that is crowded and enjoy somewhere else*".

Thus, the presence and distribution of surf tourists in the area can be explained to a large extent by the relationship with the wave environment which conforms to the wind, weather and tidal regime, as well as the avoidance of crowds in the waters. Surf tourists are mobile, therefore, their impacts are not confined to one area. This highlights the difficulty in managing such a mobile group over wide expanses of land and at isolated locations.

5.3.3. Ancillary activities carried outside surfing at Gnaraloo.

Tourists staying at Three Mile Camp were found to base their days around surfing. The standard of surfers coming to the area is very high (Thornley and Dante, 1998) and most surf tourists expressed preferences for surfing big waves. One regular visitor pointed out that "*The major reason for coming here is because the waves are big*". This preference for big waves was reflected by surf tourists' activity pattern. On days with waves under three feet (1 metre) or when surfing conditions were not optimal, surfers indulged in a variety of ancillary activities including fishing (rod and line fishing, spear fishing), diving, snorkelling, beach walking, sand boarding, reef walking, recreational boating, bush walking and exploring coastline areas in 4WD vehicles. Ancillary activities were a significant factor in

people electing to take a surfing holiday at Gnaraloo. A list of ancillary activities has been compiled (Table 5.1. a,b,c). This matrix highlights the wide range of activities which falls within the ambit of surf tourism. This clearly highlights the need for managers of remote surfing destinations, to integrate and consider the potential environmental impacts of ancillary activities within a management framework and manage and monitor them accordingly. For example, reef walking and snorkelling are activities which potentially damage fragile reef communities (Hawkins and Roberts, 1993; Hawkins and Roberts, 1994; Harriott, 2002) and marine life (Shackley, 1998). In addition, most activities take place at the transition zone between marine and terrestrial ecosystems which are particularly susceptible to recreational impacts (Mieczkowski, 1995). Another concern is unmanaged human interference of the diversity of the surf tourists' activities on species of fauna and flora in the area (Andereck, 1993). This study indicates that surfing tourism, like most marine tourism (Carter *et al.*, 2001) can embrace a multiplicity of activities and requires management to minimise any potential impacts.

5.4. Environmental impacts associated with surfing tourism

5.4.1. Consumptive use of marine resources

Fishing was found to be a favoured activity among surf tourists at Gnaraloo. The station caretaker commented that "*Gnaraloo is becoming more popular with spear fishing and surfers are high users of crayfish and other fish resources*". One interviewee stated that "*crayfishing, fishing, diving and spearfishing are a second nature to surfers*". Surfers were observed to spearfish, catch octopus for bait and forage for mussels. Surf tourists fished both from boats and from the shore. Fishing for meals was found to be prevalent among surf tourists at Gnaraloo. This subsistence fishing was compounded by the long distance to stores for supplies and an ethos of self-sufficiency within surf tourists, exemplified by a comment from a focus group that "*Surfers are ocean people, living the simple life, roughing it and living from the sea are part of the surf trip experience and coming to Gnaraloo*". Focus groups revealed that this was part of the

experience. This ethos of self-sufficiency is not unique to surf tourists and has also been observed among campers on Western Australian coastal stations (Wood, 2003).

Although the catch by surfer tourists may be perceived as insignificant in terms of biomass, studies by Westera *et al* (2003) found that, recreational fishing pressure on target species at coral reefs, can be sufficient to reduce certain fish populations below that of adjacent protected areas. Focus groups and interviews indicated that people have noticed a reduction of fish numbers, reduced diversity of fish species in the area, fewer targeted species such as blue grouper, snapper, coronation trout, pelagic mackerel, wahoo and disappearance of crayfish (western rock lobster) in Three Mile Lagoon in front of the camp. One interviewee, a repeat visitor over the last 15 years, illustrated this by stating that *"The reef used to be alive and thriving with fish and now the reef is pretty much dead and most fish have been is fished out"*. While there is existing pressure on the area from recreational fishing (Westera *et al*, 2003), it is reasonable to question the additional pressure on fish stocks of targeted species by surf tourists. While the impacts of the individual *per se* may be relatively insignificant, the cumulative impacts of all visitors to the area consuming marine resources may be substantial. A station caretaker pointed out that *"foraging for mussels has large impact solely due to the number of people coming over"*. On a similar line, Wood (2003) argued in the context of coastal campers that *"the combination of the popularity of fishing, the proportion of campers who fish, and their long duration of the stay has raised concern for the preservation of fish stocks in the Ningaloo Marine Park"*. An issue contended by Dearden (2000) was that when species are reduced in abundance below a certain threshold, they may no longer fulfil their ecological role in the community. Recreational fishing at Gnaraloo may affect the marine ecosystem balance in the area. But most alarmingly, the removal and disappearance of targeted species can cause structural changes in the marine ecosystem with unknown consequences. Recreational fishing pressure, while a potential cause of reduction in species diversity and abundance in the area, may not be the only factor to consider

Utilisation of marine resources (Harriott, 2002) is a key factor for coastal management and is particularly pertinent in marine parks and/or protected areas where maintaining ecological integrity is a key management objective. This is particularly crucial, at locations like Gnaraloo, where there is limited information on the state of fish stocks, a lack of longitudinal studies and/or baseline data on the use of the local marine resources and their impacts on the marine ecosystems, and on the marine ecosystems themselves. These findings warrant further research on the influence and impacts of surf tourists on local fish stocks, marine resources and associated marine ecosystems.

5.4.2. Impacts on the marine environment

Environmental impacts most frequently reported, and directly related to surfing as a recreational activity, were the trampling of reefs and breakage when coming in and out of the surf, especially at low tide. This was particularly obvious at the Gnaraloo main breaks, where at low tide there is a 200m stretch of reef between the shoreline and the surf breaks. One comment from a regular visitor "*Every time you go surfing and you have to walk on the reef, you can feel the coral breaking under your feet, it is a terrible feeling*". Trampling by human activity can cause irreversible damage to reef flat (Hawkins and Roberts, 1993) and rocky intertidal communities (Brown and Taylor, 1999). It is argued here that the regular inflow of surfers is likely to continue to impact on this stretch of reef and may in turn threaten the biological integrity of the reef ecosystem. Another less tangible impact is that surfing can contaminate the ocean through faecal coliforms, soap, sunscreen and oils (Liddle, 1997). Yet, coral reef communities are known to be highly sensitive to such pollutants (Barber *et al.*, 2001). The use of fishing boats and jet skis raised issues such as refuelling on the beach, petro-chemical pollution and reef damage at Three Mile Lagoon and Gnaraloo Bay, however, such impacts were currently localised. The caretaker of the Red Bluff raised concerns at the increasing use of jets skis in the Gnaraloo area for tow-in surfing. Jet skis raised not only safety issues for other surfers, but also produced noise, petro-chemical pollution and disturb wildlife. Such activities deserve closer attention, particularly since the adjacent

Ningaloo coastline is home to many endangered species including whales, dolphins and turtles (Preen *et al.*, 1997). Studies elsewhere (Webster, 1980; Mieczkowski, 1995; Hammitt and Cole, 1998) have demonstrated that non-consumptive impacts on wildlife (e.g., ecotourism, whale watching), could lead to changes in community's species composition, wildlife physiology, reproduction and population levels. Yet, Valentine (1992) pointed out that knowledge of wildlife tolerance levels to human contact in the wild is still deficient. It is thus reasonable to also question the potential impacts on marine wildlife (i.e. disturbance of turtles and other species) from the presence of visitors in the area.

5.4.3. Impacts to coastal landforms and native vegetation

One of the main environmental issues raised in interviews and focus groups in this study was access to the coastline. Rugged terrain and long distances between isolated surf breaks means that 4WD vehicles are required to access most areas. Vehicle movement through vulnerable coastal areas (e.g., sandy beach and coastal dunes) can damage fragile habitats (Stephenson, 1999, Newsome *et al.*, 2002) and may disturb wildlife (Mieczkowski, 1995). Furthermore, the lack of formal roads and uncontrolled access and movement of vehicles has led to proliferation of tracks and openings along the fragile coast of Gnaraloo Station. Localised vegetation damage and dune erosion were present. This was particularly apparent at Turtle Beach (a popular surf break located adjacent to unstable sand dunes and nesting beach for loggerhead turtles) where, despite restricted access to 4WD vehicles, the majority of visitors drive down the beach and park in close proximity to the shore, causing significant destabilisation of fore-dunes.

One of the most visible and reported landscape changes was the removal of vegetation around Three Mile Camp during firewood collection. According to staff of Gnaraloo Station, despite the sale of wood at the camp and the ban on wood collection established by the station operators, individuals still collected wood illegally. Firewood collection can have detrimental effects on the natural environment, including loss of vegetation cover, changes in species diversity and composition, reduction in habitat

integrity, the spread of disease and possible change to the nutrient balance of ecosystems (Department of Conservation and Land Management, 2005:110). Other recurring and commonly reported impacts included litter problems and walking trails radiating out around the campsite causing erosion, soil compaction and reduction of vegetation cover and habitats for native species. Most trails have evolved as visitors create paths to the coast. The lack of formal paths and signs was believed by surf tourists and key informants to be the main cause of the proliferation of tracks and associated vegetation damage and dune erosion. Dune erosion *via* sand boarding, dune climbing and vehicle access around dunes was also highlighted during the focus groups. It has been widely reported that both the trampling of vegetation by humans through camping, walking and vehicles and the removal of vegetation and indirect destruction of protective vegetation cover can lead to rapid deterioration of important properties of soils (Buckley and Pannell, 1990; Dargie and Briggs, 1991; Cole, 2004; Priskin, 2004). Fragile environments in arid areas such as Gnaraloo are particularly vulnerable to significant physical damage to soils (Mieczkowski, 1995).

5.4.4. Other environmental impacts

At Three Mile Camp the septic tank system for sewage was seen to overflow, indicating it has insufficient capacity for the numbers of visitors at peak season. Rubbish is burnt in an open tip which could obviously lead to both soil and water contamination. The effects of sewage pollution on coral-reef communities is a concern as this can lead to the reduce viability of corals (Pastorok and Bilyard, 1985). In 2002 some 935 dogs came to Gnaraloo Station. While most are well behaved (Staff, interviews, 2004) and on lead, there are potential disruptions to native wildlife by un-restrained dogs as well as other threats. For instance, dogs can harass, chase and predate on native fauna as well as increase vegetation disturbance. Other indirect impacts include the lasting scent left by dogs which can disrupt native fauna (Department of Conservation and Land Management, 2005) and

urine and faeces which can carry diseases which can be harmful to native species (Sime, 1999), feral cats attracted to refuse, and the spread of weeds.

5.4.5. Matrix and conclusions on the environmental impacts of surfing tourism

The most salient impacts were described and for convenience, impacts were disaggregated during analysis and a matrix constructed. Matrices display information in a simple format (Bojórquez-Tapia *et al*, 1998). This qualitative study did not, however, attempt to quantify the number of tourists' activities, their frequency, or their respective environmental impacts. The matrix (Table 5.1 a, b and c) was designed to illustrate and summarise empirical research findings, collate data from the literature (Puczko and Rätz, 2000) and highlights some potential cause-and-effect relationships. Beside impacts identified during field investigation, the literature review assisted to identify activities' potential impacts on the both marine and coastal environments and guided the formulation of the matrix (Walpole and Goodwin, 2000). This matrix highlights the diversity of impacts associated with the multitude of ancillary activities, which take place at Gnaraloo. This suggests that surf tourists are high users of the coastal and marine environment. This concurs with the opinion offered by a CALM officer during an informal interview in regards to surf tourists visiting Gnaraloo that "*surfers are high users of the coastline simply by the nature of the activities they carry out*". Nevertheless, most impacts identified in this study are not unique to surf tourists but are simply a result of the presence of humans (Mieczkowski, 1995), their activities and access to fragile areas. This study, however, provides evidence that surfing tourism can adversely impact both coastal and marine environments if insufficient management actions and guidelines are adopted.

		Physical and chemical characteristics					
		Landscape changed		Air		Earth	
Biological		Water		Fauna		Flora	
		Pollution		Reduction of biodiversity and abundance of aquatic resources		Vegetation clearance and disturbance	
		Reduction of sea water quality		Disturbance to terrestrial animals		Reduction of biodiversity	
		Disturbance marine Wildlife		Noise disturbance to marine wildlife		Loss of endangered species	
		Predation by feral animals		Noise disturbance to terrestrial wildlife			
		Erosion		Soil contamination (via oil and fuel leaks, sewage and other pollutants)			
		Compaction		Noise			
		Creation of tracks		Air quality (exhaust fumes)			
		Reef damage (trampling, pollution)		Noise			
		Dune erosion		Soil contamination (via oil and fuel leaks, sewage and other pollutants)			
		De-vegetation		Erosion			
		Human waste		Compaction			
		Litter/Rubbish		Pollution			
		Visual impacts		Reduction of sea water quality			
Camping	Bore water consumption	✓	✓				
	Fire wood collection			✓			
Waste Management	Use of generators				✓		
	Burning of rubbish				✓		
Others	Septic tanks					✓	
	Dogs						✓

5.4.6. Contributing factors in environmental impacts

Causal factors for the environmental impacts evident at Gnaraloo as indicated in interviews and focus groups included

- (i) Unlimited use and frequency of visits of tourists,
- (ii) Lack of formal roads and no mechanism to control vehicle movement,
- (iii) The vast extent of the land area and coastline which complicates management,
- (iv) The isolated location of areas such as 'Turtles' which complicates supervision of access,
- (v) Inconsistency and lack of enforcement of current restrictions to access in the area,
- (vi) The erection of barriers and signs are ineffective without policy and enforcement,
- (vii) Lack of adherence to existing management and rules, and vandalism,
- (viii) Inadequate infrastructure and facilities to handle solid waste and sewage,
- (ix) Lack of awareness on the fragility of the local environment and the potential impacts of human activity,
- (x) Limited information on the significance of the specific habitats of the region

Lack of awareness

There were contrasting perceptions by surf tourists of their impacts on the local environment. This divergence between perceived and actual impacts in tourists has been previously reported (Hillery *et al*, 2001). In this case study, some surf tourists perceived that the impacts of this activity were negligible and almost non-existent. Others commented that anyone visiting remote areas will cause some impacts. One interviewee stated "*it doesn't matter how ostensible, benign the nature of surfing is, our mere presence in such a fragile environment is bound to have repercussions on the environment*". Most impacts were mainly unintentional (e.g., trampling on reef when accessing the surf) or due to a lack of awareness of the ecological sensitivity of the environment. As one interviewee remarked in regards to the vegetation of Gnaraloo. "*They think that it is a tough environment and they don't realise it is fragile.*" The Three Mile Camp caretaker further highlighted this remarking that "*people don't*

understand that what appears to be dead wood is in fact still alive". This clearly identifies the need to educate visitors about the fragility of the vegetation and of the natural environment in general. Another point raised by a repeat tourist to the area was that first time visitors are unaware of the fragility of the environment of Gnaraloo. He remarked that surf tourists do have impacts but argued that *"I did that the first time out of pure ignorance. People that come here the first time, they have never been here and done it before, they expect the reef to be like down South which is hard rock but here, the reef is much more fragile and you don't realise that until you have been here at least once"*. He summed up most impacts as a consequence of naivety and inexperience. Another surf tourist contended that lack of awareness came down to the fact that *"If you don't come back year after year it is difficult to evaluate your impacts"*. In other words, regular visitors have the chance to reflect on long-term environmental change as opposed to first time visitors. This suggests that first time visitors at surfing destinations may cause more significant impacts through being less environmentally aware than regular visitors. This difference in awareness between first-time and regular ecotourists was also observed by Duffy (2002) who contended that reflection of long-term environmental change is a challenge for ecotourists since the wider impacts of human presence are much harder to appreciate on a short holiday.

The location of Gnaraloo in a rugged desert together with its image as relatively unspoilt wilderness area gives visitors the impression that Gnaraloo has high resilience. This is accentuated by its remoteness and isolation which renders an individual's perception of his/her own impacts as very low. This was substantiated by some comments during focus groups and interviews where some perceived their impacts as minimal due to the relatively small number of people visiting the area. Visitors perceive the area as deserted but the caretaker and others working in the area appreciate that there is a constant stream of individuals throughout the year. A station caretaker exemplified this point with regard to fishing, arguing that *"people coming here fish and pick up stuff and forget the following day someone will do the same thing"*. This suggests a misconception of surf tourists with regard to their impacts

when visiting remote areas and a lack of appreciation that impacts are not solely linked to intensity of use, but also the type of use (Herath, 2002). For example, Smith and Newsome (2002) showed that at informal campsites even low usage levels of an area could alter the immediate environment.

Lack of individual responsibility

Perceptions of surf tourists' own impacts on the environment differed between individuals within the focus groups. Some respondents felt responsible for affecting the local environment, while others did not appreciate their potential impacts or did not take responsibility for any of the observed environmental damage to the area. A number of surf tourists believed that, in terms of fishing impacts for example, recreational fishermen coming to the area have much greater impacts than surfers. With regard to removal and degradation of vegetation, some commented on the fact that degradation by the sheep on the coastal station, far outweighed the degradation by surf tourists. While sheep have undoubtedly impacted the coastal vegetation, it does not negate surfers' impacts. Seemingly the heart of all these problems relates to the lack of individual responsibility and understanding of the fragility of the local environment. This indicates that some surf tourists do not understand the results of their own activities and behaviour. This could be explained by their lack of awareness previously discussed. Such lack of individual responsibility is not specific to surf tourists as Duffy (2002) recorded similar results with ecotourists in Costa Rica where the majority of ecotourists interviewed did not reflect on and confront the results of their own actions. Similarly, a report by the Western Australian Planning Commission (2004) found that most station campers did not recognise any environmental impacts of uncontrolled camping. If surfing destinations in remote areas are to be maintained in a relatively pristine state and in an ecologically sustainable manner, then it is informative to (a) assess tourists' perceptions of environmental degradation caused by tourism activities, and (b) assess what environmental changes and resource (Scheyvens,

1999) conditions are considered as acceptable by the surfing tourists as this, may assist to implement appropriate visitor-management strategies (Priskin, 2003).

There was consensus from key informants, station managers, focus group and interviews that it is the minority that spoils it for the majority. Several respondents asserted that this minority is either not aware or simply is irresponsible. Managers recognise that the majority of visitors obey the rules. For example, vehicle restrictions are ignored at Turtle beach and, surfers and fishermen drive to the water's edge regardless of the interdiction of passage. A certain *'laissez-faire'* attitude by some individuals to certain issues (e.g., wood collecting, accessing closed areas, illegal spear fishing) is of concern for management and protection of natural resources. One surf tourist commented in relation to tourists' irresponsible behaviours that "People on holidays, they do not think about things like environment, they think that they are paying and can do whatever they want". This underlines the need to encourage responsible use of tourism destinations by surf tourists. Importantly, following focus groups sessions, many respondents stated that their awareness of their potential impacts on the area had increased. Some asserted that they had never thought about the issues raised and the discussions had changed the way they perceived their activities in the area. This suggests that an educational approach could contribute to a significant improvement in the awareness of visitors and substantially reduce the footprint of human impact in the area.

5.4.7. Management issues and mitigation measures

The general response from interviews and focus groups regarding management at Gnaraloo was that the current system was neither sufficient to stop environmental impacts nor appropriate for the long-term sustainable use of the area. A consensus emerged on the need for improving the existing management to minimise environmental impacts. There were however, considerable discussions regarding restriction of access and the regulation of surfing tourism and recreational activities in the area. While there were split views on the potential solutions, the majority was willing to see increased management and mitigation

measures. When questioned if surfing tourism at Gnaraloo needed to be managed, some of the comments included *"It goes without a question, people need to be managed and better educated"*. Varying suggestions emerged from focus groups and interviews on the range of possible mitigation measures and management tools. Attitude towards potential mitigation measure and management preferences and action for the area included:

- (i) Improving environmental education,
- (ii) Introduce rangers to the area,
- (iii) Motivating tourists to become advocates for conservation measures,
- (iv) Improve trails, tracks and infrastructure (i.e. sewage and waste collection),
- (v) Limit the number of people and provide minimum facilities to reduce the number of people visiting,
- (vi) A levy to go towards conservation and management to the area,
- (vii) Restriction of access to fragile areas.

If the current difficult access and capacity limit at Three Mile Camp (being set at 228 per week) has contained the environmental damage at Gnaraloo, then it is logical that the proposed road between Coral Bay and Ningaloo will exacerbate the situation by increasing the influx of tourists and spreading the impact to additional areas. Statements from visitors illustrating this concern included *"Making this highly accessible isn't a good thing, the more the place will be degraded"* and *"The worse things is that they are going to do is improve the road and this will increase the number of people coming in which will ruin the local environment and ecosystem"*. In an area where there is limited baseline information on the condition of the local ecosystems and where appropriate management and monitoring are currently not in place, increasing level of usage warrants investigation into the environmental carrying capacity of the area. Yet, it should be noted, visitors' behaviour (Leung *et al*, 2001) more than visitor numbers can shape the type and extent of environmental impacts. Some potential recommendations and suggestions based on findings from these interviews and focus group discussions may assist with the development of sustainable environmental management guidelines.

Physical management techniques

Many of the negative impacts such as erosion, track formation, sewage issues and hard waste disposal were attributed to an absence or lack of suitable management. Most could be remedied by improving infrastructure facilities such as adequate sewage treatment and disposal of solid waste or with techniques such as board walks, signage, fences and vegetation barriers. Thus, it is argued here that the challenge at remote destinations like Gnaraloo, is not to eliminate activities but instead to manage them in appropriate manner so as to preserve the ecological integrity of the local natural environment.

Regulatory management techniques

Gnaraloo Station owners provided limited management on Gnaraloo Station. This is for the most part insufficient due to the lack of staff and absence of formal regulatory control. Some environmental impacts such as damage to dune systems, may require stronger control measures. Managers may have to prevent access to those areas that have been seriously impacted (such as Turtles Beach) as well as enforce the ban on firewood collection. Neither the restriction to beach access nor, firewood collection bans are respected by visitors to date. This indicates challenges to management in enforcing regulations over such extensive areas.

Moreover, focus groups highlighted that the freedom of camping in a non-regimented manner was an important component of the attraction for coming to Gnaraloo. A Western Australia Planning Commission (2004) report also observed that many tourists who camp on pastoral stations select such locations due to the freedom of camping in a non-regimented manner. The concept of free access to coastal areas in WA is contentious for future management and may hinder visitors' acceptance of regulatory management measures at Gnaraloo.

Another concern raised in interviews and focus groups was with regard to the growing number of visitors to the area. There was consensus on the need to control visitors' numbers and restrict access in order to safeguard the environment and the quality

of the experience to the area. As facilities at Three Mile Camp improve (e.g., electricity, hot showers) more people are likely to visit the area. A number of surf tourists proposed a reduction of and/or a minimum availability of facilities at Three Mile Camp to reduce visitor numbers. However, the surfing community was ambivalent about introducing such measures. This conflicting attitude can be attributed to the notion of free access to surf breaks as part of the ethos of surfing, which was also found to be a significant component of the experience in coming to Gnaraloo. As Buckley (2002b: 421) pointed out for surfers from most countries: *"It is a basic rule of the surfing culture that anyone can get in the water"*. As one interviewee pointed out *"as long as the waves are here, you won't stop them from coming surfing here"*. Some even argued that restrictive access could lead to an increase in illegal camping in the area. Personal observation and accounts from the Gnaraloo caretaker disclosed this having occurred. Opposition to management and restrictions could result in further damage to the local environment and resistance to comply. This suggests that future management objectives must integrate the users' (in this case surf tourists) views. The study recognises some disharmony with regard to the potential mitigation and management measures, with varying views on restriction of access and numbers to the areas. Thus restrictive measures required should be considered judiciously, and public consultation employed to determine the level of intervention by managers required to ensure that surfers and other users respect the environment and comply with the best environmental practices.

Economic management techniques

There was a particularly strong view on the insufficient investment put back into the area from the station management. One participant from a focus group pointed out *"there is a lack of investment in the place, you pay twelve dollars a night and nothing goes back into the environment"*. Certain respondents felt that it was the responsibility of the management of the station to ensure good practice since they were paying to stay at Three Mile Camp. Others added that some of the fee paid for staying at the Three Mile Camp should be

spend on the improvement and management of the area. Others proposed the introduction of an extra levy to fund local conservation. This idea of collecting fee as a measure to conserve and manage surfing destinations could be a potential tool which managers should consider. This "user pay" philosophy has been successfully applied in numerous National Parks in America, and other parts of the world (e.g. Yosemite National Park; Yellow Stone National Park), in Australian National Parks and even at state beaches in the USA such as San Onofre Surf Park in California (daily fee US\$6). It may be difficult to apply such schemes in remote surfing tourism destinations due to the notion of free access and common rights to beaches and coastal areas. Similarly, waves are often seen as the common property of all. Nevertheless, a "user pay" scheme could be a tool to fund environmental management of remote surfing destinations. This warrants further research on surf tourists' willingness to pay for accessing remote areas and for supporting environmental management of these areas.

Educational management techniques

The majority of surf tourists visiting the area recognised some of the tangible and visible tourism and recreational impacts such as dune erosion. Yet it appeared that with regard to the less tangible and inadvertent impacts, some surf tourists did not recognise the consequences of their own actions. As previously highlighted, this appears to be due to a lack of awareness of the fragility and the vulnerability of the local natural environment. This study indicates that environmental impacts could be mitigated through education, interpretive materials and the promotion of awareness. Management actions supported by the surf tourists included educational tools such as increased signage and printed material to promote awareness on the fragility of the local environment. The provision of effective interpretive materials could aid visitors' awareness of the vulnerability of the local environment and how to minimise their impacts (Leung *et al.*, 2001; Marion and Reid, 2007). This could encourage visitors, for instance, to refrain from leaving designated tracks or collecting wood. In addition, many were in favour of the introduction of rangers to the

area to educate the general public. One surf tourist exemplified this point by stating that *"You will never stop people from coming and you cannot exclude them but, you can guide them"*. Another argument was that government agency staff needed to allocate time at Gnaraloo to become adequately knowledgeable of both the area and its visitors in order to manage the area effectively. One comment from a focus group which raised this point was that *"Government marine officers in charge of managing the area, come two weeks a year to the area and believe that it is enough to know what the problems are and how to manage them. Yet they have no affinity or no long term knowledge of the area or of the people coming here, and as a consequence they won't be respected or supported by the surf tourists"*. This perception suggests that enforcement and creation of regulations by State Government agencies for the area may not secure acceptance by surf tourists. However, interviews and focus groups suggested support for voluntary management of the area by the visitors in a form of shared responsibility with relevant authorities and site managers was seen as a more effective measure. In addition, public involvement (in this case surf tourists) in the development and implementation of management schemes was seen as fundamental for their success. One repeat surf tourist argued that *"it is up to the surfers from now on, we are the ones coming here and therefore we need to protect the place we love"*. This opinion reflects some surf tourists sense of empowerment of environmental stewardship due to their intimate relationship with the ocean as well as strong sense of attachment and affinity to Gnaraloo. This calls for participatory involvement and inclusion of surf tourists as a vehicles and techniques in management decision and implementation. A recurring suggestion was the involvement of key figures within the surfing fraternity in the area's management. A key informant (a repeat visitor to the Gnaraloo)'s comment illustrated this view *"an important thing for surfers is to maintain an interest in the environment and support each other, it is important we get involved and get a right of say"*. It was remarked that surfers would be likely to respect a recognised figure within the surfing fraternity rather than an outside government agent. The idea of surf tourists self-management and self-policing was also raised by a Department of Conservation and Land Management (CALM) officer who

suggested formal training of key figures within the surfing community and put forward the idea of awarding individuals with an official title, to give them power of enforcement. Empowerment of the surfing community appears critical to safeguarding the environment. The finding suggested that the management of Gnaraloo's environment using educational approach, rather than a restrictive approach, was likely to aid achieve successful outcomes and lead to positive change in attitudes and reducing impacts.

5.5. Discussion

This case study suggested evidence of widespread ecological damage both on the coastal and marine environments, attributable to a lack of appropriate tourism infrastructure and tourism-related activities. Environmental impacts were related to access, natural resource consumption, surfing activity and ancillary activities. Erosion, loss and removal of coastal vegetation, reef degradation, water pollution, interference with fragile coastal and marine ecosystems are among the many problems observed at Gnaraloo. The main conclusion from this case study is that careful management is necessary in areas adjacent to surfing areas to reduce the impacts on the both the coastal and marine environment. This investigation suggests that surfing tourism, like any other form of tourism, is not without impact. Surfing tourism in unmanaged and remote destination areas requires planning, control and management to minimise environmental impacts. Environmental assessment and continuous monitoring of the impacts of surfing tourism at destinations, as well as the development of ecological and social indicators are required to permit managers and operators to control and manage tourism accordingly. Potential for, applicability of and effectiveness of monitoring at surfing destinations worldwide, particularly in developing countries may nevertheless be restricted and compromised due to absence and/or lack of baseline data, limited funding, expertise, training and governments support.

The fundamental challenge associated with surfing tourism at remote fragile destinations like Gnaraloo, is management or more precisely, the lack of it. The nascent

infrastructure and lack of management, the inherent nature of living from the sea (i.e. consumptive use of marine resources), the diversity of ancillary activities and surf tourists' mobility over extensive areas, all engender potential impacts. Although most impacts are localised around highly-used areas, surf tourists' mobility over extensive areas can spread impacts over a relatively wide geographical area. In addition, tourists' mobility can be the route for the dispersal and spread of weeds, disease and soil pathogens, with damaging consequences to natural ecosystems (Buckley, 2000, Buckley, 2001, Buckley and King, 2003, Buckley *et al.*, 2004, Turton, 2005). While the direct impacts of surfing *per se* may be insignificant, impacts associated with accessing surf breaks and the consumptive use of marine and other resources need to be further investigated through longitudinal studies and quantitative evaluations. In addition, multifaceted activities ancillary to surfing may lead to unexpected impacts if not managed properly and; considerations should be given to both the offshore and onshore activities. The true nature of surfing tourism in remote destinations as documented in this study, undermines the non-consumptive and benign image that surfing tourism portrays. This research refutes the belief and assumption that the utilisation of waves is a natural non-polluting/impacting process. Thus surfing tourism requires some level of management to maintain the ecological integrity of an area. This study on the nature of surfing tourism at a remote destination highlights the complexity of ways in which surfing tourism can impact both terrestrial and marine ecosystems, and over a wide spatial area. The potential dispersal and diffusion of direct, indirect and cumulative impacts from surf tourists and their ancillary activities at destinations, clearly highlights a need for more complex management systems from surf operators and/or land managers. Management issues and mitigation measures will be discussed in further detail in section 5.4.7. Managers of surfing destinations must be aware of these potential impacts and establish management strategies accordingly so as to maintain the ecological integrity of the area.

With the growth of tourism, Western Australia and other fragile surfing destinations worldwide (e.g., Indonesia, Papua New Guinea) with numerous quality breaks along their coastline, are likely to attract increasing numbers of surfer tourists. Yet, as Ondicho (2000:198) remarked "*What in absolute term would normally represent minor environmental disturbances, could be of considerable significance because of where it occurs*". Thus, solely on the basis of the fragility of the coastal and marine environments visited, surfing tourism should receive specific scrutiny rather than being assumed to be an environmentally-friendly tourism sector, until sound quantitative estimates of any impacts are calculated/determined and better understood.

A judicious combination of management approaches is required to maintain the ecological integrity at destinations without compromising the freedom of access. These findings should assist managers to recognise, mitigate and find solutions to address and reduce these impacts to existing and future surfing tourism destinations. These findings may be of particular use for planning and management. What is apparent from this research is that strategies for managing surfing tourism in remote areas are essential. If environmental impacts are principally a consequence of humans' ignorance, then educational strategies are necessary for surfing tourism management to be successful and sustainable. The lack of understanding by some surf tourists as to their environmental impacts may explain some of their unintended impacts resulting from inadvertent behaviours. This concurs with Glasson *et al* (1995:155) who stated "*an uninformed visitor will display uninformed behaviour*", and suggests that education may form an essential part of the solution (Diduck, 1999) to reduce environmental impacts at fragile and remote surfing destinations.

A further challenge to sustainable management of surfing destinations is the contentious issue of the "tragedy of the commons". Twining-Ward (1999:187) pointed out is that: "*Many of the resources on which the tourism industry depends can be classified as common pool resources such as beaches and mountains. This implies that often no single company or authority is*

responsible for their management and they can thus be used free of charge. As a result, as recounted in Hardin's famous essay 'The Tragedy of the Commons', they tend to be subjected to overuse and lack regular re-investment or necessary maintenance" The tragedy of the common concept is applicable to remote and open access surfing destinations like Gnaraloo where some of the problems identified in this study include the lack of investment and responsibility to protect the area. It is also important to note that while environmental management and conservation are increasingly being promoted in developed countries like Australia, Europe and the United State of America, developing countries such as Indonesia typically do not have the same priorities. This emphasises the need to increase surf tourists' individual responsibility and awareness regarding their impacts in order minimise them, especially at destinations in their own countries or when abroad where management is insufficient or non-existent. These findings highlight the need to integrate the management of surfing tourists' impacts for both offshore and onshore activities, into current and future coastal zone management.

5.5.1. Limitations of the study

Since the findings have been based on perceptions and observations, it is important to recognise the degree of subjectivity of the study. Participants in the focus groups and interviews may have limited knowledge of impacts on the environment and their views may not necessarily accurately reflect the current situation at Gnaraloo. While most surf tourists in the study demonstrated some awareness of issues by providing examples of impacts, these were mainly of a visible nature (e.g., dune erosion) or personally induced (e.g., coral breakage, track formation). Less tangible and/or indirect impacts (e.g., wildlife interaction) were seldom mentioned. Thus, it is important to note that what respondents perceive as acceptable impacts may not be necessarily compatible with sustaining the ecological integrity of the local environment in question.

The spatial spread and diversity of the activities conducted and the diversity of terrestrial and marine environments at Gnaraloo provide a challenge in assessing complex interactions within the ecosystems as well as cause-effect relationships between each

environmental component and human activities (Julien *et al.*, 1992). Consequently some impacts may have been omitted. This study did not aim to provide a comprehensive list of all possible impacts; rather it identified some of the most salient impacts for managers to be cognisant of in order to manage sustainably surfing destinations. Future studies would need to consider indirect and less tangible impacts associated with surfing tourism and its ancillary activities.

As this study was conducted *post factum* rather than *ante factum*, the evaluation of environmental changes due to surfing tourism as perceived by focus group and interviewees, should be taken with caution as no baseline data or detailed ecological studies were available to evaluate the state of the local environment before surf tourism commenced. Ideally, a longitudinal study at a location where surfing tourism would have just commenced would have been more effective to assess the impacts of surfing tourism *per se* over time.

This study's findings and observations were based on a single season and did not examine variations of the intensity of visitors and recreational use over a year. While surf tourists make for the majority of visitors coming to the area, other tourists, such as windsurfers are also likely to impact of the local environment. Priskin (2003) argued that windsurfers require more space per individual for setting up equipment and thus may incidentally have greater impacts than surfers on land. However, distinction between surf tourists and other tourists may be difficult and ongoing and all year round monitoring would be necessary for determining the dynamics of recreational use of the area.

Finally, these findings cannot be universally generalised to other surfing destinations for two reasons. Firstly, because these findings on user behaviour and activities patterns are not generic to all surf tourists. Orams (1999) pointed out that within every recreational activity there will be a varied range of age groups and people represented. In addition, surf tourists (Dolnicar and Fluker, 2003a) have diverse sets of needs and it is important not to treat tourists as a homogenous group in terms of their needs, behaviour

and consequent impacts (McMinn and Cater, 1998; Orams, 1999). Similarly, one can confidently argue that the different segments of surf tourists will also have different values, needs and environmental awareness. Secondly, different surfing destinations with diverse management strategies, coastal environment and marine ecosystems will have inherently different resilience levels and will react differently to human pressures. As highlighted by the United Nation (1999), the number of visitors, resilience of ecosystems, visitors' responsibility, accessibility and management methods are all factors that can affect the degree of impacts. Therefore, surfing tourism's impacts on the environment should be considered in context of the local environment's sensitivity and management objectives of the area, as environmental impacts essentially relate to the context, time, place and people involved.

5.5.2. Ongoing monitoring and future research

The findings suggest an urgent need for long-term monitoring of environmental impacts (e.g., trampling of reef, fishing pressure from surf tourists and water pollution) as well as social impacts (e.g. human use surveys, level of acceptable change etc.) to evaluate changes over time. The knowledge on the potential cumulative effects of human activities on the coastal and marine environments (Manning and Dougherty, 1999) is meagre and long-term monitoring will detect cumulative environmental effects of activities. Furthermore, Papageorgiou and Brotherton (1999) urged recognition that some ecosystems can react belatedly to recreational pressures and cumulative impacts and that effects may develop at later stages. This clearly highlights the need for ongoing monitoring to assess changes over time and mitigate impacts accordingly. Such long-term monitoring will be critical to manage sustainably ecologically-fragile surfing destinations such as Gnaraloo. At present the capacity of land managers at Gnaraloo to deal with such a wide and remote coastal destination is restricted. This is also pertinent to other surfing destinations with extensive coastline and complex geomorphology where highly mobile surfers, with diverse and unevenly distributed activities over space and time, will undoubtedly hinder

monitoring. This supports Lawson (2006)'s assertion that monitoring visitors is inherently difficult in larger protected areas that experience dispersed use. In addition, in remote areas and in developing countries, governments and managing bodies often do not have the human resources or funding to set up costly monitoring scheme. As a result, to minimise expenses and human resources in the field, a more pragmatic system for monitoring and evaluating impacts and management approach is required. Satellite imagery could be used to identify small scale changes in coastal marine ecosystems, including coral reef and dunes (Stoffle *et al.*, 1994). Alternatively this could be achieved using video derived coastal state indicators (www.TheCoastViewProject.org). Jusoff and Hassam's (1996) approach where environmental changes over time could be monitored *via* a combination of generic field survey methods, geographical information system (GIS) and monitoring sensing data is recommended as an efficient monitoring system to help management decisions.

The study has offered some qualitative descriptions and information of impacts and activities carried out by surf tourists which has allowed deeper understanding of surfing tourism at remote destinations. Yet the descriptive impacts provided no information about the intensity of the impacts. For example, there is a need to quantify surf tourists' impacts on wildlife and on the environment. Management will be restricted by the combination of limited scientific understanding and baseline data on the study area's natural environment, as well as the lack of quantitative detailed information on users and resource use. Limited statistics on surf tourists numbers, resource use, user characteristics, activities, expectations and motivations from surf tourists for visiting Gnaraloo and other surfing destinations worldwide as well as baseline environmental data and quantitative evaluation of identified impacts to the environment will restrict suitable design and fruitful implementation of a management plan, and therefore further quantitative research is warranted.

Since this research was conducted at Gnaraloo, an updated management plan for the Ningaloo Marine Park has been released (January 2005) by the Western Australian Government, which included the 'southern extension' of Ningaloo Marine Park (containing

Gnaraloo Station) The Department of Environment and Conservation (DEC, previously CALM), is the State government agency with statutory responsibility for the management of the Ningaloo Marine Park. A Ningaloo Research Program has been developed, with collaboration between the DEC and other State government agency's and research scientists, which has collected data over a four year period including a bio-physical inventory, human usage inventory, key ecological processes, development of cost-effective monitoring protocols, assessment of the ecosystem impacts of human usage and integration and assessment of management performance/effectiveness. This information will be used to assess and modify current management strategies to ensure the sustainability of marine resources in the Ningaloo Marine Park into the future. While the Ningaloo research program relates to Ningaloo Marine Park generally, and not specifically to surfing tourism at Gnaraloo, the findings of this research program may provide valuable information regarding surfing tourism and ancillaries activities carried out at Gnaraloo, and in turn provide additional information to the DEC on how best to manage surfing tourism at Gnaraloo

Lagundi village expanded on the seaward side and Sorake Beach developed to become Sorake village - this is administratively considered to be part of the *desa* (i.e. village) of Bawömatalio (called Botohili), one kilometre inland from Sorake Village.

This study concentrated on the villages of Sorake, Botohili and Lagundi. All three were considered as one community when investigating the socio-cultural and economic impacts and the changes brought about by surfing tourism to the area. Hiliamaeta was not included in the study as it did not cater for surf tourists and its population subsists mainly from agriculture and some cultural tourism. The total population studied was approximately of 3,910, with around 240 individuals in Sorake, 3,080 in Botohili and around 590 in Lagundi (BPS, 1999). The local people of Lagundi Bay speak one of three Malayo-Polynesian dialects. In Sorake and Botohili, the community is almost entirely Christians, while in the village of Lagundi most are Muslims (Secretary of the *desa*, Interview, 2004). The economy of Nias is influenced by limitations of its geography (i.e. isolation). In Nias, 83% of the population are below the national poverty line (Australian Marine Science and Technology Ltd, 2002) and the population lives on marginal economies and subsistence living. In Lagundi Bay, the majority of the population subsists from farming, some artisanal fishing and a minority in tourism-related ventures. Fishing practiced from outrigger canoes, is mostly subsistence and/or to supplement income by selling fish to nearby markets. The majority of families have a basic diet composed of staple crops including sweet potatoes, tapioca, cassava and rice. Their economic activities are mostly subsistence agriculture (e.g., cassava, sweet potatoes and rice) and pig rearing. A small proportion also grows coffee, cloves, patchouli oils, raw rubber and copra for export outside the island. The community has limited income-generating alternatives. According to the village secretary of Botohili, 80% of the population live from farming and fishing, 18% work in tourism (i.e. operating losmens, working as tourists guide, selling crafts and biscuits etc) and 2% are employed by the government. In the *desa* of Lagundi approximately 80% rely on agriculture. Yet there is a serious shortage of agricultural land in

the Lagundi bay area and this is a problem across Nias (Beatty, 1992) The majority of the local community has limited access to social amenities and services such as potable water supply, sewerage and sanitation along with healthcare Education in Nias is very low and around 50% of children do not receive secondary education (BPS, 1999), as most families cannot afford to pay school fees (Key informants, interviews, 2004)

6.2.3. Tourism profile in Nias and Lagundi Bay

Nias is a major tourist destination in North Sumatra which attracts both international and domestic tourists. Nias attracts international visitors who come to experience the unique and ancient megalithic culture (Fryauff et al., 2002), witness the stone-jumping and traditional war dances, and visit the traditional houses A few backpackers visit Lagundi Bay, but generally only stay for a couple of nights as activities in Lagundi Bay, apart from surfing are limited and are further impaired by the lack of public transport. Outside the main surfing season backpackers and European tourists visit from February to March More recently, during the wet seasons when the waves are smaller, backpackers and world travellers have visited Sorake beach as it is a cheap destination to learn to surf before heading to Australia While there are no reliable data on tourist type and numbers visiting Lagundi, Lueras and Lueras (2002a) estimated that 90% of the island's annual visitors were surfers According to Merpati Airlines, when reviewing occupancy of the airline, most tourists who come to Nias are surfers. Interviews with local travel operators, losmen owners and focus groups revealed that the majority of tourists visiting Nias are surf tourists and the typical length of the stay in Lagundi Bay is between two to three weeks The surfing season in Lagundi is from May to October (the dry season) (Warshaw, 2003) but the peak for surf tourism runs between June to August when the swell patterns are the most consistent and largest in size. While Nias was once a final destination, more recently surf tourists go directly from Nias to other islands and/or stay in Lagundi only for a couple of days as a transit stop before visiting other islands such as Hinakos and the Mentawaus The majority of the surf tourists at Lagundi are independent

travellers who visit as part of a surf trip around Indonesia or the world. According to the tour manager, the head of the surf club and chief of the Sorake-Botohili and losmens owners, surf tourists coming to Lagundi are mostly from Australia, Japan, Brazil, USA, and Europe. Focus groups revealed that tourists visiting Nias were independent travellers with small budgets who were attracted mainly by the low cost of living and the quality of the waves. The surf tourists at Lagundi generally had a low daily expenditure (approximately £3.5/day) (*Personal observations*, 2004) with one night's accommodation costing between 5,000 to 10,000 rupiahs (i.e. 40 to 80 pence) and a main meal ranging from 5,000 to 15,000 rupiahs (40 pence to £1.25). Most surf tourists visiting Lagundi were found to be what (Buckley, 2002b) referred to as "time rich, cash poor surfers".

6.2.4. Surf breaks of Lagundi Bay

Lagundi Bay has four breaks including: "The Point", "Kiddieland", "Indicators" and "The Machine" (Figure 6.3). The main break which has given Lagundi Bay its worldwide reputation is "The Point" which is the surf break at the western end of Lagundi Beach. On the inside of the bay is "Kiddieland", which surfed when the main break is less than five feet, mostly by local children and beginners. Further up the point is "Indicators" which is a dangerous wave only ridden by professional and extremely skilled surfers (this was therefore not included as a wave for surf tourists and in any case is rarely surfed). "The Machine" is a break which is twenty minutes walk from Sorake Village, located just outside Lagundi village toward Teluk Dalam. It is ridden on high tides and when the main break is around five feet (2 metres) and over. "Rock Star" (out of Teluk Dalam) is a surf break which is one hour by vehicle and is the least accessible to tourists staying at Lagundi Bay. Surf tourists and local surfers mainly surf "The Point" and, occasionally "The Machine" and "Rock Star" when the conditions at main break are not suitable. In addition, the lack of public transport, distance and difficulty of access to surf breaks such as "Rock Star" were major constraints. Discussions with local surfers and surf tourists, and participant observation revealed that "The Point" was the preferred surf break and that few

tourists staying at Lagundi Bay travelled to the other surf spots. This was reaffirmed by findings from focus groups where, when asked why they came to Nias, all answered that they came to surf the famous right-hand surf break “The Point”. As a result, crowds tended to concentrate in the line up at the main break “The Point” (Personal observations, 2004). As a result the RCC of the Lagundi Bay as a surfing tourism destination was based around the RCC of the main surf break, “The Point”, this being the main attraction for surf tourists visiting the island of Nias.

Table 6.1. Description of surf breaks in Lagundi Bay. Data was compiled from interviews with local surfers, surf tourists and personal observation (adapted from Buckley, 2002b: 436)

Location	Name of surf break	Base	Tide	Type	Swell (height and direction)	Size (feet)	Perceived maximum carrying capacity (persons)	Surfing level
Inside Lagundi Bay	<i>The Point</i>	Reef	All tides	Right	> 1.5m SW	3-15	15-20	Intermediate to advanced
	<i>Kiddieland</i>	Reef	Mid - high	Right	>1m SW	2-3	10-15	Beginners
	<i>The Machine</i>	Reef	High tide	Left	>1.5m SW	2-5	5	Intermediate
	<i>Indicators</i>	Reef	High tide	Right	>1.5m SW	5+	N/A	Experienced-professional
Outside Lagundi Bay	<i>Rock Star</i>	Reef	All tide	Left	1-2.5m SW	2-6	10	Intermediate to advanced

6.2.5. Recreational Carrying Capacity of Lagundi Bay

“The Point” is a very “mechanical” wave which breaks consistently at one take off zone. Surfers thus aggregate around one area for take off and this limits the number of surfers in the line up at any one time. In addition to the spatial concentration, time of the day was also found to be an influential factor. Personal observations indicated that the busiest times were early in the morning to mid morning and mid to late afternoon (i.e. during the cooler periods of the day) while midday was generally less busy (to avoid high sun exposure). During the first two weeks in June 2004, the number of surfers in the line up at the main break ranged on average between ten to fifteen people and another ten surfing the inside break (Kiddieland). Participant observations indicated that most

considered the current numbers of surfers in the water as acceptable. This was consistent with remarks from surf tourists during focus groups who, when asked to assess the current level of crowds in the surf commented “*I don't think it is too bad*” and “*Right now it is borderline*”. Similarly, informal conversations with local surfers and interviews with key informants indicated that the threshold number of surfers at which they began to feel crowded was estimated to be around fifteen.

On several occasions when more than fifteen surfers were in the line up at the main break, surfers were witnessed harassing one another to catch waves (Author's observations, 2004). Participant observation, focus groups and informal interviews with surf tourists revealed that on these occasions, the growing number of surfers in the line up had negatively impacted the surf tourists' enjoyment. Tourists during informal conversations on such days had commented that it had felt too crowded and many had complained they had not been able to catch any waves. This clearly suggests that from the surf tourists' perspective, ten to fifteen people in the line up at the main break, was the sustainable recreational carrying capacity. When asked if they would return to Nias if there were more than twenty to twenty-five people in the water at Lagundi's main break, all unanimously stated that they would not, or most likely would not return. This supports the notion that an increase in the current number of surfers in the line up at the main break would result in a reduction of surf tourists' enjoyment, and a loss in satisfaction and holiday experience and; most importantly, that this would hinder tourists from returning to Lagundi in the future.

The RCC of the main break was also determined to be dictated by the swell and the frequency of the waves. This was exemplified by a comment from a surf tourist who argued that: “*This place is known to be very consistent. This place can work when there is 15 people. Yet if the swell is less consistent like today, three people can hold the peak*”. A local surfers and losmen owner remarked that “*When the waves are five foot, maybe a maximum of 30 people for both the main break and Kiddieland. Yet, during big swells, when it is some 8 to 12 feet, the maximum number would*

be between 6 to 10 people". This was reiterated during informal discussions with local surfers who argued that during big swell, the main break becomes dangerous and for safety reasons can consequently hold less people in the line up. Since surf tourism in Lagundi Bay is almost entirely based around surfing the main break, and with a lack of other quality surf breaks in the vicinity, the capacity for the number of surf tourists in the area at any one time is restricted. A general consensus gained from the majority of local surfers, key informants and surf tourists interviewed along with personal observation, suggested that around fifteen people at the main break with another ten to fifteen at "Kiddieland" were the maximum numbers at each surf break before an unacceptable decline in the quality of experience was experienced by surfers. Some surfing destinations can be a base from which surf tourists can travel to other surf breaks on a daily basis. In the case of Lagundi Bay, however, the geographical setting, the available surfing resources and lack of public transport restricts surf tourism in one small confined area. It can be argued from the above findings that Lagundi Bay as a surfing destination is limited due to the observed finite surfing resource of Lagundi Bay and the low RCC of the main surf breaks.

