

# Implementing STD on a Small Island: Development and Use of Sustainable Tourism Development Indicators in Samoa

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Small island states present a significant challenge in terms of sustainable tourism development. On a small island there are limited resources, economic and social activities tend to be concentrated on the coastal zone, and the interconnectivity between economic, environmental, social, cultural and political spheres is strong and pervasive. Consequently the sustainable development of tourism is more a practical necessity than an optional extra. This paper investigates the question of how to monitor sustainable tourism development (STD) in Samoa, an independent small island state in the South Pacific. It describes some of the methodological considerations and processes involved in the development of STD indicators and particularly highlights the importance of formulating clear objectives before trying to identify indicators, the value of establishing a multi-disciplinary advisory panel, and the necessity of designing an effective and flexible implementation framework for converting indicator results into management action.

## Introduction

Reflecting what Butler (1993: 71) refers to as the 'Robinson Crusoe factor', tropical islands have been promoted as embodying the holiday aspirations of Western consumers, being full of romantic and adventurous connotations, and as King (1997: 145) notes, having a 'long historic pedigree of the "earthly paradise"'. With a proven ability to generate foreign exchange, boost tax revenues, diversify exports and expand the otherwise limited employment opportunities, it is easy to see why tourism is an attractive development option for many Small Island Developing States (SIDS) (Briguglio *et al.* 1996; Guthanz & von Krosigk, 1996; Milne, 1992; Wilkinson 1989).

As has been well documented previously, however, tourism development can also jeopardise small-island sustainability (Britton, 1982, 1987; Wilkinson, 1987). Britton (1982, 1987) explains how tourism on small islands is often characterised by substantial economic leakages because of high dependence on imported goods and the tendency of the industry to employ foreign labour, especially in senior positions. Other scholars point to the impact of tourism on vulnerable island ecosystems and illustrate how increased tourism can put pressure on limited resources such as fresh water and land, especially in coastal zones (Farrell, 1996; Poon, 1993; UNEP, 1999). Berno (1996) investigated the socio-

cultural and psychological effects of tourism in the Cook Islands, and Mansperger (1993) comments on the commercialisation of traditional societies as a result of tourism on Yap. Tourism planners and decision-makers need to address such issues in order to ensure that tourism on small islands is developed in a manner and scale that is compatible with available human and physical resources and is sensitive to pertinent environmental and social issues.

A transition towards STD has been hampered by the fact that despite more than a decade of research on the subject, there is still no consensus on the precise nature, objectives, applicability or feasibility of the concept. The academic arguments focus on semantic confusion, concern about the compatibility of growth and sustainability, the degree of substitution that is possible, the question of evidence of success, the scale of development, possible class prejudice and the use of STD as a marketing slogan (Bramwell & Lane, 1993; Butler, 1999; Harrison, 1996; Stabler, 1997; Wheeler, 1993). As a result, STD has been both criticised and frequently misconceived as a type of ecotourism or a low-impact form of niche product.

Many of these concerns are, however, not a reflection of the failure of the concept of STD itself, but the failure of those involved in tourism to look outside disciplinary boundaries and integrate some of the progressive work being undertaken in the field of sustainable development (referred to later as sustainability science) into tourism studies. The concept of sustainable development is of course not without its critics (see for example Collins, 1999; Goulet, 1995; Lélé, 1991), but given the broad international acceptance of the principles it espouses (enhanced human well-being and environmental conservation), a good case can be made for using these principles as a starting point for understanding STD (Holling, 1993, 1995; NRC, 1999). The National Resource Council (NRC) Board on Sustainable Development Report entitled *Our Common Journey, A Transition toward Sustainability*, put together by 25 of some of the most prominent scientists in the US, defines sustainable development as the process of 'the reconciling of society's development goals with its environmental limits over the long term' (1999: 22). This is a particularly appropriate way of conceptualising sustainable development in the context of small islands, where ecological, social and economic resources are closely inter-linked and particularly limited.

In the South Pacific, organisations such as the South Pacific Regional Environmental Programme (SPREP), the South Pacific Forum and the Alliance of Small Island States (AOSIS) have been proactive and early contributors to the sustainable tourism development (STD) debate (e.g. SPREP, 1994). Despite the fact that several national tourism organisations in the region have already made a public commitment to the principles of STD (e.g. Government of Samoa, 2000, 2002a, 2002b; Government of Samoa and TCSP, 1992; Government of Tuvalu and TCSP, 1997), there are few tools currently available to facilitate their endeavours.