6.3. Evolution of surfing tourism in Lagundi Bay

6.3.1. History and development of surfing tourism in Lagundi Bay

Due to the lack of archival documents on Lagundi Bay and its history and development, the following is based on interviews with key informants and secondary sources of information. Nias Island had been promoted worldwide as a tourism destination as early as the 1850s by missionaries (local historian and BUPATI tourism officer, Interviews, 2004). Yet, Nias was only known to a few anthropologists, archaeologists and serious travellers who were interested in the ancient culture, architecture, traditions and its people and the megalithic villages. Despite some level of tourism in Nias, interviews with a local historian and a local anthropologist disclosed that Lagundi Bay had remained until the mid 1970s, very much isolated and had not been exposed to tourism or western influences. In 1974, a western luxury Dutch cruiser, the "Prinsendam" began visiting the sub regency

town of Teluk Dalam and ship passengers came to tour the famous megalithic villages of the vicinity (this cruiser ceased in 1982). Tourism in the Lagundi area commenced in 1975 when three surf travellers discovered the right hand point break at Lagundi Bay. The following year, five people returned and camped in front of the main surf break, which was jungle at the time. The subsequent year a handful of tourists came and stayed with local families. Rumours about Lagundi, as the new idyllic surfing destination and the most perfect right hand surf break in Indonesia at the time, spread by word to mouth within the surfing community. Soon international surfers started to arrive. By the late 1970s, photographers, international surf magazines (e.g., *Surfer* magazine and *Tracks* with an article called *Tubular Swells*) and films (i.e. film promotions from Dick Hoole and; *Asian Paradise* in 1981) had exposed and publicised Lagundi Bay which further enticed and inspired surfers to travel to Nias (Jason Child and Peter Troy, *pers. comm.* 2002 and 2004), leading to a population explosion. As Kevin Lovett (Interview, 2003) commented "*Lagundi was special because it captured the whole allure of what the surfing dream was. The warm tropical nature, the magical environment and the ability to find pristine surf and the perfect barrel.*" The movie "Stormrider" (1982) which captured footage of Nias' illusive wave triggered an even greater number of surf tourists to visit the area (Peter Troy, interview, 2004). The first losmen in Lagundi village was built in 1979 with three rooms. At that time there was no accommodation at the Point (i.e. Sorake Beach) and tourists stayed in Lagundi village and walked to the main break to surf (Figure 6.3).

As the number of surf tourists increased, the local villagers of Lagundi Bay soon realised the potential economic benefits of surfing tourism. In 1980, an entrepreneurial local farmer built the first losmen on Sorake beach in front of the main surf break. This was soon followed by three more losmens in Lagundi village. From 1982 to 1985, the flow of surf tourists to Lagundi Bay increased with on average 20-30 tourists per week during the peak season. Several key informants commented that the surf tourists over these three years were soon followed by backpackers. By 1985 a tour manager called *Adventura* was

bringing groups of twenty tourists to Lagundi village. The tourists' profile had diversified and some tourists were by then coming just for a holiday. One losmen owner illustrated this point by stating that *"They were not just surfers but tourists from Europe. They came to swim, look at the waves and trek around the villages"*

Between 1985 and 1987, the number of losmens that offered rooms and board to surfers, grew from five to twelve in Sorake Beach. Lagundi Bay had become a fashionable surfing tourism destination and the prime attraction in North Sumatra (Bangkaru, 2001). Tourists' numbers kept growing to the point where, during the high season, all the losmens were full (Bangkaru, 2001 and key informants, Interviews, 2004). A losmen owner commented that during the dry season, sometime there were not enough rooms for the tourists. One government official emphasised the growing tourism by commenting that *"Between 1985 and 1990, the tourism was at its fullest. There were so many, at least one hundred people every week and, they used to stay for more than one month, some even for a couple of months"*. Surfing tourism is believed to have reached its peak by the late 1980s early 1990s. Lagundi Bay had grown rapidly from an isolated destination into what Lueras and Lueras (2002a) described as a *"well populated and booming surf city"*. By the late 1980s, the rising number of tourists was also reflected with intensifying crowds in the surf at the main break with some thirty plus surfers in the water and another sixty on the beach according to several key informants. Personal communication with a Mentawaiis surf charter boat operator and the editor of *Tracks* magazine indicated that by 1987, Lagundi bay was already going down and that the crowds in the surf were getting worse with increasing fights in the water. In the early 1990s, overcrowding at Lagundi Bay had prompted surf travellers and adventurers to explore surrounding islands to find uncrowded waves (Jason Child, *pers comm*, 2002). One losmen owner reiterated this commenting that *"In June-July which is the busiest time, sometime there were forty to fifty people in the water. You could not get a wave. Sometime, there were some fights between Brazilians and Austrahans. The local people did not fight with the tourists in the water, however they gave them verbal abuse. One of the problems was that it was too crowded here. There were a lot of*

people here, so tourists started going to other islands like the Hinakos". This view of Lagundi was shared by many key informants and this was illustrated by a comment from Reeves (1997:115) who contended that: *By the late '80's, the magic was gone. Lagundi had turned into an eroded, polluted, hygienic nightmare...*". Consequently, surfing soon expanded in the neighbouring Islands (e.g., Hinakos Islands, Palau Asu and Palau Bawa, Talo and the Mentawai Islands) with the development of surf resorts and surf charter boat operations.

In 1990, the airport opened in Nias for domestic air flights from Sumatra's mainland to Gunungsitoli and by that time, all sectors of tourism (including families) were coming to Lagundi Bay for a vacation. Lagundi was undergoing a development phase. While there are no official records on the exact numbers of tourists visiting, many key informants and community members contended that during the peak season approximately one hundred tourists per week were staying in the area. This was reaffirmed in *The Encyclopaedia of Surfing* by Warshaw (2003:411) which stated that "*Lagundi's many 'homestay' lodging are often full during the dry season and crowds of 100 plus surfers are common*". As a result of the growing tourism, people from Lagundi Bay but also many investors from outside Nias (the majority from Medan), saw an opportunity to make money from tourism. This resulted in a rapid and *ad hoc* tourism development of losmens for tourists between 1991 and 1992 on the stretch of coast between Sorake and Lagundi beach. During this two-year period, the number of losmens rose from 12 to 50 on Sorake beach alone. By 1992, there was a total of 62 losmens when accounting for those of Lagundi village (this does not account for other losmens lived in by the locals). Interviews with key informants and discussions with local inhabitants pointed out that this uncontrolled losmen development led to an over supply of rooms (with over 200 rooms). Many contended that this triggered losmen owners to start competing among each other to attract tourists.

Several key informants noted that by the time a large percentage of the losmens were built in 1992, tourism had stagnated when compared to the late 1980s. Concurrently, other neighbouring surf destinations were opening and as a local Tour manager argued:

“Now Lagundi is no longer the only surfing destination of Nias. There are new destinations which have opened such as Asu and other islands such as Hznako and Sumba Surfers now go to other Islands”. By then, a major part of the local economy was build upon the surf tourism trade with many local people working in various tourism enterprises With the decline in surf tourist numbers and the surplus of accommodation available, competition and rivalry became an issue Sorake Beach nonetheless remained a popular destination with international surfers and travellers. Lagundi village which had lost it surf tourists to Sorake Beach was now experiencing a level of domestic tourism

Between 1992 and 1996, key informants (including losmen owners and government officers) estimated that up to 300 tourists per month were coming during the peak season. During this period, crowding in the surf was further compounded by a growing local surfing population According to the Chief of Botohili, also the head of the Nias surf club, until the early 1990s only a small number of local inhabitants (around 20) surfed Since the inception of the *Nias Island Association for Surf* in 1994, the local surfing population has grown from 20 to approximately 87 (in 2004) in the whole of Lagundi Bay and from 22 to 58 in Sorake Beach This increasing local surfing population created a group of young people referred to by the local community as the ‘beach boys’ One losmen owner in Sorake (also a surfer) asserted that *“Beach boys started around 1994-95 and then the problems started”*. This view was shared by many key informants who stressed the strong “beach boy culture” (with the drinking, drugs and prostitution) and “localism” attitude in the surf, had ingrained itself in some of the young local surfers. Many contended that this had been affecting tourism and one losmen owner pointed out *“The other problem was that the beach boys used to tell tourists that they could not surf here”* All key informants and local inhabitants interviewed commented upon local surfers’ hostility towards surf tourists. They reported frequent fights in the water yet, contended that these were mainly between surf tourists themselves Nevertheless, localism in the surf was perceived by all to have had a major

impact on surf tourism and to have inhibited many surf tourists from returning and visiting to Lagundi.

Aside from the crowds in the surf, key informants revealed that tourists had been increasingly complaining about other problems. These included water quality issues with sewage from the losmens discharged directly into the bay, the disappearance and erosion of the beach, prostitution, drugs, rising crime and antagonism towards tourists. Crime, harassment and safety at Sibolga Harbour were also highlighted to have been key problems for tourists coming to Nias. These above mentioned points were highlighted almost unanimously by all individuals interviewed and one government official asserted: *"The situation of the area became so bad, that is why the surfers started to try other areas and they found the Mentawaiis, Asu Island and Bawa and, now they have moved to Afulu and even in Talo... to find somewhere safe to go surfing"*. Articles in surf magazines and the surf media have portrayed the downfall of Lagundi and publicised its deteriorating reputation. During focus groups, surf tourists also commented that they had heard and/or read about Lagundi's notorious reputation with issues of crowds, crime, localism, pollution and overdevelopment. These issues were all further divulged in the "The Golden Pig" documentary which chronicled the discovery of Lagundi's main surf break and the subsequent surf-related development in the Bay. Overall, Lagundi had been portrayed over the years as an overcrowded and, to a degree, ruined surfing destination. Most tourists emphasised that this portrayal had been a deterrent for visiting Nias. As mentioned, surf tourists were abandoning Lagundi Bay for other surfing destinations. One participant contended that: *"Before it was one of the best waves in Indonesia. But soon after that, surfers started exploring for more uncrowded surf spots and discovered the Mentawaiii. By 1993, surfers started to go on surf charter boats in the Mentawaiii. There are definitely better place to go now which have better waves and fewer crowds, minus the harassment"*.

In 1994, Nias regained further worldwide media attention with the advent of a series of international surfing competitions, the Nias Indonesian Open (which ran from 1994 to 1997) which was part of the World Qualifying Series (WQS). An interview with

one key informant revealed that the event had been relocated to the Maldives for safety reasons. The last international surfing competition, the O'Neill Deep Jungle Open was held in 2000. Since then only small-scale Indonesian competitions take place in Lagundi. The local government and outside investors at the time saw these international surfing contests as ideal tourism promotions and commercial ventures. Consequently, a French hotel company "Accor" in association with an outside investor from Medan took this opportunity to develop a luxury resort at the end of Sorake Beach. In 1994 a luxury resort, the "Sorake Beach Hotel" consisting of 80 chalets with a capacity of around 200 tourists, became operational and employed over 100 personnel (Staff of Sorake Resort, interview, 2004). This luxury resort was designed to attract a mid to upper market clientele with rooms of 200,000 rupiahs per night per person (i.e. around £20/night). The Sorake Hotel was used by a few wealthy surfers but mainly by tours operators which were offering package holidays to families from around the world, mainly Japan and Germany. By 1996, hotel management had changed, and more recently the Sorake Hotel has only opened when tourists present themselves at the hotel and operates with nine members of staff.

The general collapse of tourism in Lagundi Bay became pronounced by 1997, and by 1998 had almost completely ceased. This was reflected for the whole of Nias which saw the numbers of international tourists per year drop significantly from 10,787 in 1996, to 3,176 in 1997 and 901 in 1998 (BPS, 2000). There are several reasons for this fall. Firstly, Indonesia was negatively impacted by the Asian Financial Crisis from mid-1997. This was one of the deepest economic down-turns that Indonesia had experienced (Sherlock, 1999) which led to the collapse of country's tourism industry and high inflation rates in Nias (Government official, Interview, 2004). Consequently, SMAC airline reduced their flights, and since the crisis has only operated two flights a week from Padang. Secondly, civil unrest around Teluk Dalam in 1998, with severe fighting among two villages, made the area unsafe for tourists. There was a general belief among the key informants and local people interviewed that these series of events had contributed in part to the collapse of tourism in

Participant observation disclosed that at the time of the fieldwork, small numbers of surf tourists were returning to Lagundi, ironically for the uncrowded waves. This was also revealed during focus groups and informal conversation with surf tourists, when asked what factors and motivations had attracting them to come to Lagundi, all answered that one of the main reasons was directly related to the fact that they had heard that the waves in Lagundi had become empty and uncrowded. Comments taken from focus groups illustrating this view included *"I heard that Nias was no longer crowded so it was a good incentive to come here to surf the wave I had heard of for so long"*. These statements were reflected among all sixteen surf tourists who took part in the focus groups as well as other surf tourists informally interviewed during the period of the fieldwork. Yet, despite the slow return of surfing tourists, the low level of tourism in Lagundi was found to be economically unviable and insufficient to sustain the local community.

6.3.2. The future of (surfing) tourism in Lagundi Bay

The Nias local government (at the time of fieldwork) was attempting to increase the low level of tourism by actively promoting Lagundi Bay as a tourism destination. Discussions with government BUPATI officials indicated the future plans and tourism management strategies. One of the major projects planned was the rejuvenation of the Lagundi Bay area by transforming it into a resort extending from Lagundi Village to the Sorake Beach Hotel. The local government was planning to purchase most of the land in the area and to relocate losmen currently breaching planning regulation (i.e. those below 25 metres above high tide mark). These were to be rebuilt in compliance with the current standards and environmental regulations (i.e. adequate sewage facilities etc) and the area was to be re-landscaped by cutting trees and creating gardens. The local government aimed to gain closer control over tourism by setting tourism standards, including fixing prices for losmen in order to avoid harmful competition (Tourism government officer, Interview, 2004). Most key informants and local community members including several losmen owners raised the necessity to better manage and regulate tourism in Lagundi Bay and

indicated willingness to become involved in the process. Yet many also raised concerns, particularly with regard to the relocation of their losmens, explaining that without government financial assistance, the resulting uncertainty at an individual level would jeopardise losmen owners' livelihoods. The chief of Botohili further contended that this project was a contentious issue for a few losmen owners who believed that the enforcement of compliance of environmental regulation (i.e. relocating losmens and preventing the removal of sand from the beach) would limit personal freedom and would be damaging economically. Many key informants including losmen owners highlighted this problem explaining that uncontrolled tourism, free markets, self interest and individualistic gain had compromised the long-term future of the area as a tourist destination to the detriment of all. When reflecting on this problem, all key informants and losmen owners argued the need for managed tourism, yet many debated the processes in achieving this.

The re-establishment of international surfing competitions at Lagundi was suggested as a marketing tool. Additionally, both the local government and the communities had discussed the establishment of co-op's within each village. This scheme was designed to work on a fair and equal distribution of employment, particularly during events such as surf competitions, where each co-op would be invited to take part in certain activities (e.g., welcoming guests, cleaning the area etc). The district government was also taking steps including the development and improvement of local infrastructure including road maintenance and the installation of an ATM machine in Teluk Dalam. There were plans to open an Airport in South Nias close to Teluk Dalam for domestic flights to South Nias from Medan and Padang as a means to attract tourism to South Nias and this was hoped to have major repercussions on the tourism in the area. Actions to protect tourists have also been taken, such as a waiting room at Sibolga Harbour where tourists can safely wait before embarking on the ship to Nias. Another tourism office in Lagundi was to open for tourists where they would be able report any problems. The above-mentioned projects were intended to encourage tourists to return to South Nias. While most local community

members were optimistic about the future of Lagundi Bay's tourism, others showed greater reservations. Most key informants were, however, optimistic with regard to the future of tourism in Lagundi. The new management regency of Nias, with the decentralisation of power within Nias, should permit a direct management strategy to be formulated and administered locally by BUPATI at the sub regency in Deluk Dalam. All key informants and local inhabitants believed that this should permit a better and locally management planning and control of the area. Lagundi was expected to undergo a rejuvenation phase.

6.3.3. Summary of the evolution of surfing tourism in Lagundi Bay

In a period of approximately 25 years, Lagundi was transformed from an unknown and isolated area, to a world-renowned and crowded tourism destination, to a desolated and degraded destination. Tourism grew rapidly without control or planning. From Lagundi's discovery, a rapid influx of surfers arrived, followed by en-mass arrival of low budget tourists (surfers and some backpackers) and mainstream tourism. The findings provide evidence to suggest that Lagundi had advanced through the tourism life cycle stages, with declining visitor numbers, and had endured the 'boom to bust' cycle of tourism. Lagundi Bay appears to have followed the S curve and has approximated the stages of Butler's (1980) cycle, and concurrently progressed through the process of Doxey Irridex (negative change in the relationship between tourists and host community), and this is discussed in Section 8.2.2.

Tourism development rapidly expanded beyond Lagundi's finite RCC and resulted in high numbers, overcrowded surfing conditions and dissatisfied tourists. This triggered some surf travellers to explore further a field for new and uncrowded destinations. Concomitantly, rapid and uncontrolled tourism development growth and increased tourists numbers, in the absence of management and planning, resulted in overdevelopment, degraded ambience and degraded overall quality of the destination and downmarket competition (Buckley, 2002b). The haphazard development, lack of planning and uncontrolled tourism, led to severe environmental degradation (pollution, water quality,

coastal erosion) and adverse socio-cultural and economic costs (Section 6.4), leaving both locals and visiting tourists dissatisfied. With the degradation of the amenity value and attributes of the destination (pristine natural environment, uncrowded surf) and the degradation of the host and guest-relationship, the surf tourists' experience becomes trivialised to such a level that this established destination subsequently became no longer fashionable, nor competitive and suffered as a result by the reduction in the influx of tourists and its subsequent abandonment. The empirical findings suggest that crowding (with the RCC exceeded) and degradation of the socio-cultural environmental quality and competitiveness of the destination, resulted in a decline in surf tourism, and associated economies. Contributing factors to destination decline and loss of competitiveness included antagonism toward tourists, localism and other social ills (e.g., harassment, safety, crime). Lagundi Bay evolved into a high volume, low-yield destination and dissatisfied tourists, indicating that uncontrolled surfing tourism development at Lagundi resulted in overdevelopment, crowding in the surf as well as the socio-environmental degradation and decline of the destination.

6.4. Impacts of surfing tourism at Lagundi Bay.

6.4.1. Environmental impacts and morphological changes from surfing tourism and associated development

The physical consequences of surfing tourism development have been highlighted in terms of perceived and observable impacts (Table 6.2). Environmental impact assessment and monitoring of the area's environmental quality has not been conducted

Table 6.2. Significant environmental impacts associated with surfing tourism at Lagundi Bay.

Environmental factor	Impacts	+ or -
Water quality	Pollution from sewage and lack adequate of septic tanks	-
Rubbish	Hard waste/rubbish from tourists and local inhabitants	-
Vegetation	Removal of coconut plantation may have contributed to coastal erosion	-
Swamps	The filling of swamps is believed to have led to the reduction of malaria in the area.	-/+
Beach	Coastal and beach erosion due to the removal of sand for construction material	-
Wave	Erosion and coastal constructions have degraded quality of the waves and the quality of the barrel at the main break.	-
Reef	Removal of reef for construction material and trampling over the reef by surfers and local people when collecting marine resources have resulted in the destruction of coral and consequent impacts on the marine ecology,	-
Marine resources	A combination of pollution, reef degradation and over use of marine resource has resulted in a decline in marine resources and fisheries locally	-

Vegetation clearing

Prior to the arrival of surfing tourism, most of the area around the Point in Lagundi Bay was heavily vegetated, mainly composed of coconut plantations and swamps. During the development phase, a large proportion of the vegetation (mainly coconut trees) was cleared and swamps were filled. Several key informants believed that the draining and filling of the swamps had aided in the reduction of the malaria problem in the area. A number of informants also commented that the removal of the vegetation and trees had contributed to soil erosion problems on the coastal fringe. While it is not known the extent to which the removal of the vegetation has affected erosion locally, clearing is recognised for increasing the vulnerability of coastal environment to erosion (Nunn, 1994).

Coastal processes and erosion

The rapid and ad hoc development of losmens and infrastructure built between low and high water mark during the boom of surf tourism in the early 1990s was perceived to have exacerbated coastal erosion (key informants, interviews, 2004). Many losmens owners had built their losmens on stilts between low and high water mark as a mean of attracting tourists and providing a prime location close to the water's edge around the Bay's point, (Figure 6.5). One of the prominent issues associated with Lagundi's tourism development, was the removal of sand from the beach and the river, as well as coral from the reef for

construction material. These resources were utilised for cement, spread underneath stilts of losmen or sold locally for construction. According to two members of staff of the Sorake Beach Hotel, local sand and coral were also used to build the Hotel. Many key informants including the chief of Botohili, a tour manager and losmen owners remarked that despite the government's ban on the removal of sand and coral for construction, this was ignored due to the lack of enforcement by local officials and individuals' self-interest. Informal interviews with BUPATI officers (including the head of Law Bureau, the Secretary of the local planning and the head of infrastructure) reiterated this problem. All key informants considered that the combination of removal of natural resources from the beach in conjunction with infrastructure development on the shoreline had engendered changes in the coastal processes of the bay. The most salient consequence of these practices raised by all interviewed was the major erosion problem and subsequent disappearance of the beach in Lagundi Bay. This concern was exemplified by a comment taken from an informal interview with a local anthropologist stating that "The most significant impact has been the erosion problem. The beach has almost entirely disappeared. Erosion is extreme and has been very fast with some three to four metres per year. There is a need to change local people's livelihood to divert them away from destructive practices". Another disturbing statement from Kevin Lovett, when reflecting on the changes observed after returning to the area in 1996 to shoot "the Golden Pig" documentary was that: "*The beach has changed so much now, compared to how it looked on my photos and the film twenty years ago. The beach in some areas was fifty metres wider and now it has gone down to three meters*". While there are conflicting reports on the exact extent of the disappearance of the beach, many argued that between thirty to fifty metres of the beach have disappeared in parts of the Bay. Erosion was very much apparent during field work (Figure 6.5). The chief of Botohili commented that erosion had been so dramatic that many losmen had fallen into the sea as a result.

contended that this disappearance was linked to the removal of coral for construction material as previously mentioned and the trampling of the reef. Participant observations noted that surfers walked on the shallow reef when accessing the main break and that fishing boats ran across the reef when accessing the shoreline. Many key informants suggested that proximity of human habitation to the near shore reef (including waste water effluent) and surfers walking on the reef to the break has reduced the amount of coral in the area. Some surf tourists commented that they could feel coral breaking under their feet when walking on the reef. One key informant provided a different perspective into the degradation of the reef in Nias as a whole and contended that aside from tourism development, other activities in the area have contributed to the reef's degradation. He argued that some fishermen had resorted to destructive and illegal fishing methods (e.g., cyanide fishing and bombing) in an attempt to increase their catch, leading to the destruction of coral reefs and the collapse of associated marine resources. There was a general consensus however that the reef had deteriorated over time. One key informant commented when reflecting on the degradation of waves that inadvertently by disregarding regulations on the ban on the removal of sand and reefs that "...*the local people destroy the source of their life*".

Impact on the local fishery and marine resources

Many interviewed, including local fishermen, commented on the changes and decline in available marine resources in the area since the commencement of tourism. Several key informants contended that the selective demand from tourists for particular fish species and other marine resources had affected some fish and lobster populations. One key informant contended that "*When we first went to Nias, the fish and the lobsters from the reef were quite big. There was definitely no kind of management there. Within six years or something, they were all fished out. I am not sure this was exclusively due to the tourists, but it was certainly a part of it*". A number of key informants highlighted that the local lobster population had almost entirely collapsed and some of their comments which reiterated this concern included "*The*

demand for lobster by tourists was so high that people use to go at night to get lobster and now there are none left. The size of the lobster is now very small and *"Before the tourist first came, there were very big lobsters you could catch on the reef. They were about 1 to 1.5 kilos. Now you can find one only if you are lucky"*. Several key informants however pointed out that some of lobsters were also sold outside Lagundi Bay, even to China.

The combination of the increased fishing pressure linked to the growing demand from tourists and local population, the degradation of the reef from removal of coral for construction, and pollution from sewage was believed by most key informants to have contributed to the current paucity of fisheries resources in the bay. Many informants including the chief of Botohili village argued that locally available reef fish had diminished dramatically. This has had direct negative repercussions on the subsistence fishery of the community who fished on local reefs. One losmens owner explained that many locals, who used to fish directly from the reef for subsistence, could no longer do so. Instead they were forced to buy fish from the nearest local market town in Teluk Dalam at prices not always affordable (e.g., the price of one average size fish feeding four people costs around 30,000 rupiahs (i.e. £2.50)). One key informant exemplified this issue stating that *"Before you could fish here and get big size fish. Now everyone has to buy fish and you need money to buy fish"*. Informal conversations with local fishermen disclosed that they now had to go further offshore to get fish. Some raised concerns for their safety and commented that they were subjected to more dangerous fishing conditions by using their small outrigger boats outside the bay.

Rubbish and water quality

A lack of planning and infrastructure to facilitate disposal of human waste (e.g., rubbish and sewage) was contentious issue. Only when the Sorake Beach Hotel opened was a weekly rubbish collection set up at both the Hotel and Sorake village. The hard waste was disposed to a landfill close to Teluk Dalam. More recently this service ceased and since, many key informants commented that the rubbish has been indiscriminately dumped behind losmens and houses and/or disposed in the rivers which washed into the sea.

Personal observations and focus groups noted that solid wastes were found along the beach. One key informant raised specific concerns about the potential health hazards of dumped plastics bottles which can provide breeding habitats for malaria carrying mosquitoes. Pollution from sewage and wastewater was another key problem. Several key informants contended that from the commencement of surfing tourism development and until 1995, wastewater and sewage effluent were discharged directly into the ground and in the sea. This situation was further exacerbated by the inadequate sewage system for most buildings, many of which had been constructed on the edge of the shoreline, leading to sewage seeping directly onto the reef and ocean causing a health hazard to both tourists and the local community. Government officials and a local anthropologist argued that with over one hundred losmen spread along the beach, the water quality in the bay had deteriorated. One key informant asserted that "*All the sewage facilities and septic tanks are pretty basic and consequently the sewage leeches onto the reef and it becomes a health hazard. Faecal content is pretty high*". Several key informants further emphasised this problem by stating that many tourists had been complaining about the water quality. Poor water quality was also attributable to effluent from pig rearing around the bay. By 1995/1996, the government took steps towards improving the situation and requested the communities to install septic tanks to combat degrading water quality and rising health issues such as faecal contamination. Since the implementation of septic tanks for the majority of the losmen, water quality was thought by most to have improved. Despite this, personal observations and key informants and community members revealed problems of algae and seaweed growth covering the limestone reef, suggesting a high nutrient level in the bay. Algae and seaweed growth, however, could be linked to the removal of reef fish which no longer grazed the reef (McManus *et al.*, 2000) and/or the leeching of other nutrients from agriculture and pig rearing. Despite the installation of septic tanks in the bay, this does not prevent the seepage of nutrients and pathogens into nearby coastal waters and reefs (Costa *et al.*, 2000). This was accentuated by the fact that septic tanks were constructed by the

locals themselves with no environmental standards (*Personal observation*, 2004). With the low water table in Lagundi Bay, this increases the risk of contamination of the drinking water supply (Mbarwa, 2003)

Summary of environmental impacts of surfing tourism development

Evidence from this study indicated severe and irreversible degradation of the local natural environment as well as a cycle of ecosystem degradation. Personal observations, key informants interviews and participant observations revealed that the beach erosion, water quality, vegetation clearance, reef degradation and the decline in local reef fisheries and marine resources were major issues. Yet the most prominent and alarming consequence from the tourism development, was the removal of coral and sand for construction material which had led to considerable erosion, loss of 'beach' areas as well as changes in the quality of the waves and the local reef fishery. Lagundi Bay is losing two of its most important amenities and tourism assets - the quality of the waves and the beaches. This may in turn jeopardise Lagundi's long term future as a surfing tourism destination. In addition, the degraded reef ecosystems and over-exploitation and loss of marine resources used in subsistence living has caused hardship for the community. While some of the environmental issues such as water quality and hard waste (i.e. rubbish) could be rectified through the development of appropriate infrastructure facilities (e.g., sewage treatment plant and rubbish collection), some impacts such as beach erosion and reef damage are more difficult to reverse. The notion advanced is that most of the environmental impacts evident were related to tourism and residential infrastructure and other development rather than the tourists' activities *per se*. The findings clearly indicate that unplanned and uncontrolled surfing tourism in Lagundi fragile coastal and marine environment was environmentally inappropriate.

6.4.2. Economic consequences and impacts

The most important economic consequences and impacts include changes such as the diversification of the economy, employment opportunities, equity of income and economic dependence on tourism (Table 6.3).

Table 6.3. Summary of the major economic impacts of surfing tourism at Lagundi Bay.

Economic factor	Impacts	+ or -
Diversification of the economy	Diversification of the local economy from a subsistence economy.	+
Increased employment and stimulation of entrepreneurial opportunities	Variation of employment during the early phase of tourism development	+
Income	General rise of income and standard of living	+
Equity and distribution of wealth	Leakage to outside investors, inequitable distribution of wealth among the community and increased social differentiation as a result from tourism development.	-
Dependence on tourism	Development and reliance on surfing tourism	-
Land use change, land price rise and loss of agricultural capacity	Land price increase since the arrival of surfing tourism making it difficult for local people to purchase land. The sale of land to outside investors has resulted in a loss of agricultural land and reduction in the capacity for agricultural subsistence. Loss of ability to grow food.	-

Diversification of economy, employment and increased income

The general impression from key informants and local inhabitants was that a number of the initial economic consequences of surfing tourism had been positive. Surfing tourism was considered by many respondents and interviewees to have placed Lagundi Bay on the world map for its surfing. Many highlighted an appreciation of surfing tourism for having promoted this isolated area as a destination for surfers and later to other types of tourists. Surfing tourism is believed by all to have been initially an important economic benefit to the region, especially in an area where the majority of local inhabitants derived a subsistence livelihood. Tourism had engendered a diversification of the local economy from traditional sectors as well as the creation and variation of employment. Interviews with both the chief and the secretary of the *desa* of Botohili revealed that, in addition to the provision of accommodation, there had been a multiplier effect with the creation of a multitude of small businesses including the restaurants/bars, surf board repair shops, surf schools, surfboard rental shops, massages and the production and merchandising of

handicrafts and souvenirs Kevin Lovett when reflecting on the perceived benefits of surf tourism within the community contended that *"While you cannot quantify how many it has benefited, it may have supported a larger neighbouring community. The trickle down affect of tourism is quite amazing"* For instance, children and teenagers have been able to sell books, cakes and fruits, while adults have been selling crafts and fish to tourists. Tourism also gave local farmers the opportunity to supply food to the losmens The accommodation and boarding at losmens, however, was the dominant form of income derived from tourists in Lagundi Since the arrival of surfing tourism in Lagundi, most contended that family incomes and standard of living had generally increased. There were, however, some reservations by several key informants with regard to the economic benefits

Inequitable distribution of economic benefits

While most considered that, in general, the community had benefited economically from surfing tourism, incomes were found to be disproportionate. This was exemplified by the comment from a losmen owner *"It is better money to work with tourism One season is enough to live for a year. I have to work here for four months to live for one year. Fishermen and farmer however need to work eight months for one year. Per month they get only 500,000 rp, while the losmen owner makes 1,500,000 rp"*. Commenting on this apparent disparity of incomes between losmen owners and other community members, several key informants (including two losmen owners and a BUPATI officer) remarked that, in effect, only a few people had benefited from tourism and that accommodation was the dominant form of revenue derived from tourism Approximately 12 families of 82, and 46 families of 672 lived from tourism in the *desa* of Lagundi and Botohili respectively. In addition, personal observations, participant observations and focus groups indicated that economic benefits were not widely distributed within the community. For instance, surf tourists generally had all meals at their losmens (as it was expected by the losmen owners) limiting the income derived by outside parties in relation to the provision of food, aside from limited purchases of cakes, fruits and other small snacks Whilst some staple items such as rice were bought from the

community, most of the food items for tourists were purchased from the markets in the town of Teluk Dalam. Many also raised concerns about the leakage of tourism income outside Lagundi. For instance, during the international surfing competitions, most of the money from the events went to the Sorake Beach Hotel (owned by an outside investor). As a result little money was believed to have dispersed into the local economy. This situation according to one key informant was compounded by the fact that some individuals within the local community responsible for assisting with the events retained monetary contributions for themselves rather than distributing the income as was intended.

Many key informants contended that the decline in tourism, and the free market in Lagundi, had led to growing competition and animosity among losmen owners. Individualism from the growing desire for personal economic gain had degraded the community's solidarity. According to a respondent: "*People are suspicious and jealous of each other and want to maximize their own benefits. And they often try to "monopolise" their guests and confine their movements*". This was substantiated by participant observations which revealed that those who either owned accommodation at a prime location in the Bay and/or who had strong connections at the harbours in Sibolga and Gunungsitoli, or at Airports (i.e. Medan and Gunungsitoli), gained the majority of tourists as the few arriving tourists would be collected for them and/or directed to them. Several key informants and informal discussions with community members indicated that this was preventing the fair distribution of the limited tourism among the losmen. In addition, many key informants asserted that the lack of a regulatory framework for tourism, and a freedom to operate without controls had resulted in the benefits becoming increasingly individualistic and disadvantageous to the wider community. Several losmen owners and key informants including the BUPATI tourism officer, advocated the pressing requirement for a management scheme to regain a control on tourism and, to develop a more equitable system.

Economic dependency upon surfing tourism

One of the most prominent impacts highlighted by all key informants was that the community had developed an economic dependence and reliance upon surfing tourism. Over the years, a major component of the local economy in Lagundi had developed around tourism. There has been abandonment of traditional subsistence living for tourism-derived cash economy/income which had inherently increased the community's reliance on expensive imported goods and products from the mainland. An apt illustration of this dependence was provided by a statement from Kevin Lovett "*As soon as tourists' stop coming, this is when you start realising how dependent they were really upon tourism*". The majority of the community asserted that their income from tourism was now insufficient to meet, even their basic subsistence needs and further complained that due to the current low tourism level, not enough wealth was generated to flow through the community. Many conveyed desperation at the current economic situation. Comments from key informants which emphasised this dependency on tourism included: "*Since the crisis, Lagundi has gone down and a lot of people are back to farming because there is not enough tourism to allow them to live. Since the economic crisis, the population has been in crisis*". All key informants made the point that since the decline of tourism, the majority of the local people had been unable to earn a living from tourism. Loss of tourism revenue had forced many to abandon their losmens and to return when possible, to subsistence fishing, agriculture and pig rearing in order to survive. For the majority of the losmens still operating, several losmen owners argued that in order to attract clients, high competition had obliged them to lower their prices to marginal levels.

Increased land price and lack of agricultural land

Discussion with the community and interviews with key informants indicated that many members of the community had more recently found it difficult to acquire land for cultivation. While Nias has long suffered from a shortage of agricultural land (Beatty, 1992), this problem was accentuated in the Lagundi Bay area by the fact that in the early 1980s and early 1990s, many local farmers and inhabitants sold significant amounts of

agricultural land to investors. The BUPATI tourism officer contended that most of the area's landholdings currently belonged to an outside investor and a few local élites. Tourism caused land speculation and Lagundi Bay's land prices increased from 8,000 rupiahs to 20,000 rupiahs per square meter between the late 1980s to 2004 (Chief of the *desa* of Botohili, Interview 2004). One losmen owner explained that *"Now the land is expensive. One hectare costs maybe twelve million rupiahs which is still relatively cheap. Yet it is too expensive for the local people. Thus local people cannot do anything"*. Beach front land in the Bay east of Lagundi (Hilifona Luwo) is approximately US\$1 per m² or US\$ 100 per acre, while land in Pantai Sorake and Lagundi village' beachfront, is worth as much US\$10 per m² or US\$1,000 per acre. Other surfing destinations in the area and in close by Islands (e.g., Bawa, Asu, Telo Island) as well as other surf break on Nias (i.e. Sirombu and Afulu) have also, as a result of surfing tourism, become valued areas with land prices of US\$5 per m² or US\$ 500 per acre. The inability to purchase land was preventing many locals who had given up subsistence livelihoods for tourism related jobs from reverting back to subsistence agricultural activities. Consequently many members of the community had lost their ability to grow food and were left without options for deriving an income. It was concluded by all that the medium to long-term economic impacts associated with tourism were mostly negative.

Summary of economic consequences and impacts

There were mixed feeling regarding the socio-economic benefits of surfing tourism. The initial stages had provided positive economic benefits, while in the stagnation and decline phase, economic benefits disappeared or became marginal. Some considered that tourism had benefited and supported the larger community, however, there was a disproportionate share of the benefits and a disparity of income which was believed to have caused animosity among community members. Direct economic benefits were mainly derived by a limited number of local élites and outside entrepreneurs. Major impacts highlighted by interviews and participant observations included: the loss of traditional

economies, abandonment of subsistence living, and the ensuing dependency and reliance upon tourism and tourism-related activities. Furthermore, the increasing land price, no longer affordable to the majority of the local community, limited the possibilities of reversion to traditional agriculture. While the early stages of surfing tourism brought some socio-economic benefits through the development of basic infrastructure and cash economies, the collapse of tourism led to reduced incomes and employment and demoralisation of the local population. The research indicated that to date the costs born by the communities were great relative to the benefits received. Surfing tourism has become economically unprofitable, unviable and unsustainable as well as insufficient to sustain the local economy.

6.4.3. Socio-cultural impacts

Several of the social and economic impacts were found to be strongly interrelated. There were mixed sentiments among the community regarding the impacts of surfing tourism both socially and culturally (Table 6.4).

Table 6.4. Socio-cultural impacts of surfing tourism at Lagundi Bay

Socio-cultural factor	Impacts	+ or -
Village infrastructure	Tourism has facilitated the development of infrastructure such as piped water, electricity and septic tanks etc	+
Standard of living	Tourism has led to an increase in family income and improvement in diet	+
Level of education	With the rise of income, more local people have been able to send their children to secondary school and some even to University	+
Languages	Some individuals have learnt different languages, allowing them to find employment in the tourism industry and/or with the government	+
Community cohesion	Degradation of community's cohesion as a more individualistic and competitive mentality developed. Decay of social values and family structures and values	-
Western / tourism influence on community	Community disintegration. Undermining of social standards and disruption and decay of the value system and loss of the traditional way of life	-
Changes in way of life and cultural values	Cultural change with a level of disinterest from the younger generation in retaining their culture	-
Social issues	Crime, prostitution, drugs and alcohol	-

Infrastructure development and improvement in living conditions

Prior to tourism, living conditions at Lagundi were relatively basic. With the development phase of tourism and particularly in the mid 1990s with the opening of Sorake Hotel, electricity, piped water and toilets were established in most of the tourism

areas of Lagundi Bay. Informal conversations with community members and interviews with key informants revealed that this had enhanced the local community's quality of living (e.g., improved sanitation). Participant observations and informal conversations with community members, however, noted that not all inhabitants had benefited as a majority of the infrastructure (e.g., piped water) had been established around the tourism nuclei. Consequently, those who lived in parts of the villages where piped water had not been installed still fetched water from a spring daily. Other positive benefits from tourism included the development of roads to Lagundi as well as the spraying of the area to control malaria. One informant commented that cases of malaria in the community had been reduced since the arrival of tourism. Moreover, it was generally remarked that overall, the standard of living and quality of life had improved with tourism. For instance, several key informants highlighted that due to the increase in income generated by tourism, the diet of most local inhabitants had improved. Many key informants commented that the educational level within the community had also increased and some of the remarks illustrating this point included: *"The positive impact of surfing tourism is that it has given people the chance to have an education and a future which they did not have before the western culture came to the area. The majority of the kids can now go to high school. It has given people a better life."* A few local inhabitants had even been able to send their children to University. Yet, since the economic crisis and the decline in tourism, many students had interrupted and/or abandoned their studies as parents were no longer able to afford the fees. Another benefit from tourism highlighted was the opportunity of local inhabitants to learn languages from tourists. Many key informants including the chief of the *desa* argued that, as a result of learning a language from mingling with tourists, many local inhabitants had been able to further their careers, obtaining employment in the tourism sector (e.g., as tour guides) and/or with the government.

Sense of pride and increase in self-esteem within the community

A local anthropologist argued that tourism had given the local community a sense of equality and had raised the self-esteem of local inhabitants which had been undermined previously by the influence of missionaries. Several key informants remarked that surfing tourism had opened the area to outside influences, overcoming its isolation. Interviews with key informants and community members indicated the importance to the community of the realisation of the uniqueness of Lagundi Bay and its world-class waves. Another point raised was that employment in tourism and increased incomes had permitted a perceived positive transition from traditional subsistence livelihoods and economies (e.g., agriculture). Another beneficial aspect of surfing tourism highlighted had been the introduction of surfing to the local people. Many key informants felt that the interaction with surf tourists has been positive, as it had also given local surfers the opportunity to compete at an international level and to travel, and there was also a sense of community pride in these local surfers. On the other hand, one respondent argued "*The problem is that surfing has given a lot of kids, false expectations. They all want to become professional surfers*". Interviews with key informants and informal discussions with community members including young surfers, found that many children and young adults were abandoning traditional family duties to go surfing. Nevertheless, the majority of key informants argued that surfing had given the younger generation a positive past-time which provided an alternative to less desirable activities (i.e. gambling). Many key informants and community members commented that tourism had allowed cultural enrichment from the mixing of different people and cultures in Lagundi Bay.

Harassment and crime

Several key informants commented that expectancy of faster and easier money in tourism compared to traditional employment (e.g., agriculture), had changed the values of some local inhabitants. For instance, it was found during informal conversations with community members, including young surfers, that many young people were unwilling to

involve themselves in traditional jobs such as farming. Several contended that it was demanding work with limited financial returns. In addition, as tourism (particularly in the past) had provided a more desirable and lucrative means of making a living than traditional economies, many local people had aspired to work in tourism in order to share in some of the direct economic benefits. Yet one losmen owner explained that *"More people wanted to take part in tourism but there was not enough work. Only a couple of people have benefited from tourism, not all. That caused problems within the community"*. Participant observation noted that the lack of employment prospects in tourism had triggered resentment and frustration towards tourists, especially among young people. The unequal share of economic tourism benefits, compounded by the current hardships with low tourism levels, had sparked individualism, greed, jealousy and rivalry. This was believed to have contributed to a degree of community disintegration (Key informants, interviews, 2004). According to one key informant, the local inhabitants became accustomed to receiving 'easy' money from westerners and have *"treated tourists as fair game for handouts"*. For example, the missionaries who came to Nias had paid local people money to convert to Christianity, and westerners from the "Presendam" Luxury cruiser had in the past given money to the local inhabitants. Many indicated that the local community of Lagundi Bay had developed an expectancy and/or habit of receiving free goods and money (e.g., surfboards, board shorts etc) from surf tourists and visiting westerners. This problem was notorious in Lagundi to such an extent that The World Storm Rider Guide (2001) stated: *"For many years, visiting surfers have left behind their old gear for the local surfers who now think all surfers must do the same. Be warned one of two locals have been known to get violent if you refuse"*. Participant observation and feedbacks from focus groups revealed that many surf tourists complained at being pestered to give away belongings. Participant observation and comments from focus groups also remarked that some local kids children and salesmen were harassing tourists to purchase local goods and crafts. Several key informants commented that this has occurred mainly since the collapse in

tourism as people were desperate for income. Many surf tourists commented that this had damaged their holiday experience

Crime was another problem which had developed at Lagundi. Many key informants argued that some young people began to steal from tourists in order to sustain a 'western' lifestyle (including drugs and alcohol). One losmen owner also a surfer remarked that "*A lot have grown up with tourism around them, they do not want to give up the lifestyle that tourism had offered them and now they do not want to work. They want to go surfing. But to keep the lifestyle, they stole and ripped-off tourists. They just want to be able to pay for their cigarette, beers and marijuana*". Informal conversation with community members and key informant interviews revealed that jealousy and resentment towards tourists triggered further crime. One local surfer commented on the frustration of the disparity of wealth between surf tourists and local people and explained that "*You know it is hard for us, tourists have lots of money. When there were lots of tourists, we were able to party, drink and buy cigarettes. Now that there is little tourism, we cannot do this anymore and some of the young people are jealous of the westerners and some stole to be able to live like they used to*". Another issue raised by several key informants was that scams had become an issue. A key informant illustrated an example stating that "*Another problem is that frequently local people borrow surf boards from surf tourists, break their boards or damage them on purpose in order for the surf tourists to go and have them mended at their friends' surf board repair shops. Then they charge the surf tourists a lot for the repairs*". Many community members complained that the government did not sufficiently interfere to resolve these issues. Bangkaru (2001) supported this further and contended that some of the problem such as theft and scams were, in part, due to the lack of organisation and activity of the government and police.

Western influence of surf tourists and cultural change

Many key informants and community members remarked that the behaviour of some tourists' had imposed western habits perceived as offensive to the local community's culture and values. Several key informants explained that in the past many members of the community had complained at the way tourists dressed. Overall, Indonesians are

conservative and due to religious beliefs, nudity was not appropriate in their culture to the extent that, as Bangkaru (2001:46) indicated "*Western type swimsuits are considered outrageous*". Key informants and community members, however, argued that the western dress code was now well accepted among the local beach community and this had even influenced local inhabitants. The secretary of *desa* contended some local people have adapted: "*For example, the girls now where jeans, short skirts and they show they legs. Before they had to cover and they could not wear shorts*". Several key informants contended that the community had been shocked and offended by certain tourists' insensitive behaviour such as, kissing in public and making love on the beach. One losmen owner when reflecting on tourism's impacts stated that "*Tourism certainly has had an inpact on the community. Cultural values are very strong in Nias. In our culture, sex is very taboo. A young man and young women are not allowed to walk together by themselves and they cannot have sex before marriage. Tourism has brought the "free sex" into the mind of the young men here*". Most local inhabitants commented that these types of influences by tourists had contributed to the degradation of the social fabric and values of the community. Many key informants asserted that the community had some concerns with regards to the surf tourists' influence. One key informant argued that "*Local people get influenced by the tourists. The beach boys community is a real mess; they all put tattoos on their bodies. The people coming to Lagundi are mostly surfers; they stay generally for a couple of weeks. There is nothing to do at night. They are not very mature and they want to test their limits. They want to try everything. They do not see the damage they are creating on the local community*". Nevertheless, many community members highlighted that while surf tourists had negatively influenced the community, surf tourists' behaviours were very much dependent on individuals and nationalities. During focus groups, surf tourists were queried regarding their perception of how surf tourism had impacted the community in Lagundi bay. Many commented that they were disappointed in some negative influences from surf tourists and the western lifestyle (e.g., drugs and alcohol, localism in the surf). Most believed that surf tourists in general imposed their western lifestyle irrespective of local traditions and taboos. Many argued that the impacts

were mainly due to some surf tourists' lack of awareness, understanding and/or interest in the culture and customs visited. Comments taken from focus groups illustrated these points *"Some surfers do not care at all, they just want to get waves and that is it"* and, *"In general, you have both types of surf tourists There are surfers that are very environmentally aware and those that do not care They just want to have fun, catch waves and get the hell out of there They are not interested in the culture"*. One surf tourist however, debated the extent to which the impacts of surf tourists were any different from tourists in general and argued that *"The impacts from surfers are the same [as the] impacts of tourists in general. Having tourists coming to the place, they start bringing money, and there are social problems"* Conversely, Lueras and Lueras (2002b) when discussing the influence of surfers on Indonesian surfing destinations argued that the host community's major attitudinal shift could be attributed to the surfers.

Loss of traditional values and cultural degradation

There was a polarisation of views with regards to western and surf tourist's influence on the culture of the local community Many felt that with the arrival of surf tourists, the moral and social fabric had been influenced One of the concerns was the loss of traditional practices within the community For instance, the secretary of the *desa* highlighted many community members, especially the elders, were worried about the loss of interest from the young generation in learning traditional practices, for example dances and stone-jumping. The local anthropologist raised particular concern that tourism had contributed to the loss of cultural identity and contended that *"One problem, however, which we recognised and we need to control is the loss of identity and culture as a result from tourism and westernisation The local people are faced with new elements, so we need to prepare them so that they do not loose their identity"*. While recognising the importance of maintaining their cultural identity, many key informants and community members, asserted that changes were inevitable Laiya (1975), in his anthropological research in the village of Botohili commented that changes were gradually altering the social life and cultural patterns of the Nias society as a whole Opinions were divided on the manner in which surfing tourism had modified the

local culture *per se* and some cultural changes were interpreted differently by various community members. For instance, while all remarked that the tourism had altered some local traditions and customs, several key informants were found to be ambivalent on the precise consequences of surfing tourism on the community. Many suggested that the increased access to television in the villages had exposed western habits and lifestyle to the community, thus contributing to some socio-cultural changes. In the case of drugs, one losmen owner attributed this influence on the community directly to surf tourists arguing that *"Another thing that tourists brought with them was the drugs. Drugs started about fifteen years ago, before when I was a [kid] we did not know anything about drugs. We have learnt from the guests and they used to give it to us. We could never afford to buy drugs if the tourists did not give it to us"*. This suggests that negative influences on the community such as drugs can be directly linked to tourism. Despite acknowledgement of the negative socio-cultural impacts resulting from tourism, a common reflection among the community was that the financial gain associated with surfing tourism outweighed the socio-cultural costs. This was exemplified in a comment from a losmen owner who argued *"There are more positives than the negatives. The more tourists come here, the better business it is"*. While participant observation remarked that the views on the changes brought about by tourism varied among community members, those directly involved with and deriving a livelihood from tourism were more tolerant to the presence of tourism and more accepting of the changes. This was clearly exemplified in a remark from a young losmen owner: *"You have to realise that if you want a good future you have to give up your ways, and you have to learn the new ways. If you want to grow more, you have to realise that you cannot just live in your culture. The old people and men you know, every little thing they say "do not do that"*. Yet, Laiya (1975) argued that the differences in opinion on tradition, between the members of the Botohili village could lead to conflicts which he believed would further affect the communal solidarity. Nevertheless, many commented that the changes and impacts brought on by surfing tourism were due to the cultural differences between the host community and the tourists.