This paper describes some of the methodological considerations and processes involved in establishing and implementing a monitoring system for STD in Samoa and it comments on the feasibility of its application in other small island states. It particularly highlights the importance of formulating clear objectives before trying to identify indicators, the value of establishing a multi-disciplinary advisory panel, and the necessity of designing an effective and flexible implementation framework for converting indicator results into management action.

## Rationale

Monitoring is the process of undertaking regular measurements of one or more phenomena in order to assess their change over time. This is crucial to all sustainable development strategies as it provides the opportunity to assess the effectiveness of policies and actions, identifies the most successful and appropriate ones, and draws attention to problem areas so that appropriate management responses are activated. Monitoring is not new to tourism. Conventional tourism indicators such as arrival numbers, length of stay and tourist expenditure have long been used to monitor a destination's performance; but just as GDP has been found to be inadequate as an indicator of human welfare, so are these inadequate measures of tourism's sustainability. Sirakaya *et al.* (2001: 418) explain the difference between conventional and sustainable tourism indicators:

Indicators of sustainability for tourism differ from traditional development indicators because they take into consideration the web of complex interrelationships and interdependencies of resources and stakeholders in the tourism system.

An increasing number of tourism scholars are now advocating the need for sustainable tourism indicators (Butler, 1999; Goodall & Stabler, 1997; Gunn, 1988; Moisey & McCool, 2001; Mowforth & Munt, 1998; Sirakaya *et al.*, 2001; Weaver, 1998; WTTC *et al.*, 1997). WTTC *et al.* (1997), for example, note that the establishment of realistic sustainable tourism indicators is a top priority for national tourism organisations. Goodall and Stabler (1997) suggest the indicator approach can make a useful contribution to sustainable tourism decision-making. Weaver (1998: 8) explains that the implementation of sustainable tourism is impeded by the current 'unsophisticated state' of understanding with regard to indicators, and Butler (1999: 16) suggests that without indicators the term sustainable is 'meaningless'. The need for the development of sustainable tourism indicators in the context of small island states in particular has also been articulated by the Secretary-General of the World Tourism Organisation (Frangialli, 1999: 20):

In recent years, and particularly as a result of the 1992 Rio Earth Summit and the 1994 Barbados Conference, there has been evidence that various measures are being developed in Small Island Developing States (SIDS) and other islands to try to integrate tourism better in sustainable island development. Nonetheless, inter-island cooperation and information is still very weak and generally there is a shortage of specific knowledge and suitable indicators to evaluate the real situation.

Despite clear demand, however, research on sustainable tourism indicators is still in its incipient stages and practical case studies are hard to come by. The most significant attempt so far to develop indicators of sustainable tourism has been undertaken by the World Tourism Organization (WTO) through its Environment Task Force (Dymond, 1997; Manning & Dougherty, 1995; Manning *et al.*, 1996). The WTO project aimed to develop a set of internationally acceptable sustainable tourism indicators that would assist tourism managers in their decision-making processes (Manning *et al.*, 1996). They identify 11 core indicators to

1. Site protection	<i>Category of site protection according to IUCN</i>
2. Stress	<i>Tourist numbers visiting a site (per annum/peak month)</i>
3. Use intensity	<i>Intensity of use in peak periods (persons per hectare)</i>
4. Social impact	<i>Ratio of tourists to locals (peak period and over time)</i>
5. Development control	<i>Existence of environmental review procedure or formal site controls</i>
6. Waste management	<i>Percentage of sewage from site receiving treatment</i>
7. Planning process	<i>Existence of organised regional plan for tourism</i>
8. Critical ecosystems	<i>Number of rare/endangered species</i>
9. Consumer satisfaction	<i>Level of satisfaction by visitors</i>
10. Local satisfaction	<i>Level of satisfaction by locals</i>
11. Tourism contribution to local economy	<i>Proportion of total economic activity generated by tourism</i>

**Figure 1** WTO core indicators of sustainable tourism

Source: Manning *et al.* (1996)

compare tourism's sustainability between destinations (shown in Figure 1) as well as a range of supplementary indicators used in particular situations such as the coastal zone, mountainous areas, wildlife parks, urban environments, traditional communities and small islands.