Social ills

Surfing tourism was blamed by many key informants and community members for having introduced, especially among young people, activities such as narcotics, alcohol and prostitution and triggered antisocial behaviours (e.g., localism, crime, rip-offs). The negative influence of some surf tourists was reiterated by a Mentawai surf charter boat operator who commented that *"The feral guys came to Nias and taught the young Indonesians their habits of drugs, drinking and what ever else come with the surfing lifestyle of that time The local boys copied the travelling surfers and became just like them"* A prominent concern highlighted by key informants was that some young locals, especially the beach boys, were copying surf tourists' holidaying habits and behaviours as a lifestyle. Many key informants remarked that the surf culture was reprobated by the majority of the local community for damaging the community's social fabric. According to a community development specialist, prostitution was said to be a prominent social issue in Lagundi: *"prostitution is hardly exposed and is mostly undercover. The girls were imported from outside Lagundi This is very taboo for the local people as it is against their culture"* This was reflected by the reactions of many local inhabitants who, when prompted on the issue, were generally uncomfortable to discuss it and, all highlighted that prostitution was *"Semburys"* (i.e. taboo). While the inception of prostitution locally had been a direct response to tourists' demand, local demand was now maintaining this industry. It was noted through participant observation and key informants that the community was very much against prostitution and most blamed the surf tourists for influencing local people. This was reiterated by the chief of the village who stated *"They brought the women from Medan to here for the tourists, but now, it is not for the tourists, but for the local people. It caused problems in the village The village thought it was really bad and they blamed that on the tourists"* Social and health consequences of prostitution on the community were raised by many key informants and community members. Local men visiting prostitutes had impacted local families and the community's social fabric. Prostitution had resulted in a spread of Gonorrhoea and Syphilis among the community and in some cases HIV/AIDS.

developed into such a problem that a billboard was installed at the entrance of Lagundi warning of HIV. Kevin Lovett when revisiting Lagundi Bay in 1996 commented on the significance of HIV and stated *"I was amazed in the Golden Pig [documentary], the big signs about HIV, trying to be HIV aware. God, in twenty five years, it went from a pristine environment, to having to being HIV aware"*. While local government and community members have taken steps to extinguish prostitution it was still an issue. The aspiration of local young men to be involved with or marry western tourists as a means of going abroad and deriving wealth was raised by several key informants and reiterated during informal conversation with several beach boys. During informal conversion with local women, it emerged that there had been situations where several women locally had been abandoned by their husband for western women, leaving them and their children destitute. As a result, this had led to a level of resentment by local women towards western women.

Summary of socio-cultural impacts

The findings suggest that surfing tourism, at least initially, brought with it some social benefits including the development of facilities and infrastructure, as well as a general elevation of the standard of living for many in the community. Yet, surfing tourism was found to have disrupted and destabilised the social fabric of the community, both directly and indirectly, through factors such as drugs, alcohol, prostitution and crime. Other western habits including dress codes as well as the tourists' lifestyle and influences were also believed to have contributed to the loss in cultural traditions and the decay of some community values. In addition, a level of antagonism and resentment towards tourists were found to have developed over time. The evolution of the host and guest relationship in Lagundi showed strong indications of having followed Doxey's Irridex, from euphoria to antagonism. In addition, the findings suggest that to date, the costs of surfing tourism to the community and the environment in Lagundi Bay, are large relative to the benefits incurred. Nevertheless, there was a tendency for many in the local community to dismiss the negative socio-cultural impacts of tourism in light of the positive economic

consequences. Those community members who benefited directly from tourism appeared to have become tolerant and accepting of some changes and negative impacts. Whilst certain social benefits have been recognised, the benefits of surfing tourism have been largely considered in economic terms. In summary the findings strongly suggest that the surfing tourism had provided minimal socio-cultural benefits yet left high socio-cultural costs to the community. It is concluded here that surfing tourism was socio-culturally inappropriate and unsustainable.

6.5. Other factors affecting the sustainability of surfing tourism

6.5.1. Localism and increasing local surfing population

With the issue of localism at Lagundi Bay during the 1990s and the community's realisation that hostility from local surfers toward tourists had jeopardised tourism, measures were taken by community members to rectify the situation. In 1999, the chief of the *desa* of Botohili (also the head of the surf club), requested that local surfers become more respectful toward tourists in the surf. While the situation has improved since this time according to local surfers, participant observation and focus groups indicated that localism was still an issue. Most surf tourists asserted that they had felt some antagonism in the surf and commented on the territorial behaviour (i.e. localism) of some surfers. Localism was found to be a major issue affecting the surf tourists' experience in the area. While most surf tourists remarked that localism was not unique to Lagundi and was a common phenomenon present at most crowded surfing destinations around the world, comments reiterating their frustrations towards local surfers' included *"If there are two local people at the peak it is hard to get waves"* and *"At the end of the day, it is the locals that are the problem. They take a wave and when they come back, everybody is waiting but the locals go right back to the peak"* and *"It is all to do with the locals' attitude. Most of the foreigners, they wait their turn"*. Most key informants (including the chief of the *desa* and several losmen owners) raised similar concerns explaining that localism in Lagundi, had had in the past, some negative repercussions on surf tourism. This was exemplified by a surf charter boat operator who

highlighted that he no longer took his surf tourists to Lagundi mainly due to the high local surfing populations and strong localism. He stated that *"There are around sixty five local surfers in the water. So they are becoming very protective over their surf break and very competitive. So the locals are fighting to get waves and are aggressive to other surf tourists coming to surf their wave"*. When discussing the factors affecting Lagundi Bay as a surfing destination with surf tourists during focus groups and informal conversations, the majority claimed that localism was detrimental to their surfing experience and consequently to the viability of the surfing tourism industry in Lagundi Bay. Some examples of comments illustrating this included *"After all it is their business. The more they are going to have this attitude, the less people will come here"*, *"You feel that maybe they should give us a wave as they are making a living out of us. They should ensure our enjoyment as this is how they make their living and it is their economy"*, *"The problem here is that the local community depends on surfers that come here to surf. In other places, it is not as a big deal if you have a local population that surf when their economy is not reliant on surfing. But here the economy is based on surfing"* and *"What they do not understand is that if they take all the waves, there will be no more tourists and no more tourists means no more money coming here"*. The above comments suggest that the prevalence of localism could inhibit surf tourists visiting or returning to Lagundi and this may in turn jeopardise surfing tourism in the area. This suggests that localism is a prominent factor affecting the quality of the surf tourists' experience at surfing destinations.

Despite the attempts to reduce localism in Lagundi, the majority of surf tourists during focus groups expressed concerns regarding localism in Lagundi Bay, arguing that it was unlikely to ease in the future due to the growing local surfing population. Most surf tourists perceived that the growing surfing population will be a major factor determining the future of Lagundi Bay as a surfing destination. Feedback from focus groups illustrating surf tourists' views regarding the sustainability of the Lagundi as a surfing tourism destination included: *"This is going to be a further problem as there is a growing population of surfers and with the tourists coming here, there are not enough waves for everybody"* and *"It will not be worth*

coming any more, now you have five locals and it is already heavy. And then you will have another twenty” and *“In a few years all these little kids are going to be surfing at the Point”*. The growing local surfing population appeared from the above comments to be a deterrent to some surf tourists for returning to Lagundi. One key informant stated that *“Since surfing tourism arrived to Lagundi, almost every boy who lives on Sorake Beach and Lagundi has started surfing and now the second generation is also coming to the water”*. The surfing population at Lagundi Bay is estimated to exceed 90 surfers and can be predicted to increase. From the above findings, it could thus be argued that the local surfing population, which has already outgrown the Bay’s RCC, potentially threatens Lagundi Bay’s long-term future as a surf tourism destination.

6.5.2. Perceptions of the community and surfing tourists on the current level of tourism

From a financial perspective, interviews with key informants (including losmen owners, staff of Sorake Resort and government officials) along with informal conversations with community members indicated that the current level of tourism in the Lagundi Bay area was insufficient to sustain the local community and most expressed the views that they would like to see tourism back to the levels prior to the economic crisis. Yet, the perceptions and opinions on tourism levels were found to differ somewhat among community members. A key informant (losmen owner) argued that *“I like when it is busy. It is good for the people to make money and good for business”*. Another losmen owner (who surfs and whose losmen is based at a prime location in front of the main surf break) contended *“right now there is the right number of surf tourists. I just want enough tourists to be able to live. I don’t like when it is too busy because it is bad for surfing. Also I am not happy when there are surf contests in Lagundi because of the crowds. You know I surf, so I do not like when there are too many surf tourists in the water. So there is a conflict. Lots of tourism is good for parties but not good for surfing”*. Informal conversations with several local surfers also revealed that while for business and employment reasons they would like to see tourism back to earlier levels, they also commented that they did not like the inherent fighting and crowds in the surf. When surf

tourists were queried regarding their perceptions of the current level of tourists, the homogenous view among surf tourists was that it was acceptable. Nevertheless, a majority of the community from an economic perspective indicated as preference for tourism to previous levels. As the chief of Botohili argued the local people would like to see elevated tourism level as *"The more tourists come here, the more money it brings"*. Conversely, surf tourists during focus groups remarked that the current tourism level was insufficient to sustain the community, but argued that the current level of surf tourists was appropriate with regard to the quality of their surfing experience. One surf tourist emphasised this point stating that *"The surf break cannot handle more people than what you have now so pretty much you have your surfing tourism to its full here"*. A further increase in the number of surf tourists would result in overcrowding and overuse of the surfing resource as has occurred in the past. Several surf tourists commented that that the community in Lagundi Bay should not specifically seek to attract more surf tourists to increase tourism level but, suggested that instead, tourism should diversify in order to guarantee the long-term future of Lagundi as a surfing and tourism destination. A comment from a focus group exemplified this point: *"Surf tourism must be organised with other types of tourism such as ecotourism and culture tourism. You cannot just rely on surf tourism knowing that the area can only hold so many surfers before it gets to crowded"*. The above findings highlighted different perspectives on the current level of tourism between local surfers, surf tourists and individuals deriving an income from tourism. Thus, there seems to be a disparity between the level of surf tourism required to be economically viable and the threshold number of surf tourists acceptable from the perspective of both surf tourists and local surfers. While the present level of surfing tourism was insufficient to sustain the community economically, from a surf tourism perspective, the number of surf tourists in the surf was perceived to be close to surfing recreation capacity maximum threshold. It could be speculated that a further increase in the number of surf tourists would lead the degradation of the surfing experience as has been previously experienced at Lagundi and could result in another decline in tourists flow.

6.5.3. Lack of tourism management and planning

Tourism development at Lagundi has been unplanned and uncontrolled. Many key informants commented upon tourism development at Lagundi Bay as being inappropriate and unsustainable. When reflecting on the development in Lagundi bay, Kevin Lovett stated that *"Lagundi has gone from being the tropical dream to the environmental nightmare"*. A common complaint highlighted by all interviewed, was the insufficient consideration and lack of district government interest and support for the Lagundi area and South Nias in general. Long-term strategic planning and management for tourism had been absent in Lagundi Bay. Particular criticism had been directed at the district government's failure to react immediately to the expansion of surfing tourism and the concurrent haphazard infrastructure development and lack of appropriate facilities (e.g, waste disposal). One losmen owner comment that *"Before 1995, the sewage went to the sea. The tourists did not like it when they sat on the beach so that is why they started septic tanks"*. A further criticism directed at the government was the failure to reinforce environmental and planning regulations. A prominent issue highlighted was that existing regulations were ignored and disregarded by some members of the community and other stakeholders. For instance, despite the planning regulation which stated that a distance of 25 metres from the high water mark should be free from any infrastructure and a ban on the uptake of construction material from the beach or the reef (both established around 1985) there was significant non-compliance (BUPATI Planning officer, informal interview, 2004). A key informant stated that: *"After the rule was issued, the local people competed for the development of their house as near to the beach as possible and this contradicted the rule of the government"*. One losmen owner concluded that the lack of planning and management was a consequence of the lack of interest from the district government to intervene and explained that *"the government just did not care about Lagundi"*. Many key informants contended, however, that the lack of government attention and the difficulty in reinforcing the regulations in Lagundi, had been compounded by Lagundi's isolation, its difficult access and distance from the district government in

Gununsitoli. Many key informants and discussion with BUPATI officers highlighted that local government agencies had been handicapped by the inherent lack of human and financial resources. The current environmental issues in Lagundi Bay can be attributed to the lack of foresight for Lagundi's long-term future both from the government and the community. Lagundi Bay can be thus characterized by a complete absence of tourism planning and management.

The local government did not become involved in the regulation of tourism operations in Lagundi Bay. In 1984, in an effort to organise and manage increasing tourism, one of the losmen owners in Lagundi village formed an organisation called the "*Persatuan Penhuassa Penruapan Lagundi Sorake*" (PPPLS). He was granted a licence from the government. The aim of this organisation was to control and manage tourism in Lagundi in order to equally distribute surf tourists among losmen. On a daily basis losmen owners were to report their number of guests. When tourists arrived in Lagundi Bay, they had to register at the PPPLS office where they could select from a map the losmen of their choice or as directed by the organisation. In exchange for these services, five percent of each losmen's earnings was retained by the PPPLS and another five percent was contributed to the police. The organisation's funding was also used to build the road from Lagundi village to Sorake and funded a police station to make the area safer for tourists. After one year, disputes and disagreements occurred as some individuals were not reporting their tourist numbers to the organisation. The PPPLS founder contended that competition, greed, and individualistic attitude lead to the collapse and dissolution of the PPPLS. Following the tsunami events in 2004 and 2005, a master plan for community based sustainable tourism in the area of Lagundi Bay supported by BRR is currently under development.

6.6. Discussion and conclusions

Surf tourism and associated development in Lagundi Bay evolved on an *ad hoc* and uncontrolled basis around Lagundi's finite surfing resource. This led to an overdeveloped, degraded and eventually semi-abandoned destination which confirms the notion that

spontaneous development tends to result in over-development and decline (Minca, 1993) The historical analysis of development at Lagundi indicated a sequence similar to that proposed by Butler (1980) suggesting that Lagundi Bay has progressed through the tourism lifecycle towards decline. Evidence also suggested that Lagundi had concurrently progressed through the process of Doxey Irridex (negative change in the relationship between tourists and host community)

From the discovery of Lagundi's surf break, uncontrolled tourist numbers and associated tourism development rapidly resulted in over-development, crowding, environmental degradation and downmarket competition. There were positive socio-economic consequences of surfing tourism in the early stages of development. In the medium and long term, however, surfing tourism became an *en masse* tourism with limited expenditure and limited economic benefit to the host community, disrupted the local socio-economic system and, brought an amalgam of environmental, socio-cultural and economic costs, some irreversible.

From an economic perspective, the decline of surfing tourism can lead to unsustainable economical yields and threaten the long-term viability of the destination. The decline in tourism resulted in the loss of income derived from surfing tourism or related industries. For the majority of the community including losmen owners and other tourism related businesses owners, surfing tourism was no longer economically viable at the destination. Similarly, Pendleton (1994) found that increasingly degraded reefs resulted in a decline in the enjoyment of divers, and subsequently in the loss of scuba tourism and net revenues to economies reliant on such activities. As illustrated in Lagundi, this can have negative and serious repercussions for a community where a single form of tourism is the predominant economic activity and where the community has developed a reliance on this industry. In addition, empirical analysis revealed that surfing tourism in Lagundi was not only economically nonviable but had resulted in serious environmental and socio-cultural costs. This case study has indicated that the socio-cultural, economic and environmental

carrying capacity were all exceeded, but with little benefits to the community and leaving behind severe costs, both for the community and the natural environment.

Key informants revealed that crowding with the recreational carrying capacity exceeded had been one of the main reasons for surf tourists to abandon Lagundi Bay in preference for other destinations (Buckley, 2002b). Uncontrolled numbers of surf tourists quickly expanded beyond Lagundi Bay's finite RCC resulting in high numbers, overcrowding and dissatisfied surf tourists. The analysis revealed, however, a number of other factors related to the decline in tourists numbers at Lagundi. Degraded environmental quality (e.g., water quality, erosion, pollution) and declining host-guest relationship (i.e. antagonism), localism in the surf and social problems (e.g., crime, rip-offs, safety), had all contributed to the loss of attractiveness and appeal of the destination. While crowding was a key factor for some surf tourist to abandon the destination in the search on new unspoilt destinations, the study revealed that it was the overall degradation of the destination that led to the abandonment by all tourist markets. The study implies that uncontrolled numbers of surf tourists and associated development, can damage the essential quality that had attracted them in the first place (i.e. uncrowded waves, pristine environment). Lagundi bay no longer offered competitive advantage over mainland and/or more accessible (in costs and in time) surfing destinations. Without responsible and appropriate management strategies, the surfing tourism industry at remote destination can degrade the very fabric on which its future prosperity is based, that is to say "*uncrowded waves, exotic tropical environment, and perfect surf*". The results put forward the need to maintain the RCC, the environmental quality and host guest relationship for a destination to remain competitive and sustainable over time. Thus, it could be argued from this case study that maintaining the number of surf tourists within the destination's RCC is fundamental to permit the destination to remain competitive, encouraging a sustained and continuous number of surf tourists to visit the area in competition with other more accessible (i.e. time and cost) destinations.

The study determined that a lack of planning and management, lack of enforcement and compliance to regulations as well as political indifference, had been significant factors in relation to the environmental problems at Lagundi. This scenario is consistent with Musa's (2002: 206) statement that "*tourism resources in less developed countries are often the victim of a desire for immediate economic gain, inefficient tourism management and political indifference*".

Furthermore, the lack of meaningful involvement of the community in tourism decisions and planning was seen to have contributed to the limited and leakages of economic benefits and inequitable distribution to the community. This indicates that surfing tourism at remote destinations requires as part of the planning and management, community engagement and involvement in decision making at an early stage in development in order to avert potentially detrimental and negative effects (Simpson and Wall, 1999a). This case study thus highlights the difficulty in restricting the numbers of surf tourists in an open-access destination and a free-market situation, to maintain an appropriate level of tourists and tourism development.

Another factor highlighted in the study which could influence the long-term viability of a surfing tourism destination was the local surfing population. The argument was based on the premise that, as illustrated in Lagundi, as the local surfing population grows over time, this increases pressure on the limited surfing resources and can quickly exceed the destination's finite and limited RCC. In addition, growing localism (Buckley, 2002a) in parallel to rising local surfing population was found to discourage surf tourists to visiting the area.

While there is no evidence to suggest that surf tourists will cease visiting Lagundi, the destination's limited surfing resources compounded by the growing local surfing population, could inherently jeopardise Lagundi's future as a competitive surfing destination. Consequently, if Lagundi Bay aims to compete as a surfing tourism destination, it could be argued that appropriate management of surf tourists' experience and needs will

be required to sustain the inflow of surf tourists over time. This could entail the maintenance of the current low number of surf tourists visiting the area which was found to be close to its maximum RCC threshold. Conversely, keeping such low tourism inflow would be neither economically viable nor could it sustain the wider community. Limiting the numbers of surf tourists in Lagundi Bay would thus be unacceptable to the local community which is dependent on this mono-sector tourism activity (Puczkó and Rátz, 2000). This duality between acceptable levels of tourists to maintain the quality of experience and to sustain the community economically is a significant challenge facing Lagundi. While the rejuvenation plans could enhance the attractiveness of the area and reduce or improve social and environmental problems such as crime and the environmental quality, this will nevertheless not address the destination's limited RCC nor the growing local surfing population and localism. It is proposed here that to sustain the community economically, the local government and community during the rejuvenation phase should aim to give priority to the promotion and development of alternative tourism activities to surfing. In other words they should diversify their tourism and aim to attract another type of tourism sector such as ecotourism.

Finally, it is difficult to disregard the consequences of external factors (e.g., the economical crisis, civil unrest and the discovery of other surfing destinations) which may have contributed in part to the decline and changes in tourism levels experienced in Lagundi. However, the historical analysis indicated that surf tourism at Lagundi had already stagnated and been in decline prior to these events.

In summary, this case study suggests that unmanaged and uncontrolled surfing tourism can result in unsustainable socio-cultural, economic and environmental outcomes at destinations. Lagundi Bay is a clear example of tourism gone wrong. The findings highlight that surfing tourism was economically non-viable, socio-culturally inappropriate and environmentally harmful.

There is also a Fijian village on the island for the local staff, which has capacity for twenty people. While the full capacity of the Island for tourists is forty people, generally only thirty four tourists are allowed to stay on the Island at any one time.

In 1984, when the resort opened, it was a low key surf camp with basic infrastructure and facilities, with for example no running water in the bures for visiting surf tourists. While the room capacity at the resort has risen from twelve in 1992 (RACV, 1992 and TCSP, 1992 cited in King, 1997, p92) to thirty four in 2003, the number of surfers allowed to surf Cloudbreak at any one time has remained at fourteen. An interview with the owner of the resort revealed that there will be no further development on the Island. Although, as Tavarua moved away from a surf camp to a more luxurious and comfortable resort with modern amenities (e.g., running water, a swimming pool and a tennis court), the resort has remained a low-key development with unobtrusive infrastructure, providing a simple but pleasurable lifestyle for its guests. During an informal meeting with staff from the Department of Land and Surveys, it was highlighted that no *ad hoc* development took place on the Island and that all developments had to go systematically through the Fijian planning regulations. They further commented that Tavarua Island Resort, like any other tourism resort, has to be granted permission by the Department of Land and Surveys before being able to start any development. These had to fit the criteria of Fiji's planning regulations.

7.2.4. History of the surfing tourism development

Due to the deficiency of official documents on the historical development of Tavarua Island resort and surfing tourism in the surrounding area, the following findings have been based on interviews with key informants and villagers as well as anecdotal evidence taken from surfing magazines and other secondary sources.

Cloudbreak was allegedly discovered in 1977, by a sailor from New York. Surfing then, both in Fiji and the Mamanucas, was almost nonexistent as the coastline was relatively unexplored with difficult access to remote offshore reefs. In 1979, two Americans

surfers who were staying at Seashell Cove resort rediscovered Cloudbreak and started surfing this surf break. The following years, they returned to surf Cloudbreak and camped on Tavarua where supplies were brought to them. While, by the 1960s, the Mamanucas had become a well-established island resort region in Fiji (King, 1997) and, tourism development had taken place in most of the islands, Tavarua, despite its beautiful settings, had not had any tourism developments. According to several key informants, Tavarua was deemed unsuitable for normal tourism due to the difficult and dangerous access to get to the Island.

Prior to the construction of Tavarua Island Resort, the Island was inhabited and used by its owners (i.e. Clan of Cuvu) for collecting copra and fish. Surrounding tourist resorts occasionally utilised the island for picnics and daily excursions. In 1982, the two American businessmen decided to start a surf camp on Tavarua Island and sought from the government and the owner of the Island, to lease Tavarua Island as well to have surfing rights at both Restaurants and Cloudbreak (Figure 7.4).

The lease of the Island was granted in 1983 by the Economic Development Board with the agreement of the owner of the Island and building of the resort then begun. Tavarua Island Resort from its inception worked with Nabila village and employed its villagers. Nabila was one of the reef resource owners and also the closest village to the Island of Tavarua. When the resort owners first had the lease of the Island, the operation was run as a surf camp where friends of the owners would pay to stay and camp on the Island. Yet, from the inception of the surf camp, the exposure of Tavarua which offered exclusive worldclass waves increased by word of mouth, and more surf tourists began visiting Fiji to surf Cloudbreak.

In 1984, for the official opening of the resort, there was a media promotion of the resort by many surf magazines, including *Surfer* magazine which exposed Tavarua and its surf breaks to the world and portrayed Cloudbreak as a "new worldclass" wave. The owner Jon Roseman emphasised this point stating that "when the surf magazines

surfing operation at Cloudbreak to several individuals from Momi village, who started their own surfing operation, called *Momi Bay Surf Co Limited*. This was certified in 1995 and operated one bure in the village for surf tourists and employed four villagers from Momi. By then growing conflicts and disagreements surrounding the right to bring surf tourists to Cloudbreak between the different operators was rising along with crowds in the surf.

Furthermore, disputes between the two villages were mounting due to the duality of ownership over the Qoliqoli of the *Naikurukurumailagi* reef. All key informants, as well as informal conversations with villagers and staff members (both from Momi and Nabila), revealed this had tarnished and degraded the relationship between the two communities. One key informant commented: "*that created problems and rifts between the two villages... to the point where the two villages Momi and Nabila were at war with each other. It was awful for the community*". This became increasingly problematic as Tavarua resort was paying a lease to only one Mataqali (i.e. the village of Nabila which was working with the resort) and not the other Mataqali (i.e. Momi Village). This, according to the ex proprietor of Momi Bay Surf Co, led to conflicts between Tavarua and the Village of Momi. Yet, no other operator taking clients to Cloudbreak was paying fees for the right of surfing Cloudbreak to either of the resources owners (Momi and Nabila). Growing occurrence of negative events at Cloudbreak with fights in the surf and on land, became exposed in the surfing media. According to President of Tourism Resource Owners Association, this bad publicity was damaging the image of surf tourism in Fiji. This negative investment publicity was also anecdotally echoed and reported in surf magazines as well as in a WWF report by Levett and McNally (2003).

In 1996, the government stepped in to resolve this problem and arranged discussions and meetings between both villages and Tavarua resort. As a measure to control the numbers of surfers and to ensure their safety in the surf, the government awarded a special lease to Tavarua resort over the *Naikurukurumailagi* reef with the exclusive right to surf Cloudbreak. This was solved after the RCC of the reef and its long-

term sustainability for tourism were determined (Levett and McNally, 2003) This excluded other operators from the usage of the reefs. As a mean to resolve the negative rivalry between the two villages over the shared reef, in concert with the legal arrangement over the exclusive use of the reef for surfing, both villages would receive a fee for the lease of the reef as well as compensation for the loss of fishing rights. In addition, both villages would be involved in working for Tavarua resort The surf operation from Momu village ceased Since this resolution, both villages have regained a harmonious relationship and work cooperatively with Tavarua Resort

Nevertheless, the exclusivity of access to Cloudbreak and Restaurants as well as the surf breaks of the neighbouring Namotu's surfing resort has, and still does, cause great controversy among other hotels and tourists operators in the area and many surfers worldwide Several tourist operators in the area during informal interviews commented on their disapproval of the exclusivity over the respective surf breaks and condemned the legitimacy of exclusive surfing rights. One tourist operator believed this was impacting negatively on the overall surfing tourism industry in Fiji and had precluded a greater number of international surf tourists from visiting Fiji. On the other hand, all tourism and government officers interviewed commented that Tavarua's exclusive uncrowded perfect waves as portrayed in the media, had been an effective marketing tool to promote Fiji's high quality surfing resources worldwide. Tagicakivetata – marketing officer gave the example of surf competitions such as the Quiksilver Pro which come to Tavarua providing a high profile to Fiji Cloudbreak was found to be included in the vast majority of tourists leaflets (e.g., Seashell Cove Resort, Rendez Vous beach Resort) in the Mamanucas. Similarly, the Fiji Visitor Bureau both on their brochure called "Fiji Island Surf Up" and website www.BulaFiji.com, promote surfing in Fiji mainly around Cloudbreak and Restaurants. During the fieldwork period, the exclusive right over Cloudbreak was found to be contested by local surfers and opportunistic informal conversations with several Fijian surfers from Suva indicated their disapproval over the restricted access. They complained

it was unjust for local Fijian surfers to be denied access to surf two of Fiji best surf breaks especially when surf resources in Fiji are fairly limited. They added that surf breaks are resources which should be open to anyone. However the owner and staffs of the Tavarua argued that local Fijians can surf Cloudbreak and the other surf breaks if they ask permission. They are granted authorization so long as the number at the surf break does not exceed its respective carrying capacity. Surf tourists staying with a nearby surf operator on the mainland, during informal conversations, also indicated their frustrations over the exclusivity of Cloudbreak. They argued that after three weeks in Fiji, they had been unable to surf Cloudbreak during the change over day, as spaces were full each time. When prompted as to why they came to Fiji to surf, they wanted to have the opportunity to surf Cloudbreak at least once as part as their surfing holiday. One tourist commented when discussing the attraction to Cloudbreak that: *"You see it on TV, on magazines. Everyone wants to surf Cloudbreak"*.

Tavarua resort has been running for over twenty years and is still a competitive and highly sought-after surfing destination. Tourism in the Fiji Islands especially since the coup in 2000, is arguably struggling to maintain its reputation as a competitive holiday destination and has an uncertain future (Harrison, 1997; Hing and Dimmock, 2000; Rao, 2002). Tavarua Island on the other hand, has enjoyed a continuous and sustainable yield of tourists even during periods of environmental and political instability in Fiji (and worldwide). Tavarua, since its opening in 1984 is always full during the high season and 80% full all year around (J. Roseman, Interview, 2003).

7.3. Tourism and the tourists' profile at Tavarua

7.3.1. Tourists' profile at Tavarua

Fiji's tourism is largely based around the reefs, beautiful island and pristine waters and attracted some 397,839 visitors in 2002 (Ministry of Tourism, 2003). The Mamanuca Islands which have been the focus of tourism development in Fiji, have been established as a tourism destination (King, 1997) since the early 1960s. They attract international visitors

who come for the sea, sun and island experience and the tropical marine holiday setting and water-based recreation (Sinha and Bushell, 2002) While surfing tourism is a growing niche market in Fiji along with other sport tourism, adventure tourism and ecotourism, it represents only a small margin of the tourism industry in Fiji (S. Tagicakiveta, Marketing officer and T. Burno, Interviews, 2003) This is due to the limited and/or accessible surfing resources In a recent survey, very few tourists coming to Fiji identified surfing as their principal activity (Table 7.1).

Table 7.1. Participation in non-organised marine activities by international visitors to Fiji in 2001 and 2002 Results were derived from a total of 3,374 interviews (Ministry of Tourism, 2003).

Non-organised activities undertaken by visitors	2001	2002
Surfing	1 %	2 %
Swimming	62 %	65 %
Snorkelling	61 %	57 %
Diving	12 %	12 %

The prime surfing season extends from May to October with consistent surf generated by Southern Hemisphere storms combined often with offshore winds (Warshaw, 2003) Tavarua Island surf breaks can be surfed year-round Due to the limited number of places (i.e. 34), surf tourists must book their holiday to the resort a year in advance. Clients come on an individual basis during the off season (December to February) but, during the peak season they will come with an organised group. The clientele is primarily composed of Californians with some other international guests from Australia and Europe One of the group leaders during a focus group stated that *"This island is almost like a Californian resort because, out of the thirty to thirty five group leaders, thirty live geographically in southern California, so the pool to fill the group is from Southern California and then there is just the odd two to three that are in San Francisco, Hawaii and maybe one from France But the majority of people that come here are from Southern California"*. While the resort used to attract purely surfers, the management has broadened its appeal to non-surfers and has specifically sought to attract couples. This was devised as a mean to decrease the number of surfers among the 34 tourists in each weekly

group in order to reduce crowds at Cloudbreak. Tavarua attracts an older and more "mature" clientele, between 28-45 years old and the majority are professionals with sparse free available time (i.e. only a couple of weeks off out of the year). The majority of surf tourists during focus group and informal discussions at Tavarua commented on being "time poor" and that they could not afford the time to search for uncrowded waves.

Individuals visiting Tavarua are generally experienced surfers and for the majority, are recurring tourists who come annually. The average stay on the Island is one week. Tavarua resort is an all-inclusive resort at 255 US\$/ (£140) per night which includes full board and transport to and from the Island. Although this cost may be prohibitive for some, Tavarua is not exclusive and attracts a mixture of working professional (e.g., firemen, meteorologist, business men etc) who are willing to save and pay money to surf uncrowded waves and maximise their surfing time. Several surf tourists also commented that Tavarua resort as a surfing destination was relatively cheaper than some boat surf trips to the Mentawaiis in Indonesia or even compared to other Fijians exclusive resorts such as Turtle Island, North of Viti Levu which charges around US\$900 per night per couple (Harrison, 1997). While Tavarua is relatively expensive, it is not affordable to the masses nor to young travelling surfers. Thus the surf tourists coming to Tavarua can be categorised as the *"Time poor, cash rich surfers"*.

7.3.2. Factors affecting destination choice

A general consensus captured during focus groups and participant observations with surf tourists was that the world-class waves of Cloudbreak and Restaurants was one of the main factors attracting surfing tourists to Tavarua. Two comments from surf tourists that best illustrated this point were: *"I go on a surfing holiday to Tavarua because this place happens to be one of the five best surf destinations in the world"*. The convenience of simple travel from their country of departure to Tavarua was also an incentive as captured by statements from surf tourists: *"It is the convenience of getting here, and how many days I can surf"*. Comfortable amenities at the resort as well as the beautiful setting, warm waters, clean and relaxing

environment were further contributing factors for visiting Tavarua. This was supported by statements from surf tourists, such as *"Because I am a bit older, Tavarua has all the amenities that maybe that type of resort at home might offer"* and *"It has a swimming pool, it has the beautiful waters and a nice home "kick back" feeling. For me, I like that there is a full cooked meal after being in the surf, that there is a six foot wave breaking right at the front"*. Tavarua provides professional lifeguards, a resident doctor, and a helicopter for evacuation. This safety aspect was highly valued by the visiting tourists who commented that personal safety and disease-free conditions were other key reasons for coming to Tavarua. Visitors appreciated not having to have injections for Malaria or Hepatitis as well for being able to bring children. Finally, many stated that they enjoyed the Fijian culture and the warm hospitality of Fijians and one tourist illustrated this point contending, *"This is what draws me here, that the Fijian people and the way of life is just as important as the surf when you come here"*. This is not unique to Tavarua, Fijian indigenous people are renowned for their hospitality and warmth which have formed an icon for tourism marketers when promoting Fiji (Wiltshier, 2000).

7.3.3. Tourist activities at Tavarua Island Resort

While surfing is the main activities carried out at Tavarua, some individuals also go scuba diving, snorkelling, skin diving and fishing (for Tuna, Wahoo, Trevally and Mahi Mahi). Some visitors now bring their windsurfing and kitesurfing equipment. While there are organised trips to go resort hopping as well as visits to the mainland (i.e. including trips to the Nadi and visits to the village of Nabila to go to Church on Sundays), due to difficulty of access to and from the Island of Tavarua, few tourists leave the island during their week stay.

7.4. Description and recreational carrying capacity of Tavarua

7.4.1. Description of surf breaks

Tavarua resort has four surf breaks (Table 7.2, Figure 7.4) Cloudbreak, Restaurants, Tavarua right and Kiddieland. There are also other nearby surf breaks

including Swimming pools, Namotu lefts, and Wilkes rights (the first two however are exclusive waves belonging to the neighbouring Namotu Island Surf Resort).

Table 7.2. List of surf breaks surrounding Tavarua Island Resort. The recreational carrying capacity was established from discussion between the owners of the resort, visiting surf tourists and author's personal observations (adapted from Buckley, 2002b:436).

Name of surf breaks	Base	Tide	Type	Swell (height and direction)	Size (feet)	Perceived maximum carrying capacity	Surfing level
<i>Cloudbreak</i>	Reef	Mid high to Mid low tide	Left	Southerly best and Southwest ok	4 to 20	14	Advanced
<i>Restaurants</i>	Reef	All tides	Left	Southerly best and Southwest ok	3 to 10	10	Advanced
<i>Tavarua Rights</i>	Reef	Mid to high tides	Right	Southerly best and Southwest ok	3 to 6	N/A	Intermediate
<i>Kiddieland</i>	Reef	High tide	Right	N/A	N/A	N/A	Beginners

Cloudbreak is located a mile south of Tavarua Island (i.e. approximately a twenty minute boat ride from the Island), and five miles from the Viti Levu and can only be accessed/reached by boat. Cloudbreak takes its Fijian name "*Nakurukurumailagi*" which means "Thunder Cloud Reef" (J. Roseman, Interview, 2003). This break is a powerful open-ocean left-hand reef (Warshaw, 2003). 'Restaurants' is another left hand break located just in front of the resort and can be accessed from the beach. Both above mentioned surf breaks, break over very shallow reefs and are both for experienced surfers only. Kiddieland, a beginners' wave, is a wave accessible from the Island, and Tavarua right is located on the fringing reef of the island. Both are rarely surfed. Cloudbreak is the preferred surf break for surf tourists visiting the resort and according to Jon Roseman, 90-95% of the surfing at Tavarua is carried out at Cloudbreak due also to the inconsistency of the surf at Restaurants. Restaurants is surfed when the clients are waiting for their shift to go surfing Cloudbreak and/or when Cloudbreak is too big. The RCC of the surfing resources for the resort of Tavarua is thus chiefly based around Cloudbreak.

7.4.2. Recreational carrying capacity of surf breaks and their current management

Cloudbreak can be subdivided into three main sections called The Point, the Middle and Shish Kebabs (Warshaw, 2003) Waves at Cloudbreak are regularly over four to six feet during the winter surf season and very powerful and dangerous, breaking on shallow reef in the middle of the ocean Cloudbreak's surfable length can be 300 to 350 m, depending on swell size and direction, wind, tide, and currents The RCC of Cloudbreak was originally determined by the owners of Tavarua Resort on factors such as RCC of individual days, weather and the degree of hazardous wave conditions (J Roseman, Interview, 2003) The resort owner further explained that the aspect of safety had been a prime factor for establishing Cloudbreak's RCC and argued that *"the number really has to be ten to fourteen surfers maximum I think that a comfortable number is ten. Again you are out in the middle of the ocean, five miles out off the mainland and off Tavarua. You know the medical facilities in Fiji are limited, so we have to support accidents ourselves"* Consequently, the management of the resort established the RCC of Cloudbreak to fourteen surfers. This RCC was also set to ensure maximum enjoyment of the surfers' experience Restaurants is a more "mechanical" wave that has one peak and its RCC was established to be around ten people The management of the resort contends that *"controlling the usage of the surfing areas to accommodate a number that is considered sustainable and avoids accidents"*

The RCC of the two main surf breaks as determined by visiting surf tourists, concurred with the current established RCC. This was illustrated by a comment from one recurring surf tourist, who stated that. *"Restaurant can handle fifteen people, maybe ten people comfortably. If fourteen people go to Cloudbreak that is it"*. When prompted to comment upon the current level of crowding at Cloudbreak, the general consensus from focus groups and informal discussions with surf tourists, was that the current numbers were good and all commented that this was offering high satisfaction and surfing enjoyment. Surf tourists and members of staff remarked that the number of surfers permitted to surf Tavarua's surf

breaks should be kept to its current level both for safety and satisfying surfing experience. Comments illustrating the overall view of surf tourists (taken from focus groups) on the level of crowding of the surfbreaks at Tavarua resort included: *"Right now it is perfect"*, *"I think that it is at its peak"*, *"It is a safe number"*, *"Definitely at its peak, personally I do not think that they can handle any more people"* and *"I would really not want to see anymore than that"*. These statements clearly indicated the current RCC is at present satisfactory to surf tourists but that a further increase would cause dissatisfaction. Participant and personal observations revealed individuals were dissatisfied on occasion after surfing on small and inconsistent days at Cloudbreak with fourteen surfers in the water, and individuals had returned to the resort indicating that they had not really enjoyed this particular surf session as they had not been able to catch many waves. These events suggest that the established CC should not be exceeded as crowds can be an issue on inconsistent days.

Several tourists also commented that "no localism" in the surf was another key incentive for coming to Tavarua and one tourist stated: *"The features about Tavarua that I like are: the limited number of people stay here and the no localism in the surf"*. Clients of Tavarua when asked during focus group and informal conversations if they would come to the Tavarua Island resort if Cloudbreak became opened access and if there were fifty surfers in the line up, all said no. Some of the comments taken from focus groups exemplifying this included: *"no, it would be self defeating to the resort. There would be to a point where people would just stop coming. The waves, as good as they are, are not as good as to entice someone here and to be miserable about all the extra people in the water"*, *"If you come half way across the world to here. The last thing you want to do is to ride into another crowd"* and *"Surfers are not going to come back if you have got fifty boats piled up out there"*. The overall consensus was that low numbers in the surf was the main appeal for visiting Tavarua and that an increase in numbers would be a barrier for clients to visit and/or return to the resort. To remain a competitive destination and maintain visitation, the management believe that sustaining such low level of tourism in relation to the RCC is a key criterion for the success of the resort.

7.5. Rights over resources in Fiji and Tavarua's lease agreement

7.5.1. Rights over resources in Fiji and at Tavarua

In order to clarify and explain the exclusivity over the surf breaks by Tavarua, a brief overview of the legal recognition of customary marine tenure and customary fishing rights in Fiji is presented (Figure 7.5). For more in-depth information on the traditional marine tenure in Fiji and its complexity and community coastal resource management issues, please refer to Walker (1996), King (1997), Hviding (1998) and Virdin (2000). Land ownership and customary marine tenure in Fiji are complex and unique to Fiji and a few other Pacific islands (e.g., Papua New Guinea, Samoa). The customary resource tenures give the respective *Mataqali(s)* (i.e. villages, clans or communities) the rights of ownership to the land. In terms of marine tenure, although the seabed is state property, there are Fijian people's customary rights to *qoloqoli* (i.e. traditional fishing grounds). This gives exclusive fishing rights to the *qoloqoli* (which generally extends to outer reef slope and offshore reef areas) to the adjacent *Mataqali(s)*. The *qoloqoli* are controlled by a *yavusa(s)* which can incorporate several *Mataqalis*.

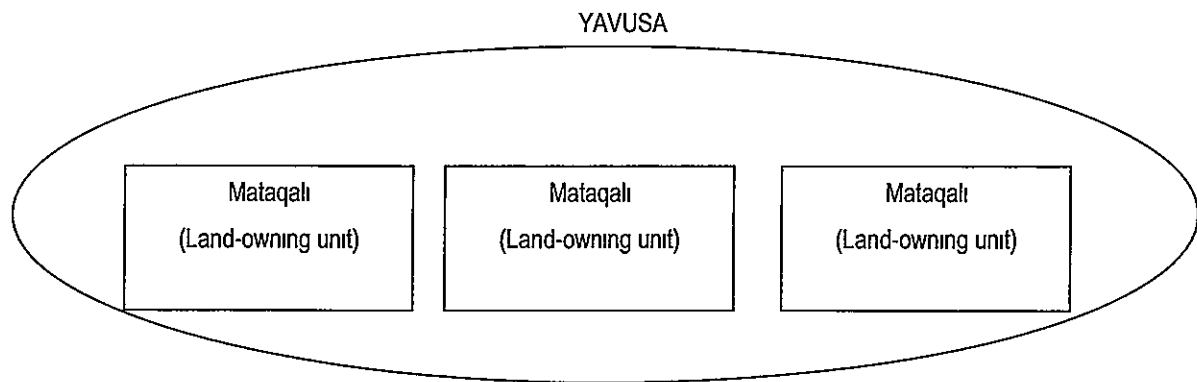


Figure 7.5. Traditional community management structure in Fiji (source: Virdin, (2000.328).

Over 80% of Fiji's land and inshore areas are still under such ownership (Walting and Chape, 1992; Levett and McNally, 2003). It has to be remarked that these customary rights are recognised by the *Fijian Fisheries Act of 1942* (Virdin, 2000), under which traditional fishing rights owners have the "right of usage" to these fishing areas (Pratt, 1996

cited in Virdin (2000:329)). While this traditional concept of rights to use or to "own" living marine resources has been a controversial issue in coastal resource management in Fiji, it is highlighted one of the most important features of the South Pacific Island cultures Baines (1987).

7.5.2. The lease agreement at Tavarua

In addition to the complexity of the marine tenures in Fiji, in the case of Tavarua Island resort, the situation over the exclusivity to surfing Cloudbreak and Restaurant, is exacerbated by the different ownerships of the *qoliqolis* of the two reefs where these two respective surf breaks are located (Figure 7.6) as well as the ownership of the Island of Tavarua. This latter belongs chiefly to the clan of Cuvu village. The *Naikurukurumailagi* reef *qoliqoli* where Cloudbreak is, lies in the *yavusa* divided into two *mataqalis* (i.e. Momi and Nabila villages). In other words both Momi and Nabila villages have got traditional fishing rights over this reef. As for the Tavarua reef where Restaurant is located, this *qoliqoli* belongs to the *vanna* (i.e. tribe) of Malolo Island which comprises five *yavusas* (i.e. Lawa Solevu, Lawa Yaro, Taubare, Yanuya and Leweimotu).

The resort was given a licence/lease on the said *Naikurukurumailagi* reef and part of the *Navula* reef for surfing purposes only and; this licence is at present renewed every ten years (Figure 7.7). Effectively Tavarua was given the right to control surfing through an exclusive leasing arrangement with the Ministry of Lands. In exchange for the lease, the resort pays a monthly lease to the *mataqalis* of the two *qoliqolis* (i.e. they pay a lease for the use of the two reefs for surfing). In addition to the lease, the resort gives 5% of its gross receipts to Momi and Nabila villages to compensate the resource owners for the loss of fishing on the *Naikurukurumailagi* reef. This 5% gross receipt goes into a fund, set up for various projects for the community. Tavarua resort also leases the island from the clan of Cuvu. Granting of exclusive surfing rights, is not unique to Tavarua and a similar arrangement has been set up for the neighbouring surfing island resort of Namotu and the surf resort *Nusa Island Retreat* in Papa New Guinea (J. Ponting, Interview, 2004). The

exclusive leases to Tavarua, and the neighbouring Island of Namotu in Fiji have caused considerable controversy, especially due to the limited surfing resources in Fiji.

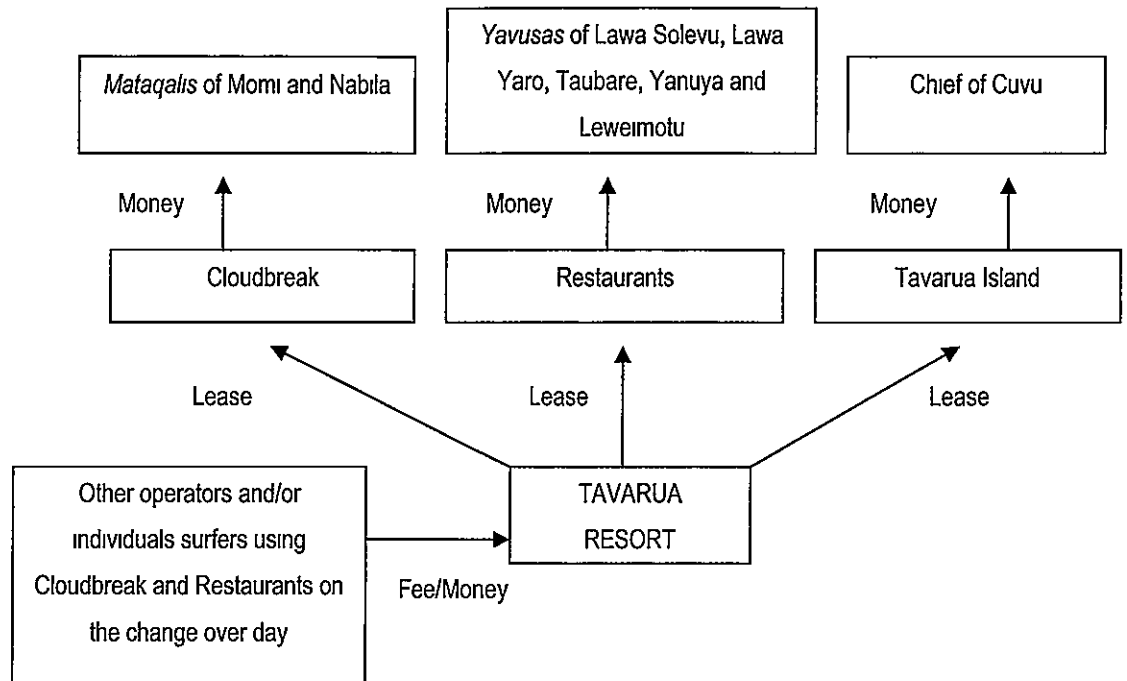


Figure 7.6. Leasing arrangement and ownership of the *gohqohs* (where Cloudbreak and Restaurants are situated) and Tavarua Island

7.5.3. Current operative management of Cloudbreak and Restaurants

The management of the resort has set up a system of four shifts operating daily at Cloudbreak with fourteen to fifteen surfers maximum surfing at any one time. Cloudbreak and Restaurants are open to the public on Tavarua's clientele change over day (i.e. Saturday mornings) People outside Tavarua resort (i.e. individual travelling surfers, surfers from other resorts) are allowed to surf Tavarua's breaks but, must first seek permission from Tavarua resort, sign a disclaimer and pay a fee of US\$15 This fee goes to the funds of the respective *Mataqals*.