Although the work of the WTO provides a useful starting point, closer analysis reveals a number of difficulties with their approach such as their failure to define sustainable tourism or justify the choice of indicators, the rather narrow tourism focus of the indicators, the lack of clear stakeholder participation and omission of an appropriate monitoring framework to help translate indicator information into appropriate management action. An alternative approach was developed by Miller (2001) who used a Delphi Survey to develop indicators to measure the sustainability of tourism products at a company or resort level. The purpose of the indicators was to assist consumers in their holiday decision-making and therefore indirectly encourage tourism operators to provide more sustainable products. This is a useful tool for the STD-conscious travelling public but has less direct relevance for the management of STD in a small island context.

Common to both the work of WTO and Miller (2001), is the assumption that STD issues are similar from place to place, a notion which is inconsistent with progressive thinking in both sustainability science and STD (Bramwell & Sharman, 1999; Dasmann, 1984; Hunter, 1997; Laws *et al.*, 1998; Lew & Hall, 1998; NRC, 1999; Potts & Harril, 1998; Stankey, 1999). The NRC note that threats to sustainability emerge in specific regions that have distinctive social and ecological attributes and that 'place' provides the conceptual and operational framework in which progress in integrative understanding and management is possible (NRC, 1999: 285). Potts and Harril (1998: 137) recommend applying the principles of 'mutuality and locality' to a community's tourism planning process as opposed to 'cookie-cutter' techniques, which they say 'de-value social networks and the unique characteristics of place'. Stankey (1999: 180) is critical of those that seek 'simplicity and universality' rather than adapting to site or

area-specific conditions. He sees such 'cookbook' approaches as focusing attention on finding universal answers rather than more importantly, the solutions to specific local problems. Hunter (1997) also notes that sustainable tourism needs to address different goals in different situations, and Laws *et al.* (1998) explain:

Each destination therefore has the challenge of identifying the factors causing change locally, and of understanding their dynamics in its own context. Consequently, a policy adopted in one particular situation must not be regarded as a model solution for another destination. Nor indeed would current policy be adequate for dealing with future problems in the same destination. (Laws *et al.*, 1998: 9)

It is argued here that to be effective management tools, STD indicators need to reflect the space and time specific context of the locality under study.

Some of the issues identified above have been addressed by the Tourism Optimisation Management Model (TOMM) developed by Manidis Roberts Consultants (1997) to monitor and manage tourism development on Kangaroo Island in South Australia. TOMM provides an integrative and place-based approach to not only monitoring STD but also converting the monitoring results into effective management action. The indicators they used are place-based and were developed with a significant amount of stakeholder involvement following an investigation of key issues facing tourism development on the island. But although TOMM is a helpful point of reference and a successful project in its own right, it tends to have a sectoral approach to tourism, and it does not go far enough in identifying the complex interactions between tourism and other ecological and social conditions on the island. It is with these comments in mind that the natural, cultural and economic circumstances in Samoa are examined and provide the context for an explanation of tourism development and STD monitoring in the country.

## Samoa

Samoa (formally known as Western Samoa) is a small island state in the South Pacific, lying just east of the International Dateline, halfway between New Zealand and Hawaii. It consists of two main islands, Upolu and Savaii, separated by an 18 km-wide strait, and seven smaller islands of which only two, Manono and Apolima, are permanently inhabited. The country has a total population of 175,000, 72% of whom live on Upolu, home to the international airport and the capital Apia, with 34,000 inhabitants (Government of Samoa, 1999).

Western Samoa (as it was known from 1898 to 1997) was under German colonial administration from 1898 to 1914. At the outset of the First World War, New Zealand took over administration of the islands which it retained until after the end of Second World War. After a brief period as a United Nations Trust Territory, in 1962 Western Samoa became the first Pacific Island state to gain independence (Meleisea, 1987). Throughout the 60 years under German and New Zealand colonial administration Samoa retained its cultural independence. The *fa'a Samoa*, the Samoan way of life which is dominated by the extended family (*aiga potopoto*), chiefly structure (*fa'amatai*) ceremonial gift giving (*fa'alavelave*) and customary land ownership, still pervades every aspect of life from birth to

death, and commerce to politics, providing a unique and authentic experience for visitors.