7.6. Management strategy of Tavarua Island Resort

7.6.1. Tavarua Island Resort development strategy

Tavarua management devised the resort's development base on the principles of ecotourism (to minimise any impacts on both the environment and the community) and environmental best practices. The resort was designed to be small scale, unobtrusive and to limit changes to the island's characteristics. It also followed two features from the Tourism Nation Development Programme for Fiji (Belt Collins and Associates Ltd, 1973) which proposed that the resort should be set 30 metres above high water mark and that the development has to be of low density bure style accommodation compatible with the island's small scale. The resort also had to comply with codes of practices and environmental regulations under the *Fiji Development Bill of 1999* and other conditions dictated by the Fijian government. Because there are no recycling facilities in Fiji, the resort developed a solid waste disposal and burns most materials. Organic wastes are composted and any other materials that cannot be burnt (i.e. metal cans and bottles) are taken to the mainland (i.e. Viti Levu) for disposal. To stop anchor damage from boats, moorings have been set up at the surf breaks: Cloudbreak and Restaurants, and Tavarua rights, as well as on front of the resort. Each bure is currently on septic tanks and the resort has constructed a secondary sewage treatment plant on the island to deal with all the grey water in order to reduce any leaching of nutrients onto the reef.

7.6.2. Wildlife conservation

The Island of Tavarua is a sea snake breeding ground and turtle nesting turtle ground. As a result, the resort owners limited the development to one side of the Island to retain natural habitats for the sea snakes on the island. Prior to the Tavarua Resort, the Chief explained that they would kill turtles coming to the Island. Turtles are a threatened species and endangered in the Pacific Ocean (Zann, 1994). The owners also used their influence to stop the killing of turtles on the Island and have banned spear fishing on its reefs. They have also been reinforcing the recent ban on the shooting of parrotfish and

wrasse through education, with staff and at village level. The owners of Tavarua resort took the initiative to educate and empower the local villagers with regard to marine conservation measures and environmental issues.

7.6.3. Voluntary code of conduct and educational strategy

To minimise the visitors' impacts both on the environment and the local community, the management devised a voluntary code of conduct for their clients to increase their socio-cultural and environmental awareness. In terms of the environment, Roseman explained that *"We do talk about the environment in our newsletters and prior to clients coming to the Island, we send them information. We talk about the island in general for example, "do not pick things up and do not take pieces off the reefs etc"*. The resort took a proactive approach from the outset in minimising both the resorts and tourists' impacts on the environment and community. The effectiveness of this strategy was evaluated in the following sections.

7.7. Environmental impacts of surfing tourism at Tavarua

In this study, the impacts of surfing tourism on the natural environment of Tavarua Island and adjacent marine ecosystems were evaluated (Table 7.3)

Table 7.3. Significant physical and environmental impacts from surfing tourism on Tavarua Island and surrounding reefs

Environmental value	Impacts	+ or -
Reef and local fishery	Trampling over the reef by surfers at low tide at Restaurants and prior boat anchoring on the reef has led to some localised coral breakage on the reef	-
	Local people, no longer collecting marine resources and less fishing on the reef has permitted the coral reef to recover as well local fish populations	+
Water quality/rubbish	Signs of nutrients with localised algae growth. The extent is minimal and current sewage facilities should address this problem adequately	- / +
Island and vegetation and wildlife	Removal of vegetation and noise from generator and resort may potentially have affected sea snakes and turtles respectively	-
	Protection of turtles and sea snakes is positive for the conservation of these species	+

This assessment was limited by the absence of baseline data on the island and marine ecosystems, as well as the absence of environmental impact assessment of the resort. The lack of long-term data and monitoring of the local environment meant any environmental evaluations were subjective and reliant on qualitative information.

7.7.1. Impacts to reefs and fisheries

Surf tourists' direct impacts on the reefs around Tavarua resort were fairly limited as most of the surf breaks (with the exception of Restaurants) are only accessible by boat, preventing surfers from walking and trampling on the reefs. The exception is the surf break Restaurants, where participant observations noted that at low tide, people walked on the reef to access the surf. Informal conversation with visiting surf tourists and staff members however revealed that, at low tide, few surfed this wave as it becomes very dangerous and breaks on shallow reefs. Yet participant observations noted that snorkelling and reef walking (at low tide) were two activities carried out by some visitors. Snorkelling and reef walking are known to have potential impacts and pressure on the reef system and while snorkelling along the fringing reef, the author noted areas of broken coral. This was, however, very localised and limited to the area in front of the resort where the boats used to be anchored and where moorings have now been set up. Staff, repeat visitors and the owners of the resort, reported no significant change and obvious degradation of the island and coral reefs. According to two marine biologists, Diane Walker and Ed Lovell, the reefs surrounding Tavarua are in healthy conditions. Ed Lovell believed that the resort has good environmental management practice as "*the current good coral cover highlights that after nearly twenty years in operations, Tavarua Island Resort's impacts have been minimal*". He later added that some of the localised reef damage was due mainly to local commercial fishing operating on the reef at low tide. One local villager from Nabila also believed the villages' fishing nets also have had some impacts on the local reefs. Anthropogenic activities including destructive fishing practices, sedimentation, eutrophication and pollution, have led to a wide loss of coral reefs in Fiji (Harborne *et al.*, 2001). In addition, the Pacific region is highly vulnerable to a number of climatic and other environmental phenomena, including hurricanes and typhoons and recent coral bleaching events and storm damage have also exacerbated the anthropogenic activities' effects. A cyclone in 1998 and bleaching events

both in 1998 and 2000, caused significant damage to the Island and contributed to coral reef degradation in Fiji and the Mamanucas (Walker, 2003)

The Fijian reefs have also been subjected to overfishing (Harborne *et al*, 2001) and the fishing grounds of the south-west Pacific have been ravaged by industrial fishing fleets (Fien *et al*, 2000) Dynamite fishing occurs in western Viti Levu and the use of poison (e.g, derris) is prevalent in most areas in Fiji (Vuki *et al*, 2000)

Human-induced pressures on the *Naikurukurumailagi* reef by the two mataqalis (Momi and Nabila) was also mentioned during an informal conversation with villagers. Prior to the two villages working for Tavarua, women as part of their daily tasks would collect marine resources (octopus, sea cucumber (bêche de mer), shellfish and reef fish) at low tide on the *Naikurukurumailagi* reef where Cloudbreak lies. During information conversations with women from the villages, several commented that as blood from the fish and octopus killed on the reef could attract sharks, out of respect for the surf tourists, the community voluntarily decided to stop the gleaning on the *Naikurukurumailagi* reef. When asked how this had impacted on the community's subsistence livelihood, they responded that they had become less self-sufficient and were no longer eating as much seafood. Yet, several women commented that most of the women who used to fish on the reef, now work for Tavarua and that having more disposable income allowed them to buy meat and other products from Nadi. The men from the two villages still go fishing with nets on the reef for subsistence and to sell to markets. The changes in the local diet may also be related to the pervasive Westernisation and globalisation of Fiji and its people rather than a result from tourism alone (this will be expanded further in the Chapter 8). The relationship of tourism in Fiji to the wider globalization process has been discussed elsewhere (Harrison, 1997; King, 1997).

The cessation of collection of marine resources is believed to have had some benefits on the local reef habitats and associated marine ecosystems. Many commented that previously, the fishery practices had been detrimental to the fish population and the reef's

heath. According to one local villager, the reef used to be heavily trampled during the collection of marine resources. The cessation of gleaning and fishing on the reef, he believed, contributed to the recovery and long-term sustainability of the fishery resource of the two *mataqalis* arguing that *"I think that having stopped fishing so much on the reef, has permitted the reef and fish population to recover. That is really good too. We need to save fish for our kids growing up. If we keep eating, eating, eating, there will be none left... That is why it is good that Tavarua owns Cloudbreak, because it stops people from overfishing. You now see lots of marine life coming back again. All the corals have been really good, all the big fish and all the lobsters are coming back"*. Several key informants felt that surfing tourism had provided a sustainable economic alternative to traditional and more destructive practices like fishing. Pierce Flynn, the Ex CEO of Surfrider foundation, expanded this and argued: *"You know that the local community make more money in a more sustainable way. By creating these surfing camps, [local communities can] participate in [rather] than just [sell] off the Island and/ or fish out and cyanided the reef to get the fish for the aquarium trade"*. This suggests that the reduced pressure on and reduced resource use of the reef by the local people may have alleviated pressures on its associated ecosystems. It could be argued that in this case, surfing tourism has inadvertently helped to promote a more sustainable management of the community's fishery and marine resources.

7.7.2. Water quality / rubbish

While no water quality monitoring has been carried out on Tavarua, making it difficult to efficiently evaluate the current water quality, interviews with staff at the resort and local marine biologists, all suggested that water quality surrounding the island was good. Author's personal observations when snorkelling on the reef, noted only very localised algae growth (i.e. *Gracilaria* sp.) adjacent to the resort's restaurant, possibly from increased nutrient (see Costanzo *et al* (2000)). This algal growth was however confined to a small area, which indicates that any nutrient outflow from the resort is minimal and not of noticeable environmental concern. This was corroborated during discussions with marine biologist Ed Lovell who believed that the current environmental pressures of the resort on

the surrounding reefs were contained and not of concern. He stated that Tavarua resort, after twenty years in operation, appeared to have had very little impacts on the reef, which was in very good condition. This suggests a contained low impact of the resort on the local reef. The author also noted that there was no rubbish on the Island, which suggests that the rubbish disposal scheme was successful in keeping the Island clean. The findings indicate the resort's appropriate handling of wastes, sewage and other refuse.

7.7.3. Clearing of vegetation and impacts to wildlife

The development of infrastructure has been constructed behind the coastal fringing vegetation, which has helped to minimise alteration of existing shoreline characteristics, which show little sign of erosion. The resort has also set up delineated footpaths which restrict visitors from trampling the vegetation. Despite some vegetation clearance for the construction of the bures and other buildings, this has been minimal for both environmental and aesthetic reasons and only 25% of the island developed). According to several key informants, Tavarua Island has retained its aesthetic value. In terms of wildlife, some repeat visitors, staff members and the chief reported some perceived changes with a decrease in the abundance of sea snakes and turtles coming to the Island. They commented that they were seeing less sea snakes and turtles over the years.

Shetty and Shune (2002) highlighted that resort development on Fijian Islands, could have localised effects on sea snakes' population as they have high site fidelity to respective Islands. It is thus possible, as one key informant suggested that some vegetation clearance may have been a disturbance to the sea snakes on Tavarua, by reducing their natural habitats. Musa (2002) found that in Sipanda Island, Malaysia, vegetation clearance had detrimentally impacted turtles, and it is possible this has occurred on Tavarua. The Chief also suggested that the noise from the resort may have potentially affected turtles, but management has taken measures to reduce noise by placing the generator in a closed building. The general view, however, was that the development had not significantly affected the turtles or sea snakes as they were still returning in numbers to Tavarua. It has

to be noted that sea turtles (i.e. Pacific Loggerhead and Leatherback) populations have suffered a decline between 80-95% in part, due to bycatch over the last twenty years (Lewison *et al.*, 2004) and in the South Western Pacific Islands turtles are endangered and extinct in some areas (Zann, 1994). It can be thus argued that the decrease in turtles on the island, may also be a reflection of the overall decline in the turtle population in the Fijian and Western Pacific Islands.

7.7.4. Summary – environmental impacts

While it is almost impossible to prevent all disruptions to the ecological and ecosystem balance of any small island, the study's findings suggested that the tangible environmental impacts have been minimal. In general, neither key informants' comments nor personal observation indicated significant repercussions on the natural ecosystems as a result of tourists and associated tourism development. While prior boat anchoring on the reef has had some localised impacts, the current utilisation of moorings has prevented reef damage. In addition, a reduction in the collection of marine resources and associated trampling on the reef, are believed to have assisted the recovery of the reef ecosystem and local fishery. The resort's protection policy and enforcement for turtles and parrotfish and wrasse, is an additional positive conservation measure to have benefited the local marine wildlife. Furthermore, the educational awareness approach for the visitors appears to have been a contributing factor to limit the surf tourists' direct and indirect impacts on the local environment. Tavarua Island resort with its small-scale development, environmental management plan and environmental considerations has limited any potential environmental impact and appeared to be operating within the environmental carrying capacity of the Island ecosystem and its surroundings reefs. It is widely acknowledged that most tropical small Islands (de Haas, 2002) including the Fijians Island (Levett and McNally, 2003) are generally only suited to small-scale development, indicating that Tavarua resorts' relatively modest development was appropriate. Finally, the development of environmental review procedures, the formal controls over development of the resort

within Fiji's regulatory environmental framework and the "controlled" tourists' activities have minimised negative impacts on the marine and Island environment. The findings indicate that surfing tourism at Tavarua to date has been environmentally acceptable.

7.8. Economic consequence and impacts of surfing tourism at Tavarua

The most important economic consequences of surfing tourism include the diversification of the economy, employment opportunities, distribution and equity of income and an economic dependence on tourism (Table 7.4)

Table 7.4. Economic impacts of surfing tourism on the local communities at Tavarua

Economic factor	Impacts	+ or -
Diversification of the economy	Diversification and addition to the local traditional subsistence economy	+
Employment and entrepreneurial opportunities	Variegation of employment Limited entrepreneurial opportunities for individuals within the community and for outside Fijian to develop surfing tourism operations around Cloudbreak	+
Income	General rise of income and supplement to subsistence living Secure income and funds to both resource owners (i.e. both villages)	- +
Equity and distribution of wealth	Equitable distribution of benefits among the community from the lease fee of the reef and projects funds	+
Dependence on tourism	Development of some level of reliance on Tavarua Island Resort	-/+
Share of benefits	Resort owners of Tavarua share benefits of surfing tourism with the resource owners (i.e. two communities)	+
Community cohesion	Community's cohesion due to the equitable share of benefits from surfing tourism among the community members	+
Equal opportunity of employment	Equal opportunity for community members to work for the resort through proper recruitment within the village and share of jobs among the community Lack of individual entrepreneurial opportunity on the two surf breaks	+
Village infrastructure/amenities	Development of infrastructure for local communities such as piped water, electricity and septic tanks etc	-
Share of benefits between resort owner and resource owners	The share of benefits between the resort and resource owner had permitted on ongoing positive relationship between the two	+

7.8.1. Diversification of economy, employment and income

Prior to the Tavarua surfing resort, the two villages had very few alternatives sources of income and employment, and derived a subsistence living, with some revenue from cash crops (e.g., cassava, taro, kava), sugar farming and pine forestry. Interviews with key informants and participant observations with villagers revealed that Tavarua resort had permitted a diversification of the local economy from subsistence and traditional sectors. They also pointed out that the economic benefit of Tavarua has not been limited solely to direct income earned from those working at the resort and contended the resort was

having spin off economic effects on the two villages with the creation of a variety of jobs. For example, aside from the 54 members of staff working full time and around 16 part-time, the resort offers further opportunities. The resort contracts work within the community for big projects (e.g., surf competitions) and hires villagers to perform ceremonies for the Fijian night. Community members commented that the resort supported a wider portion of the village through the purchase of local produce including vegetables, fruits (e.g., bananas, pineapples, papaya, and breadfruits), kava and fish, and that this sale of cash crop was a sufficient income to sustain them.

The resort has set up a project for alternative income to the community, including a scheme for clam harvesting and an agricultural project as a means to reduce unemployment among the young people and other community members. In this project, young people were paid to grow vegetables which they could then sell back to the resort. Collection of shells, carvings and crafts are sold at the resort's shop and the resort buys flower leis and other flower arrangements for the Fijian nights from local women. Several individuals also get extra income from repairing surfboards for tourists. The chief commented on the communities' overall positive response to Tavarua for creating sought-after job opportunities and alternative income in the villages.

While all community members benefit from Tavarua, not everyone can work for the resort. This caused some frustration among the community. A couple of residents also felt that the Fijian managerial staff, when recruiting new employees tended to favour their own family members and that the best jobs were being allocated to friends and relatives. The chief who is the staff manager for the resort and the resort owners commented otherwise. Both argued that there was an equal opportunity for employment at the resort. The chief clarified this point explaining that when a position is vacant at the resort, the board of elders meets and discusses which family from the two villages is most in need of income and employment, and allocate the job accordingly.

Another highlighted advantage pointed out by one key informant was that "*They never take people with qualifications, only people from the village*" which permits low-skilled workers to have the opportunity to work for the resort. There was an overall consensus arising from all key informants and local villagers that Tavarua resort had positively impacted and, had been a major contributor to both villages economically. The Fijian Office board officer who has been involved with the two villages over the last fifteen years, when reflecting on the resort's economic impacts on the communities, summed up his view arguing that since the Momi and Nabila village's involvement with the resort, they had evolved from some of the poorest villages of the area to some of the most well-off communities.

7.8.2. Distribution of economic benefits

It was generally felt, including by individuals that did not work for the resort, that the benefits obtained from surfing tourism in Tavarua were shared among the community. The mayor of Momi highlighted that while people were financially better off if they worked for Tavarua he commented that "*Tavarua also gives to individual families who do not work*". The 5% of gross capital earning from the resort paid to the two villages for the compensation for fishing right loss, while not distributed directly in cash money, is invested into a fund that supports a variety of projects benefiting all community members of the two villages. All interviewed commented on the advantages derived from the projects in the villages. For instance, the installation of fresh water supply system, electricity and sanitary system (i.e. toilets), free medical treatments, irrigation systems for agriculture, help for animal husbandry, boat donation, the construction of a school for the village and community hall at Nabila, school materials for their children, the construction of one hundred cyclone-proof concrete houses, are all projects enjoyed by the community as a whole. In addition, several key informants and villagers pointed out that Tavarua resort also contributed to fundraising events and financial assistance in case of emergency for family in needs (i.e. funeral, hospitalisation etc). For instance, one teacher of Nabila noted that "*whenever there is*

a function in the villages and somebody dies or a wedding, or whenever we do not have money, we ask Tavarua for help and they give us money for all those functions?

One point nevertheless highlighted during informal interviews with local villagers and key informants was, that those working for the Tavarua and other tourism resorts had advantage over those who did not, as their earnings were regular and greater than their counterparts. One key informant expanded on this further stating that *"People who are working will have advantages over people that do not work for the resort, because they are getting a steady income. In sugar cane, they are paid every three weeks, whereas the hotel industry pays weekly. The money that you get in one week in hotels probably equals the money you get in three weeks on the sugar cane"*. While a couple of community members did not share compatible views on the equitable share of benefits derived from surfing tourism and highlighted a discontent in this disparity of earnings, the disproportion of earnings was revealed not to be a contentious issue for the majority of community members. On the other hand, participant observations and interviews found a common accord on the current division of economic benefits, which was perceived as highly beneficial and was well received by the community as a whole. It was found that there was a philanthropist's mentality within the villages and many discussed that, because of the Fijian way of life, there is no real separation of wealth among the community. The Fiji rural society is a communal one, with values placed high on the family unit and the village. The chief emphasised the traditional solidarity among the community and stated that Fijians live in villages where everything is shared and everyone is taken care of. It was also found that the decisions on community funds were decided upon after consultation between the villages' elders and other key figures. Participant observations noted that money even when individually earned, was later shared and distributed among community members, including in indirect ways such as donations to the church and/or fundraising events to aid families in crisis. This system is a demonstration of a very strong social cohesion. Yet despite the recognition of this shared

distribution of wealth, it is difficult to evaluate definitively community equity without further specific data.

During fieldwork, no tangible economic disparities among community members were noticeable which suggested the share of the benefits and an existing and practised altruist philosophy. Even among those who did not work for Tavarua, the majority felt that the two communities as a whole were benefiting economically from the surf tourism at Tavarua resort. In the case of these two communities, it was apparent that collective community benefits superseded individual interests.

Conversely, the overall positive perceived economic benefits were not matched by several neighbouring tourist operators. While they acknowledged the benefits of the resort to the Nabila and Momi, they also expressed the view that the economic benefits from surfing tourism at Tavarua and around Cloudbreak, was exclusively limited to the Nabila and Momi villages with no leakage into other surrounding communities. Several key informant interviews and participant observations revealed that other villages in the vicinity, as well as other hoteliers and tourists operators were unhappy at being unable to share the benefits from surfing tourism on Cloudbreak. The mayor of Momi explained that the neighbouring community *"feel jealous because on their island, they do not have what Tavarua gives"*. Some further commented that the segregated/enclaved tourism at Tavarua resort meant that tourists were unable to purchase goods or services from outside Tavarua Island. One tourist operator argued *"I think personally that Tavarua has benefited the local people little, because all their guests have paid already overseas, so their impact on the economy is very low. Their guests have no contribution to any businesses or any other hotels in Fiji, except for Tavarua. On Tavarua, they just come on the island and go back"*.

Another point raised by several individuals was that the exclusive right over Cloudbreak by Tavarua was preventing local resource owners (i.e. people from Momi and Nabila) as well as outside individuals, from initiating enterprises based on surfing at Cloudbreak. There was argument that if Cloudbreak was no longer exclusive, this would

permit more tourist operations to open, creating employment in tourism for the local villagers. Several key informants and villagers shared a different opinion, however, and commented that while more entrepreneurial surfing businesses could create additional employment, the distribution of the benefits among the resource owners would be somehow compromised. One local villager from Momi exemplified this view claiming that *"before the exclusive right given to Tavarua, Momi used to run their own surf operation which used to employ and benefit only four people in total... During this operation, there was inequality of earnings and some friction within the village. Now with the even distribution to the whole community, everybody is happy"*. Based on this point, many key informants and community members raised the concern that if Tavarua resort was to stop and/or was to be replaced with different operators, this would jeopardise the benefits to the resource owners. The chief and other key informants further explained that Fijians view the *qoloqoli* as part of their communal way of life and that benefits inherently should be spread among the community.

7.8.3. Economic dependence upon surfing tourism

Tavarua resort has been a provider of safe and secure employment for the community and has provided long-term economic benefits. The co-owner stated that: *"The employment opportunities are high. We are going to have to see a third generation coming already. We have the same employees we had for the last 20 years"*. It was revealed through participant observations and key informants that Momi and Nabila had developed some level of economic dependence on Tavarua, not only from revenue earnings but also from the indirect economic benefits of the various projects previously mentioned. It also should be noted that employment opportunities in other sectors of the local economy were very limited. The dependence on tourism for employment has been further accentuated with the collapsing sugar industry in Fiji. One government official commented on this dependence and stating that: *"Because for the last ten years, these two villages rely so much on Tavarua. The sugar cane farm is going down hill and there is no more arable land around the place, and the only food is fishing so, there really would be an impact on these two villages if suddenly Tavarua was to close"*. It has to be

noted that although the subsistence resource gleaning on the reef has stopped, the two communities still fish with nets. Consequently, the two villages still gain a revenue from selling their fish to nearby markets and to nearby hotels.

Several informants highlighted that although the communities had developed some dependence, the villages nevertheless still have subsistence food to fall back on and cash crops, such as Kava and copra sold for consumption in Nadi. One government officer explicated this further stating that this dependence on the resort was surmountable. *"They have a very bountiful fishing ground, and they also have got pine plantations and cane sugar plantations. They still have some income from the land they have leased out to the farms. So they still can survive but they would lose out if Tavarua goes down or something"*. All community members interviewed, conveyed the same point and explained that economically surfing tourism had provided extra revenues for the community without jeopardising the traditional subsistence economy from which most still live. During the fieldwork period, no discontent from community members (with regard to the overall effects Tavarua resort has had on their community) were observed or reported. On the other hand, a strong support for Tavarua's surfing operation was pronounced both by the residents and key informants. Overall, all valued Tavarua notably, for the creation of employment locally and for raising the standard of living. One villager summarised this stating that. *"It was a very hard life before tourism came here"*

7.8.4. Equity between the resort owners and resource owners

The share of the benefits between the resource owners and the resort owners was of interest. The owner of the resort explained that the operation ensured a win-win situation whereby a component of tourism profits were distributed back to the two villages. This was illustrated by a statement from the Fiji Office Board officer who argued that: *"The management is good and they make sure that whatever they get, gets back to the village"*. Tim Baker, experienced surf traveller and surf journalist concluded that: *"Tavarua has built a very mutually beneficial relationship with the local people. They are happy with the advent of surfing tourism in their"*

area". During participant observations, no tangible discontent from community members was encountered in this regard. Some may however argue that Tavarua resort is working hard to maintain a strong relationship with the communities in order to keep the exclusive surfing rights and that, despite the benevolent scheme of giving 5% earning of the resort going back to the community, this may be seen more as a paternalistic approach and far from being an equitable return to the community.

7.8.5. Summary – economic impacts

Surfing tourism has permitted diversification of what was largely a subsistence-based economy and created secure employment opportunities and income for villagers. Aside from the direct employment at the resort, the wider community has derived social and economic benefits from alternative income projects and tourism investment returned to the community *via* funds and other projects. As a result, the community perceived surfing tourism favourably. The sharing of tourism revenue between the resource owners and resort, as well as among community members, in combination with the development of collective community income (i.e. revenue share and donations) were found to be significant factors for equal distribution within and positive impacts on the communities. It is argued here that with the resource being owned collectively by the two mataqalis, has ensured the equal distribution of the benefits among the community members and has had the advantage of minimising destabilisation of traditional solidarity. Thus, it appears from the findings that the present situation arising from surfing tourism, where tourists, the local community and resort owners all benefit from tourism, were important factors for the current success of the resort.

It should be noted that the villagers were not wealthy by any means and there was not equity of earnings between resort owners and community members. Surfing tourism has become an important economic component for the two villages, which inherently have developed a level of economic dependence. This dependence has intensified by the lack of alternative employment and economic activities in the vicinity and collapse of traditional

economies (e.g., sugar-cane farming) Nevertheless, the communities have retained access to their land and natural resources and are still partly reliant on a traditional subsistence livelihood It was found that surfing tourism had been an advantage by providing an alternative and supplementary economy to aid the struggling traditional economy, without jeopardising traditional livelihoods. For the broader community, exclusivity of surf rights at Tavarua had prevented the development of entrepreneurial business and tourism opportunities around Cloudbreak and had restricted the benefits to the owners of the reef (i.e. Momi and Nabila) It is acknowledged that the current community semi-dependency on Tavarua could have influenced the resident's perception and attitudes towards surfing tourism's positive impacts (cf. Besculides *et al.* (2002)). Surfing tourism at Tavarua resort has brought relatively significant economical benefits to both mataqalis (i.e. Momi and Nabila village) without their losing access to their natural resources or subsistence traditions. There was a general consensus that the positive benefits had far outweighed any negative consequences

7.9. Socio-cultural impacts and factors influencing the success of Tavarua resort

Social and economic impacts were interrelated, and a summary of the socio-cultural impacts has been tabulated (Table 7.5).

Table 7.5. Socio-cultural impacts of surfing tourism on local communities and factors influencing the success of Tavarua resort

Socio-cultural value	Impacts/consequences	+ or -
Quality of life and standard of living	Surfing tourism has significantly increased the communities' quality of life through the development of amenities and infrastructure Tourism has led to an increase in family income and improvement of diet	+
Medical and welfare	Medical help via Surfing Medical Association, medical supplies and facilities which has led to the improvement of health of community members	+
Education level	The construction of a school, availability of scholarships and school books have assisted more local villagers to attend secondary school Scholarships even allow some locals to attend University	+
Rejuvenation of cultural practices	Revival, continuation and strengthening of cultural heritage and traditional cultural practices through ceremony and demonstrations during Fijian nights Sense of pride in sharing traditional culture with tourists	+
Change of way of life and cultural values	Western influence and tourism influence on the community has weakened some cultural values such as dress code	-
Harmonious relationship and community integration with tourists	Community integration with tourists has strengthened support to the tourism operation and stopped any tangible antagonism against tourism	+

7.9.3. Education level

An important positive social impact highlighted was the increase of educational level through Tavarua's financial support, with for example, the construction of a school in Nabila, the provision of school books and payment of salaries for some school teachers. The school teacher further contented that *"they have given scholarships for children, especially for secondary education...They built a library for us, they gave us electricity and teachers' quarters and free exercise books each year. All this comes from Tavarua. Tavarua is doing a lot for our school"*. These measures, as well as scholarship programs have permitted more students to go on to further education. Another positive aspect pointed out by several key informants and community members was that children were now learning to surf and Tavarua had supported the surfing association of Fiji and had allowed young participants to use the surf breaks and compete in regular events/competitions. A teacher claimed however that tourism had led to a disinterest in schooling by some young people. She argued that: *"It is affecting the children's education.... The kids are not working very hard to reach their goals because they are expecting things from Tavarua... These children are not doing their best in school, because they are looking forward to being boatman, cleaners or whatever job to work in Tavarua.. It is not good... That is affecting the education of the children"*. Yet an earlier report by Levett and McNally (2003) found that this was not unique to Tavarua but stated that tourism in Fiji, has led to changes in cultural attitudes, reliance on hotel employment rather than pursuing education.

7.9.4. Rejuvenation of cultural practices and other influences of tourism on the communities

There was a mixture of feelings with regard to the perceived cultural changes brought on by surfing tourism. The majority strongly felt that their culture, values and traditions had not been affected by surfing tourism. Some key informants including the mayor and the chief emphasised this point contending that the traditional rules and customs still provided the foundation of rural communities' organisation. Several key informants and community members further attributed this resilience to western influences

due to the strong devotion and cultivation of Fijian indigenous culture by the elders and the chiefs at the village. Several individuals including one government official commented that tourism had a positive effect on the culture. The resort's clientele was introduced to Fijian traditions during a 'Fijian Night' which included: a kava ceremony, Fijian food, traditional songs, *meke*s (performance by staff) and Fijian ceremonies. Relating cultural heritage was found to be integral to Tavarua's operation and this was further remarked in a previous study by King (1997). Roseman during an interview in an earlier study by King commented (1997:73), that "*we don't want them to just have the surfing experience and then leave*". The chief further emphasised that as a result tourists respected and loved their culture. Tourism was seen by many community members to have encouraged and inadvertently permitted the revitalization and continuation of traditional Fijian practices especially among the young generation, who are losing interest in traditional customs (e.g., dances and song) in favour of some western habits such as television.

In addition, participant observations found that employees had a sense of pride when sharing their cultural traditions with the guests at the resort. One member of staff commented "*Since I have been here, people that come the first time, the first day they say "tomorrow is a big day" when they talk about the Fijian night because they want to see our culture. People who come here they really like it*". Time and time again, tourists claimed that the Fijian night was something they were looking forward to and expressed great appreciation for the Fijian culture. Although some may criticise this exposure to the Fijian culture for being fairly elementary or rudimentary, participant observations and several key informants interviewed perceived that this was adequate to raise general tourists' awareness. This was reflected by the unanimous perception that clients were very respectful and sensitive to villagers and staff members.

The existing implicit voluntary code of conduct operated at the resort, seemed to have curbed negative impacts on the community. For instance, to minimise any potential tourists' impacts on the local community, visitors are briefed on dress codes and how to be

respectful when visiting the Fijian villages. The resort owner further emphasised that anyone who behaved in an offensive manner and/or in a fashion disrespectful to the Fijians, would be banned from returning to the Island. This ensured that the resort management exercised a control over the behaviours/actions of their clients and thus promoted responsible behaviour to reduce potential socio-cultural impacts. Clients as a whole, were found to adhere to the given cultural expectations (e.g., dress code when visiting villages). This was observed during visits to the villages where tourists dressed appropriately and brought presents (e.g., Kava roots, school books etc) to the villages as a sign of respect and as a customary gesture.

One group leader who had visited every year for over a decade commented that the majority of clients were recurring tourists, and had developed some knowledge of the island's environment as well as a respect for the two Fijian communities. He commented that they knew how to behave appropriately when visiting the villages and asserted that newcomers were briefed by the others accordingly. Roseman reinforced this point: "*I think that people are pretty respectful and again, some of our guests have been here so many times so they know*". It was thus indicated that recurring surf tourists generally had limited impacts on the environment and the host communities.

Some less positive socio-cultural changes were nevertheless, linked to tourism. Several key informants and community members pointed out that, local villagers, especially the younger generation, were copying the tourists' dress style and that even girls were wearing shorts and T-shirts. Yet, the mayor contended that "*according to traditions, girls are not allowed to do that*". Consequently, the village elders and chiefs had banned in the villages such dress code and enforced *sulus* to be worn. Another western influence raised by several individuals, was the change in the diet with the introduction of sugar and salt which, according to a local nurse has resulted in diabetes in the community.

According to a priest, tourism was seen to have somehow affected participation in religious ceremonies. He explained that: "*Because before all the people had to stay in the village and*

worship the lord, but since tourism started, a lot of people stay on [Tavarua] island now and they do not worship god. Now it is only one day in the week that people have to stay in the village to worship god'. Yet, some villagers recognised that some changes could not be separated from the westernisation of Fijians lifestyle in general. Since colonialism, Fijians have been exposed to Western culture well before tourism commenced and the indigenous culture has been reported to have been influenced and weakened (Levett and McNally, 2003). For instance, in Pacific Islands, de Hass (2002: 330) explained that changes in dress style have occurred since the first contact with Europeans, and have altered considerably over the years. Many villagers were acceptant of some of the changes and this was echoed on numerous occasions by many community members, with one villager stating: *"I think that time is changing and you can not bring the past to the present"*. Overall, the socio-cultural impacts were found to be fairly limited with no major impairments of the culture.

7.9.5. Limited disruption to community

Unlike many tourist destinations where tourism adjoins to the community, Tavarua is offshore from the villages, and local villagers were rarely subjected or exposed to tourists. The mayor commented that tourism was not affecting the community due to the low direct contact of tourists at the villages. Tourists only visited the villages once a week for the Sunday church mass in Nabila. Personal observations and participant observations with villagers noted that the low exposure of tourism had resulted in no substantial and tangible disruptions of the villagers' daily lives. Pierce Flynn commented that the locals seemed happy to see tourists and showed no antagonism/resentment towards them. A less tangible but significant point revealed during the fieldwork and also remarked by key informants, was the harmonious guest-host relationships and, between the resort and the two villages. After 20 years, the relationship between hosts and guests was still excellent with no noticeable antagonism. In addition, the strong community support and kudos on Tavarua's surf tourism operation was expressed during interviews with community members (including the ex-proprietor of *Momi Surf Co Limited*), who reinforced this positive

relationship. It was noted that during all information conversations with government officers, NGOs and community members, that Tavarua resort was quoted on many occasions to be one of the best tourist operations in Fiji especially, in terms of its benefits accrued by the villages.

7.9.6. Host-tourists relationship and community integration with tourists

The resort owners have espoused a family ethos philosophy at the resort where social interaction with guests was found to be strongly encouraged and, staff were integrated with the guests. This was reflected by the fact that staff members, for instance, were being referred to by their Christian first names. One member of staff commented on the interaction and argued that: "*Once tourists have been here, they want to come back, because they interact with us*". For example, the author observed that at many instances the guests were playing volleyball with members of staff. In addition, the high proportion of the clients being recurring surf tourists, personal observation and participant observation with staff and tourists revealed a strong affinity and friendship between staff and guests. For instance, some villagers had been invited to the USA by some of the guests. Another factor which appeared to have contributed to the good interplay and relationship between tourists and the host, was the low ratio of guest to staff number. This offers almost a one to one ratio. Government officials argued this point stating that "*The number of guests is only 40, but they are giving jobs to 57 people right now*". This point is supported in an earlier study by King (1997) who also highlighted the integration of staff with guests at Tavarua as well as at nearby resorts.

7.9.7. Community perception on the current level of tourism at Tavarua

There was a mixture of feelings in the community with regard to the current level of tourism on Tavarua. Overall the community was satisfied with and supportive of the current number of tourists visiting Tavarua, as it has provided them with ongoing and constant socio-economical benefits over the past 20 years. There were nevertheless several individuals who articulated the desire to see more tourists coming to the resort as they

explained that, from a financial perspective, although the 5% gross earning of the resort is going back to the community, more tourists equates to more money for the villages. One community member who has never worked on Tavarua contended this point stating that: *"For me I can say that we need plenty of surfers, just because of the money. The more surfers come, the more money we get"* He nevertheless, recognized that an increase number of surfers may not be appropriate to the operation and success of the resort.

Community members and staff, on many instances expressed concerns that if Cloudbreak was to open and/or if the number of surfers on the break were to increase, surf tourists would not return to Tavarua resort and would seek alternative surfing destination. One local resident argued this point stating that *"They are travelling and paying lots of money to come to Cloudbreak. If the break opens up to everyone and if it becomes overcrowded, people will not come to Tavarua"*. This concern was particularly prominent among the community members who worked at the resort. Several residents and staff explained that they had discussed this issue with visiting tourists who had told them that they would not return if it got more crowded. This was substantiated with comments from surf tourists (previously highlighted). Many staff members raised fears that their economy and employment could be jeopardised as a result. The chief went further and stated that *"This island is special for surfing and nothing else and most of the people come here for surfing. I do not want more surfers, 'the level of surf tourists is' fine like 'it is' now. I think of the future"*. There was a general consensus among the villagers and key informants and that the current tourism level should be maintained in order to ensure the long-term viability of the industry. A Marketing Officer from the Fiji National Tourism Office concluded on this point and insisted that limiting the number at Tavarua and Cloudbreak was paramount as he explained that *"The image given by Tavarua needs to be kept along with the pristine environment"*. The two communities as a whole were found to have empowered the concept of 'restriction of the number of surf tourists' as an important factor to guarantee the long term future of surfing tourism at Tavarua.

7.9.8. Community involvement and participation in decision making

Despite Tavarua resort being foreign owned, one factor in the success of surfing tourism at Tavarua revealed during interviews and participant observations was the involvement of the two villages in the running and decision-making process in regards to tourism. During conversations, many community members and key informants, including the chief and the mayor, commented that the villages were consulted prior to any decision making. One of the resort owners further emphasised this point and explained that community participation in decision-making and cooperation had been part of an ongoing relationship from the early stages of the tourism development to serve the communities' interests at best. Pierce Flynn, concluded on this community control and argued that: *"It has allowed them to protect their culture and has given them control over the evolution of their culture"*. This suggests that community involvement and participation in decision making related to the tourism operation has served to lessen the socio-cultural impacts of tourism on the communities and ensured positive relationships between the community, the resort and visitors.

7.9.9. Local ownership of resources and community control over tourism

Another point which emerged from participant observations and interviews was the local control over tourism activities. On many occasions community members highlighted that they had a right of say if they were unhappy about the management of the resort, tourists' behaviours or events occurring at the resort. In each village, a committee has been established by the elders and heads of the community who discuss any issues arising and feed it back to the owner of the resort to be resolved accordingly. For instance, several individuals recalled an incident when a photography shoot took place on Tavarua Island with girls in bikinis. This had been viewed as offensive by some community members, who complained to the management who stopped the shoot, out of respect for the local community. Another strong point raised by several individuals including the owner of the resort, was that the marine resource (i.e. Cloudbreak) was still the ownership of the two

Mataqals. In addition, the lease of the reef (which is renewed annually), gives the two villages the right to lease the reef to whom they please, hence giving them control over their own resource. The local communities (i.e. *Mataqals*) ownership of *qohgohs* and effectively of its associated surfbreaks, thus appeared to have contributed to local control over surfing tourism and development. It is possible to conclude that community ownership and control over the surfbreaks has permitted greater control over the tourism development process and its consequences for the two communities.

7.9.10. Difficulty of access to surf breaks and limited Fijian surfing population

Cloudbreak and Restaurants are offshore reef breaks that require boat transport and are inherently difficult to access. Furthermore, Fiji has a relatively small surfing population. The president of the Fijian Surfing Association (FSA) estimated the total number of Fijian surfers to be around 80, with around 20 dedicated surfers in the whole of Fiji and 35 members in the Fijian Surfing Association. Consequently, despite the contention behind the exclusivity of Cloudbreak and Restaurants, the difficulty of access and limited Fijian surfing population have been contributing factors in ensuring the situation is manageable.

7.9.11. Summary – socio-cultural impacts

Surfing tourism at Tavarua was considered by the majority of key informants and local villagers to have had important positive socio-cultural consequences with an increase in quality of life, employment opportunities, education and medical welfare, and it represented an important alternative to traditional economies and activities. Tourism at Tavarua appeared to have assisted the local community to preserve and revive their traditions and culture, and confirms findings from Simpson and Wall (1999a), Brunet *et al* (2001) and Dyer *et al* (2003) who also found that tourism can promote the revival and prolongation of traditional cultural practices. While several residents raised concerns at the western influence on social values such as dress, diet and religious practices, these changes

were difficult to dissociate from the changes caused by the broad-scale modernisation and westernisation (Ryan, 1991). The community was willing to accept some of the minor impacts associated with tourism due to the real and perceived socio-economic benefits it had provided.

While community satisfaction may have been closely related to positive socio-economic impacts, the study found little disruption by tourism to villagers' daily life and no tangible evidence that the residents were discontent or irritated by the way surfing tourism had developed. The lack of reported and noticeable antagonism towards tourists or the resort and limited tangible disruptions to the social fabric and cultural integrity of the community clearly reinforced that surfing tourism at Tavarua has been socio-culturally appropriate and sensitive. Factors including the harmonious relationship between guests and hosts, local control and ownership of resources and community involvement and participation into decision-making and development of tourism, all seem to have contributed to the strong community support to Tavarua and sustainability of surfing tourism. Overall these negative socio-cultural impacts were deemed minimal by community members and many felt that the few negative impacts received from tourism were compensated for by the positive impacts and changes generated to the community.

7.10. Discussion and conclusions

The development of surfing tourism at Tavarua resort was set up and maintained around the limited surfing resource and the RCC of Cloudbreak. The restriction of access to the surf breaks and the limited number of surf tourists at the resort were found to have provided a high quality surfing experience and satisfaction to tourists and; fulfilled their expectations of surfing uncrowded waves. This also afforded safety in the surf which was found to be an important factor especially at an isolated location. The study highlighted that the safeguarding of uncrowded waves has permitted the resort to remain a competitive and highly sought after surfing destination, for over twenty years. The study's findings emphasised that in order to maintain the appeal of a remote surfing destination from a surf

tourist' perspective and to remain as a competitive and commercially viable destination, "uncrowded waves" is a critical factor which must be retained at the destination

The weight of evidence presented in this case study indicated that surfing tourism with a low number of high-paying tourists was not only economically viable, but has enabled surf tourism to be environmentally acceptable and socio-culturally appropriate. Interviews with key informants and community members revealed that surfing tourism at Tavarua had been a positive development and provided alternative economic activities to the local communities with positive improvements to infrastructure, social and cultural benefits as well as less tangible consequences including involvement and integration of the local community in tourism. Tourism has brought permanent benefits to the local residents without jeopardising the traditional economy and/or loss of access of the host communities to their natural resources.

In theory, to achieve broader objectives of sustainability, community-based tourism should see 'tourism' owned and managed by the local communities at destinations. The surfing tourism operation at Tavarua is not a community-run enterprise nor owned by the community. The resort's contribution to the community could be perceived as paternalistic, and far from an equitable return to the community, with the majority of tourism revenue retained by the resort. Despite this, the attitude of the local people towards tourists at Tavarua appeared not to have followed Doxey's Irridex from Euphoria to antagonism. There appeared to be a harmonious host-tourists relationship, indicating that overall community members were still enthusiastic about the tourism development. It is suggested that the observed highly positive views of socio-economic benefits on the two villages derived from surfing tourism could be due to several factors. Firstly, the prevalent general interest of the collective good of the community identified in the two villages may have silenced alternative local voices on the tourism negative aspects. Secondly, as Faulkner and Tisdell (1997) remarked, community members whose employment is directly or indirectly reliant on tourism are likely to be more tolerant of its impacts. It is argued here that

community involvement in and accrued benefits from tourism may have increased the community tolerance of tourism and tourists' behaviour and inherently allowed for the community's emphasis on mostly the positive outcomes derived from surfing tourism.

From an environmental perspective, the evidence obtained during the fieldwork suggested that while surfing tourism development has not been totally impact free; the low number of surf tourists, the contained and controlled activities and small scale tourism development in combination with appropriate planning and mitigation measures in place at the resort have led minimal ecological impacts on both the island and marine ecosystem. It is also proposed here that surfing tourism has contributed to some degree, as a conservation measure to protect the local marine resource of the *Nakurukurumalagi* reef as surfing tourism is an alternative economic activity, alleviating some pressure from the resource owners' daily use. It is acknowledged however that the lack of environmental baseline data, environmental monitoring, existing scientific reports and longitudinal studies on the local environment calls for the current environmental evaluation to be considered cautiously.

It is further advanced here that the managed and low number of tourists has resulted in few negative impacts on both the local environment and local communities. Similar conclusions have been established on Niue Island (de Haas, 2002). In terms of economic viability, this had been achievable through the high paying tourists. This nevertheless demonstrates that in this case of surfing tourism in small islands, small number of tourists can be environmentally appropriate (and/or sustainable), socio-culturally acceptable and economically viable.

The study has identified other important factors which have contributed to the sustainability and success of Tavarua as a surfing destination. This study revealed that Tavarua is an example where community involvement and participation, and some level of control from the two mataqalis in the operation of the resorts as well as the good relationship between local people and the management, have provided mutual benefits

necessary for sustainable surfing tourism. This clearly emphasises the importance of the local involvement, control over and sharing of the benefits of surfing tourism. Based on Scheyvens (1999:245) who, when discussing ecotourism and the empowerment of local communities, stated that *“from a development perspective, ecotourism venture should only be considered ‘successful’ if local communities have some measure of control over them and if they share equitably in the benefits emerging from ecotourism activities”*, it can be concluded that Tavarua is a good success story.

Another significant factor for the success of Tavarua resort voiced by the community and key informants was the involvement, extensive consultation and integration of the two communities in tourism, their control and strong participation in the development and decision making process which were all essential in reducing potential conflicts between the community and the resort. This coincides with previous findings by Sinha and Bushell (2002:39) who contended that *“The involvement of the host community in tourism planning and operations has been suggested as a measure to reduce the conflicts between indigenous communities and the tourism industry”*. This reinforces the importance of community integration (Mitchell and Eagles, 2001) and local control (Scheyvens, 1999) in tourism and, further supports Lewis (2001) who argued that in host communities, local control is a key success to the development of tourism and critical to its sustainability.

Finally, tourism-induced problems have been reduced due to the establishment from the inception of the resort of a holistic approach to management and planning based on sustainability principles where both the social-cultural and economic context as well as ecological conditions of the local environment were identified and existing legislations adhered to. This clearly reinforces the need for early management and planning of surfing tourism at new destinations as a means of reducing and mitigating potential impacts both on the destination's host community and environment. This suggests that surfing tourism as in the case of Tavarua can promote both social and economic development at the local level and conservation objectives.

However, it should be noted that a combination of other factors have contributed to Tavarua's current success and sustainable outcomes. These include the unique spatial setting of Tavarua resort and its surfing resources, the traditional community organisation, as well as ownership and management of the *qoliqolis* and respective surf breaks, and the relatively small Fijian surfing population.

Additionally, it is argued that socio-cultural impacts of surfing tourism on traditional values, social fabric, and culture of the community have been safe-guarded by the character of the segregated tourism, and 'enclavity' of the resort (i.e. tourism development being isolated from the host communities). In other words, the tourists and tourists' activities being removed from the two villages have afforded limited disruptions and intrusions into the daily life of villagers and reduced unwelcome socio-cultural impacts. A similar tourism segregated scenario in the Maldives as reported by Domroes (2001), also reached similar conclusions. Domroes (2001) found controlled resort islands on host communities in the Maldives had also had the benefit to avoid conflicts of acculturation with local islanders. The findings suggest that controlled, segregated and enclave surfing tourism at Tavarua, and similar examples of island tourism operations elsewhere (e.g., Lakshadweep Islands, India) (Kokkranikal *et al.*, 2003), can be effective in reducing certain negative consequence otherwise generally associated with tourism in such areas.

Finally, the ownership of the customary traditional fishing right over the reef by the *mataqalis* (Momi and Nabila) which is a feature unique to Fiji and Pacific islands has permitted the community to withhold some control over tourism. This appears to have facilitated the control and management of surfing breaks and sustainability of surfing tourism by the community. This concurs with Lewis (2001:177) who contended that: "*there is little doubt that the control and ownership of the reef by native residents is a contributing factor to the sustainability of tourism*". Mitchell and Eagles (2001) also concluded similar remarks stating that the local control and participation in tourism decision were correlated to the issues of ownership and control of the resources. In the case of Tavarua, despite considerable

ideological debate concerning exclusive rights and restricted access, it appeared that these were key factors to the sustainability of surfing tourism. The changes on the community were generally positive with reported minimum socio-cultural impacts as the resort had introduced a management framework based on the sustainability principles with the local communities' involvement in decision making and control over surfing tourism development. It can thus be argued that surfing tourism at Tavarua has been economically viable, environmental sensitive and socially acceptable while providing a high quality surfing experience and enjoyment for surf tourists. The present case study confirms Buckley's assertion (2002b:438) that the "*identification and management of recreation capacity is hence particularly critical to maintain an economically, social and environmentally sustainable tourism industry*". While it is impossible for tourism not to have any impacts on the local environment or the host community, the RCC as illustrated in this case study can provide a control mechanism to prevent overdevelopment, overcrowding and dissatisfaction of surf tourists. In addition, the controlled and low number of high-paying surf tourists can permit low number, high yield and low impact tourism with contained and reduced negative impacts both on the environment and the local community. Tavarua's approach (and that of other exclusive surfing and tourism operations worldwide) with restriction of access as well as a policy of elite tourism development with 'price discrimination', raises several issues within the broader context of tourism sustainability. The exclusion from surf breaks of Fijian and international surfers, raises issues of intra- and inter-generational equity of access to surfing resources (Cohen, 2002) (see Chapter 8). While socio-cultural, economic and environmental sustainability at Tavarua appear to have been met, it is clear that the attainment of all aspects of sustainability is far from realistic and that some trade-offs (whether viewed ethical or not) are unavoidable.