Samoa's economy was formally dominated by copra, cocoa, taro and rubber but falling world prices, combined with the loss of guaranteed markets available in the colonial period made this policy problematic, leading to the emigration of a large proportion of the workforce and a reliance on remittances and foreign aid (Britton, 1987; TCSP, 1998a, b). After a period of economic hardship, by the second half of the 1980s Samoa was beginning to enter a period of modest growth, but this was wiped out by a catalogue of misfortunes in the early 1990s. Two cyclones, in 1990 and 1991, severely devastated the copra plantations. In 1993, taro leaf blight destroyed nearly all the taro crops on both islands. Since 1995, however, with the assistance of bilateral donors and the reform of the public sector, the modern era of the Samoan economy appears to have dawned and there is a general air of optimism. Fairbairn (2000) estimates that GDP per capita has increased from US\$600 in 1987 to US\$1,100 in 1999 and the national accounts figures for the year ending June 2001 showed a real growth in GDP of a record 10.6% (Central Bank of Samoa, 2001). Along with commercial fishing, construction and small-scale manufacturing, tourism has now been recognised as an important engine of current and future growth (Government of Samoa, 2002a).

### Tourism development in Samoa

There is little by way of academic literature on tourism in Samoa compared to the number of studies that have been made of the larger Pacific Island destinations such as Fiji and Hawaii. Theuns (1994) provides a general case study of tourism in Samoa, Fairbairn-Dunlop (1994) investigated tourism and gender issues, Twining-Ward and Twining-Ward (1998) outlined the context and constraints facing tourism development in Samoa, and Pearce (1999, 2000) focused on the role of the Samoa Visitors Bureau. Twining-Ward and Twining-Ward (1998) note that in addition to constraints common to other small islands such as air access, limited domestic market, weak institutional organisation and lack of resources, tourism development in Samoa is constrained by cultural issues such as land tenure, village protocol and cultural standards for operating businesses.

In addition to this material, over the last 10 years, a number of consultant reports and departmental reviews on tourism have been produced (Government of Samoa, 1987; Government of Samoa & TCSP, 1992; Pacific International Consulting, 1995; SVB & TRC, 2000a, b, c; TCSP, 1998a, b; UNDP & WTO, 1986). Analysis of this material as well as discussions with informed individuals in Samoa have allowed the authors to piece together some of the history and current context of tourism development in Samoa.

During the 1980s, concerned about the impact of tourism on the *fa'aSamoa*, Government Development Plans gave tourism a fairly low priority. Funding for the development and marketing work of the national tourism organisation was limited, and the government did not endorse the first Tourism Master Plan 1984–1993 (UNDP & WTO, 1986). Following the commencement of regular flights by Polynesian Airlines and Air New Zealand in 1978, there was slow and steady growth and international arrival numbers increased from 40,400 in 1984 to 47,000

in 1989. During the period 1990 to 1993 the country struggled to recover from the cyclones and their economic aftermath. With few economic alternatives, the government then put greater priority on the development of tourism. A more liberal approach to tourism development was adopted than had previously been the case, foreign investment encouraged and the 1992–2001 Tourism Development Plan (Government of Samoa & TCSP, 1992) elaborated and implemented. Combined with the pioneering efforts of the private sector in setting up the first beach resort hotels and tour operations, these efforts have begun to yield results. The period 1996 to 2000 has shown consistent growth in visitor arrivals from 68,400 in 1996 to 87,688 in 2000. Similarly, international receipts have increased from Samoan Tala (SAT) 88.1 million in 1996 to SAT133 million in 2000 (one Samoan Tala was worth Pounds Sterling 0.20 as of 2 February 2002), ensuring the predominantly Samoan owned tourism industry retains the leading economic position in terms of national exports and foreign exchange earnings that it has shared with commercial fisheries since the 1980s (SVB, 2000a).

### Tourism policy and planning

Responsibility for tourism planning and policy-making in Samoa is shared between the Government Department of Treasury and the Samoa Visitors Bureau (SVB). The Samoa Visitors Bureau (SVB), a statutory corporation established in 1984 to develop and market tourism in the country, is responsible for implementing the Tourism Development Plan. The Tourism Development Plan (1992–2001) (Government of Samoa and TCSP, 1992) highlighted the need to provide the right investment climate, improve land access, provide basic infrastructure, enhance tourism awareness in the community and promote Samoa in its target markets. The new Tourism Development Plan (2002–2006) puts its emphasis solidly on the sustainable development of tourism in the country. The plan's objectives are as follows (Government of Samoa, 2002b: 15):

To provide a framework and process that ensures a balanced, coordinated, practical and efficient approach to the sustainable development of tourism in Samoa.

It goes on to clarify:

Sustainable tourism development will be undertaken at a rate, and in ways that will:

- generate continuing economic benefits throughout Samoan society;
- contribute to a general improvement in the quality of life in Samoa;
- reflect, respect and support fa'aSamoa;
- conserve and enhance the country's natural and built environments;
- and
- enhance tourists' experience of Samoa.

Unlike previous endorsement of STD principles, both this plan as well as the Department of Treasury's new Development Strategy (Government of Samoa, 2002a) emphasise the importance of monitoring STD using Samoa's newly developed Sustainable Tourism Indicators. A discussion of how the indicators

were developed and the challenges encountered during the process is the focus of the rest of this paper.

## Methodology

Initial background research on sustainable development and sustainable tourism identified three common issues which subsequently became guiding principles for the development of a suitable methodology for monitoring STD in Samoa. These were the need to adopt an interdisciplinary perspective (Abel, 2000; Hein, 1997; Inskeep, 1991); to foster broad stakeholder participation in the development of indicators (Hardy & Beeton, 2001; Hart, 1999; Sirakaya *et al.*, 2001) and to ensure indicators reflected the place and time specific issues facing STD in Samoa (Dasmann, 1984; NRC, 1999). Adopting an interdisciplinary approach meant taking into consideration not only elements that are traditionally regarded as tourism issues, such as airline access and the development of accommodation, but also the relationship between tourism and the broader environmental, economic, social and cultural issues facing Samoa, such as access to clean water, rural unemployment and the traditional system of village authority. Fostering broad stakeholder participation meant establishing a suitable structure not only for stakeholder involvement and consultation, but for stakeholder collaboration and management of the monitoring process. Being place and time-specific meant identifying indicators that resonated with user-groups and addressed current stakeholder priorities and concerns rather than simply international STD priorities. Based on these principles, and using knowledge and understanding of the more technical elements of monitoring gained from a review of sustainable development indicator literature, a monitoring system was developed for STD in Samoa as shown in Figure 2.

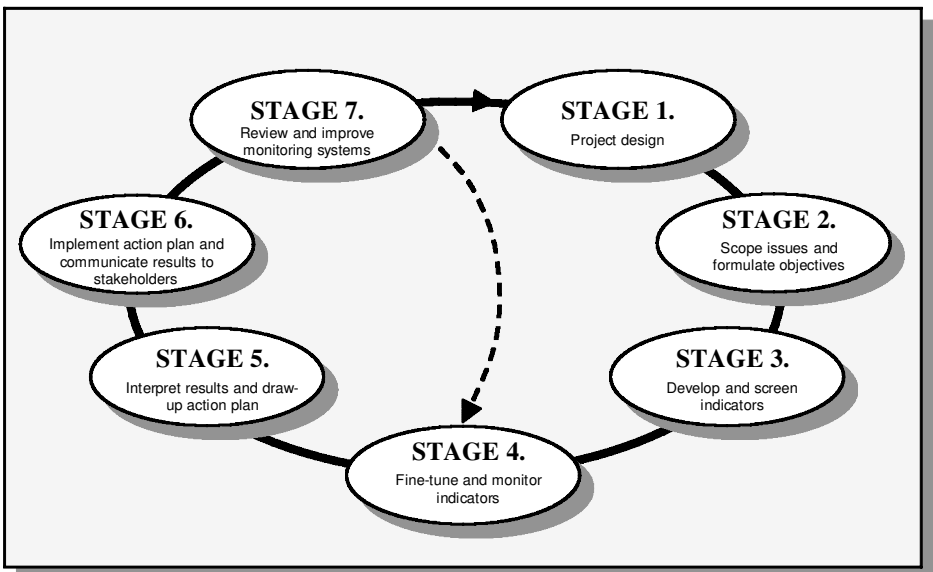


Figure 2 Research plan



## Project Design

The monitoring project started as the PhD research of the first named author. The research plan was influenced by consideration of the Bellagio Principles (Hardi, 1997), the Tourism Optimisation Management Model (Manidis Roberts, 1997), the work of the WTO indicator programme (Manning *et al.*, 1996) and considerable consultation with stakeholders in Samoa.