Despite the above, that the findings suggest that Tavarua is a good example to illustrate that surfing tourism, if managed and planned appropriately, can contribute to the long-term economic viability, environmental sustainability and socio-cultural

appropriateness and high tourists' satisfaction. It is concluded here that a managed and regulated surfing tourism at destination areas, based on the destination's RCC with controlled access and limited number of surf tourists aligned with an environmental strategy, can be sustainable.

The findings from this case study have wide implications for existing and new destinations where surfing resources are limited. The case study of Tavarua also strengthens Buckley's (2002a:405) view that "*Surfing Tourism on small islands hence provides a strong case for managed access to limit both crowding of clients and cultural impacts on host communities*". Tavarua remains a leading model for sustainable surfing tourism.

8. General Discussion: Sustainable Surfing Tourism at Remote Destinations – Dream or Reality?

8.1. Introduction

Increasingly, surfing tourism has driven the search for exploration of novel and remote destinations, which by definition, are often associated with fragile communities and unique environments. However, surfing tourism has received limited examination in the academic literature and there have been few empirical investigations into the implications, consequences and influence of surfing tourism particularly on remote and sensitive destinations. The aim of this study was to investigate whether surfing tourism at remote destinations has been and can be sustainable, when assessed against environmental, socio-cultural and economic parameters.

The following discussion incorporates the major empirical results obtained from the analysis of twelve exploratory interviews and three empirical case studies in conjunction with a review of existing literature. The depth and extent of the data generated during the research also allowed for a general review of surfing tourism. This chapter offers an insight into the challenges associated with development of surfing tourism in remote and fragile destination areas and the wider implications arising from the findings are discussed.

To address the aims and objectives of this thesis, the discussion will focus on the following key themes:

- (i) The dynamics of surfing tourism and its consequences at remote destinations. This section examines (a) the nature of and driving forces behind the phenomenon of surfing tourism; (b) surfing tourism's influence in opening new peripheral areas and tourism destinations; and (c) the character of surfing tourism destinations in relation to Butler's destination lifecycle and the implications for the destination in relation to sustainability.

- (ii) The most significant socio-cultural, economic and environmental impacts associated with surfing tourism.
- (iii) The factors influencing the long-term sustainability and success of surfing tourism at destination areas. These factors are discussed in context of the destination's evolution. Most importantly, Recreation Carrying Capacity as a key management tool for surfing tourism at remote destinations is examined.
- (iv) The potential management options for promoting sustainable surfing tourism at destinations. In this final section, implications and challenges for future management of tourism development at remote destinations are discussed.

8.2. The dynamics of surfing tourism

8.2.1. The nature and phenomenon of surfing tourism

The study strengthened the assumption that surfing tourism was largely driven by the ongoing search for uncrowded waves, the discovery of novel surfing destinations and the enticement of the 'idyllic' surfing destinations, an image continually developed by the surf media and the surfing industry. Components of the 'idyllic' surfing destinations included symbolic elements such as 'perfect' waves, uncrowded conditions, and exotic and tropical environments (Chapter 4). This supports Ponting's (2006) findings in relation to surfing tourism in the context of the Mentawai Islands, Indonesia.

In the quest for new destinations and uncrowded waves, surfers were found to have been the pioneers of many 'remote' and largely 'untouched' tourism destinations worldwide. This suggests that surf explorers or allocentric surfers share similarities to drifters (Smith, 1990), explorers (Moore and Whitehall, 2005) and backpackers (Westerhausen and Macbeth, 2001) whereby, they are perpetually searching for "out of the way", and "undiscovered" remote destinations. Consequently, surfing tourism (Ponting *et al*, 2005), in the same way as ecotourism (Burton, 1998; Swarbrooke, 1999), adventure tourism (Zurick, 1992; Shackley, 1994, Swarbrooke *et al*, 2003) and independent travellers like backpackers (Spreitzhofer, 1998; Visser, 2004; Ponting *et al*, 2005) has been a catalyst

in the development of peripheral and relatively 'pristine' destination areas. Yet, as has been previously discussed, the exploration and incursion of surfing tourism into increasingly remote, isolated and previously 'untouched' areas, often associated with sensitive ecosystems and marginalised fragile communities, indicates that surfing tourism can be an 'invasive' type of tourism (Spreitzhofer, 1998; Bramwell, 2004). This reiterates the importance of understanding the consequences of surfing tourism development at remote destinations and management of the potential impacts on the destinations in order to achieve long-term sustainability.

8.2.2. Evolution of surfing tourism destinations in relation to Butler's (1980) lifecycle and sustainability implications

Many surfing tourism destinations have developed from unknown and isolated areas, to world-renowned and overcrowded tourism destinations, to desolate and degraded areas - the 'boom to bust' tourism cycle. Chapters 4 and 6 revealed that with uncontrolled access and the absence or lack of planning and management, many surfing destinations have experienced a rapid and high influx of tourists and *ad hoc* over-development, resulting in exceeded RCC, overcrowded conditions, socio-environmental degradation, dissatisfied tourists, downmarket competition and decline (Buckley, 2002b). Uncontrolled growth of tourism destroys the very essence or *raison d'être* of why surf tourists chose to visit a destination in the first instance. Idyllic, uncrowded and pristine tropical environment can be transformed into overcrowded, polluted and degraded destinations. Having lost their original appeal, surfing destinations can be quickly abandoned for new, untouched and more competitive destinations, and the cycle continues. Thus, it can be argued that surfing tourism development has occurred in many destinations with little regard for long-term sustainability. However, the environment and communities at destinations often suffer the socio-cultural, economic and environmental costs, some irreversible. Consequently, unplanned and unmanaged surfing tourism can threaten the long-term viability of local communities, the environment, the natural resources, the surfing resource base (i.e.

uncrowded waves) and the surfing tourism industry itself. This pattern of evolution of surfing tourism destinations, resulting in socio-environmental degradation of the destination, overcrowding and their ensuing abandonment, indicates the potential for 'self-destruction', and is consistent with Papatheodorou (2004:220) that "*if growth is left unplanned, (destinations) are likely to become victims of their own success and eventually decay*" Chapter 4 and 6 provided clear evidence that surfing tourism when unmanaged and uncontrolled can become economically unviable, socio-culturally inappropriate and environmental harmful, and thus unsustainable

The examination of the evolutionary trends of surfing tourism development at destinations as identified in Chapter 4 and 6, provided evidence that many surfing destinations have closely followed the path traced in Butler's (1980) lifecycle model, with indications of stagnation and/or decline. Destination lifecycle and/or 'boom to bust' of surfing tourism destinations identified in this study, parallels that experienced by ecotourism (Burton, 1998), trekking destinations in various parts of the Himalayas (Zurick, 1992) and other mainstream tourism resorts worldwide. Such patterns, as previously explained (Chapter 2), ignore the sustainability principles (Butler, 1980) and can induce many negative and long-term implications at remote destinations. The study highlights that surfing tourism when unmanaged does not escape from the 'self-destruct' theory of tourism

Based on the study's findings and adapted from Butler (1980)'s cycle of tourism development, a generic conceptual framework of the evolution of surfing tourism destinations is proposed (Figure 8.1). In addition, a summary of each stage in the evolution of a destination has been tabulated (Table 8.1)

The hypothetical model provided a practical and illustrative conceptualization of the manner in which surfing destinations can evolve and develop if unmanaged, however, the model may not be universally applicable to all destinations as each destination has its own features and circumstances that can be influenced by exogenous and endogenous factors (Mieczkowski, 1995; Papatheodorou, 2004). The model does not necessarily account for the consequences of external factors (e.g., global economic instability, civil unrest or the discovery of other surfing destinations) which could contribute to the decline and changes in tourism levels at destinations.

Hovinen (1982) suggested that the scale of a potential decline at destinations is connected to three interrelated factors: relative location and accessibility, diversity of the tourism base, and effectiveness of planning. Yet, particularly in relatively remote, insular and hard to access destinations, and in developing countries, generally there are limited and/or a lack of government initiatives, interest, effectiveness and resources to create alternative development, diversity tourism, reinvent destinations and improve planning. This clearly strengthens the maintenance of the RCC for early and careful management of surfing tourism to avert problems and decline, particularly at remote destinations.

Obviously, the evolution of destinations may deviate from the hypothetical model with their own distinctive dynamics (Akama, 1999); and may not strongly exhibit certain lifecycle stages (Butler, 1980). Furthermore, this hypothetical model may be less applicable to planned surfing resort development and/or closed access destinations, which may have planning strategies to restrict access and tourists numbers and limit the scale of tourism development. Also, communities are not homogenous (Tosun, 2000; Liu, 2003), nor static, and consequently may react differently to tourism development, and across time. Nevertheless, the model provides a valuable portrayal of surfing tourism development in the context of unmanaged and open-access destinations and; yields insight into the principal dynamics of surfing tourism destinations. The dynamics of the evolution of surfing tourism development at destinations along the lifecycle indicated several key aspects

including. (a) RCC can be quickly exceeded, negatively influencing the surf tourists experience, (b) destinations can be subject to a change in the nature and type of visitor, and rapidly progress into *en masse* surf tourists' arrival and/or mainstream tourism with relatively large scale development, (c) destinations can concurrently progress through the process of Doxey Irridex, (d) destinations can evolve from pristine and idyllic surfing destinations to heavily degraded environments with the loss of its key attributes and amenity values which had attracted tourists initially, and (e) surfing destinations can experience a growth in the local surfing population and associated localism. The evolutionary pattern of surfing tourism destinations highlighted many aspects which were incompatible with sustainability principles and some of the main implications for each of the key findings are discussed below.

Overcrowding, RCC exceeded and degradation of the surfing experience

The finding of this study provided evidence that from the discovery of surf breaks at new destinations, spontaneous and uncontrolled growth in numbers of surf tourists, can rapidly expand beyond the destination's limited and optimum RCC, consistent with Buckley (2002b). The appeal of a destination is highly dependent upon well preserved primary resources (Kastenholz, 2004). Crowding was found to be both a factor and constraint affecting destination choice of surf tourists at remote destinations. Uncrowded waves were found to be key impetus for surf travellers to visit remote destinations. The study provided empirical evidence that once surf break(s) at a destination are overcrowded (exceeding their RCC), the quality of the surfing experience was markedly reduced and destinations could lose their main appeal. The study substantiated that crowding and exceeded RCC, were deterrents to visiting remote destinations and predominant reasons for surf tourists (particularly pioneering surf travellers) to abandon destinations and select less crowded surfing destinations. This is consistent with Dolnicar and Fluker (2003:10) who commented that "*the more popular and crowded a (destination) become, the less attractive it becomes*". The findings support the assumption that that crowding is a prominent negative

element at surfing destinations which can influence the long-term success and sustainability of surfing tourism.

By contrast, the control of surf tourists numbers around the destination's RCC was found to play a major role in the long-term success, competitiveness and economic viability of surfing tourism, and in achieving sustainability. Chapter 4 and 7 highlighted that upholding uncrowded waves at surfing destinations was a *sine qua non* for ongoing demand, and competitiveness of remote destinations. The safeguarding of uncrowded waves and maintenance of the RCC over time, had permitted Tavarua (Fiji) to remain an iconic, highly sought after and competitive destination (Chapter 7). The findings strengthened the assumption that the number of surf tourists should ideally be maintained within predetermined RCC limits of the destination to ensure tourist satisfaction and the long-term competitiveness of the destination, consistent with Butler (1980:11) that *"The development of the tourist area could be kept within the predetermined capacity limits, and its potential competitiveness maintained over a longer period"*. This is particularly pertinent at remote destinations where the surfing resources are limited, where surfing is the sole attraction and recreational/tourism resource, and where there is little economic alternative for the local community. This reiterates the point that particularly in the case of remote destinations where the RCC is low, that maintaining the RCC and uncrowded waves should be a core consideration for the long-term success and future of surfing tourism (Buckley, 2002b).

Obviously, the concepts of RCC and crowding will always be contingent upon and open to perception and interpretation, not only among the various surfing tourist segments, but also within the various stakeholders and community members at surfing destinations. Stakeholders and community members' views on, and expectations from surfing tourism, with regard to the level and type of tourism, may vary greatly from those of elite/surf explorers and visiting surf tourists with 'utopic' surfing destination aspirations in mind. The conservation of the RCC and control of tourist numbers to safeguard surf tourists satisfaction and experience may not be a priority from a community, stakeholders

and government perspective, as they may be indifferent to the type and/or numbers of tourists visiting the destination as long as economic returns to the community and area are derived. Consequently, the change from surfing explorers to mass tourism may not be an issue or concern from a community, stakeholders or government perspective, and the concept and/or fixed notion of RCC as well as perception of acceptable level of crowding in the surf may as a result, be contested and refuted by local communities and non-surfing individuals. This highlights future difficulties in the implementation and incorporation of RCC into surfing tourism destinations management.

RCC and crowding thresholds tolerated by surf tourists before satisfaction is diminished and they relocate to less crowded surf destinations, as indicated in Chapter 4 and 6, may vary across the surf tourist segments. Is it known that tourism motives can be contradictory (Hall and Page, 1999), and Dolnicar and Fluker (2003) reported that for the five surf tourist segments examined (i.e. from price-conscious safety seekers to the radical adventurers), a lack of crowds was very important in selection of surfing destinations by surf tourists. Yet surf tourists still visit and return to mature and crowded tourism destinations like Bali (Indonesia) and the Gold Coast (Australia) and these are far from “utopic” uncrowded surfing destination. Thus, a paradox clearly exists in motivations and factors affecting destination choice.

It may be that the surfing tourists return to and/or visit mature, crowded and degraded surfing destinations for reasons of: (a) high quality and iconic waves, (b) geographical proximity, and/or (c) cost. Many of the high quality and iconic surfing destinations around the world (e.g., north shore Oahu, Hawaii) currently suffer from crowding (Buckley, 2002a) and surf tourists therefore generally expect and are forced to contend with crowds in these areas. McNeely and Thorsell (1989) asserted that in the context of protected areas, visitation by tourists was inversely related to (a) time and discomfort of travel, and/or risk, and (b) cost involved with accessing a tourist destination. Kastenholtz's (2004:401) reported that “*geographical proximity increases the potential for repeat*

visitors”, and Buckley (2002a) stated that accessible surf breaks are generally the most crowded, while the least crowded surf breaks are often difficult to access. Dolnicar and Fluker (2003b) found in their study that a significant proportion of “price conscious adventurers” tended to revisit preferred low-cost destinations. However, Buhalis (1999:183) highlighted that destinations are often *“sold on price rather than their merit or attributes, and thus they are easily substituted with other cheaper destinations around the world”*. If surf tourists are financially constrained, however, they may be restricted in their choice of destinations. In supporting this point, Buckley (2002b:428) quotes Raymond (1998) who argues that the correlation between crowding and cost is a very different scenario for “time-rich, cash-poor” independent travelers, when compared to “cash-rich, time-poor” surfers who can afford to ‘search’ for uncrowded waves.

Thus, while surfing tourists generally prefer uncrowded destinations (Dolnicar and Fluker, 2003a) and high-quality iconic waves; accessibility, time and/or financial constraints may result in them visiting or returning to more crowded destinations. Future work could further investigate surf tourists’ motivations for visiting crowded surfing destinations, and low-cost and easily accessible mature and crowded surfing tourism destinations (such as Bali), may avert entering a decline in their lifecycle. However, in the case of remote and difficult to access destinations, to maintain uniqueness and appeal to surf tourists, and to develop and/or maintain a competitive edge against more accessible and/or nearby surfing destinations, careful management of RCC and crowds in the surf may be critical to avert potential decline. From a tourism marketing perspective, to further assist understanding of surfing tourism destination choice, future studies are required to investigate the correlation between surfing destination choices and demographics such as income, age, and family lifecycle, as well as other independent variables such as (e.g. surf level, surf experience). Whilst, the maintenance of the surfing RCC is only part of the solution and part of a holistic management approach based on sustainability concepts to attain sustainable surfing tourism at destinations, it can be concluded, as remarked by Coccossis and Parpairis (1995)

that Carrying Capacity must not be considered "...as an absolutely definite limit that is unalterable for each area of discussion, but rather as a means to an end, a rational management tool for sustainable development"

Doxey Irridex and community control and involvement into decision making

Another unsustainable aspect identified in the evolutionary trends of unmanaged surfing destinations, highlighted in Chapter 4 and 6, was progression through the process of Doxey Irridex. Over time, uncontrolled tourists arrival was associated with degradation of the socio-cultural values and the relationship between the host community and tourists (e.g., antagonism, harassment, crime, rip-offs, safety) at destinations. As illustrated in Chapter 4 and 6, antagonism could have far reaching effects on visitor's experience with the destruction of the destination's ambience and appeal, with reduction in its long term viability as a tourist destination (Faulkner and Tisdell, 1997).

With an absence or lack of local control and meaningful involvement in tourism development, communities at destinations can lose control over local and tourism resources as these are taken over by outside investors/foreign control (Ponting *et al.*, 2005) and/or local elites (Chapter 4 and 6). This had contributed to limited socio-economic development and inequitable distribution of benefits within the community, as well as economic leakage outside the community, while the community was burdened with negative socio-cultural and economic costs (e.g. land use change and land price rise). This consequently resulted in levels of antagonism, and resentment towards tourism and tourists, which inherently negatively influenced the tourists' experience at destinations.

Nevertheless, the likelihood of destinations experiencing Doxey's Irridex response to tourism can be minimized and/or averted. This study provided evidence that a combination of meaningful dialogue between the surf operators, resources owners and the local communities (Trousdale, 2001), community control (Mitchell, 2001; Mitchell and Eagles, 2001) and involvement in the running and participation in decision making

(Tallantire, 1993; Mansfield and Ginosar, 1994; Brown and Essex, 1997; Diagne, 2004; Johnston and Payne, 2005) of surfing tourism development, is key to the long-term success and sustainability of surf tourism. This was found to have: (a) contributed towards harmonious relationships between the community, the resort and visitors over time; (b) ensured that the communities received socio-economic benefits from surf tourism; (c) assisted the community to have influence over the direction of development, gain and share tourism revenue and reduce socio-cultural impacts of tourism; and (d) contributed to community support for surfing operation(s), all essential to sustainability.

Community ownership and management of their natural and surfing resources, (highlighted in sections 7.9 and 7.10) was found to have allowed some level of community control and involvement in tourism operations and tourism development (Mitchell and Eagles, 2001). Theoretically, community ownerships of surfing resources should assist communities to have a greater influence over the control of surfing tourism and in deriving benefits from surfing tourism. However, there are examples where community ownership of resources is no guarantee that benefits will be derived. Ponting *et al* (2005) and Persoon (2003) reported that unprepared indigenous communities in the Mentawai Islands (Indonesia), despite owning the surfing resources, failed to share benefits from surfing tourism as unregulated free market and foreign-controlled surfing tourism industry quickly 'took over'. As Ponting *et al* (2005) stated "*Unregulated free-market approaches to development in less developed regions place local people as just one relatively powerless stakeholder group amongst many others*". Thus, to improve and ensure that the distribution and share of benefits from the use of surfing resources reaches the respective communities, regulations and policy measures are required. Most importantly, as previously remarked by Walpole and Goodwin (2000), this will require concerted efforts, cooperation and involvement of all stakeholders in tourism, including local government, local communities, and tour operators.

It can be concluded that as in any other tourism types, the communities' involvement in decision making was a necessary condition to minimise negative socio-

cultural impacts while increasing the positive benefits and was an essential prerequisite for community empowerment and support for surfing tourism development and for ongoing surfing tourism success and socio-economic sustainability (Mansfield and Ginosar, 1994; Wearing and Larsen, 1996, Simpson and Wall, 1999a; Som and Baum, 2004) Under such circumstances, process of Doxey Irridex may be avoided.

There are, however, limitations and difficulties associated with implementation of community participation in tourism development, particularly in developing countries (Tosun, 2000, Liu, 2003) Communities are not homogenous and can hold entrenched divisions of class, status (Liu, 2003) and power (Blackstock, 2005). In the context of developing and marginalised communities, involvement of the community in tourism development and tourism processes is often restricted by the communities' limited education background, lack of expertise and training in tourism, restricted knowledge on surfing tourism, and lack of financial resources (Tosun, 2000). Tosun (2000:622) argued that *"if communities in tourist destinations are not empowered in a real sense, involvement may be restricted to elites in the community, which often results in their interests being considered rather than the interests of the community. In other words, domain of elites in participatory decision-making may enhance their own status and legalise what they are doing at the expense of excluded communities"* It could be argued that even if surfing tourism was community-based, rather than operated by offshore interests, or operated in partnership with the community; equal opportunity, distribution of tourism benefits and employment within the community and between different socio-economic groups would not necessary be guaranteed and could equally end up in the hand of local elites (Tosun, 2000) with little or not benefits to the wider community. The case study of Lagundi Bay exemplified such issues. Whilst tourism and surfing tourism cannot resolve internal community power relationships, tourism has the potential to worsen power structures and inequalities within communities Surfing tourism operators and investors should inherently strive to empower communities at destination and ensure early community partnership, engagement and participation in tourism development in order to

minimise and/or avoid such issues. Each destination, with its own intricacy and complexity including socio-cultural and economic circumstances, political influence, internal power relationships and conflicts of interest over tourism and natural resources, creates variation and nuances for the process of Doxey Irridex, which may also change across time. This calls for ongoing involvement of all stakeholders affected by surfing tourism throughout the lifecycle of surfing tourism at destinations (Nelson, 1994).

Move to mass/mainstream tourism with large scale development

Along the lifecycle, both the nature of the destination and the type of tourists visiting the destination changed. As highlighted in Chapter 4 and 6, many open-access destinations pioneered by surf tourists, with uncontrolled access and associated development within a short period of time (a decade) rapidly progressed into *en masse* surf tourists' arrival and/or mainstream tourism with relatively large-scale development. Furthermore, crowding beyond the optimum RCC was a pivotal element in the destination's lifecycle whereby a certain segment of surf tourists sensitive to crowds (i.e. early surf adventurers) were displaced to other uncrowded destinations and were replaced by the more psychocentric surf tourists and mainstream tourists (less sensitive to crowding). Displacement and coping mechanisms have been discussed elsewhere in the tourism literature (Kearsley and Coughlan, 1999; Manning, 2003). Thus, surf tourists can be the precursors and forerunners of *en masse* surf tourists' arrival and/or mainstream tourism in otherwise remote areas. Westerhausen and Macbeth (2001) reported a similar phenomena with backpackers where many areas which had been popular have turned into mass tourism destinations. It has been remarked that: "*backpackers are often seen as part of an almost inevitable tourism development sequence as the advance guard, pioneers of a resort cycle*" (Butler, 1980; Cochrane, 1996 cited in Hampton, (1998:654)), and it is argued here that parallels to this can be formed for surf travelers. The progression of a destination into *en masse* surf tourists' arrival and/or mainstream tourism with relatively large scale development has many implications in relation to sustainability.

In the context of fragile communities and wilderness areas, high numbers and large scale tourism development are known to be generally incompatible with fragile environments and communities (Marion and Farrell, 1998, Ryan and Cooper, 2004) as well as sustainability objectives. Many surfing destinations have displayed some characteristics of mass tourism destinations with high number, low yield, high impacts as well as relatively large-scale development (Buckley, 2002b). Thus, even if a certain level of mass tourism arrival could be sustained and would potentially be economically viable for some time, socio-cultural and environmental sustainability could be compromised (Wallace and Russell, 2004) High tourist numbers and relatively large scale tourism development, as demonstrated in Chapter 6 and raised in Chapter 4, quickly exceeded the environmental, socio-cultural and economic carrying capacities of the destinations and were neither appropriate for safeguarding of the ecological integrity nor socio-culturally acceptable for the local communities. Furthermore, from a socio-economic perspective, and consistent with findings for backpacking (Spreitzhofer, 2002), uncontrolled low budget surfing tourism can be equivalent to low-budget mass tourism with high socio-environmental costs

By contrast, surfing tourism when developed around the RCC, with low and controlled numbers of high paying tourists, was found to be not only economically viable, but could contain/reduce negative impacts both on the environment and the local community The case study of Tavarua, (Chapter 7), provided empirical evidence that low number, high yield tourism developed around RCC had been environmentally and socio-culturally acceptable, while economically viable, and had facilitated the long term success of the Tavarua. This reinforces the argument that in the context of remote destinations, the attraction of the most appropriate number and type of tourists may result in more sustainable tourism development (Kastenholz, 2004). In the context of and for the reasons outlined above, 'small numbers, high yield tourism and small scale development' in comparison to 'high number, low yield, high impacts tourism' appears even more

imperative for the long term success of surf tourism destination and attainment of the dimensions of sustainability (i.e. socio-cultural, economic and environmental) (Buckley, 2002b; de Haas, 2002; Hill *et al.*, 2006). It can be concluded, and consistent with ecotourism and other nature based tourism, drawing in the type of tourists most beneficial to the areas (Smith, 1990; Cater, 2000) and 'right' level of demand (Carey and Gountas, 1997), in this case, small scale, high-value surfing tourism is core to attaining sustainability at remote destinations (Gössling, 2001).

Degradation of the environment and destination attributes

The maintenance of the environmental quality as well as preservation of the destination 'sense of place' and, scenic and amenity values are critical and core elements for remote destinations to sustain their ability to compete against more accessible destinations and for the continuing success of surfing tourism at destinations. This study indicated that unplanned tourism development and tourist activities could quickly degrade the natural environment as well as other destinations attributes (e.g. beach, scenery) and inherently damage the essential quality of the surfing destination image that had attracted surf tourist in the first place. The study revealed that the attraction to and amenity value of remote surfing destinations was thus not solely based on uncrowded quality waves but also on the quality of both the natural environment and, uniqueness of the area. The quality of tourist experience and loss of attractiveness/appeal of the destination were found to be adversely influenced by degraded environmental quality (e.g. water quality, pollution) and loss of destination attributes (e.g. quality of the waves, natural settings, beach erosion), as concluded by Buckley (2002b:428) "*The waves are still there, but the amenity value is not*". The findings clearly reinforce for surfing tourism the interdependence between a quality natural environment and the long-term viability of surfing tourism at destinations (Ashworth, 1995; Hunter and Green, 1995; Marion and Farrell, 1998; Drakou *et al.*, 2004). Thus, the qualities that attracted surf tourists in the first instance must be retained in order for the destination to remain competitive and avoid the risk of decline in the future. This clearly

suggest that amenity values and the determinants for visitors selecting these areas as tourism destinations must be upheld and managed if surfing tourism is to remain successful and sustainable over time. Stewardship of ecological, social and cultural resources (Dwyer and Kim, 2003) and sound environmental management (Hu and Wall, 2005) and holistic destination management are essential to secure the competitiveness and long-term viability of surfing destinations, and the well being of the community(s) and the environment.

Local surfing population at destinations and localism

Along the evolution of tourism destinations, local surfing populations often develop, along with localism. The local surfing population and localism were two other factors identified in this study which could inadvertently impact the long-term success and viability of surfing tourism destinations. Growing local surfing populations could potentially jeopardise the destinations' future competitiveness and appeal to surf tourists, as local surfers competed directly with surf tourists for surf resources. Drawing from the experience of Lagundi Bay (Chapter 6, Section 6.5.2), the local surfing population increased pressure on the destination's limited RCC and quickly exceeded it. As the local surfing population grew over time, localism was found to develop in parallel. Whilst 'localism' is a complicated product of surfing itself (Sheibel, 1995; Ishiwata, 2002) and occurs worldwide (Buckley, 2002a), the study found that this was a prominent negative social impact affecting the surf tourists experience, destroying the ambiance of destinations. Chapters 4, 6 and 7 provided further evidence that localism was deterring many surf travellers from visiting destinations, returning to destinations and driving many to other destinations (Buckley, 2002a)

From a management perspective, if the surfing tourism industry at destinations is to remain economically viable, competitive and maintain surf tourists satisfaction, surf operators, managers and stakeholders must take into account potential local surfing populations and localism. It must be anticipated that where communities are in proximity to surfing tourism activity and surf breaks, that over time local people will become involved

in the activity. Consequently, it is argued that a growing local surfing population and localism, has the potential to jeopardise surfing destinations' long-term competitiveness and their appeal to surf tourists, especially where surfing resources are limited. While local surfing population and localism will not be an issue in closed access and/or privately owned destinations, as observed in Tavarua (Chapter 7) and/or where there is no local community in proximity to the surfing destination (as illustrated by Gnaraloo, Chapter 5), it will be an important issue at open-access destinations. Consideration is required to respond to the issue of local surfing populations and localism, necessarily involving engagement and dialogue between the surf operators, surf tourists and the local surfing population. This however raises the issue of equity of access of "local-as-users" on the local surfing and natural resources (discussed in subsequent sections).

Lifecycle and decline of surfing tourism can be averted

While the cycle of birth, growth, stagnation and decline was a characteristic of many tourist destinations, the study showed that not all surfing destinations entered a decline phase and/or abandonment. Two case studies, Gnaraloo and Tavarua (Chapter 5 and 7 respectively) have experienced no indications of decline and were still popular and iconic destinations. Yet it has to be noted in the case of Gnaraloo and Tavarua, that both have a single agency controlling access (Buckley, 2002b), which has contributed to maintaining the scale of tourism development and in controlling tourists numbers. With early planning and management, controlled access and visitors numbers, identification and maintenance of the RCC, as demonstrated in Chapter 4 and 7, surfing tourism destinations can remain (over decades), highly sought after and competitive destinations, with no indication of stagnation or decline. It can be concluded that if surfing tourism development is controlled from the outset (Buckley, 2002b) and based around the RCC, the decline of destinations can be averted.

Alternatively, destination can avoid decline through the diversification of the tourism industry or restructuring of the tourism destination (Butler, 1980; Agarwal, 2002).

As a result, destinations could enter a rejuvenation phase and subsequently commence a 'new' cycle. For instance, the implementation of corrective measures such as environmental quality and tourism product quality enhancement could address and counteract decline. Yet, in the case of surfing tourism, while the environmental quality of the destination could be improved through infrastructure development (e.g. sewage system and rubbish collection), the tourism product (i.e. uncrowded waves) can be difficult to manipulate, as Buckley (2002b:428) remarked, "*..once overcrowding has occurred, it is not easily reversible, and certainly not by market mechanisms alone*". This is particularly pertinent at destinations like Lagundi Bay (Chapter 7), where the local surfing population exceeds the RCC and keeps growing. Thus, from an economic perspective, in such a scenario, it could be recommended that to ensure an ongoing flow of tourists and to revive the economic viability of the tourism industry, rejuvenation schemes would have to focus primarily on diversifying tourism to market types other than surfing. For instance, some destinations could take advantage of previously untapped resources (Butler, 1980, Aguiló *et al.*, 2005) and modify their attraction base (e.g. cultural or natural resources) to attract different tourist segment and diversify their tourism market. In Bali for instance, the introduction of conventional tourism has significantly cushioned the destination from any decline in surf tourist numbers. However, not all destinations have the opportunity to rejuvenate. Many destinations may not have alternative attractions or resources (such as ecotourism or cultural tourism) from which to diversify their markets and expand tourism (Mowforth and Munt, 1998). Even if they did, diversification requires some level of investments and marketing strategy and is highly dependent on the nature and degree of local and regional government involvement. Yet, in the case of peripheral and remote destinations (particularly in developing nations), local, regional and national governments may neither be forthcoming nor have the capital investment or foresight to initiate a tourism rejuvenation schemes. This clearly indicates that the decline and collapse of surfing tourism

can be a critical issue for the community(s) at remote destinations where surfing tourism may be the prime economic resource.

Furthermore, for destinations to redesign themselves often entails attracting mass tourism to capitalise and render the tourism economically viable. However, this is likely to be incompatible with other sustainability objectives. Hence, whilst diversification of tourism at the destination may be an essential condition for securing both an inflow of tourists and economic viability of tourism in the interim, this may not address some of the socio-cultural and environmental objectives, especially where carrying capacities are already exceeded. These findings stress the importance of maintaining the appeal and managing tourism at remote destinations if tourism is to be sustainable in the long-term.

Limitations of the proposed hypothetical model

The proposed hypothetical model of the evolution of surfing tourism destinations (Figure 8.1), conceptualises the lifecycle of open-access and uncontrolled/unmanaged surfing destinations. The proposed model, however, should be interpreted with some caution. The case studies of Lagundi Bay and Tavarua presented in this research may represent relative extremes on the spectrum of destination lifecycle; Lagundi Bay as characteristic of uncontrolled tourism at an open-access destination, and Tavarua of controlled and managed tourism at a closed-access destinations. Tavarua possessed an unusual suite of circumstances including a geographically secluded resort separated from local communities, offshore surfing reefs with difficult access, local community ownership of *qoliqoli* and surfing resources, and a small and close-knit community, which all may have contributed to its success and long-term sustainability. Other surfing destinations will have different circumstances and socio-political *milieu*, which will set the context of their tourism development, and influence and shape their tourism development and destination lifecycle. The tourism industry and destinations are influenced by a very complex set of heterogenous and exogenous factors (Hernandez and Leon, 2007) beyond the control of surfing operators, tourism planners and policy makers (Akama, 1999). Each destination

may also have different opportunities for the diversification of their tourism industry or restructuring of the tourism destination, which will influence the destination's stagnation, decline and/or rejuvenation. Whilst evolutionary stages of other surfing tourism destinations may deviate from the proposed model, it is nonetheless a useful concept for understanding development patterns. The model serves to illustrate the manner in which surfing tourism destinations may evolve over time, as well as planning and management parameters which may influence the sustainability of surfing tourism at unmanaged and uncontrolled surfing tourism destinations

8.3. Significant impacts associated with surfing tourism

Drawing on the experience of three case studies and the exploratory interviews, this section summarises the most significant impacts, both positive and negative, associated with surfing tourism at remote destinations. This does not intend to provide an exhaustive list of all the impacts associated with surfing tourism but rather, indicates the main consequences of surfing tourism on the host communities and the natural environment at remote destinations

8.3.1. Environmental impacts of surfing tourism

This study demonstrated that surfing tourism can be environmentally unsustainable and can adversely impact the natural environment (refer to Table 5.1 for a summary of some of the key environmental impacts induced by surfing tourism at destinations). Although surfing tourism is non-consumptive *per se*, it is neither an impact free nor a 'smokeless industry'. If unmanaged, surfing tourism has exhibited a range of environmental issues, and in some cases, led to severe environmental degradation (sometimes irreversible). Infrastructure development, surfing activities, ancillary activities (onshore and offshore) and access were all found to induce unintentional, accidental, direct and indirect and cumulative impacts on the terrestrial and marine environment and biodiversity. Dominant environment issues identified in the study included: pollution, waste disposal, wildlife and vegetation disturbance, beach erosion, degradation of fringing reefs and nearshore marine

environments and depletion of natural resources. Although these impacts may not be at the scale of other industries (e.g. logging, mining) or other types of tourism (e.g. marina development), they must be considered by managers, surf operators and stakeholders, as they may not only affect the long-term success of tourist industry, but can jeopardise the integrity of local environments and communities.

As previously highlighted, the true nature of surfing tourism in remote destinations as documented in this study, clearly undermines its non-consumptive and benign image. The findings clearly reinforce that surfing tourism, like any other form of tourism, needs to be controlled and managed in a sustainable manner and monitored from its inception in order to avoid degradation of the coastal and marine environment. In accordance with Hall (2001), tourism if managed appropriately, may ultimately be more ecologically sustainable than many other industries in coastal areas. The case study of Tavarua highlighted that small scale development of surfing tourism based on sound environmental management practices (e.g. code of conducts for tourists) and the destinations carrying capacity, can have minimal impacts and be environmentally sustainable (Chapter 7).

Surfing tourism has the potential to promote environmental conservation and is a viable and/or more appropriate alternative to more destructive use of natural resources. As demonstrated at Tavarua (Chapter 7), surfing tourism had become a viable economic alternative to the exploitation of marine resources and was found to have influenced and empowered local communities to protect their reefs and natural environment. Surfing tourism thus has the potential to provide a more favourable and attractive alternative option to unsustainable consumptive use of marine resource and/or more destructive practices (such as cyanide fishing, sand and coral mining etc) in marginalised communities endowed with surfing resources. Furthermore, coastal communities could benefit from the non-consumptive use of waves as a more profitable industry with higher return and long-term economic gain than short-term destructive practices. It can be argued that surfing tourism like other generally non-consumptive tourism such whale watching,

ecotourism and diving could provide local communities with a strong economic interest and incentive for conserving quality natural resources (Silva and McDill, 2004) and the coastal and marine environment for the future

While surfing tourism impacts will be highly site-specific, dependent on the resiliency of the environment at a location, the type and intensity of use at the destination, the type of tourists, the activities they partake in, as well as type of management system in place, these findings have wider implications to remote areas worldwide. These findings will be particularly pertinent in destination areas, with limited, inadequate or non-existent infrastructure and limited management and enforcement.

While the study's scope was to investigate the environmental impacts of surfing tourism at a local and destination level, the wider and global environmental impacts of surfing tourism and the issue of climate change require consideration. The global environmental consequences of tourism (Gossling, 2002) and greenhouse gas emissions from tourism are issues increasingly discussed in the academic literature (Dubois and Ceron, 2005). Tourism is a significant contributor to greenhouse gas emission through air and road travel as well as energy use at destinations (Gossling, 2002). In the case of surfing tourism, the global surfing population's pattern of travel by road and long-haul flights while undertaking surfing vacations contributes to greenhouse gas emissions, and may inadvertently impact coastal and marine environments at destination areas and on the vulnerability of associated coastal populations. Over time, climate change may contribute to the demise and degradation of surfing destinations with the potential for sea-level rise, changes to oceanographic patterns, wave patterns and storms events, the bleaching of the coral reefs and coastal changes (e.g. erosion) affecting surfing breaks worldwide. The environmental considerations outlined above highlight the challenges that are inherent in achieving sustainable tourism and surfing tourism.

8.3.2. Socio-cultural impacts of surfing tourism

Surfing tourism, like other forms of tourism (Gössling, 2001) can engender complex changes on fragile cultures and communities. The results of the study indicate that particularly during the initial stage of surfing tourism development, social benefits may include the development of facilities and infrastructure, medical assistance, increase educational levels and a general elevation of standards for some in the community, and in some cases resulted in a revival of traditional cultural practices. However, surfing tourism was found to produce negative socio-cultural impacts at destinations, including: (a) disruption of the socio-economic system of communities; (b) degradation of community's cohesion and social kinship as a more individualistic and competitive mentality developed; (c) inequalities of benefits among community members; (d) destabilization of the social 'fabric' and family structures; and (e) increased land price and changes in land use. Western influences from surf tourists could also contribute to the decay of social values including dress codes, change in diet and religious practices. Surfing tourism was found to have spawned previously unknown social ills in remote destination communities including prostitution, drugs, alcoholism and crime. This in turn could influence community members at destinations through the 'demonstration effect', potentially causing great resentment within the wider community (Sindiga, 1996) (refer to Chapter 6). While these issues are not specific to surfing tourism and have been reported elsewhere (Smith, 1990; Ryan, 1991; Sindiga, 1999), the study highlighted that inappropriate surf tourists behaviours can negatively influence/change a vulnerable recipient society (Nash, 1989) or accelerate changes already under way (Macnaught, 1982), and leave behind a significant legacy. This situation reinforces the argument that there is inherently an onus on the visiting surf tourists to behave responsibly at destinations as well as on surf tourism operators to develop and implement codes of conduct/practice within the surfing tourism industry to minimise negative impacts while maximizing positive impacts on the destination's environment and communities. The study warrants future studies on the development of

best practice for surfing tourism at destinations and calls for more case studies of surfing tourism destinations.

8.3.3. Economic impacts of surfing tourism

Surfing tourism has induced direct and indirect, positive and negative economic changes and impacts on destination communities. Surfing tourism has the potential to benefit marginalised communities and promote local development by providing alternatives to a subsistence economy and/or creating new economies. Important positive economic impacts identified in this study included diversification of the local economy, increase in employment opportunities, creation of cash economies, and increases in income and standard of living. However, the study highlighted that uncontrolled and unregulated surfing tourism in a free market environment can result in limited and/or marginal benefits to communities as local elite and outside entrepreneurs quickly monopolise the surf tourism operations and related businesses, leading to economic leakages and inequitable distribution of income among the community, while the community was burdened with high socio-economic costs.

Consistent with an early study by Gossling (2001:430) on tourism development in coastal communities in Tanzania, surfing tourism was found to disrupt the local socio-economic system and contribute to a self-reinforcing cycle of ecosystem degradation. This in turn threatened the long term socio-economic well-being of the destination communities and ecological integrity of the local environment. Our study also revealed that along the lifecycle, some destination communities had abandoned traditional subsistence livelihoods/economies for tourism related cash economies, resulting in the disruption of the socio-economic system and in the development of dependency and reliance upon tourism for employment and income. The case study of Lagundi (Chapter 6) revealed that unmanaged tourism, had significantly degraded the integrity of the destination communities life-supporting ecosystems (e.g. local fishery). Over-exploitation of nature resources and ecosystems degradation from unmanaged tourism development, population growth and

tourists activities, had set in motion what Gössling (2001:447) described as “*a vicious cycle of ecosystem degradation*”, leaving community increasingly reliant on tourism for livelihood and incomes.

While initial stages of surfing tourism can provide positive benefits to the local community, the study also highlighted that decline and collapse of tourism can bring economic ruin to both the local surfing tourism industry and those whose livelihoods depend upon it. Chapter 4 and 6 clearly demonstrated the severe implications of the decline and surf tourists' desertion of the destination on the economic welfare of the local community(s). This had caused increased financial and social hardships, with the loss of employment and income derived from surfing tourism or related industries. While destination communities could use surfing tourism as an aid to diversifying the local economy and/or complement other economic activities and subsistence livelihoods, the study findings strongly advocate that dependence on tourism should be avoided and similar conclusions have been made elsewhere (Harron and Weiler, 1992; Ioannides and Holcomb, 2003). This clearly reasserts the fragility and vulnerability of communities in remote areas and the risk associated with reliance upon any type of tourism including surfing tourism. At destination areas where communities have no alternative economic resources and where the surfing resources are the major and/or only marketable tourism resources, sound environmental management and controlling tourism within both the RCC and environmental carrying capacity of the destination will aid to promote long term socio-economic and environmental sustainability. Negative impacts associated with surfing tourism included: loss of traditional economies, dependence and reliance on tourism, disruption of the socio-economic system, land use change and rise land price, inequitable distribution of tourism income and economic leakages outside the destination. Yet, if manage properly and with appropriate community involvement in tourism development (Chapter 7), surfing tourism can achieve relatively significant positive benefits, including

meaningful employment, higher standard of living than that afforded by subsistence living, diversification of economic activities, long term economic benefits and secured income.

It can be concluded that, providing surfing tourism develops in a sustainable manner, surfing resources have the potential to be a significant economic resource with long-term benefits for economically depressed and underdeveloped communities, particularly in remote areas where existing industry is limited and there is a lack for economic alternatives. However, if surfing tourism is developed without the inclusion of local communities socio-economic requirements and if surfing tourism experiences declines once developed, communities could be placed in a worse position in the long-term. Unprepared and marginalised communities, particularly in developing countries, endowed with surfing resources can have these rapidly colonised and commercialised by an externally controlled and operated surfing tourism industry (Ponting *et al*, 2005; Ponting, 2006) or a local elite, with little or no tangible benefits, while bearing the deleterious costs of tourism. Surfing tourism, in the absence of controls, has been referred to as a form of neo-colonialism, and as Reed (1999) remarked, a "*potentially destructive kind of Neocolonialism*". If surfing tourism and its industry aims to strive towards sustainable tourism and development at destinations, this tourism niche/market must critically reflect on and reassess its mode of operations and practices in relation to sustainability principles and ethics, particularly in marginalised communities, in poor and developing regions, and in fragile and pristine environments. The findings have highlighted both the opportunities and limitations of surfing tourism as a viable economic endeavour for remote and fragile destinations.

8.4. Key factors affecting the sustainability of surfing tourism at destinations

One of the aims of the study was to increase understanding of factors influencing the sustainability of surfing tourism at destinations, and this section will summarise the key factors determined which influence the sustainability of surfing tourism at destinations. Surfing tourism at open-access destinations, if unmanaged, can become economically

unviable, socio-culturally insensitive and environmentally inappropriate. Some of the key factors which influence the sustainability, and potentially induce decline at a destination and/or collapse include: overcrowding/RCC exceeded, growing local surfing population and localism, socio-environmental degradation of the destination (including the degradation of host and guest relationship and environmental quality), lack of meaningful community benefits/involvement in decision making and a lack and/or absence of planning and management. While it is almost impossible for tourism not to impact the local environment or the host community, surfing tourism development based around the RCC of the destination, provided a control mechanism limiting the number of tourists and scale of development, preventing overcrowding and dissatisfaction of surf tourists, affording safety in the surf and reducing socio-cultural economic and environmental impacts (Sowman and Fudge, 1987). It can be concluded that the RCC can be a key management tool to attain long-term social, economical and environmental sustainability, and this supports Buckley's (Buckley, 2002b:440) assertion that "*the identification and management of the recreation capacity is particularly critical to maintain an economically, social and environmentally sustainable tourism industry*".

Nevertheless, the findings highlighted that the maintenance of the RCC, while a core element, would not be sufficient to ensure the sustainability of surfing tourism at destinations. The study highlighted that the social and environmental considerations also have to be taken into account. There may be cases, for instance, where the RCC may exceed both the social and environmental carrying capacities at destinations and consequently overwhelm both the host community(s) and fragile environments. In such cases, the number of surfing tourists will have to be reduced to be compatible with the social and environmental dimensions of sustainability.

For surf tourism to encourage patterns of sustainability, which can benefit local communities, protect the environmental, and be economically viable, there are a range of contingent factors, including: uncrowded waves, identification and management of the

RCC, the safeguarding of environmental integrity, positive host-guest relationships, ongoing community benefits/involvement into decision making, early planning and management and small scale, low number, high yield tourism. However, these findings clearly highlight the complexity and challenges in achieving sustainability of surfing tourism at remote destinations

8.5. Options and challenges for management of surfing tourism

This section provides suggestions and highlights some of the challenges confronting the management of surfing tourism at remote destinations (see also Chapter 4 and 5 for discussion of potential management tools). This study revealed that without responsible and adequate management and planning practices, the surfing industry and other stakeholders involved in the development of surfing tourism can degrade the very fabric on which its future prosperity is based and jeopardise the long-term viability and future of destination communities and ecological function of local environments. Destination communities and land managers/regulatory bodies are often taken by surprise by the rapid growth of tourism. The study suggests that to date, surfing tourism has developed in many locations in an *ad hoc* manner with limited planning and/or regulation. The combination of an absence or lack of planning, control and management, infrastructure, reinforcement and compliance to regulations, intervention by local agencies, compounded by a 'free for all' and *laissez faire* attitude in tourism planning and political indifference, have resulted in unsustainable tourism development at destinations. Thus, early, sound and holistic tourism management and planning were found to be essential prerequisites to preserve the communities and environment at destination and for the long-term future of surfing tourism at destinations, while assisting in achieving overall sustainability at destinations.

The successful development and management of surfing tourism destinations will often be specific to the location, and circumstances at the destination but management must be flexible and adapt to the evolution of the destination over time. Although

management should be tailored to the unique socio-cultural, economic and environmental situation of the destinations, a few basic principles apply regardless of whether the destination is open or closed access. From the study's findings, suggestions of the potential strategies and management techniques which could be used to reduce impacts at destinations have been summarized (Table 8.2). Overall, the findings suggest that a judicious combination of management approaches will be required at each destination. Similar to other forms of coastal and marine tourism, some of the mechanisms which could be implemented for surfing tourism include regulatory and economic measures, site hardening techniques, development of appropriate facilities, and ongoing monitoring (Nelson, 1994; Orams, 1999; Hall, 2001).

Table 8.2. Management strategies and techniques to reduce impacts of and promote sustainable surfing tourism in remote destination areas.

Strategies	Techniques
Limit visitor number around the Recreational Carrying Capacity or socio-cultural or environmental carrying capacity.	Restrict and limit numbers around the Recreational Carrying Capacity of the surf break with regulatory measures (e.g. licensing, permits, quota) regulatory measures (e.g. entrance fees, user fees, operators fees). Closed access.
Maintain or rehabilitate environment of destination areas.	Site hardening techniques (e.g. boardwalk, maintained paths to stop further erosion, fencing). Development of appropriate facilities (e.g. sewage and hard waste facilities).
Modify use and recreational activities within problematic areas/fragile areas through regulatory measures	Zone and/or close specific areas for certain and/or all activities. Prohibit certain activities which may be detrimental.
Education and soft management approaches.	Educate local community (consultation). Education surf tourist (Code of conduct). Self-regulation of the surfing industry (Code of practices, best practice, certification and accreditations programs).
Monitoring of socio-cultural, economic and environmental impacts as well as tourists satisfaction.	Environmental impact assessment and environmental auditing. Survey with host communities and visiting tourists (e.g. evaluation of level of acceptable change).

Limit visitor numbers around the RCC

To limit visitor numbers and impacts at destinations and prevent the destination's progression through the lifecycle, will involve limiting access by independent tourists and visitors as well as rigorous control of surf operators. A similar conclusion was made by Burton (1998) in the context of ecotourism. As highlighted earlier, to aid the long-term

success of the destination, RCC is a key management tool. While this may be easily applicable to closed-access destination, this will be a greater challenge at open-access destinations where resources are subjected to uncontrolled access by both surf tourists and tourism operators. Thus, to overcome issues at open-access destinations and limit number around the RCC, a judicious combination of regulatory measures (e.g licensing, permits, quota) and economic measures (e.g entrance fees, user fees, operators fees) will be required. Similar schemes have been used in diving (Davis and Tisdell, 1995, Green and Donnelly, 2003). However, in the case of open-access destinations, while commercial surfing operations may be controlled to a certain extent through fees, time restrictions, and related mechanisms, it may be difficult to manage and/or restrict access of independent surfing tourists, particularly with limited information on numbers and travel habits. This is a significant issue as a majority of surfing destinations have unrestricted and uncontrolled access. As Dolnicar and Fluker (2003) also pointed out, managers will need to work closely with surfing tourists to address and devise methods of controlling numbers and minimising impacts. This highlights the requirement to conduct future research specifically on independent surfing tourists to gain specific information on their requirements and travel habits. Regulatory and economic measures may be a means to retain tourism benefits and to distribute these to destination communities, however, in open-access destinations where there are undefined divisions of responsibilities for coastal, marine and natural resources between government agencies, and a variety of stakeholders with separate expectations from surfing tourism, there are significant challenges associated with the management and distribution of benefits. An important issue confronting restriction of access, is that sustainability will not be achieved if that restriction hinders destination communities access to resource required for subsistence living (Barking, (1996). It can be concluded that managing access must be socially and culturally appropriate to be successfully implemented and enforced (McCool and Stankey, 2001).

Maintain or rehabilitate environmental quality of destination areas

The study highlighted that the most significant impacts of surfing tourism were mainly a result of unrestrained development and/or inadequate infrastructure/facilities rather than the tourists' activities *per se*. In addition, most impacts identified were localised and could be remediated with the development of adequate infrastructure and facilities (e.g. sewage and hard waste facilities) and sites hardening techniques (e.g. boardwalks). The challenge, however, will be to stimulate and promote support from the local governments, stakeholders and surfing tourism operators to invest in adequate infrastructure and/or comply with environmental regulations.

Modify recreational activities within problematic/fragile areas

Surfing tourism can and has already developed in marine park areas or protected areas where management objectives were to sustain ecological function and biodiversity. Measures could be implemented such as the restriction of access to certain areas and zoning of surfing and other ancillary activities (detrimental to the environment locally) may be necessary.

Education and soft management approaches

It is argued that onus of the impacts of the surfing tourism at destinations should be on the surfing industry, stakeholders involved in tourism and visiting tourists. While closed-access destinations or destinations owned by single agencies (Buckley, 2002b) may be able to restrict access and control tourism around the RCC limits, this will be a greater challenge at open-access destinations with shared natural resources (Hardin, 1968). Thus, other measures will be required in order to reduce socio-cultural and environmental impacts at destinations. Firstly, the lack of guidelines, regulations and lack of overseeing authority or body for the surfing tourism industry was found to hinder its sustainability. There is an urgent need for the surfing tourism industry to create codes of practice, models for operation and accreditation schemes to promote socio-cultural and environmental beneficial surfing tourism at destinations. A development certification system for

sustainable surfing tourism might provide a tool for surf operators. Secondly, surf tourists impacts were found to be mainly a result of a lack of awareness and/or naivety of their potential impacts in fragile and coastal communities and/or remote and isolated environment. Environmental education (Nelson, 1994, Brown and Essex, 1997, Xie, 2004) of tourists should be given a priority with, for example, the development of codes of conduct. It is important to note that surfers like any other tourists should be responsible travelers at surfing destinations and education should commence at home. Finally, the study indicated that communities are often unprepared for the opportunities and negative impacts of surfing tourism at destinations and inadequacy in stakeholder participation and community involvement are factors influencing the sustainability of surfing tourism. Thus, as suggested by Scheyvens (2002) in the context of other form of tourism, communities should be educated on both the benefits and pitfalls of surfing tourism and as suggested Xie (2004) should be trained appropriately.

Monitoring environmental, socio-cultural and economic change

Tourism can cause substantial long-term cumulative changes on the environment (Nelson, 1994) and destination communities. The results strengthen the requirement for the introduction of appropriate management strategies and implementation of environmental (Bass and Barbier, 1993, Tallantire, 1993; Smith *et al*, 1999, Sathiendrakumar, 2002) and socio-economic monitoring frameworks (Miller and Auyong, 1991; Bass and Barbier, 1993). Environmental impact assessment, environmental auditing and environmental monitoring could be used to assess environmental impacts with regard to socio-cultural and economic impacts, levels of acceptable change and human surveys with host communities and visiting tourists could be applied. Ongoing monitoring and assessment of socio-cultural, economic and environmental impacts of tourism at destination is critical, yet their effective management, as previously highlighted, are much more difficult (refer to monitoring limitations, Section 5.5.2). Surfing tourism, which is a significant and expanding economic sector (Buckley, 2002a and 2002b), requires an

effective institution and structure to manage issues of licensing, monitoring, planning, community involvement and protection of the environment.

Ethical dilemmas in restricting access and a time to rethink surfing exploration

The restriction of access/exclusion to valuable surfing destinations as a path to, or in the name of 'sustainability', does not come without controversy or ethical dilemma. Restriction of access goes against the fundamental notion of 'freedom' within the surfing subculture; and brings with it issues of equity (Cohen, 2002). The restriction of access to, and surfing tourism's capability of exclusion at, valuable surfing destinations clearly conflicts with surfing's lifestyle of 'freedom' (Lanagan, 2002) and the surfing ethos of free-access to surf breaks (Buckley, 2002a). These two notions are very much instilled in the surfing subculture and advocated by the surfing media (Ponting, 2006). It is no surprise that the idea of restricting access at surfing destinations and privatisation of recreational spaces (Shaw and Williams, 2003) has been and is vehemently critiqued among many western surfers, and mainly perceived as unethical and inequitable. Cohen (2002:273) remarked "... *to exploit sites for profit and at the same time ensure their sustainability is to open them to elite tourism...*". Closed and restricted access to, as well as the policy of elite tourism development with 'price discrimination' at surfing destinations, raises several issues within the wider aspect of tourism sustainability. An argument often levelled against restricting access through price discrimination and elite tourism is that this impacts upon the wider surfing community by allowing only the more affluent surfing tourist elite to enjoy some of the world's best waves. Newly discovered surfing destinations are at risk of being commercialised and privatized, which may be a disconcerting point for local communities and local surfers, particularly in developing countries, as increasing numbers of their home and national breaks turn into exclusive surfing destinations. The exclusion of local and international surfers from to access surf breaks raises issues of equity and fairness, and

highlights intergenerational and intra-societal equity of access to surfing resources (Cohen, 2002)

In terms of sustainability, in restricting access and limiting numbers around the RCC, whose interests are best served? Is it to guarantee a quality surfing experience to surfing tourists and to ensure economic profitability of the surfing operation, or is it for the attainment of environment and socio-cultural and economic sustainability and to benefit the host community at the destination? If the restriction of access does not impinge on and is beneficial to local communities while achieving the objectives of sustainability, then is this acceptable? Should the travelling surfer's hedonistic desire to have access to cheap surfing destinations be met prior to the interest of the local community who are trying to fulfill their basic needs? Shouldn't the host community have the right to draw on the type of tourists most beneficial to the area and themselves?

It is argued here that a surfer's right to travel to experience the surfing 'utopia' and explore for perfect waves, then leapfrog to the next surfing destinations once the surfing dream and utopia have been consumed, leaving a legacy at destinations of irreversible socio-cultural, environmental and economic impacts in fragile environments and unprepared communities, is no better than colonialism and exploitation. Surfing tourism should be a positive economical tool to developing countries and remote communities. Surfing tourism, like other forms of adventure tourism (Zurick, 1992), could provide an increasing role for local socio-economic development in peripheral areas as well as provide an alternative to more destructive practices (e.g. cyanide fishing), as surfing tourism in its simplest form requires limited capital investment. This suggests that surfing tourists and other forms of adventure tourists may need to rethink their rights to travel freely, access destinations and utilise fragile natural environments (particularly in developed countries and marginalised communities) as their playground to practice their sport or passion. This implicit notion of free access must also change from the top down with a shift from the surfing industry and surfing media who influence and perpetuate this philosophy in their

marketing. As Ponting's (2006) remarked "...there needs to be a change in the discourse of the surf media from a position of advocating the rights of surfers to travel freely where ever they wish and access the surf resources of local communities, to a position which respects local ownership of ocean and reef resources by local resource owners and centralising their needs and concerns in the surfing tourism equation rather than the other way round". There must be a shift in the concept of the journey of exploration and adventure in the search of surfing utopia and the perfect waves away from that of colonisation and commercialisation. In an interview with Kevin Lovett (Lovett, 2005), Ponting provided a poignant new vision, with particular reference to Lagundi Bay, on what the dream of the perfect wave could entail, "*The dream of perfect waves in an amazing tropical environment where a fascinating, strong and relevant local culture is well and truly alive. The dream of surfing tourism that works with and for local communities, that respects rather than ridicules, conserves rather than consumes, develops rather than denigrates, embraces rather than exploits, preserves rather than pollutes: this is 'the new dream' of surfing in [Lagundi]*".

Restriction of access and the ethic of 'free-access' lead to the contentious issue of open versus closed access at surfing tourism destinations to achieve sustainability. Strictly from a perspective of environmental conservation, and in the context of wilderness areas, tourists and surfing tourist should accept that access to these high conservation value areas must, more or less, be prohibited. As Buckley (2000:189) remarked "*The fundamental reason for conserving wilderness is to prevent the collapse of these systems, not to provide a tourist playground.*" While the use of restricted access around the RCC and elitism policy as a management approach at surfing destinations can be used as a means to achieve sustainability at certain destinations, it will nevertheless remain a passionate ethical debate. This will not answer the management needs and sustainability objectives of all surfing destinations, nor will it address the fundamental problem of allowing access of locals surfers to their home/national surf breaks. Management policies will have to adapt to and suit the environmental *milieu* and socio-cultural and political context of each destination. Aside from issues relating to the regulation of use and access and the difficulties of administration

and implementation of such management tools, particularly in open access destinations, acceptance of restricted access among the surfers will be challenging. It will need to overcome the notion that waves are free and accessible to anyone, as well as a traditional resistance of surfers to regulations (Booth, 1995) This highlights a need to provide a wide variety of surfing tourism operations, to cater not only for the variety of surfing tourism segments, but to also meet the various socio-economic needs of communities at destinations. While surfing tourism requires the adoption of varying access and management schemes, given issues of equity and destination communities' requirements, whether surfing sustainability can be realised and a balance achieved between the various elements at destinations, remains uncertain.

9. Conclusion

This study investigated the sustainability of surfing tourism at remote destinations. The aim of this exploratory research was to examine surfing tourism in remote and sensitive destinations and evaluate its consequences and sustainability in relation to socio-cultural, economic, and environmental parameters; and thereby derive planning and management requirements for remote surfing destination and the surfing tourism industry.

9.1. Overall findings and implications for existing and new destinations

The findings suggest that the ongoing "search" for uncrowded waves, the discovery of novel surfing destination and the enticement of 'idyllic' surfing destinations, has led to a surge of exploration and intrusion by surfing tourism into uncharted, remote and vulnerable destinations and often unprepared communities worldwide. Surfing tourism appears to have been a catalyst in the establishment, development and commercialisation of peripheral and relatively 'pristine' destination areas. This has been a 'mixed blessings' at certain destinations and for some marginalised and unprepared communities, and has raised questions regarding the sustainability of surfing tourism at remote destinations.

Surfing tourism, like other forms of adventure tourism (Zurick, 1992) may provide a stimulus for local socio-economic development in peripheral areas (endowed with quality waves), particularly as surfing tourism in its simplest form requires limited capital investment. However, surfing tourism in remote areas has in many instances, provided limited socio-economic benefits to host communities and has indicated elements of neo-colonialism and an unregulated free market approach (Ponting, 2006). To date, the fragmented surfing tourism industry and lack of existing regulations, co-ordination, policy

guidelines and a management authority(s) of the surfing tourism industry have hindering the sustainability of surfing tourism

The study revealed that surfing destinations can, within a short period, develop from unknown and isolated areas to world-renowned and commercialised destinations. In the absence, or with limited planning and management, many surfing destinations have experienced a rapid and high influx of tourists and *ad hoc* and over-development, resulting in an exceeded RCC, overcrowded surfing conditions, socio-environmental degradation, dissatisfied tourists, downmarket competition and a decline of tourism influx and the destination (Buckley, 2002b). This study suggests that destinations can experience rapid unplanned surfing tourism development and display many characteristics of mass tourism destinations with high number, low yield, high impacts as well as relatively large scale development (Buckley, 2002b). The evolutionary pattern of unmanaged and open access surfing destinations displayed similarities to Butler's (1980) model with indications of stagnation and/or decline as well as a progression through the process of Doxey Irridex from 'euphoria' to 'antagonism'. Based on the study's findings, uncontrolled and open access surfing destinations can experienced a 'boom to bust' phenomenon with a decline, and/or abandonment, for new uncrowded and more competitive destinations. The findings also revealed that surfing tourism can evolve into a form of mass tourism. Once the idyllic destination has been consumed, surfing tourism can leave behind a heavy legacy of severe socio-cultural, economic and environmental costs at destination(s), and in the quest for uncrowded waves and idyllic surfing destinations, leapfrog to the next uncharted destinations. The study suggests that unmanaged and uncontrolled surfing tourism at destinations can be economically unviable, socio-culturally inappropriate and environmentally harmful. It appears that surfing tourism development in many destinations has, to date, occurred with limited regard for long-term sustainability. These findings will be particularly relevant to the planning and management of surfing tourism at novel, remote and fragile areas, offering an analysis of the issues associated with the evolution and

dynamics of surfing tourism development at remote locations. This may assist with the management and progression of the destination development cycle and provide understanding with regard to the markets which may visit the destinations.

The case study of Tavarua suggests that with: early planning and management, controlled access and visitor numbers, low number of high paying tourists, the use of, identification and maintenance of the RCC, community involvement in decision making and in the development of tourism, surfing tourism can provide long-term economic benefits to the community with relatively minimal impact to both the environment and the community. Surfing tourism, if appropriately managed, can contribute to the destination's long-term competitiveness while ensuring that it is socio-culturally appropriate, environmentally acceptable, and economically viable. This case study, however, highlighted the issues of inter and intra generational equity of access at surfing destinations. The study reinforces the requirement at new surfing destinations for early management control of visitor numbers and access (Buckley, 2002a,b) and early and ongoing consultation and involvement of local communities and other stakeholders affected by surfing tourism, in order to ensure the long-term sustainability of surfing tourism.

From an environmental perspective, the explorative case study of Gnaraloo indicated that while the direct impact of surfing *per se* may be relatively insignificant, impacts related to access, natural resource consumption and tourism-related activities and development at destinations, can lead to disperse and wide-spread ecological damage on the coastal and shallow marine environment. With this information, land managers, regulators and surf operators, should be in a better position to plan and monitor the environmental impacts of surfing tourism and its associated activities and development on the fragile coastal and shallow marine environment.

This research determined key factors which may negatively influence the sustainability and potentially induce the decline and/or collapse of destinations including: overcrowding in the surf/RCC exceeded, expanding local surfing population, localism,

socio-environmental degradation of the destination (including the degradation of the host and guest relationship and environmental quality), lack of meaningful community benefits/involvement in surfing tourism decision making, and the lack and/or absence of planning and management. However, the study found a range of contingent and contributing factors which may benefit local communities, protect the environment, be economically viable and provide tourist satisfaction and also encourage patterns of surfing tourism sustainability at destinations. These factors included: uncrowded waves, identification and management of the RCC, the safeguarding of the environmental integrity, positive host-guest relationship, ongoing community benefit, involvement into decision making and participation in surfing tourism, early planning and management and small scale, low number and high yield tourism. The study also found that the RCC can provide a control mechanisms limiting the number of tourists, scale of development, preventing overcrowding and dissatisfaction of surf tourists, affording safety in the surf and aiding the long-term success of the destination. The findings suggest that the RCC could be a key management tool to attain long-term socio-economical and environmental sustainability of surfing tourism (Buckley, 2002b). It is important to note, however, that the RCC alone will not guarantee the sustainability of tourism at destinations, and that a holistic management approach including all dimensions of sustainability is required. While, the study highlighted the greater challenges in implementation, and political acceptability and equity issues of the RCC as a management tool at open and closed access destinations, surf operators and land managers should give consideration to the impact of overcrowding in the surf on surf tourists' satisfaction and the destination's long-term success. While Melián-Gonzalez and Garcíá-Falcón (2003:735) noted the "...success of particular form of tourism depends to a great extent, on the resources which it possesses", the identification and maintenance of RCC as a management tool to ensure the long term success of the surfing operation and competitiveness of existing and new destinations, may have particularly wide

implications at destinations where surfing resources are limited and where alternative tourism attractions are limited.

From a management perspective, the study highlighted that surfing tourism at destinations should be carefully planned and implemented from its inception in order to achieve socio-cultural, economic and environmental sustainability (Buckley, 2002b). In order to do so, a judicious blend of regulatory and economic measures, educational and soft management approaches, site 'hardening' techniques, development of appropriate facilities, and a socio-economic and environmental monitoring framework will be required and adapted to the environment and socio-political context of each destinations. Sustainable surfing tourism in remote areas, should strive to apply to the following:

- (i) Protect the natural environment, as this constitutes a fundamental element in the attraction of tourists to a destination, and by so doing, conserve natural heritage, ecological processes and biodiversity;
- (ii) Respect the socio-cultural authenticity of host communities, conserve built and living cultural heritage and traditional values, and contribute to inter-cultural understanding and tolerance; and
- (iii) Ensure viable, long-term economic operations, providing socio-economic benefits to all stakeholders, that are fairly distributed, including stable employment, income-earning opportunities and social services to host communities, contributing to poverty alleviation.

However, without partnership and cooperation between industry and regulatory authorities (Huybers and Bennett, 2003), host communities and other stakeholders involved at destinations, surfing tourism is unlikely to be sustainable in the long-term. In order to attain social, economic and environmental sustainability, the study clearly strengthens de Hass's (2002:319) view that "*A balance needs to be made between the three concepts to achieve sustainability, with careful planning and monitoring*".

Overall, the study has provided (a) a more detailed understanding of surfing tourism, spatially and temporally; (b) an understanding the motivations of surfing tourists and the factors affecting destination choice as well as the factors affecting the success and failure of surfing destination, and (c) will facilitate implementation of measures to address and reduce impacts at existing surfing tourism destinations, and allow management authorities, surfing tourism operators and stakeholders to predict, pre-empt and plan the future direction of surfing tourism development for remote areas. With a better understanding of the dynamics and evolution trends of surfing tourism destinations and the factors affecting the success, failure and sustainability of surfing tourism, the present study may assist in the development and management of surfing tourism operations and associated tourism development in a more informed and strategic manner

9.2. Contribution to knowledge

This explorative study has expanded understanding of the phenomenon of surfing tourism and made a number of significant contributions to the existing body of knowledge:

The study has provided the first examination of the evolution of surfing tourism destinations using Butler's (1980) conceptual framework of the Tourism Area Life Cycle model. This research has proposed a hypothetical model which provides a valuable portrayal of the evolution of surfing tourism development in the context of unmanaged and open-access destination and has yielded insight into the dynamics of surfing tourism at destinations. It has addressed the gap in understanding with regard to the evolution, and potential consequences on the environment and communities, of surfing tourism in remote areas

The study has explored the factors affecting the sustainability of surfing tourism at remote destinations including socio-cultural, economic and environmental factors, and provided empirical insights into the impacts of surfing tourism in these areas.

The study is an important addition to surfing tourism research, an area that had received limited empirical analysis, despite increasing levels of expansion and intrusion into remote coastal and island destinations worldwide.

9.3. Future Research

Based on this explorative research, the following issues are suggested as priorities for future research:

Presently, the limited number of case studies of surfing tourism restricts comparison and discussion within the discipline. Research is suggested at additional open and closed access surfing destinations, and to test the factors identified in this study with regard to the sustainability of surfing tourism at destinations as well as to investigate and test the evolution of surfing tourism at remote destinations using Butler's lifecycle model.

While the study provided an overview of some of the environmental impacts associated with surfing tourism, more detailed environment and ecological studies are warranted to assist in the development of biological and social indicators to guide long-term monitoring protocols and to establish effective environmental management frameworks and policies.

While the study provided a better understanding of the socio-cultural, economic and environmental impacts associated with surfing tourism, more detailed and quantitative studies on the socio-economic benefits of surfing tourism are required.

Research is warranted within each surfing tourism segment to better understand their patterns (particularly at what stage in the evolution of the destination they cease visitation) to enable surfing tourism operators, local communities and management authorities successfully position destinations to the appropriate target-markets.

Further research, specifically on independent surf tourists is needed to gain more specific information on their requirements and travel habits.

From a tourism marketing perspective, to further assist understanding of surfing tourism destination choice, future studies are required to investigate the correlation

between surfing destination choices and demographics such as income, age, and family life-cycle, as well as other independent variables such as (e.g. level of ability, surf experience).

Future studies should attempt to identify an increased range, and improve potential management tools for surfing tourism at destinations, as well as on strategies for developing ecologically and socio-culturally sustainable surfing tourism

10. Appendix

10.1. Exploratory semi-structured interviews with key informants

Interview structure: Themed questions with statement prompts.

(A) What are the main motivations for surfing tourists to take surfing holidays and what factors affect destination choice?

Question: Why do surfers take surfing holidays and where?

Do surfers travel to find uncrowded waves and to surf new locations?

What are the main factors (and constraints) affecting destination choice? (for example: time, budget, season, distance, expertise, quality of the waves, climate etc).

Are "crowds" at a surf break at a surfing destination an important factor for surf tourists when choosing a surfing destination?

(B) The 'search' is often used to describe the ongoing efforts of surfers to discover novel, perfect and uncrowded waves in exotic and remote locations.

Question: Do you think that surfing and surfing tourism has resulted in the development of new destinations?

(C) The evolution of surfing destinations following discovery.

Question: Do destinations undergo change as a result of the arrival of surfers and surfing tourism? If so, what are the consequences and implications (please give examples)?

(D) The potential impacts (both positive and negative) of surfing tourism on destination areas.

Question: What do you think are the most significant impacts (environmental, socio-cultural, economic) associated with surfing tourism on destination areas?

What are the potential impacts of surfing tourism?

Do you think that surfing tourism impacts the environment at a destination?

Do you think that surfing tourism and tourism development can impact the culture and values of the local people at a destination?

Do you think that surfing tourism development can benefit the local community at a destination?

Do you think surfers are aware of their potential impacts at a destination?

(E) The behaviour of surf tourists at surfing destination and awareness of their potential impacts on the environment and local community

Question: Do you think that surf tourists are aware of their potential impacts on the environment and the local community at a destination visited? Do you think that surf tourists are responsible tourists when travelling to surfing destinations?

(F) The sustainability of surfing tourism at destinations

Many divergent types of tourism including mass tourism, ecotourism and nature tourism have been investigated in regards to whether they are sustainable or not. The notion of "Sustainable tourism" however has been under-examined in the field of surfing tourism.

Question: Do you think that surfing tourism is sustainable tourism?

Consider the triple bottom line (environmental, socio-cultural, economic)

(G) Factors contributing to sustainable surfing tourism at destination areas.

Question: What are the factors that contribute to the long-term viability of surfing destinations?

Once a surfing destination has been discovered, at what point do you think that surfers start looking for new destinations?

What is the relationship between the number and type of surf tourists visiting destinations and the sustainability of the destination?

(H) Examples of sustainable and unsustainable surfing tourism destinations.

Question: Please give examples of sustainable and unsustainable surfing destinations, explaining your reasoning?

(I). Management of surfing tourism at destinations.

Question: How should surfing tourism at destinations be managed to achieve sustainability and minimise potential impacts while maintaining a high quality recreational experience?

Do you believe surf tourist numbers should be controlled?

Do you think that surfing tourism should be regulated (for example, regulation, permits, licences, fee, booking systems and limits on the number of visitor at destinations)?

(J). Recreational carrying capacity at surfing destination.

Question: Recreational carrying capacity (explain) as a management strategy has been widely employed in a range of recreational and tourism settings (for example diving and trekking). Do you think that surfing destinations should be managed in accordance with their recreation carrying capacity to control the numbers of visitors?

Do you think that identifying and maintaining a recreational carrying capacity at a surfing destination could help maintain a high quality recreational experience for surf tourists?

What role do you think a recreational carrying capacity would play at a surfing destination?

What do you think about the concept of restricting access and limiting numbers of people coming to the area to ensure sustainable development of surfing tourism?

(K) Contacts.

Question Could you suggest individuals for interview, who may have a good understanding of the phenomenon of surfing tourism?

10.2. Key informants' responses on surfing tourism

Table A1. Thematic chart on the driving forces of surfing tourism.

Respondents	Search for new and idyllic surfing locations and uncrowded waves	Destination choice	Influence of surfing tourism in developing new surfing destinations
Jess Ponting Academic	Uncrowded waves: As part of the dream, an element of that is that the waves have to be perfect. It should be sunny and warm and it should definitely be uncrowded. It is not always the way it works out but, it is certainly a part of that. Cost: Probably expense has something to do a bit as well, but I think that there are different segments within that market.	I think people are going in search of this dream which has been constructed by the surfing media. They are probably going to live out their own surfing fantasies which have been developed due to their exposure to the surfing media during the course of their surfing lives.	The surfers' gaze starts to scan for new horizons and new surfing destinations.
Tavarua owners Surf operators	Search for the idyllic surfing location: Surfers have the curiosity to travel to new surf breaks and new surf destinations and; they seek to get away from crowded environments. Uncrowded waves: "Crowds" is a huge factor influencing surf tourism and destination choice.	The media has an important influence on promoting new remote destinations to the masses and to promote the fantasised surfing destination to the masses.	People then go to extremes to find new destinations with the ideal uncrowded surfing fantasy.
Kevin Lovett Surf adventurer	Search for the idyllic surfing location/uncrowded waves: The palm tree from the beach, the tropical backdrop, the uncrowded and empty waves are all part of the surfing utopia which surfers are looking for.		Travelling surfers in their pursuit to find uncrowded waves, move to the more remote areas of Indonesia. It has been one location after the other.
US based surf adventurer and journalist (Anonymous)	Search for the idyllic surfing location/uncrowded waves: The Indonesians have the resource, they have these reefs,..the waves..the warm water and... the climate. They have everything the surfers love having. That picture of that uncrowded perfect surf spot ..that is what surfers dream of.	The magazines promote that surf image. They have everything the surf magazines promote as "the ideal surf lifestyle" and "Ideal surf picture" and that is what Indonesia has and that is the image surfers aspire to.	Once a destination has become crowded, people soon search for new destinations.
Paul Edmiston Australian surf tour operator and academic	Search for the idyllic surfing location/uncrowded waves: The foregrounding of natural experiences is fundamental to the activities of surfing tourism. In their inexhaustible pursuit for the ideal surfing conditions necessary for wave riding... they are going out in the world and to find all those empty waves and surf all you want and discover some more surfing destinations and surf spots. There is this image of Bali's perfect tropical waves.	Magazine and film exposure revealed formerly 'secret spots' in all their glory. The improved accessibility of these areas adds weight to the already irresistible lure of an inexpensive and overseas tropical surfing holiday.	Surfers are pioneering tourists in remote areas. Surfers seek seemingly endless opportunities to discover their own uncrowded surf heavens.
Steve Barilotti Surf journalist	Uncrowded waves: Basically I think that what people want is to go surfing a break that is similar to home, but with warm water and that	Because over the years, the magazines, like the one I work for, have created these fantasy surf	I believe that surfers are kind of pioneer tourists to a given area, because they are

Respondents	Search for new and idyllic surfing locations and uncrowded waves	Destination choice	Influence of surfing tourism in developing new surfing destinations
	<p>has less people. In other words to skip the crowds. Surfers travel to these remote surfing locations because they want to have access to uncrowded surf.</p> <p>Cost. Usually they go to countries where they have a good exchange rate and good value for their money. Suddenly they are in surfing "nirvana"</p>	<p>Meccas where every surfer, a point in their life, has to go to. They have to go to the North Shore of Hawaii and they have to go to Bali. At present for everybody, the dream is to go to the Mentawais.</p>	<p>absolutely driven to find new waves, and they are not particularly concerned about the amenities of the place. Yes, definitely. Let's take the island of Bali as a case study. Before the 1960s Bali was rarely visited by tourists outside the occasional hippie backpacker. But after surfers discovered Uluwatu in the early 1970s things changed rapidly with the influx of international surfers.</p>
<p>Tim Baker Surf journalist</p>	<p>Search for the idyllic surfing location. A lot of surfers fantasise about the most idyllic kind of simple surf trip . to surf good waves and to get the kind of surf they might not be able to get where they live. They want a kind of surfing lifestyle where all that they have to worry is to go surfing in uncrowded waves.</p> <p>Uncrowded waves. I think that for the majority of surfers, "crowds" is a huge factor and that is why places like Tavarua is booked out a year in advance. There is a limit on the number of surfers and you can go there and you are not going to have crowds to contend with.</p> <p>Cost. Cost would still be a main factor for surfers.</p>	<p>[The popularisation of a surfing destination], it happens more quickly now than it used to because the media is more pervasive. We know by now that once the photos [of surf locations] have been published in magazines, surfers will find these waves whether these have been named or not.</p> <p>I think that the lure of the image of the perfect wave is too strong.</p>	<p>Surfers will continue to find their way to remote parts of the world more and more. They are prepared to forge their own trail and try to find remote surfing destinations. I would not be surprised if more and more surfers will want to try that more 'adventure' surf trip to new and remote areas. Surfers have scowled all over Indonesia and I think that the south Pacific may be the next place where surfers will be venturing to.</p>
<p>Peter Troy Surf adventurer</p>	<p>Search for the idyllic surfing location. Surfers' search for an idyllic isolated new surfing location. That was the impetus and that is why people started to go surfing and travel to find exotic places. So if you ask, what caused the discovery of new destinations, in reality today, it still applies and there are still isolated places to be found.</p>	<p>One needs to look at movies on surfing and surf magazines. I think that those who were making those movies and magazines, were giving the audience an "Alice in Wonderland" concept. They were given a captured gratification of adventures like eating lobsters and living in funky accommodation. Surfers can go to a tourist location because they are only following the Lonely Planet book, other surf guides and surfing magazines.</p>	<p>When I was in Bali people used to say "lets go to that next island (Lombok) to find the surf". Then the game went on to see the next island.</p>
<p>Steve Hawk Surf journalist</p>	<p>Uncrowded waves. The impulse to discover new waves and ride them alone with friends dates back to the very early beginning of the sport. In the first issues of Surfer magazine in 1960, forty-five years ago, the closing quote said "In this crowded world the surfer can still seek and</p>		<p>If it gets too crowded, surfers have always gone looking for new uncrowded places.</p>

Respondents	Search for new and idyllic surfing locations and uncrowded waves	Destination choice	Influence of surfing tourism in developing new surfing destinations
	<i>find the perfect day the perfect empty wave and be alone with the surf and his thoughts".</i>		
Pierce Flynn Surfrider Foundation	Uncrowded waves: Uncrowded waves, ...that is the dream. It is a competitive sport. Having an uncrowded [surfing] experience shared with a few of your friends, it is a dream kind of experience. That is definitely a factor in the choice of destinations. Looking at it holistically, "crowds" is a huge factor into the mental appeal of surf tourists. Personal preferences: Beyond that, is it: do you like warm water or cold water? Do you like reef breaks or beach break? Then you can break it down into the more specifics. I think it can be different for every single person.	I think it is different for every single person. If they are environmental surfers, then they may go to places like Tavarua, or Namotu or Sumbawa, or surf camp that has developed in a tourism friendly way, one that complements the local people and the local economy.	Absolutely, no question about it! Surfing tourism is a catalyst in opening new areas.
British surfing tourism operator	Uncrowded waves: I think that there are certainly a very large majority that like uncrowded conditions. Cost: There are different markets of surf travelling now. It depends on people and on people's budget. Personal preferences: Those who already surf, want to experience warmer climate, different types of environment and different types of waves. We have some of our most popular destinations that are crowded and are particularly always busy. Those with money searching uncrowded destinations go to the Maldives to find clear crystal waters, beautiful scenery and good quality accommodation. The growth area for us is people that want to learn to surf and to experience surfing as they have never experienced it before... for those, uncrowded waves is not so much a factor affecting destination choice.		Surfing tourism opens up new areas for tourism.
Surfing industry representative	Uncrowded waves: Surfers have been searching for their idyllic tropical surfing destination with uncrowded waves which is advertised by the surf and travel media. Search for the idyllic surfing location: Surfers are incredible travellers in the search for the "perfect wave"...		Surfers are very transient people. They go to some places for a few years and then they get tired of it and go somewhere else. Often they look to experience the local culture and live with the local people
Other comments from respondents		The surfing magazines have been portraying the ultimate surfers' fantasy.	

Table A2. Thematic chart of the evolution of surfing tourism at destinations

Respondents	Discovery of destination (Exploration and involvement)	Development and growth	Consolidation and Stagnation	Decline and abandonment of old for new uncrowded destination(s)
Jess Ponting	<p>Discovery Someone would discover a place and would start going back and they might form a strong relationship with the local family who would have them in their house and start cooking for them</p> <p>Involvement Then other people would find out about it and, find out about the family and they would recommend them to stay with the same people Then the family would start making money so someone else in the village would do it</p>	<p>Media exposure/ Development Maybe someone would show up with a movie camera or a camera and lots of people would want to go there and more people would build lodgings</p> <p>The Mentawaiis for example, got published with movies and a couple of different articles Meanwhile the word is still spreading that there is a place down here that has got uncrowded waves</p> <p>Within five or six years, there were 30 charter boats in the water</p>	<p>Oversupply/ attraction to lower market. The Nias example shows that if you keep bringing more and more people you can only charge people less and less money They built too many cheap places too close together and priced each other out of making any profits It started to get really bad</p> <p>Antagonism If think that Nias is a good example of Doxey irritation index and they have well progressed through that process The locals, some of them were friendly and some of them were right hostile and some of them were threatening on a regular basis I have not seen anything as extreme as the Nias case in terms of social impacts Maybe because other destinations have not been as far down the life cycle as Nias [which] has been a destination for quite a long time</p>	<p>Dissatisfaction/overcrowding. As the surf break(s) at the destination becomes more and more crowded, the less and less satisfying it is for the people involved</p> <p>Abandonment/ search for new destinations And so it goes on and until you end up with the Nias scenario Then no one wants to come there any more and people move to new destinations Lagundi itself was pretty much deserted It was a pretty desperate scene.</p> <p>Tourism lifecycle: Pretty much all the surf camps I have been to in East Timor to the North of Sumatra seem to have gone into the same sort of way</p>
Owners of Tavarua	<p>Discovery Each destination has its own series of evolution Yet generally a surfer would discover a surf spot which was pretty inaccessible</p>	<p>Growth: Once you publicise a new surf destination, it becomes another crowded spot More and more people show up and then the destination would be advertised by the media and more publicised This would lead to a further increase in the number of surfers</p>	<p>Over-crowding of surf break If the resources have been exhausted, in this case the waves and the whole destination starts to fall apart</p>	<p>Dissatisfaction/ overcrowding/ Abandonment The destination would get crowded and the recreational carrying capacity would be exceeded and cause dissatisfaction of surf tourists who would seek new destinations Surfers become dissatisfied with crowds and the destination loses its appeal</p>

Respondents	Discovery of destination (Exploration and involvement)	Development and growth	Consolidation and Stagnation	Decline and abandonment of old for new uncrowded destination(s)
Paul Edmiston	Discovery: Whilst surfers may lay claim to discovering new area.. By opening up those formally unknown surfing areas, more tourists made the trek to these destinations.	Growth: By opening up those tracks... the ensuing development of infrastructure to facilitate the surf tourists' needs has paved the way for further influxes of tourists... Change in tourism: Backpackers start coming in and, more and more surfers... The lonely planet, they put that it was a great place for surfing, so a lot of Europeans went there. Once that remote village environment becomes home to annual international surfing competitions with television coverage beamed worldwide.	Change in the nature of tourism: Thus it can be said that surfing tourism is a seminal form small scale tourism that may eventually be followed by large scale. There can be the inevitable progression of small-scale alternative tourism to high density mass tourism... Yet, what is mainstream and exploited to a seasonal [surf] traveller may be exotic and relatively untouched for a first timer. Overcrowding of surf break: The inevitable development that follows, leads to crowded surf breaks in otherwise remote zones. In doing so [pioneering surfer travellers] became instrumental in supporting the very development they were trying to escape. Oversupply/attraction to lower market: [Bali for example became increasingly commercialised. The destination then] attracts low budget accommodation and the area attunes to the needs of low budget tourists. Antagonism: In Nias you just saw local community attitude change towards tourists and tourism.	Dissatisfaction/overcrowding: Once overrun; destinations are regarded as crass version of what they once were. ... It is also a direct result of these destinations being considered by surfers as having exceeded their cc. The idyllic setting had become exploited and over-crowded, losing much of their original charm in the process. Because the people who forge the tracks get really disillusioned of what it has become... It loses the reason of why [surfers] went there in the first place. Search for new destinations: The pioneering surf adventurers spread to Indonesia's other islands, searching for what appeared to be lost in Bali. Some then go on looking for different uncrowded areas.
Kevin Lovett		Growth: It brings you great amount of people and masses of people that the environment cannot support.	Oversupply/attraction to lower market: When you start at the lower end of the scale then you attract all the low life aspect of development	Dissatisfaction: Things move on once a place gets "trashed". Before Lagundi there was Kuta in Bali. It is arguable whether much of this market is going to

Respondents	Discovery of destination (Exploration and involvement)	Development and growth	Consolidation and Stagnation	Decline and abandonment of old for new uncrowded destination(s)
			<p>and commercialisation Overcrowding of surf break As soon as the surf destination gets crowded and the destination changes, surfers move on This is what has happened to Lagundi Degradation of destination It has gone from being the tropical dream to the environmental nightmare. By that stage, Kuta was already started to be degraded Once it is the environmental nightmare you live on the old dream The responsibility of cooperate surf industry which has created this market. Change in the nature of tourism This has fuelled the destruction of the many fragile locations and overran them with mass tourism Then you end of with places like Bali and Nias Decline I guess that all these destinations have had a peak season and a peak period in their development and now they have tapered of</p>	<p>return Search for new destinations Once the place is worn out, it is always a matter to find the next destination.. It has been one location after the other</p>
US based surf adventurer and journalist (Anonymous)	<p>Discovery How it starts is by someone happens to find a break When a surf break is discovered, the word gets round via a coconut telegraph Disclosure of destination They tell a friend and the old days that could go on for years but now with the surf population the way it is, with the media</p>	<p>Media exposure This goes on exponential when the magazines and photographers show up and that photo goes into the magazines Once that happens basically, the cover is 'blown' Growth At that point there is either a lot of people going out there or there is going to be some kind of surf resorts set up or</p>	<p>Change in the nature of tourism Kuta used to be a nice sleepy little town and it is the Ensanada of Tijuana of Indonesia Degradation of destination It is noisy, loud and dirty These are the things that come with too many surfers coming in to enjoy this</p>	<p>Search for new destinations Crowded destinations lead to the discoveries of new places</p>

Respondents	Discovery of destination (Exploration and involvement)	Development and growth	Consolidation and Stagnation	Decline and abandonment of old for new uncrowded destination(s)
	and internet the way it is, it can happen in just a matter of weeks or months and then the word is out on a great break somewhere. Involvement: It is funny now you cannot read about a new discovery or a new place without then subsequently finding out someone is going out and camp there.	in the process of getting set up to restrict access to a lot of people going there. Change in tourism: This town of Puerto Escondido was built around the surf trade. It was a boom town in Mexico. There are hotels growing up on the beach and the airport bringing in surfers on a daily basis. There was all kind of businesses that sprung up.	resource. Overcrowding of surf break: In Kuta, it got crowded.	
Steve Barilotti	Involvement: The thing is, the Balinese who are really accommodating and very resourceful.	Development/involvement: Where before locals would have in their house a few guest rooms that turned into a restaurant. They did it so well so that it kind of grew. Change in tourism: Surfers for example have been the first tourists that came in and that attracted the "food chain" of more tourism and investment. Surfers were the first ones in, the surfers and hippies were the first backpackers in.	Change in the nature of tourism: Suddenly you have every first world amenity from electricity to shopping malls, Mac Donald, Dc stores... everything the western man or women desires. Antagonism: Surf travel is a wonderful thing but when it is just focused in a selfish "me first, and "f... everybody else attitude", then you end up with a lot of hostility not just amongst surfers but also amongst local people living there.	Dissatisfaction: Population pressures and crowds can kill the "fatted calf" or "the golden goose" of a pristine surf break and pristine surfing destination area. Search for new destinations: And it quickly spreads through surfing because surfers are always looking for that new uncrowded break down the road. For example, once Bali was crowded, surfers moved on to other islands down the Indonesian chain. But of course, now they are crowded as well.
Tim Baker	Discovery: There is probably a few different ways it could go. Often surfers are the first contact and first major sustain contact with remote communities. ... The case is Bali. Involvement: Surfers go to a place and inevitably the locals will find a way to cater for the needs of the surfers. At the simplest level they will give someone a room in their house and cook them a meal.	Development: Inevitably if the numbers of surfers will increase then a small kind of business will start around providing accommodation and food. Then a kid will learn to repair dings and someone else will start offering massages and etc. The Mentawaiis was only discovered by surfers relatively recently. Media exposure: They found Lance in the Mentawaiis in 1991 and by 1994-1995 it had featured in videos with all the major	Degradation of destination: The last time I saw it, the beaches along Legian are so polluted from the hotels. Change in the nature of tourism: Surfers were forerunners of general mass tourism there too.	Dissatisfaction: In the case of the Mentawaiis, it is interesting and I think that there will be a natural levelling off because I think of a lot of people who have gone there and would have spent their money and being disappointed to see how crowded it was. I think less people will go back next year. Search for new destinations: Surfers will continue to find their way to remote and uncrowded parts of the world more and

Respondents	Discovery of destination (Exploration and involvement)	Development and growth	Consolidation and Stagnation	Decline and abandonment of old for new uncrowded destination(s)
		companies and magazines from all over the world Change in tourism So that exposure happens more quickly now while Nias it happened over 20 years The Mentawais took just 5 years before it became popular and crowded.		more
Peter Troy	Discovery When a surfer has found an exotic destination that has fantastic surf, as the problems is what happens if you have an accident or a health issue? Involvement so someone provides you with that facility etc and then you have more rooms	Development The first people did not have those facilities, the next lot of people one or two years down the track had that facility Then you have people who want to make money and provide those facilities	Degradation of destination But all those places get destroyed because the tourists come there on mass and the ambience of the place is lost Change in the nature of tourism Places like Taghazout near Agadir in Morocco, all these types of places are used and abused and thrown away by the next group of travellers	Abandonment Then no one goes there anymore Search for new destinations That person finds a new place in a remote location ... I think that surf tourism evolves in a full circle
Steve Hawk	Discovery Yes, of course It starts immediately, with the first people who surf a spot Usually if it is in the middle of nowhere the first people who surf it have a pretty 'feral' existence staying in their tents or in the back of their vans They try to keep it to themselves but that never lasts long. News about a new spot spreads exponentially, especially if there are photos and especially now with the internet	Development Then if the locals realise surfing tourism is a resource they can capitalise on, they set up camps Or as it is often the case, an expatriate will realise that he can capitalise on it and starts a surf tourism operation.	Change in the nature of tourism Mass tourism is not the word I would use because there is a self-governing aspect to the crowds Surf spots can only handle a certain number of people Once a spot gets unpleasantly crowded, and word gets out about that and the masses stop coming	Dissatisfaction/search for new destinations If it gets too crowded, they start looking for other, less crowded places
Pierce Flynn			Degradation of destination/ [Surfing tourism at destination] can spin off to the ghettos scenario with drug use, robberies and crimes and the loss of opportunities	Tourism lifecycle Nias provides some very good example of tourism lifecycle Overseeing Nias and Bali and Fiji, what happened here in California, it is probably a very similar process!

Respondents	Discovery of destination (Exploration and involvement)	Development and growth	Consolidation and Stagnation	Decline and abandonment of old for new uncrowded destination(s)
British surfing tourism operator	Discovery: Yes there is a pattern in surfing destination from the discovery to crowded environment with many impacts.	Development: I have been dealing with a lot of smaller places around the world with local people who have guest houses. Before surfing there was just a little bit of business and now there are full up.		Tourism lifecycle: Yes there is a pattern in surfing destination from the discovery to crowded environment with many impacts.
Surfing industry representative	Discovery: If you take Tavarua and Grudjigan, it tends to be the initial guy(s) who discover the surf breaks and who develop the opportunity. Involvement: They flew over it, came back on a yacht with people, they thought this was a good wave setup and decided to make to establish surf camps commercially. As they filter into places, then the local community get used to dealing with the idea of surf tourists, they get used to the language and then they start to become more interested in commercially developing their connections.	Media exposure and change in tourism: Once a surf spot is publicised in surf magazines, it does not take long before surf tourists go there on mass.	Overcrowding of surf break: But by having surfing promoted there, it brings to the attention to surfers that there are too many people in that area. And it can then have a reverse effect, pull the habitation down due to the fear of paying for an overcrowded holiday. Degradation of destination/ Change in the nature of tourism: People have said that in the 1980s there was nothing at Kuta. Within 5 years there had been what seemed like unregulated development. It was ok for a few years, but it is now well out of hand with hotels and so forth being built everywhere. And the next example from there is Bingin. It seemed like it was expanding unchecked. Change in the nature of tourism and antagonism: So when we first went to Nias, it was a very simple community although surfers had been visiting it in a small numbers for years. Later after a significant investment by landlords and other investors, there was much more of a "party town" atmosphere, where	

Respondents	Discovery of destination (Exploration and involvement)	Development and growth	Consolidation and Stagnation	Decline and abandonment of old for new uncrowded destination(s)
			the social customs and local relationship seemed strained as they tried to take advantage of the tourists wealth	
Other comments from opportunistic interviews with other informants			Overcrowding Nias for example will, unless they completely killed the place by completely polluting it, the wave is not going to go away And when the words is out that it is too crowded, people will stop going until there is going to be the right number of people again	

Table A3. Thematic chart of the perceived positive socio-cultural and economic impacts of surfing tourism.

Respondent	Surfing tourism as an economic development tool for communities	Socio economic benefits and employment	Improvement of lifestyle/ infrastructural development and education	Other positive impacts of surfing tourism
Jess Ponting	<p>There has also been some good changes socially as well, probably it is more linked to economical changes though as it is a good way for remote communities and families to access foreign exchange which they would not necessary have been able to access otherwise.</p> <p>For example, it is arguable whether any economical development would have occurred in Southern Nias if surfing had not come and/or if surfing related economy had not been generated there.</p>	<p>Some families have done very well out of it, on a relative scale anyway. They have made a good living whereas before there had been able to make a living and/or may have been struggling.</p>	<p>Infrastructural development: In Nusa Island Resort, in Papua New Guinea, for instance, some of tourism cash injection is going towards tidying up places, providing drinking water, and sewage facilities for local people.</p> <p>Education: and also school fees for the kids of the people that work at the resort.</p>	<p>Community recognition: Surfing has brought a higher profile in terms of government awareness to these remote communities.</p> <p>SurfAid: The Sumba Foundation and SurfAid are going really well and getting bigger are all positive impacts of surfing tourism.</p>
Owners of Tavarua	<p>It has provided some stable financial system for the communities.</p>	<p>They are happy to have raised their standard up a little bit and given them employment opportunities.</p>	<p>Infrastructural development: It can provide communities with basic amenities, clean water.. a strong secure concrete house. Some reasonable medical health .. and schools for people in the villages.</p>	<p>Surf Medication association: Their lifestyle has improved with program such as the surf medical association.</p>
Kevin Lovett	<p>It can deliver some benefits to these marginalised and indigenous societies.</p>	<p>Yes I think that over a period of time, the volume of travellers and backpackers has been a financial benefit. The standard of living of the communities increases.</p>	<p>Infrastructural development: In Niiwatu, the surf resort has benefited the local community by creating wells..</p> <p>Health: clinics and medical facilities</p> <p>Education: ..from the educational point of view, to support schools and develop more schools in the area</p>	<p>Community recognition: Surfing tourism has brought focus and attention to many of these indigenous societies.</p>
US based surf adventurer and journalist (Anonymous)	<p>Surfing tourism can create a whole economical base which would otherwise not be there particularly for local communities in the third world. In this 21st century, surfing tourism within eco-tourism is really coming to play as an economic force in itself. There is tremendous potential for surf resorts and surfing tourism to have a real direct beneficial</p>	<p>When surf camps come in, the local population is directly affected in the sense that there is going to be local employment and surfers are going to buy local crafts, or whatever artifacts and what locals are making and offering for sale. Communities have steady source of income that they</p>	<p>Infrastructural development: The villages have been rebuilt with new churches, new schools, new streets and houses. They have seen huge improvements in their lifestyles.</p>	

Respondent	Surfing tourism as an economic development tool for communities	Socio economic benefits and employment	Improvement of lifestyle/ infrastructural development and education	Other positive impacts of surfing tourism
	effects to the local people themselves	never had before.		
Paul Edmiston	It has the asset to be an economic tool for third world countries and to inject money into the community	Other members of the community were open to benefit through the revitalisation of local crafts Surfing tourism supplemented the family's usual income	Infrastructural development. Other members of the community were open to benefit through improved infrastructure (pumped water, improved roads)	
Steve Barilotti	It has become like a legitimate part of their economy as they have a taking part in it		Infrastructural development/ Health I think providing also a positive advantage of these surf operations has been the establishment of the basics such as clean water and health care	SurfAid' I think what Dr. Dave Jenkins and the guys of SurfAid are doing is good for the Mentawai people and the surf community They are helping the Mentawai manage their own health issues through long-term education which is far more sustainable than running in there with a box of medical supplies and leaving after a couple of months
Tim Baker	First impression are the possible windfalls economically	Some Balinese would welcome the economic relative prosperity	Education The people from SurfAid were telling me that they were educating the local villages not to have their wells so close to their pit toilets and not to discard batteries as they are starting to acquire some of the western technology	SurfAid I think that SurfAid is such a great story where thousands and thousand of lives have been saved.
Peter Troy	It has, to a certain extent, permitted remote areas to develop economically			Learning to surf One benefit is that you can be one of those kids to have been given a broken surfboard, and maybe become a professional surfer
Steve Hawk	There are both positive and negative impacts happening simultaneously. It can be helpful in that it injects money into impoverished Third World economies			It also introduces local kids to the sport of surfing, which can be a wonderful thing because it connects them to the ocean in a new and profound way. We've seen really serious local surf scenes sprout up all over the world Indonesia, Mexico, Tahiti.
Pierce Flynn	Positive and negative, you could have both going on at once The positive is that it can enhance be an economic and social	It is really questionable Are they making money or losing money? Creating a new type of economy to		

Respondent	Surfing tourism as an economic development tool for communities	Socio economic benefits and employment	Improvement of lifestyle/ infrastructural development and education	Other positive impacts of surfing tourism
	enhancer. You know that the local community make more money in a more sustainable way. I think that surfing tourism is an economy which is very important for people in 2004.	the Indigenous economy, is that better?		
British surfing tourism operator (Anonymous)	Surfing tourism has opened up a lot of new markets and it has also given perhaps tourism markets that would not have existed otherwise. When we look at Namibia in Africa, surfing tourism has opened new markets and new economies where traditionally it was purely subsistence living	I think it is actually really positive like some places around the world like Morocco where it is half run by the community. We contract the local firm and local people to do the jobs, so that it can give direct benefits to the local community.		
Surfing industry representative (Anonymous)	We are leaving an improvement, building up their situation and generating the cash injection that goes into the local economy.	The wealth that is there is just sitting in the wallets of a few tourists, and they put their money out very sparingly and sort of auction every dollar off the maximum they can get out of it. I think, because the power of the commerce that is around these places, it sits with the tourists, and it does not sit with the community that is providing them the opportunity to visit.	Infrastructural development: ...electricity was connected down to Lagundi bay... and road access was created and improved.	Community recognition: In some cases it has placed civilization where it would never have been previously without surfing. SurfAid: SurfAid international is another positive impact of surfing tourism in that western medical resources are becoming available.