Given the interdisciplinary and participatory approach to monitoring advocated here and the small size and limited resources of the Samoa Visitors Bureau, an important part of the project design was also to establish a suitable management structure that would facilitate broad and continuous stakeholder input into the study. After some consideration, SVB decided to established a small multidisciplinary Project Advisory Committee (PAC) to collaborate with SVB on the work and form the primary, but not the only, channel of stakeholder participation. In deciding the potential composition of the Committee, it was important to identify who the main project stakeholders groups actually were, and what kind of skills the Committee would require, a process that is referred to in the literature as 'stakeholder analysis' (Hardy & Beeton, 2001). In the case of Samoa, four stakeholder groups were identified. First, SVB, as the implementing agency, then the tourism industry who were likely to use the results of the monitoring process. Thirdly, the regional environmental organisation (SPREP) and a number of government departments had shown interest in the work and would be key providers of information and data, and fourthly, the National University of Samoa and the University of the South Pacific. The final committee consisted of 12 members with a mix of environment, economic, cultural and tourism expertise.

The PAC met as a roundtable on nine separate occasions during the development phase of the monitoring project, and on several other occasions in small sub-committees to advise on specific tasks. The purpose of the meetings was to discuss project results as they emerged, take decisions about forthcoming activities, and generally monitor the progress of the work. Because of the wide-ranging experience of members, they were also able to advise on the most appropriate methodology to use at different stages in the project, assist with accessing monitoring information and suggest techniques for involving the wider range of stakeholder groups that they in turn represented and had access to. Inevitably, in the selection of a small committee there were trade-offs between size, functionality and representativeness, but the PAC was only one of the mechanisms for stakeholder involvement in the work, and throughout the different stages of the study there were opportunities for a much wider group of individuals to participate.

## Scoping Issues and Formulating Objectives

Once the project management structure was in place and before indicators could be developed it was found necessary to define precisely what STD means, not just in the international or academic context but in the place-specific context of Samoa. Three main techniques were used in this undertaking. First a focused literature review of sustainable development and tourism material on Samoa; then a series of in-depth key informant interviews, and finally a number of village surveys.

Within any given population there are always going to be one or more individuals who are especially knowledgeable and insightful in particular areas and should consequently be given special attention in the research process (Ward *et al.*, 1999). 'Knowledgeable individuals', are defined by Gunn (1988) as those who have access to special sources of information about the community and can provide this more effectively than other individuals. The key informant interviewers were designed to tap this important source of information, give an opportunity to stakeholders who were not members of the PAC to participate in the project and assist the PAC to develop a realistic picture of how tourism relates to the wide range of priorities and concerns facing sustainable development of Samoa. Key informants were selected in Samoa using snowball sampling. This involves identifying one member of the population of interest, and then asking them to identify a second person with similar characteristics (Clark *et al.*, 1998). In this way it was possible to identify a whole network of respondents who view each other as key players in a particular area.

During the village surveys 104 household interviews were conducted and 12 focused group meetings were held with established local groups. All the surveys commenced with a traditional welcome ceremony (*inu ava*), which involved a series of ceremonial speeches by the team orator and village chiefs followed by the presentation of *ava* sticks (root of the *Piper methysticum*) to the survey team. After the speeches and gifts were reciprocated by the survey team through the orator, the practical arrangements for the surveys were made. Cultural protocol dictated that chiefs were the first to be interviewed. After this, focus group sessions (the traditional form for discussion) with members of the women's committee and the young untitled men's group (*aumaga*) ran simultaneously. This multiple approach to gaining access to and involving different stakeholder groups is similar to methods argued for by Hardy and Beeton (2001) and demonstrated the differing stakeholder perceptions and attitudes towards sustainable tourism that they note is missing from the literature to date.

Once this six-month period of consultation had been completed, a list of critical issues could be drawn up, screened and was then sorted with the assistance of SC members into one master list that included 71 issues. Within this list, there were many similar issues that could be grouped together and some issues that had little direct relevance to tourism such as lifestyle diseases and political freedom. As a result of the PAC screening, eventually 12 key issues were identified to form the basis for Samoa STD objectives (shown in Table 1). These 12 main objectives are broad in their coverage of sustainable development issues and focus specifically on the issues stakeholders see as being important to STD Samoa. It was clear, however, from reviewing other indicator projects, that the more specific the objectives were, the easier it would be to develop indicators to monitor them, so for each objective a series of more specific sub-objectives was then formulated by PAC members, totalling 26. These are also shown in Table 1.

## Developing and Screening Indicators

With a clear set of sustainable tourism objectives in place, the project focus shifted to the development of indicators to monitor progress towards or away from these goals. Sustainable development literature provides some assistance

**Table 1** Samoa's sustainable tourism objectives and corresponding indicators

<i>Theme</i>	<i>Objective focus</i>	<i>Main objective</i>	<i>Sub-objectives</i>	<i>Indicator descriptor</i>
Environment	Land and forest resources	Encourage the conservation of land and in particular forest resources	<ul style="list-style-type: none"> <li>Encourage the participation of village communities in conservation programmes</li> <li>Promote the careful use of tourism as an income generating activity for conservation areas and other natural areas under protection</li> </ul>	1a) Villages participating in land conservation programmes 1b) Tourist visits to conservation areas
	Coastal and marine resources	Promote the careful management of coastal and marine resources with special focus on coral reefs	<ul style="list-style-type: none"> <li>Encourage the participation of village communities in marine conservation programmes</li> <li>Promote the careful use of tourism as an income generating activity in coastal areas</li> </ul>	2a) Village participation in marine conservation programmes 2b) Tourists engaging in marine activities
	Waste and pollution	Encourage the use of proper waste management practices at both the national and village level	<ul style="list-style-type: none"> <li>Enhance village awareness of appropriate waste disposal methods</li> <li>Encourage the tourism industry to adopt appropriate solid and human waste management practices</li> </ul>	3a) Hotels treating their sewage 3b) Hotels recycling their waste
	Water resources	Seek to improve the quality of water and efficiency of water usage in all areas	<ul style="list-style-type: none"> <li>Work together with responsible agencies to upgrade the quality and reliability of water supply especially to rural areas where tourism is being developed</li> <li>Promote measures to increase efficiency of water use by the tourism industry</li> </ul>	4a) Tourism accommodation with drinkable tap water 4b) Hotel water usage

Table 1 (cont'd)

<i>Theme</i>	<i>Objective focus</i>	<i>Main objective</i>	<i>Sub-objectives</i>	<i>Indicator descriptor</i>
Economy	Rural development	Stimulate appropriate employment and income-generating opportunities in rural areas	<ul style="list-style-type: none"> <li>Support the participation of village communities in appropriate tourism income generating activities</li> <li>Encourage tourism operators to use locally produced goods and services</li> </ul>	5a) Rural tourism employment 5b) Tourism businesses located outside Apia
	National economic development	Diversify the national income base	<ul style="list-style-type: none"> <li>Create opportunities for increased tourist spending</li> <li>Encourage local entrepreneurship and initiative in all facets of the tourism industry</li> </ul>	6a) Newly registered tourism businesses 6b) GDP generated by the tourism industry
	Education and training	Promote appropriate training and education, especially in rural areas	<ul style="list-style-type: none"> <li>Provide and deliver appropriate tourism awareness information, especially to villages where tourism is already being developed</li> </ul>	7a) Villages included in awareness programmes 7b) Hotel employees who have been on training courses
Society and Culture	Respect for the fa'aSamoa	Foster respect for the fa'aSamoa in all activities	<ul style="list-style-type: none"> <li>Develop tourism activities which provide opportunities for learning about the fa'aSamoa</li> <li>Identify and address potential conflicts between tourism and the fa'aSamoa</li> </ul>	8a) Provision of information about village protocol by tourism operators 8b) Villages providing home-stay experience
	Performing arts and crafts	Encourage and promote widespread participation and skills in performing arts, crafts and other cultural practices	<ul style="list-style-type: none"> <li>Take steps to maintain and rejuvenate traditional performing arts and other cultural practices</li> <li>Support the development of high-quality crafts as well as their potential for income-generation</li> </ul>	9a) Entries in traditional dance competition 9b) Exhibitors at annual craft fair