Table A4. Thematic chart of the perceived negative socio-cultural and economic impacts of surfing tourism

Respondent	Reliance on and dependency upon tourism	Leakage of benefits outside community(s), foreign control and surfing colonialism	Westernisation, cultural disintegration/ revitalisation	Damage to social fabric and structure	Social ills: drugs, sex and alcohol, and localism
Jess Ponting	They are changing their whole life based around this sort of economy and that is kind of failing in itself	Economic leakage. In the Mentawais, there is an enormous economic leakage out of the system back to the companies of the foreigners who own the vast majority of that industry	There have been a lot of communities which have changed, not necessary in a good way by surfing tourism throughout the archipelago That is repeated to various extents throughout Indonesia Cultural disintegration Communities are losing their traditional culture	Begging But the story from Nias, the sitting around waiting for handouts and waiting for people to come That doesn't seem to be positive change to people' lives Land price rise In Phucket, Bali, with the arrival of surfing tourism the land has gone from the cheapest to the most expensive	Alcohol and sex You go to Kuta, Bali to you can get blind drunk and pick up people at the same time. Prostitution and drugs. But the story from Nias it has been the wild west of surfing tourism for quite a long time with some prostitution and drugs running winded up in it as well Prostitution Everywhere, there are always prostitutes involved in surf camps Some surf tourists get to sort of construct their own ideas of what a surfing paradise is, and maybe that include prostitutes
Owners of Tavarua			Westernisation You can not holt progress Each culture is unique and the socio-cultural impacts will be different on a case to case basis Progress comes to them through Westernisation which changes their fragile cultures and it can also bring a surfing subculture within the community But there will definitely be some impacts if you are in remote locations Cultural exchange. It can provide a cultural exchange and surfing tourism in the case of Tavarua has even allowed a revitalisation of some cultural traditons with the Fijian nights	Inequalities If the benefits are shared collectively as a community unit, then the benefits gets divided among community members	

Respondent	Reliance on and dependency upon tourism	Leakage of benefits outside community(s), foreign control and surfing colonialism	Westernisation, cultural disintegration/ revitalisation	Damage to social fabric and structure	Social ills: drugs, sex and alcohol, and localism
			Cultural disintegration: Socio-cultural change can be quite prolific especially on fragile indigenous communities like in the Mentawaiis		
Paul Edmiston		Foreign control: Surfing tourism is a type of seminal small scale tourism,,, that may eventually be followed by large scale, high density and foreign controlled development. Impacts on remotes areas: The search for uncrowded waves has impacted on host populations in remote areas spanning the Indonesian archipelago.	Revitalisation of culture: Surfing tourism can play a role in the revitalisation of the cultural traditions	Inequalities: In remote and fragile area, surfing tourism by making it more accessible, for the village, it can very much disrupt things socially. It can also engender real inequities amongst the local community. Cultural disruption: Prostitution at Grajagan... the village is very Muslim so it went against everything that they believed.	Drugs: In Bali, it is that sort of party zone kind of thing with drugs. Prostitution: In Nias you just saw prostitution. You can see how Grajagan has changed through surfing tourism over the past twelve years.. There were prostitutes down there and there is nothing down there apart from surf tourism.
Kevin Lovett	As soon as the number of surfers starts to decrease or cease, it is then that you start to realise how really dependent these communities are upon surfing tourism.	Foreign control: Those communities never benefit ...or receive limited benefits because generally outside capitalists move in. They contract the land, they build restaurants and take back the money. A perfect example is in Costa Rica with the Americans	Cultural exchange: Travelling surfers have always fulfilled the role of cultural ambassadors. There is also another aspect what travelling surfers bring with them, they bring their awareness that can have some positive impacts but they also bring their ignorance... which eventually can spoon localism. Culture revitalization: I would think that on the whole, we have had		Drugs/sex: With the surfing environment and the drugs, sex and rock and roll excesses of what surfing brings or certain aspect of what most surfers have, then you find that this is a nasty concoction. Localism: The whole thing of localism that is another product of surfing colonialism.. Some would say that localism is a produce of surfing. Localism could have beneficial aspect to it but what we see is more the negative side, the violence and conflicts

Respondent	Reliance on and dependency upon tourism	Leakage of benefits outside community(s), foreign control and surfing colonialism	Westernisation, cultural disintegration/ revitalisation	Damage to social fabric and structure	Social ills: drugs, sex and alcohol, and localism
		<p>coming in and taking over the whole surfing tourism there"</p> <p>In Lagundi, the problem was that surfing tourism was being manipulated from forces from Medan. The accommodation was controlled by Chinese operators from other towns and even offshore back in Medan. Colonialism. It is the home of surfing colonialism. The whole sort of surf colonialism and the globalisation.</p>	<p>positive impacts from a socio-cultural point of view. For instance surfing tourism has, in fact it has probably helped them to generate a greater appreciation of what their culture means to them.</p> <p>At the same time surf tourism can have profound socio-cultural impacts</p>		<p>and the threats, the innuendos and the degradation through human behaviours</p>
<p>US based surf adventurer and journalist (Anonymous)</p>		<p>Leakage of benefits. And you can see that in Africa and in many countries around the world, the benefits from surfing tourism actually never filter down to the local people.</p>	<p>The impacts are more social-cultural impacts rather than environmental.</p> <p>Westernisation [Surfers] are bringing their money in and their lifestyle. Basically the image of the rest of the world of the twenty first century has been brought in.</p> <p>Cultural exchange: Surfing tourism has a cultural influence... It was like planting seed of the local surf culture.</p> <p>Cultural disintegration. The influx of money and wealth and all these</p>	<p>Cultural disruption. They have big social impacts especially in Muslim countries in particular, where women are completely shrouded, and then we come, showing up in bikinis and top less. And other cultures are going to find that offensive and they will be totally shocked.</p> <p>Cultural difference: If you go to Nias where is it a slightly different culture, the impacts of surfers of course have been much more ruinous.</p>	<p>Drugs. The other huge impact surfers have had is drugs. There is a whole centre of the surf culture that is very big in drugs. Surfers and drugs have always been associated.</p> <p>Localism. all those Balinese local surfers they do not like the fact there are fifteen other guys paddling out to ride their waves. Look what happened to Bali. You go out to Uluwatu which was a pristine bay back in the seventies, and it was covered in all the magazines and now there is a contingent of Brazilians out there, very aggressive.</p>

Respondent	Reliance on and dependency upon tourism	Leakage of benefits outside community(s), foreign control and surfing colonialism	Westernisation, cultural disintegration/ revitalisation	Damage to social fabric and structure	Social ills: drugs, sex and alcohol, and localism
			modern commodities have changed the nature of the local people whose culture has been there for thousands of years. It certainly influences the culture that is already there.		surfers. It is really a free for all and there is a lifetime of "feisty" attitude outside the water.
Steve Barilotti		Colonialism: The thing that is happening with surfing and surfing colonialism is just a microcosm of everything else that is happening in the world.	You can see the whole immigration of surfers into the area and the effect it has had on the culture that was there before. Westernisation and cultural disintegration: People from fairly or highly developed westernised countries directly inject themselves into the heart of less developed or indigenous societies. This can result in drastic cultural changes. The Christian missionaries are a textbook example of this. But surfers do this as well, although without a religious agenda. In Bali, the surfers came in and definitely left their imprint. They wanted to bring their home comforts and have definitely changed the place. Westernisation: Locals make friends with travelling surfers, who give them t-shirts and cash for trinkets. And now they expect that. I think that it is importing western values and mind sets to people who have traditionally been tribal and	Cultural disruption: You have a conservative Muslim country like Indonesia, where you have local girls who start hanging around the surfer's bars for some excitement. They start drinking and going out with the surfers. To the surfers they are just party girls looking for a good time but what they don't realise that once a girl has sex with a "bule" (Foreigner), she is branded as slut in the local community. To the surfers it is just some girls looking for a good time. it's not big deal.. But in Indonesia, those girls will be banished from the community everybody knows who goes into. Disruption of community/family organisation: Surfing tourism can disrupt the social fabric of the host community in other ways. And if surfers tell the kids it is ok to just do nothing and surf all day long, you are giving the wrong message. When the young [locals] start surfing, they are not out fishing and/or helping their parents in the vital chores. In our society we get away with it because we are getting subsidized by our parents and	Drugs: Also, there has always been a real link between drug taking and surfing. Surfers have to a certain extent contributed to this drug issue in places like Bali and Mexico.

Respondent	Reliance on and dependency upon tourism	Leakage of benefits outside community(s), foreign control and surfing colonialism	Westernisation, cultural disintegration/ revitalisation	Damage to social fabric and structure	Social ills: drugs, sex and alcohol, and localism
			<p>used to sharing things It changes people's thinking from long term to short term</p> <p>Cultural disintegration Before Bali was a culture that was very agrarian based around village tribes. In an incredible short amount of time because of the influx of not just surf tourism but tourism in general, has just radically changed the sociological landscape of that island</p>	<p>by the government If you want to be marginally employed, you do what you do, and you are not hurting anybody. But in a tribal community where you are depended upon to bring food and/or to help patch a roof on a house, then it has a real impact They now are relying on their parents and the rest of the village to support them</p>	
Tim Baker		<p>Leakage of benefits To give direct benefits to the local community, that isn't the case with 99% of other surf tourism companies unfortunately</p> <p>And in a lot of places this has not happened like Bali or Mexico where they kind of opened up in huge ways to travellers with very little positive impacts and made quite a negative impact</p>	<p>Cultural disintegration There is no two ways about it, it can have a huge effect and can totally alter the whole economy and the culture of the destination</p>	<p>Disruption of community/family organisation</p> <p>Kids becoming board carrier instead of following traditional family business or trade</p>	<p>Drugs The dark side if that someone might start selling a bit of "pot", and in Nias's case I heard rumours of heavier drugs and prostitution and all the bad things that come with satisfying westerner's appetites.</p> <p>Drugs/prostitution Some of the livelihoods to be had from catering for western surfers and non surfing western tourists who may be drawn to the area You are going to have kids selling drugs and becoming prostitutes</p>
Peter Troy	When no one goes there anymore, then the local people	<p>Colonialism Surfing tourism is in a way a micro neo colonialism</p> <p>Foreign control People</p>	<p>Cultural exchange At the same time now we are starting to see cultural exchanges at surf destinations</p>	<p>inequalities/displacement It will just be a small group of people of that area that will bribe their way to this situation and the local people that used to be there, are going to</p>	<p>Alcohol Surfers tend to play English cricket and get drunk and misbehave unacceptably</p>

Respondent	Reliance on and dependency upon tourism	Leakage of benefits outside community(s), foreign control and surfing colonialism	Westernisation, cultural disintegration/ revitalisation	Damage to social fabric and structure	Social ills: drugs, sex and alcohol, and localism
	suffer the socio-economic consequence	can actually step in over people that may have been there traditionally. They are going to be taken over by people with wealth who will see an opportunity to take advantage of the situation.		be pushed aside. In other words local people can be displaced as a result.	
Steve Hawk			Cultural exchange: It also introduces local kids to the sport of surfing, which can be a wonderful thing because it connects them to the ocean in a new and profound way. We've seen really serious local surf scenes sprout up all over the world: Indonesia, Mexico, Tahiti. Westernisation: The downside, of course, is that the local cultural heritage starts to get supplanted by a Westernised surf culture, and suddenly all the locals are wearing Billabong T-shirts and boardshorts. Huntington Beach comes to Papua New Guinea. But then you can't blame the spread of Western culture strictly on surfing. It's happening all over the world, not just where there's surf. Nike shirts are everywhere.		Drugs/sex: I don't think that the "surf, sex and rock 'n' roll" is much of an issue anymore. Most people who can afford to go to these exotic destinations are fairly well off and then tend to be much more conservative than the average young surfer hanging out at, say, Newport Beach. I think that that element is exaggerated in the press. The interesting thing about surfing as a sport is that over the last twenty years the demographic has broadened dramatically. So surfing is not just about a bunch of horny, rowdy, drunk 19-year-olds any more. I'd say for the most part surfers are more aware than the average tourist, but that doesn't mean that they are not a lot of idiots out there. Some guys just want to wear their headphones, drink beer and sleep with local girls.
Pierce Flynn			Westernisation: First either an initial human impact on non-developed	Cultural and social disruption:... family structure and social cultural structure	Drugs/crime: [Surfing tourism at destination] can spin off to the ghettos

Respondent	Reliance on and dependency upon tourism	Leakage of benefits outside community(s), foreign control and surfing colonialism	Westernisation, cultural disintegration/ revitalisation	Damage to social fabric and structure	Social ills: drugs, sex and alcohol, and localism
			<p>natural setting or first world impact on third world cultures Social-cultural disintegration There is internal, psychological, physical, socio-structural changes</p>	<p>getting really 'wrecked'.</p>	<p>scenario with drug use, robberies and crimes and the loss of opportunities Surfing makes that happen as much easily than the drug trade could. As you know in the surfing history they have been intertwined Localism. You already have the negative impacts with localism There are many places suffering localism around the world .and that is the sad part</p>
British surfing tourism operator				<p>Disruption of community. I think it has affected certain countries, particularly Indonesia and the lot of the breaks and villages have desecrated with them</p>	
Surfing industry representative (Anonymous)		<p>Economic leakage: When you are talking about all the boat trips and all that sort of thing, there is a huge economy that has been created that does not actually hit land so there is also a lot of things going on and a lot of value there that never gets translated into anything for the locals, nor immediate benefits to the local community Foreign control It begins quietly, where</p>	<p>Socio-cultural impacts depend on the society that we are dealing with Cultural disintegration I think that it takes things away from their culture But any impact of tourism will do this, not only surfing based activity Westernisation: It brings in our western culture and, our culture of money that is probably detrimental, largely to their customs, their culture and to their environment With surfing tourism, the local people seek out that all of the western things, they are new and exciting and that is another negative side of it I think there are quite a lot of incorrect things and</p>	<p>Disruption of community. Surfing tourism can lead to a whole lot of social issues that can deteriorate the community inequities And there is not enough wealth created to actually provide a benefit for the kids and the younger people in the community also Disruption of community/family organisation: A lot of youngsters in the community think surfing tourism is a life style and a free for all Begging: The last time I went to Nias there were almost beggars sitting around and asking for money. Diseases plus western diseases that there is no local immunity against</p>	<p>Prostitution So when we first went to Nias and there was little in the way of prostitutes There was four years later</p>

Respondent	Reliance on and dependency upon tourism	Leakage of benefits outside community(s), foreign control and surfing colonialism	Westernisation, cultural disintegration/ revitalisation	Damage to social fabric and structure	Social ills: drugs, sex and alcohol, and localism
		the local people know nothing in regards to surfing tourism. As the tourism develops, you tend to have opportunists and some of the tourists that come in, who establish businesses as they identify the scale of the opportunity.	influences that we bring to these people.		
Other comments from opportunistic interviews with other informants		Colonialism: Have seen surfing colonialism in South Africa. Economic leakage: The local people get to do the hard work but the foreigners get rich. It has happened in a lot of places like the Mentawaiis.		Diseases: There is also sort of health issues, because there are western diseases that come in.	Localism: Philippines and in Bali, all the young kids that have learned from surfing, many have adopted the same localism attitude they have seen elsewhere in the world. I have witnessed in Indonesia that the local kids are very protective of their own waves. The locals who want to surf, they do not want to tourists there. This is going to be what is going to stop people going to such kind of places Prostitution: It is part of the whole fantasy, the fantasy is that you have the maiden on the beach holding the fruit salad, and the thing is prostitution is prostitution!. It has been around long before surfers. ... Definitely there is a trade that has built up around surfers and prostitution. Localism/antagonism: ...you end up with a lot of hostility not just amongst surfers ...between the local people too"

Table A5. Thematic chart of perceived environmental impacts of surfing tourism.

Respondent	General opinions	Impacts of surf tourists and associated activities on the environment	Impacts associated with tourism development on coastal and marine ecosystems
Jess Ponting	<p>Benign impacts Environmentally, it is relatively inert compared to a lot of other forms of tourism In its early stages, it does not require the building of mass infrastructure</p> <p>Limited and localised impacts: So on that level, there is probably not too much in the terms of damage or it is pretty localised and small scale .</p> <p>Land based /charter boat tourism .</p> <p>With land based accommodation, you have to deal with people</p> <p>With the charter boats, there are not too many environmental impacts.</p>		<p>Anchorage anchors can be a problem on the reef</p> <p>Sewage problems/solid waste Raw sewage could be a problem when there are lots of boats together Sewage could cause growth of algae on reefs and that kind of thing and that can be a concern... Bali is an interesting one with the case in the Phuket peninsula There are problems arising now with losmens on the beach with sewage and water quality problems and no garbage collection</p> <p>Water resource Water is also going to be an issue in most of these places In lot of these places they are building for a high capacity and they have not really given much thoughts about the amount of water it takes for running a resort with dishwasher, laundry etc..</p>
Owners of Tavarua	<p>Negative impacts Surf tourists can have environmental impacts but this really depends on individual's consciousness</p>		<p>Anchoring Other issues have to be taken into consideration such as throwing anchors off the reef</p> <p>Land clearance There are potential impacts such as the clearing of the land for development</p> <p>Sewage need to minimise impacts on land from sewage issues</p>
Kevin Lovett	<p>Negative impacts: Absolutely we have tremendous impacts you only have to show up on the beach and you will have an impact Every footstep has some sort of impact, you are not aware of it at the time, just the fact that we are there, we impact on everything Just having a lot of people in one location can cause environmental impacts</p>	<p>Damage to reef: They damage the reef every time you flop around on the reef you are breaking off very fragile little organism</p> <p>Pollution Also with sunscreens.</p>	<p>Coastal development The guys that caused the first building to be build on the water edge</p> <p>Sewage all the pretty basic sewage facilities and septic tanks leashes onto the reef has had tremendous impacts and it becomes a health hazard Faecal content is pretty high All those building on out there at the Bucket they have got septic tank that are leashing directly in the sea</p> <p>Construction material I started learning how the cement was put together It was all used from beach sand</p>
Paul Edmiston	<p>Negative impacts Yes, certainly I think that surfers have an impact, both environmentally and socially Any pursuit has an impact</p>	<p>Damage to reef There is not doubt about it and the reef Reefs get destroyed by 100s of surfers walking over them at low tide...on a particular island on Timor, I have seen the</p>	<p>Construction material The locals start to take the sand off the beach, truck loads of it in Roti, to mix it with the cement.</p>

Respondent	General opinions	Impacts of surf tourists and associated activities on the environment	Impacts associated with tourism development on coastal and marine ecosystems
		environmental damaged by the presence of surf tourists.	
US based surf adventurer and journalist (Anonymous)	<p>Benign impacts: The impacts are more social-cultural impacts rather than environmental. Strictly from an environmental impact perspective ...surfing is really benign. It does not require any kind of fossil fuels to go out there speeding on the speedboats They are just out there riding the waves. And the wave is a constantly renewing resource.</p> <p>Charter boat tourism: The impacts of surfers from an environmental perspective is almost insignificant, especially people coming on boats and living on boats.</p> <p>Land based impacts: I find it hard to really think what the direct environmental impacts of surfers would be on a break other than the fact that if there would not be a resort here and they would camp.</p>	Resource use: Surfers are not out there taking the fish from the reefs and lobsters.	Sewage/rubbish: There would be a lot of pollution waste, because there would be no way of disposing human waste or rubbish
Steve Barilotti	<p>Negative impacts/global impact: Surfing is not responsible for everything that happens to an area they "discover" but anyone who says that surfing is a free and natural sport which has no impact are deluding themselves. Because everything about surfing is chemically based unless you are carving your board from a willi-wili tree and go out surfing naked. Because your boards, your wetsuits, your wax are all made out of petrochemicals. Your car that you have used to come all the way down the beach is using fossil fuel.</p> <p>Fragile areas: I do not know how many impacts surfers can have at surf break in urbanised area the break since it is built up already. But in an area where you have a jungle and pristine environment, to introduce a 100 surfers out there, without infrastructure or knowledge to handle the impacts is not a good thing.</p>		<p>Sewage problems: In a place like Uluwatu, it is a problem of human excrement. Wherever surfers go and it is usually everywhere they go, it ends right in the ocean. They built warrungs and the locals do not have the money to build a sewage system. So the direct impact from surfers would have to be sewage, overburdening the systems and the water table.</p> <p>Reef damage: I have seen reefs in popular places that have been damaged and polluted whereas once there were all kinds of life. For example I saw that in G-land and in Bali a lot of dead coral... Some part of it also is dive tourism caused by anchoring and dragging their anchors.</p>
Tim Baker	Negative impacts: I think for the vast majority, if you look at it critically from an environmental [perspective], they are denuding resources and polluting. Eventually if the numbers increase and they continue to doing things the way they are		<p>Sewage: On-land sanitation, toilet, raw sewage leaching into the ocean.</p> <p>Solid waste: We tend to bring plastic bottles and all sort of packaging. In the case of the Mentawaiis, the surf charter</p>

Respondent	General opinions	Impacts of surf tourists and associated activities on the environment	Impacts associated with tourism development on coastal and marine ecosystems
	currently going about it, it is going to end up badly and going to have negative impacts.		industry has certainly less impact than the land tourism industry but then you have anchors damaging reef
Peter Troy	Negative impacts Absolutely, surfers do impact on the environment Surfing tourism as a conservation tool The discovery of Bells Beach was another side of which I was part of as I was the first person to surf it in 1949 We, as individuals managed to convince the government to turn it into a national park	Resource use/Coral damage They came and camped on the island which was my home in Queensland from 1979 till 1991 Mudjimba Island, locally known as "Old Woman Island" on the Sunshine Coast. Surfers tore out the trees to light fires, and denuded the rocks to eat the oysters, and also destroyed the coral heads with the anchors of the small metal boats This being all in the name of having a good time going surfing	
Steve Hawk	Benign impacts. Not as much as other visitors Waves are a renewable resource We are not in there to cut down the rain forest and ripping out coral reef Surfing tourism as a conservation tool Surfers tend to be a fairly environmentally conscious bunch, so they will try to persuade the local population to protect their reefs So that is all good	No impacts At least they are not raping or wrecking anything	Development and access/solid waste But you have to build places for them to stay and build road to get there and like all visitors, surfers leave behind excrement and trash So that is an impact undeniably
Pierce Flynn	Negative impacts Or absolutely, no question Every human activity does, so surfing tourism yes I mean the usual as any other tourism Global impact affect on weather patterns Surfing tourism as a conservation tool By creating these surfing camps, [local communities can] participate in [rather] than just [sell] off the Island and/or fish out and cyanided the reef to get the fish for the aquarium trade The aspects of that are positive	Negative impacts For example leaving trash and mucking things up and doing hurtful things to the environment.	Land clearance the clear cutting of specifically natural foliage, forest, water damage Sewage/anchoring There is problem with dealing with sewage and the local reefs and how to anchor your boat
British surf operator	Negative impacts It can destroy the environmental area of the villages or community there The positive is that it can enhance a lot of things and it can be an environmental enhancer.	Individuals I know some resorts where individual tourists used to go and where surfers have been travelling there alone They have decimated these areas	Sewage/solid waste There have been places with issues with rubbish, sewage and etc Land clearance/vegetation damage They have decimated area and trampled down on bushes
Surfing industry	Negative impacts If it was not for surfing, nobody would have	It is not like you are degrading a natural	Sewage/solid waste. Sewage, untreated waste water and

Respondent	General opinions	Impacts of surf tourists and associated activities on the environment	Impacts associated with tourism development on coastal and marine ecosystems
representative (Anonymous)	bothered going to some of these places and creating a [tourism development] there. So it is responsible for creating a lot of impacts on the environment. It is the land element of surfing tourism that is the issue. ...the problem is the services around surfing tourism that are not managed properly. Lack of understanding of surf tourism impacts: I think that there is no one at present that has got a global view of what the impacts are and [are going to be in the future].	resource by surfing but...	packaging. Those are the two big ones.
Other comments from opportunistic interviews with other informants			Solid waste: Especially in Bali, they think every thing gets recycled back there. Anchoring: In the Mentawaiis, there is a lot of anchoring and dragging their anchors.

Table A6. Thematic chart of other factors in the impacts of surfing tourism at destinations

Respondent	Lack of control and planning of surfing tourism development	Lack of guidelines and regulations of the surfing tourism industry	Awareness and behaviour of surf tourists
Jess Ponting	<p>Unfettered growth Just looking at the examples [of surfing destinations] around the world, they are the ones which developed quickly, without any planning and without too much knowledge and thoughts in what could happen, these ended to be unsustainable</p>	<p>Lack of regulations In the case of the Mentawais, charter boats for example, it is interesting that there are no regulations despite having about ten to twelve boats with ten to fifteen people on board, anchoring in the waterways of a village . with all their sewage, and there is no legislations or thoughts to put holding tanks on board</p>	<p>Responsible and irresponsible surf tourists Some are and some are not and some of them care and some do not. I have heard some abominable stories of some people that have gone on a surfing holiday The nature of tourism in a way is when people tend to leave all their morals behind and go somewhere</p> <p>Lack of awareness People that maybe have not been outside the USA before and have been watching the Mentawais surf videos for the last couple of years and get flown in and get pick up from the Airport to a five star hotel and straight onto a million dollar boat, well they are not going to be aware of what is going on around or care necessarily I think most of it was based on naivety And the belief they are going with the intent of having a good time and not doing anything too bad to anyone and, not realising how little it takes to have profound effects on the communities</p> <p>Growing awareness There is a change coming in terms of the frequency of the articles that you see in surfing magazines that give a wider perspective There still isn't that many but there are some while before there wasn't any.</p>
Owners of Tavarua			
Kevin Lovett	<p>No control In Indonesia, surfing tourism is an issue because there is no control When there is no control, you do end up with the possibilities of another Lagundi Bay, [Nias] popping up again</p> <p>No planning: Set aside from delivering initial economical benefits and nothing else was considered</p> <p>Environmental policies In countries that have very weak government, weak environmental standards they are weak from a legal perspective as well</p>	<p>Need for planning: And all they need for planning information, understanding and education</p>	<p>Lack of awareness The thing is that we (surfers) are really ignorant to how much impact we really have</p> <p>Growing awareness I think surfers generally now are more aware because they can go and they can see Nias via early films that were shot there To see it the way it was and to see the way it is, is a quantum shift This would make them relate the pristine nature of the place that was there previously</p>

Respondent	Lack of control and planning of surfing tourism development	Lack of guidelines and regulations of the surfing tourism industry	Awareness and behaviour of surf tourists
US based surf adventurer and journalist (Anonymous)	<p>No control: Everywhere where I go now there are these surf camps with real manageable numbers but it was really scary there for a while in the 1990s where there were too many people in these areas and not enough control in those places to manage them accordingly. Because the surf world back then, it was a free for all... [this has lead to] the unintended consequences of all those surfers going traveling all around the globe.</p> <p>Unfettered growth: Other examples of what happens with unfettered and unrestricted access to a surf break are: crowded, polluted, localism and bad atmosphere in the surf at the destination.</p>		
Paul Edmiston	<p>No planning/control: In Indonesia, there has been no planning nor research. This led to uncontrolled growth and some questionable planning decisions in these areas.</p>		<p>Growing awareness: I think that most surfers are conscious of their impacts. We have had people on our trips when we went to an island near the west coast of Java, near Sumatra which is a world heritage listed site because it has the white horned rhinoceros and there are only 40 of them left. It is quite pristine. When we were crossing across those amazing places, people on our trip refused to walk on the reef, because that they think that every step they take is ruining the reef. Surfing has changed so much it is hard to generalize. But I think that they are pretty aware of the damage they can cause.</p>
Steve Barilotti	<p>Unfettered growth and no control: Unfettered and ..unregulated surfing tourism leads to a Nias or to a Kuta beach if there is no limit on it.</p>		<p>Lack of awareness: The majority they are blind or unaware of their impacts.... they really just want to surf the waves. I find that a lot of surfers tend to travel in a bubble ...with their walkman on,.. their hotel and the car they drive in. ...Most surfers are not real travellers, but they need to travel to find waves. So by default they go into cultures a lot of times where they do not know anything about nor... really curious about them either. A guy can be a pro surfer travelling around the world eight times and he still will not have any ideas of what is going on. They rarely read the papers or talk to the locals. They may talk to other surfers from other countries</p>

Respondent	Lack of control and planning of surfing tourism development	Lack of guidelines and regulations of the surfing tourism industry	Awareness and behaviour of surf tourists
			but, surfers are kind of the same wherever you go Behaviour of surf tourists Rather than accepting the ways and going with the flow, maybe having a real experience, they are trying to recreate what they have at home
Tim Baker	Unfettered growth It is definitely healthier if it happens more gradually and organically, rather than the case of the Mentawai and other destinations where, it has been a sort of stampede. When you get that sudden stampede, this is when you can get a lot of damage You certainly do not want that sudden stampede for surfing tourism to be sustainable. Community consultation: Because there has not been the time to discuss, adjust and negotiate with the local people and for them to come to grips with what is happening		Growing awareness: At the same time there is a growing awareness of the possible pitfalls Because there has been a lot more discussions in the case of Mentawai in the surf Media and among the surf companies of what effects are we having there I think surfing is starting to become more mature and aware of its responsibilities in some way It is encouraging to see things like Surf Aid and to think that surfing might enhance a place instead of contributing to its detriment
Peter Troy			Lack of awareness Surfers in their quest for this idyllic isolated new surfing location, have to be very careful that in their ignorance they do not tread on that fragile structure of the community visited as well as the local ecosystem and environment The article "Custodian of the Point" which recalls the story of Lagundi Bay, Nias It tells the surfing world of the naive attitude of surfers walking into a remote and isolated environment. It is important for surf tourists to be socio-culturally aware in order to behave appropriately and in a way [which is acceptable] to the host community This is ignorance of the local people's social and cultural way of life I think, surfers in general are too young and immature to be good travellers to isolated and fragile and remote locations
Steve Hawk	Unfettered growth When you get too many people and you get all the problems that come with overcrowding It's the old theory of "too many rats in the cage and not enough food" The food being the waves in this case		Lack of awareness Most surfers try hard to tread lightly I don't think that the "surf, sex and rock 'n' and roll" is much of an issue anymore Responsible and irresponsible surf tourists Most people who can afford to go to these exotic destinations are fairly well off and then tend to be much more conservative than the

Respondent	Lack of control and planning of surfing tourism development	Lack of guidelines and regulations of the surfing tourism industry	Awareness and behaviour of surf tourists
			<p>average young surfer hanging out at, say, Newport beach. I think that this element is exaggerated in the press. The interesting thing about surfing as a sport is that over the last twenty years, the demographic has broadened dramatically. So surfing is not just about a bunch of horny, rowdy drunk 19-year olds any more. I would say for the most part surfers are more aware than the average tourists, but that doesn't mean that they are not a lot of idiots out there. Some guys just want to wear their headphones, drink beer and sleep with local girls.</p>
Pierce Flynn			<p>Growing awareness: I think that absolutely, their awareness has grown especially over the last few years. ...We have Surf Aid International, you have more press with Steve Barilotti articles and more surfing films going to the Mentawaiis and Surfrider Foundation and the internet. Consciousness and alertness is growing. But for the most part as a percentage, there are far more environmentalist surfers than there are environmental motorcycle cruisers or bike riders.</p>
British surfing tourism operator		<p>Lack of regulation: The other two things. One main issue is that there is too many cowboys company that just want to get rich quickly. Indonesia for example has been over done and it is irresponsible what has been going on. The biggest problem around the world at this moment in time is that there doesn't seem to be any regulations of surf travel.</p> <p>Lack of regulatory organisation: Our company tried to implement a program for surf travel and we spoke to all the major surf travel companies and they have all turned down the opportunities to build an organisation which monitor and help develop environmental protection.</p>	<p>Environmental awareness: Surf travellers actually are environmentally friendly tourists as well being conscious about not destroying the environment. I think that the majority are environmentally friendly.</p> <p>Individual and organised surf tourists: But only when they seem to travel in tour groups with companies, because when they travel individually, I question their ethics. I know some resorts where individual tourists and surfers have been travelling there alone and they have desiccated the area (trampled down on bushes, sewage, garbage etc.).</p> <p>Responsible and irresponsible surf tourists: The local people are pleased that we have come [as a surfing tourism operation]. You are two types of surf travellers. You have the first type that is the executive traveller who is going there to enjoying it. The second type is very much a young lad,... the lager lads with that sort of attitude hanging around a little bit</p>

Respondent	Lack of control and planning of surfing tourism development	Lack of guidelines and regulations of the surfing tourism industry	Awareness and behaviour of surf tourists
			and actually does not really care about what is going on in the villages in the remote areas
Surfing industry representative (Anonymous)	No control In surfing tourism, it tends to be the law of the jungle almost Lack of environmental policies If you take Asia for instance where people are known to not have many environmental rules without rules it brings potential disasters in some beautiful places	Lack of regulatory organisation. Because there is not an overseeing authority that actually controls surfing tourism	Responsible and irresponsible tourists: There are all types of surf tourists and it depends on the situation There are those who take everything and leave; and there are those who go there with a conscience And maybe they want to contribute to what is there Lack of awareness. Some surfers are more interested in the surfing experience but they do not want to reflect on their impacts Others I think are conscious about their impacts, but it is almost after the fact Some tell me after returning from their next visit that things have changed a bit They then start to see all those impacts I do not think that at the beginning, they go anywhere and have any thoughts on how it is going to change the destination unless they have got some intend of being part of this change Lack of awareness of community The other thing, people who understand the values behind sustainable surfing tourism, often aren't the local people

Table A7. Sustainable surfing tourism at destinations and the need for management.

Respondent	Is surfing tourism sustainable?	Need for management of surfing tourism
Jess Ponting	I think that it can be but I do not think it has been yet. I think that would depend on how you define sustainable as well.	Management and planning largely are critical at surfing tourism destinations.
Owners of Tavarua	It can be sustainable if it follows the ecotourism approach where one leaves as minimum impacts as possible and when looking at the destination holistically. By nature surfing tourism should be sustainable as the wave is sustainable and a renewable resource.	Surfing destinations have to be managed like any tourism destination [which all] require some level of management
Kevin Lovett	It depends largely in which country surfing tourism is being developed in. If you look around the world it seems that in the developing countries, surf locations have been plundering. I guess that all these destinations have had a peak season and a peak period in their development and now they have tapered of. There can only be one or two that can be sustained. To see it the way it was and to see the way it is, is a quantum shift. That is what has really has to be prevented.	Right at this time and juncture of the evolution of surfing tourism, these issues have to be dealt with and managed accordingly. That is why, anyone for the future development of surfing tourism and surf base tourism, they need to come with a strong consciousness of what the future results going to be of the surfing tourism endeavours. We have to be able to act now from a more conscious level of what is going to be the consequence of our actions instead of blind ignorance.
US based surf adventurer and journalist (Anonymous)	In order to maintain the whole thing the way it is because, there is so much ample evidence that if you do not do that, things will turn out like Bali.	How eco-tourism and surfing tourism is handled and managed, is going to determine everything as [far as it benefits or not benefits] people. Without restrictions, that would have dire consequences on an environmental point of view. When there is no control, you do end up with the possibilities of another Lagundi Bay, [Nias] popping up again".
Paul Edmiston	Although the development of surfing tourism may be considered a prelude to an inevitable 'progression' to mass tourism, it is questionable whether this evolution is of greatest benefit to the local community. ...there are sustainable and equitable ways of managing it to maximise the benefits to those who have the most vested interest in surf tourism destinations – the locals.	I do believe that there is a need to somehow manage surfing tourism. Locally driven planning and policies and strategies to increase local involvement in development, to empower local communities
Steve Barilotti	Sustainable is a key word in all of this. In Sumba, and in some extent what they have done in Tavarua...they have done a good job. [These two case studies] are sustainable and [surfing tourism] can be sustainable if it is managed properly.	There is an impact and there is a change on the visited communities, just because of those people being there. So I think that you have to regulate and manage surfing tourism. I think that if there is surfing in their back yard and [if the local community] are going to keep it as a sustainable resource, then they need to really treat it as such and set up a system and regulations so that it does not become overrun.
Tim Baker	There is a long way to go in terms of practicing true sustainability. But it is definitely a challenge that surfing needs to kind of rise to. The numbers of surfers is only going to increase... and there are more and more surfers competing for the same amount of waves. I guess that there has been a rise of this elite and well healed section of the community who have that kind of financial resource now to pay for a	There are ways of minimising impacts and these impacts need to be discussed more before we go into new places. For example, we need to think about sanitation. I do not think that it is something in a global sense that you can ultimately managed and control. I think that it is a case by case basis.

Respondent	Is surfing tourism sustainable?	Need for management of surfing tourism
	real exclusive experience Increased competition for limited resources and a lot of people want to be a part of surfing now and there is never going to decline I think surfing is going to increase more and more	
Peter Troy	I think that it is unsustainable as it is too open to money, power and exploitation. I think that surfing has a lot of growing up to do	I would tend to favour the management of surfing destinations I think that Bell's Beach was a good example In the end you have to be ruthless to preserve the resource (in this case the waves) but also the host communities and their environment. If the local people cannot build toilets then, in some ways we are better off having some bureaucracy owning it and controlling the number of people In some ways it sounds wrong but on the other hand, it is the only way it can go on for sustainable outcomes There are still remote places difficult to get to, e.g. Nicobar and Andaman Islands which have a fragile environment where government are stopping surfers going to I think that it is good. The problem is still "How are they going to enforce it?"
Steve Hawk	If the surfing population continues to grow, eventually the surf resorts will be tapped out because there are after all, only so many really good surf spots in the world It's a supply and demand issue Ethics: If the demand goes up and supply stays the same, suddenly it is going to get more expensive and only rich people are going to be able to pay for it The really exotic and perfect empty waves will become available only to the elite class. In fact, it is already happening There are many surfers in the world who cannot afford a weeklong stay on Tavarua	It is fairly obvious, if it is unfettered, then you get too many people and you get all the problems that come with overcrowding
Pierce Flynn	It depends just how rapidly surfing tourism occurs and how consciously it occurs. That is probably what differentiates [surfing destinations] Is it rape or positive development? Yet I think surfing ecotourism is a success model where it has worked Yes, I do think that if it follows the triangle, include socio-cultural, economic and environmental it can be sustainable I do not see what it should not be Without management you come back to the tragedy of the commons	Especially in areas that are both environmentally and culturally sensitive, that is a further reason to plan ahead and use the CC
British surfing tourism operator	Refrained judgement at this time. I think that what we are doing is sustainable however not everybody else does I think it could be done better than what it is at the moment	I know some resorts where individual tourists use to go and where surfers have been travelling alone and they have desiccated area
Surfing industry representative (Anonymous)	Waves are a renewable resource, and there is no reason why you cannot use this resource like that	I think that there is no one there that has got a global view of what the impacts are going to be. Hence, there is a need for a managed plan to deal with all these things. It is really about the management around the visitors Third world countries cannot be expected to have the expertise to contend with this influx of people

Table A8. Thematic chart of contributing factors to the success or failure of surfing tourism destinations.

Respondent	Satisfaction of surf tourists and crowding	CC of surf break at destination and safety	Safeguarding of the natural environment and cultural heritage	Extent of community involvement in and control of surfing tourism	Holistic approach to surfing tourism and other factors
Jess Ponting	<p>Crowding/satisfaction: As the surf break(s) at the destination becomes more and more crowded, the less and less satisfying it is for the people involved.</p> <p>Crowds and numbers: In terms of managing a break and destination sustainably, controlling numbers is important.</p>	<p>CC: The recreation carrying capacity of a destination that recognises the different cc of the waves based on number of take off spots it has got and how frequently it breaks.</p>	<p>Safeguarding of the natural environment, cultural heritage and community: Particularly place like the Mentawaiis where local fragile indigenous community get easily offended.</p> <p>Safeguarding community and social structure: The surfing association of Papa New Guinea have got one of the stipulations for surf camps within villages is that they should be at a certain distance away from the village proper so that the local people are not constantly have tourists wandering through the village and disturbing their lives so that can still feel they are a community and have tourists on the edge rather than a tourists community. It was initially set up by the constitution. They got together and it was written by the Papa New Guinea president and the surfing association and a Lawyer from Australia. Their concerns were mainly based on conserving the rights of the local people.</p>	<p>Involvement: Working with rather than against..the local communities to get a [surfing] operation [running]</p> <p>Control: You can put local communities in charge of their own destiny to a certain extent and they can be involved in making decisions of the management ...rather than decisions being made for and imposed upon them. I think that would be a very big [step] toward sustainability.</p> <p>Ownership of resources: But I think we need to prioritise [local people] rights to manage and control their own resources.</p>	<p>Management and planning: Management and planning are largely [key factors for the success of a destination]. Probably they are the things that are going to make the most difference.</p>

Respondent	Satisfaction of surf tourists and crowding	CC of surf break at destination and safety	Safeguarding of the natural environment and cultural heritage	Extent of community involvement in and control of surfing tourism	Holistic approach to surfing tourism and other factors
Owners of Tavarua	<p>Satisfaction Provide a CC situation where people are happy with their expectations Keep low crowds to keep customer coming back no one wants to come half the way around the world to be in a crowded place</p> <p>Crowding If the resources have been exhausted, in this case the waves and the whole destination starts to fall apart</p>	<p>CC The mountains have a certain carrying capacity and every surfing break itself has a definitive carrying capacity [It is important] to recognise the carrying capacity of the surfing destination and develop sustainable tourism around that The maintenance of the CC is an essential component of the sustainability of a surfing destination in order to ensure that people will want to come back</p> <p>Safety So you look at that and say ok "I know that the right crowd to keep someone happy and to keep it relatively injury free is going to be 10 people at a time" And for all of this you need to have a good grip on the amount of people that can be out there safely and that they can be taken care off for the best of your ability</p>	<p>Safeguarding of the natural environment I guess the 4th thing in there would be the environmental impacts So that plays into the whole thing You have [the] carrying capacity as far as tourists allowed, then you have to take care of the environmental CC</p> <p>Safeguarding of cultural heritage. But at the same time, yes you should preserve the culture they want a safe, secure community for their family you have to take care of the surrounding villages</p>	<p>Involvement The second factor is what the local people want for their lives.</p> <p>Control/cooperation you really need to consult the local people to see what they want and how you can get joined up with them and how they can benefit from the tourism</p> <p>Ownership of resources/Benefits to community One needs to put the resource to the highest and best use with the surrounding villages benefiting The host communities need to be involved and share parts of the benefits of surfing tourism and their resources</p>	<p>Holistic approach</p> <p>So you have to take all [socio-cultural, environmental and economical] factors as well as the destination recreational CC into consideration.</p>
Paul Edmiston	<p>Satisfaction When once 'secret' surf destinations are considered by surfers to have exceeded their CC it loses the reason of why [surfers] went there in the first place</p> <p>Crowding. The idyllic setting had</p>	<p>CC Surf breaks area considered to have a low carrying capacity for crowds It is also a direct result of these destinations being considered by surfers as having exceeded their CC</p>	<p>Safeguarding of the natural environment and cultural heritage</p> <p>Manage the area in the best interest of the local population and of the environment</p> <p>Safeguarding of the natural environment It is important to make the local community realise that the</p>	<p>Involvement. There should be more community input Host population involvement and encouragement in small scale development Locally driven planning and policies and strategies to increase local involvement in development, to empower local communities</p>	<p>Small scale development/ Holistic approach</p> <p>Small scale development</p> <p>However, small scale development .. has</p>

Respondent	Satisfaction of surf tourists and crowding	CC of surf break at destination and safety	Safeguarding of the natural environment and cultural heritage	Extent of community involvement in and control of surfing tourism	Holistic approach to surfing tourism and other factors
	<p>become exploited and overcrowded, losing much of its original charm in the process. You need to empower the local community to make them understand that it is in their interests to make it sustainable and uncrowded. My experience with many people living in remote villages in 'developing' nations is that they view environmentalism as the privilege of already developed countries.</p>	<p>Alternative view on CC: Restricting development to the carrying capacity level necessary to meet the needs of future generations may appear a secondary concern when immediate economic benefits are being realized. Objective analysis need to weight out these immediate benefits against the possible future costs to the community and its environment.</p>	<p>tourists will stop coming if it is not managed properly environmentally.</p>	<p>Control/benefits: Control by the community who can stipulate the type and direction of the development affecting their surroundings. The maintenance of local control to hinder the leakage of money to interests outside the local economy. Ownership of surfing resources: I think of surf rights. Foreign investors using surf breaks as resources purely for short-term monetary gain is short sighted and exploitative and is definitely not what surfing is about. Partnership: However, small scale development involving foreign investment and the local community has the potential to provide benefits to the areas in which the surf break is located, whilst also promoting greater interaction between hosts, guests and the natural environment. And isn't this the fundamental reason that people are attracted to this style of tourism?</p>	<p>the potential to provide benefits to the areas in which the surf break is located. Holistic Approach: Properly managed and controlled access that, above all else, accounts for the needs and sustainability of the local communities and environment.</p>
Kevin Lovett	<p>Satisfaction: The success of Tavarua showed that if you can manipulate systems around a location and if you can find a wave and then create [a system which control numbers of surf tourists] to be able to maximise the appeal of the location (i.e. uncrowded waves and pristine environment), market</p>	<p>CC: The success of Tavarua showed that you can generate serious income if you can manipulate systems around a location and if you can find a wave and then create the way to be able to maximise the appeal of the location, market it and brings the numbers.</p>	<p>Safeguarding of the natural environment and cultural heritage: Need to protect not only the environment but also the fragile economies and cultures. Once it is the environmental nightmare you live on the old dream. Places like Lagundi, if it still had pristine reefs people would still go there.</p>	<p>Control: I would like to think that they will start exercising more control over their own affairs and own destiny</p>	<p>Holistic approach: We are interacting on all those different levels and layers. We have the responsibility to treat the... location with respect, environmentally,</p>

Respondent	Satisfaction of surf tourists and crowding	CC of surf break at destination and safety	Safeguarding of the natural environment and cultural heritage	Extent of community involvement in and control of surfing tourism	Holistic approach to surfing tourism and other factors
	<p>it and bring the respective numbers</p> <p>Crowding As soon as the surf destinations gets crowded and the destination changes, surfers move on</p>				culturally spiritually, emotionally and all the different levels
US based surf adventurer and journalist (Anonymous)	Satisfaction/Crowding. There are just 25 guys out on Cloud break, everyone is having a decent time, if there is 50-70, and no one is having a good time	CC Even though waves are an ever renewable resource the contradiction to that they are limited to specific areas and those specific areas can only handle a certain number of people.. at a break		Involvement Tavarua is a model for how things should be done because they include locals in the operation and management of resort	Economic viability At Tavarua, now both villages are sharing a profit share of the resort As long as a resort can generate enough income that can sustain itself and still contribute to the local villages.
Steve Barilotti	<p>Satisfaction. If you are going to have a premium surfing experience you cannot have too many people on a wave [if] it gets too crowded [it] ruins the experience Crowds also bring hostility and by nature you need to regulate the amount of people</p>	<p>CC If you are going to have a premium surfing experience you can not have too many people on a wave absolutely the carrying capacity of surf breaks [at destination] is very important.</p> <p>Safety. But when it is a fast breaking wave, you cannot have someone dropping on you It is dangerous, you end up cut up on the reef</p>	Safeguarding of the natural environment Surf breaks are like a river where you ranch cattle If you have a few cattle that go down there to drink and hang out, it is no problem But if you have too many, they completely corrupt the whole river and the environment and pollute the river because they are shitting, trampling and overgrazing the riverine ecosystem It is the same thing with surfers and surf breaks	Involvement Establishing relationship with local people Asking the local people what they need and what they want A lot of time the developer comes in and tells the local people what they want and what they need And sometimes what you think they need and what they really want, is a world apart. Partnership In Niwatu, Sumba [surfing tourism] has become like a legitimate part of their economy as they have a taking part in it	Local produce Growing local food, supporting the local economy that way so that you are not just importing everything there Planning They may be some sort of management Small scale development I suggest small scale development of surfing tourism

Respondent	Satisfaction of surf tourists and crowding	CC of surf break at destination and safety	Safeguarding of the natural environment and cultural heritage	Extent of community involvement in and control of surfing tourism	Holistic approach to surfing tourism and other factors
Tim Baker	<p>Satisfaction: In the case of the Mentawaiis...I think that a lot of people that who have gone there and would have been spent their money and being disappointed to see how crowded it was. I think that less people will come back next year.</p> <p>Crowding: The crowd factor comes into the factor for the sustainability of a surfing destination. You can look at it from surfers with a selfish perspective or you can look at it in terms of the destination perspective.</p>	<p>There is something to be said for the examples of Tavarua or the Maldives where they made clear and a conscious decision where they want smaller numbers paying larger amounts of money. In that sense the local economy and the community can have economical development and benefits with less negative impacts.</p>		<p>Involvement: Consultation with the local people is probably the most important thing. Ultimately the local community [through local decision process] should decide what form of management and control to take. Enter into this dialogue with the local communities to lessen the impacts, ...either through the existing type of governance systems which in place in the local community and where they have a village chief or elders that are consulted or whatever their established decision process is. Benefits to communities/partnership: If we could create this legacy that when surfing reaches a new remote destination, it addresses some of the problems of the area. Yet not in a paternalistic or colonial way but as an equal partnership. There is a potential for a really nice mutually beneficial exchange which is where I would like to see surfing tourism head.</p> <p>Partnership: I think that a sense of partnership between the two is critical and that is why Tavarua has worked so well. I think the two parties need to have a sense of partnership into the future of the place.</p>	<p>destination.</p>

Respondent	Satisfaction of surf tourists and crowding	CC of surf break at destination and safety	Safeguarding of the natural environment and cultural heritage	Extent of community involvement in and control of surfing tourism	Holistic approach to surfing tourism and other factors
Peter Troy	Satisfaction It is a really point of view, but if we don't keep controlling the surfers then the beaches will become so crowded that nobody will have a good time.	Crowds/CC In the end you have to be ruthless to preserve the resources, in this case the [uncrowded] waves	Safeguarding of the natural environment and cultural heritage. In the end you have to be ruthless to preserve the host communities and their environment		
Steve Hawk	Satisfaction/crowding: The idea is to make the surf break at the destination an attractive resource to keep people coming back, and thus it has to be a good experience for them They have to have a sense that they are going to get waves and that these will not be overcrowded	CC The carrying capacity of a surf break is the key So that is the fundamental variable in the equation for a surfing destination is How many people can the surf break hold?	Safeguarding of the natural environment and cultural heritage The way to make them responsible to ensure that the facilities are maintained and that pollution is not an issue and is going to be monitored You also have to make sure that the resort doesn't dramatically alter people's live The impact on the local community must be taken into account as part of a management plan for that destination		Holistic approach The experience should be good for everybody, that is to say both the local people and the visitors
Pierce Flynn	Satisfaction Crowds are definitely a factor in the sense of the overall ecology of a surf spot and the surf experience Crowding Overcrowding is a kind of negative for every kind of person	CC There is a carrying capacity around every type of ecology, environment and especially surf spots Environmental CC There is a carrying capacity around every type of ecology and environment	Safeguarding of the natural The right way ultimately is a preservation way, the way that everybody understands and that everybody is winning [Environmental quality of a surfing destination is an important factor since] in many ways we (surfers) are the canaries in a gold mine Safeguarding of cultural heritage Need to protect their culture and give them control over the evolution of their culture Natural environment [In the case of Nias], I think that you have to keep the big picture in the mind all the time and that restoration of the environment is a	Community control Need to protect their culture and give them control over the evolution of their culture	Holistic approach: if it follows the triangle [i.e. socio-cultural, economic and environmental] .. then it can be sustainable Economic viability. What ever you do, you need to have the economy to play a big role

Respondent	Satisfaction of surf tourists and crowding	CC of surf break at destination and safety	Safeguarding of the natural environment and cultural heritage	Extent of community involvement in and control of surfing tourism	Holistic approach to surfing tourism and other factors
			very important thing.		
British surfing tourism operator			Safeguarding of the natural environment and cultural heritage: I actually believe in totally supporting the environment and the community that lives around the surf breaks.	Involvement: What is important from our perspective is that we contract local companies to represent us at the resorts.	
Surfing industry representative (Anonymous)	Crowding/Satisfaction: A surfing destination needs to have relatively uncrowded surf spots. So multiple surfing locations within easy reach of the accommodation is an asset.		Safeguarding of the natural environment: You will really should not leave any mark of where you have been and respect the environment and you clean up and you take things away.	Involvement: I think that it is imperative that they have a policy where the local people share the ownership in business ventures. Control: The local people should have some managed control of what happens.	
Other comments from key informants				Involvement: It will have to involve the community's perceptions before you do any management plan for that destination.	Economic viability: Surfing tourism can not just be all dollars and economical gain because that is what has brought in problems in the first place

Table A9. Examples of perceived sustainable and unsustainable surfing destinations (✓ indicates when the respective destinations were mentioned by each key informant)

Respondent	Examples of sustainable destinations					Examples of unsustainable destinations					Explanation (key informant)
	<i>Nusa Island Retreat</i> , Papua New Guinea	Tavarua resort, Fiji	Namotu resort Fiji,	Maldives	Niiwatu, Sumba, Indonesia	Lagundi Bay, Nias, Indonesia	Kuta, Bali	Bucket Peninsula, Indonesia	Uluwatu, Indonesia	Marocco	
Jess Ponting	✓					✓					<i>Nusa Island retreat</i> in Papa New Guinea where they have a really good rapport with the local community at the village they operate in They pay fair wages and sustainable building material and they pay money to reef resource owner, they have six different breaks and six different resources owners
Owners of Tavarua											
Paul Edmiston					✓		✓				Kuta is a classic example where tourism has gone wrong It is just the way it is cramped in together and no planning involved
Kevin Lovett		✓			✓	✓	✓	✓	✓		The success of Tavarua showed that you can generate serious income if you can manipulate systems around a location and if you can find a wave and then create the way to be able to maximise the appeal of the location, market it and brings the numbers If you were to develop surfing tourism, I would advise to probably follow Tavarua model The Bucket Peninsula has turned into another Lagundi
US based surf adventurer and journalist (Anonymous)		✓				✓	✓				Tavarua is a model in regards to the way things should be done because they include locals They had the foresight to include the local native villagers into the big scheme of things as far as giving them back
Steve Barilotti					✓		✓		✓		Niiwatu, and Tavarua over time they have done a good job as surfing tourism there is sustainable Niiwatu resort is a good example for its a small scale development and for using local materials and using native labourers

Respondent	Examples of sustainable destinations					Examples of unsustainable destinations					Explanation (key informant)
	<i>Nusa Island Retreat</i> , Papua New Guinea	Tavarua resort, Fiji	Namotu resort Fiji,	Maldives	Nihiwatu, Sumba, Indonesia	Lagundi Bay, Nias, Indonesia	Kuta, Bali	Bucket Peninsula, Indonesia	Uluwatu, Indonesia	Marocco	
Tim Baker		√		√			√				I think that is pretty sad what has happened to Bali. The transformation of Bali have been so dramatic Tavarua appears to have a good operation. You will hear all kind of arguments about the exclusive surf camps. But Tavarua has built a very mutually beneficial relationship with the local people.
Peter Troy		√				√					It is quite interesting in Tavarua, that the arrangement of giving some money goes back to the clan or local population.
Steve Hawk		√				√					Tavarua is acting as a model for how a surfing destination should be managed for everyone's benefits, the surf camp as well as the local people
Pierce Flynn		√	√	√			√				Tavarua is one of the best and Namotu comes in really close. They have done a great job in term of all aspects [of sustainability]. You have those fantastic waves which are the icing on top of the cake too and the people are so beautiful and they are happy that you are there too. You feel that you are not intruding and you have the environmental inspiring beauty about the reef. Nias is a great example in Indonesia where surfing tourism has been a failure.
British surf operator										√	
Surfing industry representative (Anonymous)		√				√	√				Tavarua is a wonderful working example and this is how I would have like to see a lot of these other places. Unfortunately it puts it out of the reach of many surfers. In the Maldives, it is a place where you have got a management level of sophistication. Maldives is probably another classic case of a positive example. So from a surfing perspective these two destinations are good

Respondent	Examples of sustainable destinations					Examples of unsustainable destinations					Explanation (key informant)
	<i>Nusa Island Retreat</i> , Papua New Guinea	Tavarua resort, Fiji	Namotu resort Fiji,	Maldives	Nihiwatu, Sumba, Indonesia	Lagundi Bay, Nias, Indonesia	Kuta, Bali	Bucket Peninsula, Indonesia	Uluwatu, Indonesia	Marocco	
											models Nias on the other hand is apparently plagued with pollution problems due to its shallow water table and the development on the beachfront. These potential problems were discussed a long time ago [At surfing destination], it is important to stop expanding, to cut the numbers of surfers down and to charge more money. And that is an unfortunate thing for us to be at, but it is better to have less people and greater quality of the surfing experience and minimum impacts on the environment and the communities

10.3. Thematic charts derived from exploratory interviews

Table A10. Thematic chart of potential solutions and management tools for surfing tourism at destinations.

Respondent	Limiting numbers of surf tourists; restricting access to destinations; and surfing reserves	Controlling numbers of surf tourists around the recreational CC of the destination	Economic instruments	Education and awareness/ Code of Conducts for surfing tourists and guidelines for surfing tourism industry
Jess Ponting	<p>Numbers: In terms of managing a break and destination sustainably, controlling numbers is important.</p> <p>Restricting access: Yet, you can not control the access of people to their own resources, it runs against of the grain of the general surfing ethic.</p>	<p>In terms of managing a break and surfing destination sustainably, finding the best model for a particular break is important. The closest model that one could hope to get would be based around that recreation carrying capacity. You will have different business models based on the most appropriate model for the geography, geomorphology, and seasonality of any particular destinations. CC is probably the key to figuring out those kind of numbers and coming out with a solution</p> <p>There is probably an equation you could come up with that could measure the carrying capacity and compare that with what people are prepared to pay for what kind of a wave and what kind of a crowd and what of infrastructure you need to back that up with. It is probably the key to figuring out those kind of numbers and coming out with a solution.</p>	<p>User fee: You could come up with the best option from particular location whether it would be eight surfers all paying a thousand US dollars a day to stay in a very luxurious rooms and it would all be small scale or whether it is 50 people staying in 10 different losmens paying 5 dollars a night.</p>	<p>Education and awareness: A change of attitudes and general education of respect would probably be a very good first step. Particularly place like the Mentawaiis where local fragile indigenous community get easily offended.</p>
Owners of Tavarua	<p>Numbers: You have to control the numbers.</p>	<p>Provide a CC situation where people are happy with their expectations. You need to have a good grip on the</p>	<p>Tourism operator permits: The permits system that Tavarua have allows giving and distributing back benefits to the</p>	<p>Education and awareness: Environmental education and socio-cultural awareness is important. Code</p>

Respondent	Limiting numbers of surf tourists; restricting access to destinations; and surfing reserves	Controlling numbers of surf tourists around the recreational CC of the destination	Economic instruments	Education and awareness/ Code of Conducts for surfing tourists and guidelines for surfing tourism industry
		amount of people that can be out there safely	community	of conduct. We talk about the environment in our newsletter, and prior to clients coming to the Island we send them information
Kevin Lovett	<p>Access Like Sumba, keeping the camp completely exclusive and controlling the beach, none of us ever wanted to see happened but the exclusive nature is restricting and will only be advantageous if it is nurturing, rehabilitating and educating I always had a problem with being denied access but then at the same time and I see with Niwatu, perhaps you have to give and take and perhaps the exclusive nature of making it semi-exclusive is the only way you can trade off against the environment and socio-cultural impacts</p> <p>Numbers [Follow Tavarua's resort management whereby] try and control the numbers and protect not only the environment but also the fragile economies and cultures.</p> <p>Restricting access Your have the inclusive nature is that there is no restrictions, everyone has access but neither do we want to see opening the thing up to mass invasion and destruction of the whole ecosystem</p>	Restricting development to the carrying capacity [of the surf breaks area] as surf breaks considered to have a low carrying capacity for crowds	Revenue collection It would only take 1-2% of the resorts income to be divided up and placed in foundations, suitably recognised foundations which that could actively distribute these funds and deliver benefits, and to the local people, you try and bring clean water, improve health, increase education facilities	<p>Education and code of conduct</p> <p>Bringing awareness of the responsibility that we all have as individuals and from that it would be to generate an understanding of how we should conduct ourselves in the future</p> <p>Guidelines. And all they need for planning information, understanding and education Maybe a program of awareness and the design of a set of standards that has to be reached</p> <p>Code of practice and code of conduct</p> <p>I do not think it would be adverse to have a booklet created on surfing etiquette and code of conduct for the travelling surfers even for Indonesia</p>
US based surf adventurer and journalist (Anonymous)	Access For the very bastion of the whole [surfing tourism] operation, there has to be certain restricted access To be realistic about it, you can not really have a place [successful destination] like Tavarua Island without having a very restrictive access for surfers So I think that restricted access is the only way that anything is going to work in a	The success of Tavarua showed that you can generate serious income if you can manipulate systems around a location and if you can find a wave [s CC] and then create the way to be able to maximise the appeal of the location, market it and brings the numbers	User fee Whether people pay, whether is it low budget resort or whether it is just a resort for the wealthy surfers	Revenue collection The actual individual surfers themselves in order to have any kind of beneficial impacts on the people where they are surfing at, they just have

Respondent	Limiting numbers of surf tourists; restricting access to destinations; and surfing reserves	Controlling numbers of surf tourists around the recreational CC of the destination	Economic instruments	Education and awareness/ Code of Conducts for surfing tourists and guidelines for surfing tourism industry
	<p>viable manner.</p> <p>Numbers: Having that certain number of surfers... is really what the whole eco-tourism (i.e. surfing tourism) is going to be about in the future for Indonesia and for all those places surfers want to go to any kind of surf tourism and surf resorts.</p> <p>Ethics: The boomed surf population has forced me to change my opinion on the restrictions that are applied to surfing spots.</p> <p>So the view that the waves should be free for everyone ...in theory, that is how it should be. But in reality and practicality, it does not work that way.</p>		<p>to contribute directly to the people. The surfers who go on these resorts, they can well afford 5 to 10 dollars.</p> <p>Tourism operator permit: Something like a permit to surf the surf breaks is also a potential solution.</p> <p>Booking: The only way management can work on a popular surf break is, basically the way it is done here in Tavarua where people book in advance. So they need to have advanced booking otherwise it would not be a practical way to run a business. And it has to be done on an advance booking permit basis, which is funny in a way as it comes back to the old theory that surfers taking their chances going to a spot. In the old days you went someplace and hoped to find good surf.</p>	
Paul Edmiston	<p>Numbers: There is no doubt that surfing tourism will continue to grow in popularity in the future so the challenge is to keep the number of surfers visiting popular surfing destinations to within the carrying capacity of the area. In doing so, the environmental sustainability and the local social fabric of the communities have a greater chance of being maintained. This really is what the whole direction of eco-tourism (i.e. surfing tourism) will be about in the future.</p> <p>Controlled access: Properly managed and controlled access that, above all else, accounts for</p>	<p>Restricting development to the carrying capacity level necessary to meet needs of future generations may appear a secondary concern when immediate economic benefits are being realised.</p>		<p>Awareness at community level: Local communities need to be empowered to understand that it is in their interest to make it sustainable and uncrowded.</p> <p>It's about recognising in advance that surf tourism will happen – is happening – and getting the awareness out there amongst the community that there are sustainable and equitable ways of managing it to maximise the benefits to those who</p>

Respondent	Limiting numbers of surf tourists; restricting access to destinations; and surfing reserves	Controlling numbers of surf tourists around the recreational CC of the destination	Economic instruments	Education and awareness/ Code of Conducts for surfing tourists and guidelines for surfing tourism industry
	<p>the needs and sustainability of the local communities and environment</p> <p>Ethics Having said that, I am concerned that, in practice, access to the best surf spots could become so restrictive that they become locked up in some way or another and this flies in the face of the freedom that underpins surf travel</p> <p>Surfing reserves We can look to examples here in Australia Bells beach, for example, is being well managed as a surfing reserve, but it is difficult to see those kinds of things happening in a hurry in developing countries</p>			<p>have the most vested interest in surf tourism destinations – the locals</p>
Steve Barilotti	<p>Numbers I think that in regards to the number of people, there has to be a limit</p>	<p>[The management of the destination should be based around the recreation CC] as the carrying capacity of surf break is very important</p>		<p>Code of conduct Establishing a code of conduct [for surf tourists] and relationships with local people</p>
Tim Baker	<p>Access As much as a surfer it pains me, destinations are better off trying to be quite exclusive But I do not think that there is any way of policing it and managing it</p> <p>Ethics. I think it is ok if there if a handful of exclusive surf spots where that experience is available You definitely need some places with restricted access and/or exclusive but, it is hard to see how you can impose this over the whole world</p>			<p>Education and awareness. So we definitely need to educate ourselves and then enter into this dialogue with the local communities to lessen [the impacts]</p> <p>Code of practice and guidelines. Surfing could agree to a set of guidelines that we can adopt either through Surfrider foundation or something, and maybe someone puts out a discussion paper through some kind of democratic process so that we can agree to some set of guidelines we try and uphold in our travel</p> <p>Code of Conduct Visitors could respect, refer and comply to these</p>

Respondent	Limiting numbers of surf tourists; restricting access to destinations; and surfing reserves	Controlling numbers of surf tourists around the recreational CC of the destination	Economic instruments	Education and awareness/ Code of Conducts for surfing tourists and guidelines for surfing tourism industry
				<p>guidelines. Role of media: I think that the media does have a role for sure.</p>
Peter Troy	<p>Numbers/restricted access: You let in a certain amount of people just like in Bhutan. The problem is the same whether you are looking at a surfing destination or a trekking destination to Mount Everest</p> <p>Access: Controlling the people going in the water may in the long-term be a good way to go.</p> <p>Sensitive destinations: There are those remote places like the Nicobar and Andaman Islands which are difficult to get to where the government is stopping surfers from getting there. I think that it is good.</p>		<p>Booking/ user fee/Revenue collection: To protect the environment...like at Noosa, Australia you could have a ticket purchasing system so that we could handle and control the crowds .</p>	<p>Education and awareness: More and more it is our responsibility, to inform the local people of the potential repercussions when we go to new places. Some of the solution is also educating the surfers. It is important for surf tourists to be socio-culturally aware in order to behave appropriately and in a way [which is acceptable] to the host community.</p> <p>Code of conduct: We let in a certain amount of people but then they have to behave in a way that follows some code of conduct. Professional surfing is an example of that.</p> <p>Role of the surfing industry: Having an association like Surfing Australia means that anyone wanting to teach surfing has to become a member, be proactive and which involves taking a level of responsibility.</p>
Steve Hawk	<p>Access: Restricting access and exclusive surf rights are going to be inevitable in some places but maybe not everywhere. It also depends on the value of the resource. But most places which are harder to get to and where accommodation is not so great, they have their own internal filtering systems.</p>	<p>The carrying capacity of a surf break is the key. So that is the fundamental variable in the equation for a surfing destination is: How many people can the surf break hold?</p>	<p>User Fee/ Revenue collection: Exactly, from my perspective, any money that paid would be to ensure that it sustain and to ensure that the facilities are sustained and pollution is not an issue and is going to be monitored and people livelihood do not change because of what is going on there.</p>	<p>Code of practice and guidelines: I did a round table conversation on this issue once with Pierce Flynn, who was then executive director of the Surfrider Foundation. He said the foundation was going to try to put together a type of guide for people who wanted to develop a surf resort.</p>

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				<p>This guide or blue print would instruct them how to do it, in an ecologically friendly way and a way that is most beneficial to the locals I am not sure if it ever happened, but I think it would be great for someone to create a group that advocates this type of scheme [in order for surfing tourism] to have a softer and more positive impact on locals</p> <p>Monitoring Need to ensure that the facilities are sustained and pollution is not an issue and is going to be monitored and people' livelihood do not change because of what is going on there</p>

Respondent	Limiting numbers of surf tourists; restricting access to destinations; and surfing reserves	Controlling numbers of surf tourists around the recreational CC of the destination	Economic instruments	Education and awareness/ Code of Conducts for surfing tourists and guidelines for surfing tourism industry
Pierce Flynn	<p>Access: Restricting is possibly not the best word to use, but limiting would be most appropriate. Certain surfing destinations should be guarded and limited, and not just the break itself but the whole ecosystem around it. Especially in areas that are both environmentally and culturally sensitive, that is a further reason to plan ahead and use the CC. But, in other places it will not make sense like at Burleigh heads and Kirra or places where you can just drive right up like Swannies here or Tressles. Surfing rights: That is what I like so much about Tavarua and Namotu, is that the fishing rights have been transferred to surf rights. Surfing reserves: So you need to place it in the context of making it a national or natural park and establishing it the entire way round.</p>	<p>CC could be used a model for managing surfing destinations. There is a carrying capacity around every type of ecology, environment and especially surf spots. For areas that are both environmentally and culturally sensitive, that is a further reason to ...use the cc. CC: I think that to a certain point there is a CC at every surfing break and surfing destination. And it differs per break.</p>	<p>Booking: We have our state parks which have limits entries and which close after a certain amount of people have come in. That could be the very key for [surfing tourism destinations]. We do similar things down in California like San Ofre surfing beach or our national park and the Sierra Mountains where we limit the number of people that can come to the beach to surf or trek the mountains. User fee: It is not elitist if everybody has an equal chance. You may have to wait and you have to pay but the more pressure the area, the higher the price tag and the longer you have to wait.</p>	
British Surf operator	<p>Access: Restriction of access potentially could be a very good idea. Ethics: But I think that in reality it is not possible because no one actually owns the ocean....so you cannot restrict swimming out to surf when you have a surf break around the corner. Most surfers have the same opinion which is that no one owns the waves and no one can stop them from surfing there.</p>			<p>Code of practice and guidelines: Secondly surf tourism needs a head organisation to force the future. If the big major operators got together they could at least try to develop and enhance certain regions and explain how to go about it. Monitoring: [There is a need] to build an organisation which monitors and helps develop environmental protection.</p>

Respondent	Limiting numbers of surf tourists; restricting access to destinations; and surfing reserves	Controlling numbers of surf tourists around the recreational CC of the destination	Economic instruments	Education and awareness/ Code of Conducts for surfing tourists and guidelines for surfing tourism industry
Surfing industry representative (Anonymous)	<p>Numbers [At surfing destinations], it is important to stop expanding, to cut the numbers of surfers down and to charge more money. And that is an unfortunate thing for us to be at, but it is better to have less people and greater quality of the surfing experience and minimum impacts on the environment and the communities. And that is why places like Tavarua, this works.</p> <p>Access: Unfortunately it puts it out of the reach of many surfers.</p> <p>Surfing reserves: So the only thing that you could do would be to make destination into some reserve that restricts access totally, like Bells Beach Surfing Recreational Reserve, in Victoria which is specifically for surfing use. They restrict any sort of developments on the reserve and they retain a lot of their original natural state. There is some sort of community work around there to build some board walks and those sorts of thing to stabilize the cliff faces and to lessen the impact of the number of people that visit. You can start doing things like banning fishing in marine reserves.</p> <p>It would have to be declared some reserve and/or set aside.</p>		<p>User Fee/ Revenue collection: A fee system, like a "bed tax", charging visitors should be set up in order to manage things like sewage, all the garbage collection and other public impacts. The fee should be regarded as an on cost of having the tourists visiting the region. This pressure on the local infrastructure should not be on the burden of the local communities in rates and taxes.</p>	
Other comments from opportunistic interviews with other informants				<p>Regulations. They should be more government involvement into surfing tourism.</p>

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shore, occasional pocket beaches and some active parabolic dunes (Department of Planning and Infrastructure, 2003). This area is part of Ningaloo reef which is the largest fringing coral reef ecosystem of Australia (Collins *et al*, 2003) stretching from Northwest Cape to the Red Bluff some 290 km. It also fringes the Southern tip of Ningaloo Marine Park (NMP) and is currently within the proposed southern extension of the NMP (extension goes from Gnaraloo Bay and the Red Bluff) as its inclusion "would increase representativeness of the existing Park and facilitate the conservation and management of the Ningaloo Reef as a complete ecosystem" (Marine Parks and Reserve Authority, 2003). The Ningaloo marine environment is considered to be part of one of the most fragile and important environments of national significance both, for its terrestrial flora and fauna and its marine biodiversity which sustain diverse and complex marine communities (Dowling, 1999). While current management exists at Three Miles Camp, it is limited, and operates on a reactive basis in response to various pressures. Coastal pastoral stations are known to suffer from the absence of appropriate plans and management regimes (Department of Planning and Infrastructure, 2003).

The surfing season at Gnaraloo runs from May to the end of October. Visitors at Three Miles Camp are almost entirely composed of surfers followed later on in the summer by windsurfers from October to February. The precise magnitude of surfing tourism at Gnaraloo is unknown. Currently, while the maximum number of people at Three Miles Camp is set by the management of Gnaraloo station at around 228 per week and in 2002 an estimated 15000 people came to Three Miles Camp and the majority of these were surfers (pers. comm, Barbara Gadowski, 2003). Coastal station tourism is composed mainly of Western Australians with very few international and interstate visitors (Wood, 2003).

Methodology

Due to the lack of baseline data on the area and the exploratory nature of the investigation (Ap and Wong, 2001), a qualitative and descriptive approach was used, aimed at drawing attention to salient issues. The nature of surfing tourism and its potential impacts was investigated on the basis of subjective views and perceptions using a multi-methodology (Trousedale, 2001) including in-depth and informal interviews with stakeholders and recurring surf-tourists, focus groups with surf tourists (Table 1) and non-systematic on-site and participant observations. As a result of the paucity of information on the area, the emphasis of the informal interviews was to identify the ecological importance of the area, usage level and resource concerns and to gather some secondary information on the area

Table 1: Table of interviews and focus groups carried out for study

<i>Focus Groups</i>	<i>In-Depth Interviews</i>	<i>Informal interview with NGOs and Research/Management agencies</i>
Focus groups which included between 5 to 8 people each	Care taker of Gnaraloo station Care taker of Red Bluff surf camp Seasonal staff at Gnaraloo station 3 x recurring surf tourists	<ul style="list-style-type: none"> • Department for Planning and Infrastructure • Ningaloo Reef Outback Coast Association • Department of Conservation and Land Management (CALM) • Western Australian Tourism • D.A. Lord & Associates PTY Ltd • Local geologist • Local marine scientists • Academics in tourism

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In total 6 in-depth interviews and 5 focus groups were conducted. Interviews and focus groups sought opinions on three issues 1) the activities undertaken, resource usage and use patterns of surf tourists in the study area, 2) perceived impacts associated with surfing tourism on the environment and, 3) the current management issues and potential mitigation measures for the area. Triangulation among the sources of information (i.e. corroboration of interviews, focus groups and direct observations) provided an important means to validate and strengthen the findings (Decrop, 1999)

Summary of results

This investigation is part of a wider study and presents only preliminary findings

Nature of surfing tourism

1) The mobility and spread of surf tourists

For the majority of surf tourists, the main attraction for coming to Three Miles Camp was to surf Gnaraloo's main breaks (see maps figure 1). Surf tourists searched daily for the best conditions. Preferred conditions were generally large swells of five feet and over, under such conditions crowds gathered at Gnaraloo. Tow-in surfing with the use of jet skis was observed during large swells. One respondent argued that *"on smaller surfing days, its an opportunity to go and explore the area and look for other surf spots"* and this was observed with a dispersion of surfers to other surf breaks (mainly "Turtles", "Dolphins" and the "Red Bluff") along the coast. Surfer tourists travelled some 20 kms from one surfing spot to another in one day according to varying tidal regime and waves. The presence and distribution of surf tourists in the area was explained to a large extent by the relationship with the ever changing wave environment as it conforms to wind, weather and tidal regime as well as the avoidance of crowds in the waters. Surf tourists are mobile and their impacts are not confined to one area but are likely to spread. This clearly highlights the difficulty in managing such a mobile group over wide expanses of land and isolated locations.

2) Multifaceted aspect of surfing tourism

On small days (under three feet), when surfing conditions are not optimal, surfers indulged in a variety of ancillary activities including fishing (e.g. rod and line fishing, spear fishing), diving, snorkelling, sand dune walking, sand boarding, reef walking, recreational boating, bush walking, roaming and exploring coastline areas in four wheel drive vehicles. When asked what other activities they partake in during their stay at Gnaraloo, one respondent of a focus group stated that *"you mix it up, all depends on what the conditions of the surf are"* What this implies is that managers of remote surfing destinations need to integrate and consider all potential impacts of ancillary activities in the management framework. For example reef walking and snorkelling are both known activities with potential damage to fragile reef communities (Hawkins and Roberts, 1993, Hawkins and Roberts, 1994). Most activities take place at the border between marine and terrestrial ecosystems which are especially susceptible to recreational impacts (Mieczkowski, 1995) and thus require attention.

3) Consumptive use of aquatic resources

Fishing was found to be a favoured activity among surf tourists. One comment from one station caretaker was that *"Gnaraloo is becoming more popular with spear fishing and surfers are high users of cray fish and other fish resources"*. Most surfers are keen divers and fishermen and are therefore able to spear fish, catch octopus for bait and forage for mussels. Surfer tourists fished both from boats and from the shore. Fishing for meals was found to be prevalent among surfing tourists. While this subsistence fishing was compounded by the great distance to stores for supplies, this was also further explained by an ethos of self-sufficiency within surf tourists. This

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ethos of self-sufficiency was exemplified by a comment from a focus group which pointed that *"Surfers are ocean people, living the simple life, roughing it and living from the sea are part of the surf trip experience and coming to Gnaraloo"*. Although the catch by surfer tourists may be perceived as insignificant, studies by Westera *et al* (2003) found that, recreational fishing pressure on target species of coral reefs, can be sufficient to reduce fish populations below that of adjacent protected areas.

Focus groups and interviews highlighted that people are noticing less fish around, less diversity of fish species in the area, less abundance of certain targeted species such as blue grouper, snapper, coronation trout, pelagic mackerel, wahoo and disappearance of cray fish (western rock lobster) in 3 Miles lagoon in front of the camp. One interviewee, a repeat visitor over the last 15 years illustrated this by stating that *"The reef used to be alive and thriving with fish and now the reef is pretty much dead and most fish have been is fished out"*. Another statement from a focus group in relation to western rock lobster remarked that *"George said the other day that the crays in the lagoon used to be all over the shop, he was surprised, he said when he saw one the other day"*. While there is existing pressure on the area from recreational fishing (Westera *et al*, 2003) it is reasonable to question the pressure added on the fish stock by the surf tourists themselves. This issue calls for further research on the surf tourist contribution to fishing pressure locally.

Key impacts

In addition, to the perceived fishing concerns mentioned above, in-depth interviews, focus groups and observation highlighted a wide variety of issues and problems pertaining to activities in the study area. Due to the extent of issues raised, a summary is given and only the salient impacts are discussed. It should be noted that impacts were neither ranked in terms of importance nor quantified but were simply described.

1) Access issues and extent of area

One of the main issues raised by this study was the one of access. Due to the ruggedness of the area, its morphology, and the distance to and isolation of the different surf breaks, four wheel drive vehicles are required to access most places. This continuous vehicle movement through vulnerable ecosystems can damage fragile habitats and may induce disturbance of wildlife of terrestrial species (Mieczkowski, 1995). Furthermore, the lack of formal roads, uncontrolled access and movement of vehicles, has lead to significant proliferation of indiscriminate tracks and openings in fragile areas. Localised vegetation damage and dune erosion were observed. This was particularly apparent at Turtle Beach (a popular surf break located in a fragile dune area and nesting beach for loggerhead turtles) where, despite restricted access to four wheel drives, a majority of visitors still drive down the beach and park in close proximity to the shore, causing visible destabilisation of fore dunes. The major hindrance to management is directly linked to the vast extent of the study area and isolated location of the different surf spots such as Turtles.

2) Direct impacts of surfers

Impacts most frequently reported and directly related to surfing as a recreational activity were, trampling of reef and accidental reef breakage when coming in and out of the surf, especially at low tide. This was particularly obvious at Gnaraloo main breaks, where at low tide a 200m stretch of reef going out to sea was being affected. Another less visible impact is that surfing, like swimming can inadvertently contaminate water via faecal coliform, soap and oils (Liddle, 1997). Although this may appear insignificant, coral reef communities are known to be highly sensitive to pollutants (Barber *et al*, 2001). A more prominent issue, is the increasing use and popularity of jets skis in the Gnaraloo area for tow-in surfing. Jet skis raise issues of

safety for other surfers, but also noise, oil pollution and wildlife disturbance. Such activity deserves closer attention especially since the Ningaloo coastline is home to many endangered species including whales, dolphins and turtles (Preen *et al*, 1997). On the same theme, it is reasonable to also question the potential impacts on marine wildlife (i.e disturbance of turtles and other species) from the surfers' presence in the water. This is still unknown to date.

3) Landscape changes and other impacts

One of the most visible landscape changes was de-vegetation around the camp due to fire wood collection. Despite wood being sold at the camp and the ban on wood collection established by the station lessee, some individuals still collect wood illegally. Other recurring impacts included litter problems, track and walking trails radiating around the campsite causing erosion, soil compaction and reduction of vegetation cover. Dune erosion via sand boarding, dune climbing and vehicle access around dunes were also highlighted during the focus groups. Furthermore, the basic infrastructure at the setting up of Three Miles Camp (which includes septic tank sewage system and the solid waste burnt in open tips) constitute another potential environmental threat with potential pollutants leaching into the ground from open field rubbish tips and observed leaching of sewage overflow seeping to the reef during high tourist season. This observation questions the site's septic tanks capacity to cope with high visitors during certain seasons. The use of small pleasure and fishing boats raised issues such as refuelling on the beach, oil pollution and reef damage at 3 Mile lagoon and Gnaraloo Bay. However, impacts are currently localised and generally the situation is manageable.

Recommendations and Management Issues

While the number of visitors to Gnaraloo and surrounding area and impacts, have been contained due to the precarious access and the maximum capacity at Three Miles Camp being set at 228 per week, the suggested 'coastal road' linking Coral Bay and Ningaloo is a concern. This proposal is likely to result in an increase in the influx of tourists. In an area where there is limited information to date and where appropriate management is currently not in place, increasing level of usage warrants investigations into the carrying capacity of the area. If the future management of the area, as part of the proposed Southern Extension of the NMP, is to be environmentally and socially compatible in accord with the overall conservation goals of the NMP, some potential recommendations and suggestions are offered below for guidance.

1) Physical protection

Many of the negative impacts such as erosion, track formation, sewage issues and hard waste disposal were attributed to limited suitable management and most could be remedied by improving infrastructure facilities such as adequate sewage treatment and disposal of solid waste, but also with site hardening techniques including board walks and signage.

2) Regulatory management

Some impacts such as increased damaged to dunes, may necessitate stronger control measures. For example, managers will have to take measures to physically prevent access to those areas that are in immediate danger of degradation, such as Turtles beach as well as, reinforcing the ban on fire wood collection. In addition, the majority raised concerns regarding the growing number of people coming to the area. There was a general consensus on the need to control visitors' numbers and restrict access in order to safeguard the environment and the quality of enjoyment. However the surfing community were ambivalent about introducing such measures. This attitude can be attributed to the feeling of freedom and free access to surf breaks as

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part of the ethos of surfing, which was also found to be a strong component of the experience for coming to Gnaraloo. As Buckley (2002:421) pointed out for surfers from most countries: *It is a basic rule of the surfing culture that anyone can get in the water. As one interviewee highlighted, "as long as the waves are here, you won't stop them from coming surfing here"*. Some even argued that restrictive access could lead to an increase in illegal camping in the area and further offensive behaviour such as driving over barriers etc. This behaviour had already been observed where for instance, fencing was cut to access the north end of the station. It has to be noted that the majority obey the rules. The study highlighted some disharmony with regard to the potential mitigation and management measures, with varying views on restriction of access and numbers to the areas. Thus restrictive measures required should be considered judiciously.

3) Educational management

The majority of surf tourists coming to the area indicated some understanding and concern about current environmental pressures on the area and most recognised the need for better management. It appeared that most of the impacts were inadvertent but some surf tourists did not reflect on and face up to the consequences of their own actions. This was generally due to a lack of awareness of the fragility and the vulnerability of the local natural environment (e.g. wood collection of live bushes perceived to be dead). The study indicated that impacts could be better mitigated through education and promotion of awareness. Management actions supported by the surf tourists included educational tools such as increased signage and printed materials to promote information on the fragility of the local environment. In addition, many were in favour of the introduction of rangers to the area for direct individual contact to educate the general public. One interview exemplified this view by stating that *"You will never stop people from coming and you can't exclude them but you can guide them"*.

Another point highlighted in this study was a core of support for surf tourists' involvement in the management of the area. One repeat surf tourist argued that *"it is up to the surfers from now on, we are the ones coming here and therefore we need to protect the place we love"*. This opinion reflects surfers overall environmental consciousness due to their intimate relationship with the ocean as well as strong sense of attachment and affinity to the place. A recurring suggestion was the involvement of key figures within the surfing fraternity in the area's management. It was remarked that surfers would be likely to respect a recognised figure within the surfing fraternity rather than an outside government agent. The idea of surf tourists self-management was also raised by one government agent, who further suggested formal training of key figures within the surfing community and put forward the idea of awarding individuals with an official title, to give them power of enforcement. This suggestion highlights the need for consultation and inclusion of surf tourists in future management plans. Thus empowerment of the surfing community appears critical to safeguarding the environment. Future management of the area needs to be more in tune with an educational approach rather than a restrictive approach if it is hoping to achieve fruitful outcomes.

4) Monitoring

Monitoring will be a crucial element of the sustainable management of this fragile destination. Poor resource features and great distances will undoubtedly hinder monitoring. As a result, to minimise cost and human resources in the field, it is suggested that satellite imagery could be used to identify small scale changes in coastal marine ecosystems, including coral reef and dunes (Stoffle *et al*, 1994). Similarly, this could be achieved using video derived coastal state indicators (www.TheCoastViewProject.org). It is suggested here to take Jusoff and Hassam's (Jusoff and Hassan, 1996) approach where environmental changes over time could be monitored via a combination of generic field survey methods,

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Conclusion

This investigation suggests that surfing tourism like any other tourism industry is not impact-free. This study highlights the fundamental challenge associated with surfing tourism in the context of a remote fragile destination like Gnaraloo. The nascent infrastructure and limited management, the inherent nature of living from the sea (i.e. consumptive use of marine resource), the diversity of ancillary activities and surf tourists mobility over extensive areas, all engender some potential impacts. While the direct impacts of surfing as a recreational activity *per se*, may be insignificant, unprecedented impacts associated with accessing surf breaks and the consumptive use of marine resource need to be addressed and further investigated. Another point is that, while most impacts were localised around highly used areas, this form of tourism can spread its impacts over a relatively wide geographical area. In addition, multifaceted activities ancillary to surfing tourism may lead to unexpected impacts if not managed properly. The true nature of surfing tourism in remote destinations undermines the myth about the non-consumptive and benign image that surfing tourism portrays, based on the false assumption that, the utilization of waves is a natural non-polluting/impacting process.

While these findings cannot necessarily be generalised for other destinations, the study hopes to exemplify the nature of surfing tourism in remote areas like Gnaraloo and highlight the different ways, surf tourism can locally impact on the environment. With the growth of tourism, Western Australia and its ideal surfing conditions with numerous quality breaks along its coastline is likely to attract increasing number of surfer tourists. Thus, solely on the basis of the fragility of the local environment visited, it would seem that surfing tourism should receive specific scrutiny rather than being assumed as an environmentally-friendly tourism, at least until sound quantitative estimates of any impacts are further researched and understood. A judicious combination of management approaches is required to maintain the ecological integrity of the area. These findings hope to help managers to recognise, mitigate and find solutions to address and reduce these impacts to existing and future surfing tourism destinations. The findings may be of particular use for future planning and management by CALM, for their potential role in managing this area as part of the Southern Extension of NMP.

Future work

The study offers some qualitative description of impacts and activities carried out by surf tourists. Yet a lack of quantitative detailed information on surf tourist visitor numbers, user characteristics, activities, expectations and motivations for visiting the area as well as quantitative evaluation of identified impacts to the environment will cause severe drawbacks on suitable design and fruitful implementation of a management plan. Furthermore, sustainable management will be restricted by the combination of limited scientific understanding and the current scant baseline data on the study area's natural environment and on the level of known use there by warranting further research.

Acknowledgement

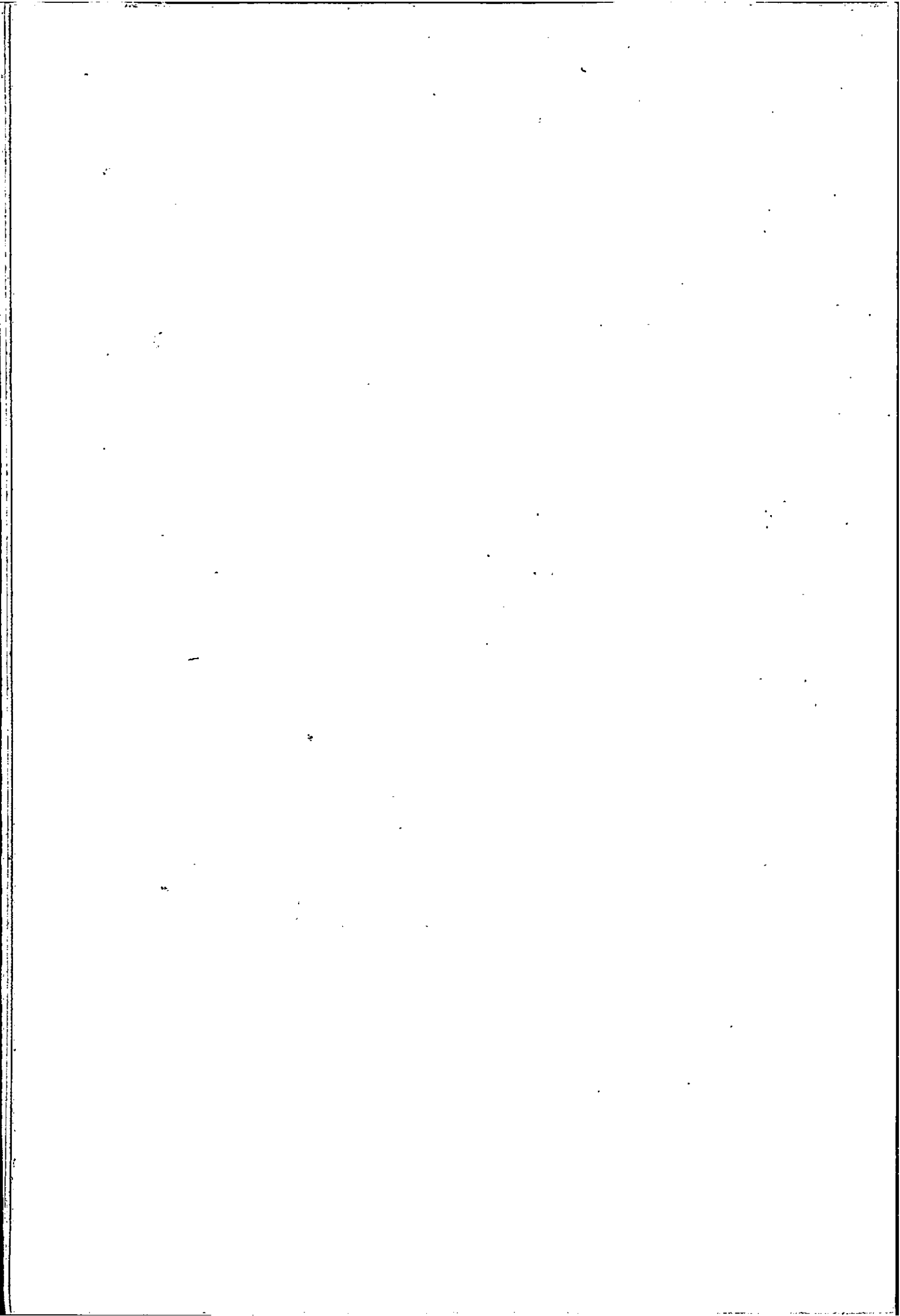
We thank Nigel Aird, Dr Martin Bloxham, Stuart Field, Barbara Gadomski, Michael Golowyn, Karl Leavy, Laurent Latche, Karen Laws, Donald Shield and Stephen Widjaja for their help and suggestions.

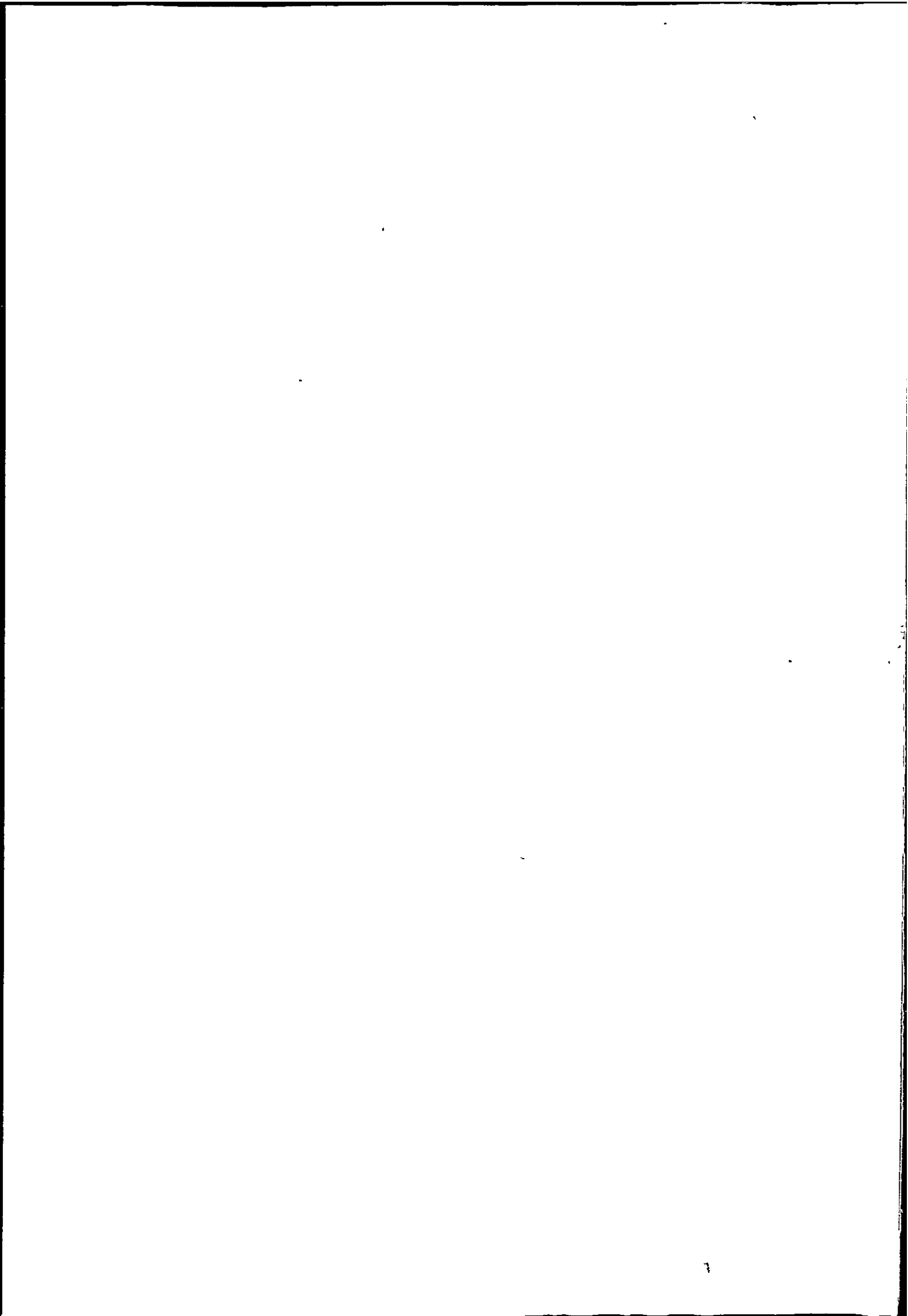
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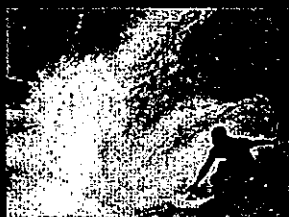
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IMPACT



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