**Table 1** (cont'd)

<i>Theme</i>	<i>Objective focus</i>	<i>Main objective</i>	<i>Sub-objectives</i>	<i>Indicator descriptor</i>
Tourism	Tourist facilities	Improve the quality of the tourist experience through the upgrading of tourist attraction sites, facilities and services	<ul style="list-style-type: none"> <li>Support efforts to enhance the quality of tourist attractions, particularly those of historical and cultural significance</li> <li>Seek to upgrade the quality of tourist facilities and services</li> </ul>	10a) Evaluation rating of attraction sites 10b) Quality rating given to key tourist facilities
	Tourism planning	Ensure tourism development is carefully planned and of a scale and form compatible with the natural and cultural environment	<ul style="list-style-type: none"> <li>Ensure national-level tourism planning and policy is environmentally and culturally appropriate, carefully implemented and monitored, and developed in partnership with stakeholder groups</li> <li>Evaluate all applications for new tourism development in terms of their environmental and cultural compatibility</li> <li>Take special care to safeguard critical natural and historic landscapes from inappropriate development</li> </ul>	11a) Hotels with EIA conducted 11b) Historical and cultural sites protected by national law
	Sustainable tourism	Enhance awareness and adoption of sustainable tourism principles and practices	<ul style="list-style-type: none"> <li>Encourage and support the tourism private sector to employ sustainable tourism practices and technologies in their businesses</li> <li>Enhance the awareness and commitment of government departments and NGOs to sustainable tourism</li> </ul>	12a) Tourism operators with an environmental policy 12b) Projects undertaken as a result of monitoring programme

Source: Adapted from Twining-Ward, 2002

in this regard. According to the UN Commission for Sustainable Development, indicators need to be understandable, realisable, conceptually well-founded, limited in number, broad in their coverage and dependent on data that is readily available (Moldan & Billharz, 1997). Hardi (1997) adds that sustainable development indicators need to be long-term and practical in focus, developed through broad participation and secured by institutional capacity. Manning *et al.* (1996) recommend similar criteria for the selection of sustainable tourism indicators highlighting the need for data availability, credibility, simplicity, and the ability to show trends over time.

Using these characteristics as a guide, SC members engaged in focused brainstorming sessions aimed at developing indicator ideas. During the initial sessions groups focused on evaluating the potential of indicators identified during the literature review, but as the work progressed, these indicators were gradually all rejected and new ones were suggested in their place that were more suited to the situation in Samoa. As Hart (1999: 140) notes, indicators need to be selected because they 'fit the circumstance of the community not because someone else is using them'.

A total of 279 indicators were considered during the group brainstorming sessions, 75 of which were subsequently put forward for screening. Indicator screening took place at two-levels. First indicators were screened for their technical feasibility using 12 technical criteria derived from a review of related indicator literature. Criteria one to six were designed as 'killer' criteria, which all indicators were required to meet or risk immediate rejection. Criteria seven to ten then acted as 'desirable' criteria. To be 'accepted', indicators needed to meet at least two out of the four. Table 2 shows an example of the type of screening table with potential indicators listed along the top and the screening criteria down the side.

Indicators passing this selection process were then screened a second time to assess their user-friendliness. Key informants, selected in the initial stages of the project using snowball sampling, were asked to show on a Likert scale of one to five, the degree to which they agreed or disagreed with the inclusion of a particular indicator. As a result of this selection process, 24 of the 75 were then put forward for further fine-tuning and monitoring as discussed in the next section.

## Fine-tuning and Monitoring the Indicators

The indicator screening process aimed to eliminate any indicators that were either not technically feasible or lacked sufficient public resonance; but before starting to collect data, some further indicator fine-tuning needed to be carried out and monitoring protocols designed. This helped to avoid the acquisition of unnecessary information and material and also to ensure that if the indicator was used over a number of years, it would be understood in the same manner each time it was used. Fine-tuning activities included PAC meetings, consultations with key informants and the formulation of precise indicator wording and definitions. Data collection techniques and sampling frames were then established on a case-by-case basis, with the emphasis not on obtaining 'one-off' data, but establishing the most effective (reliable, cost efficient and objective) means of

**Table 2** Example of technical screening table

<i>Theme</i>	<i>Environment</i>				
OBJECTIVE	Encourage the sustainable management of land and in particular forest resources				
Sub-Objectives	Encourage the participation of village communities in conservation programmes		Promote the careful use of tourism as an income generating activity for conservation areas and other natural areas under protection		
Indicator	Number of villages participating in land and forest conservation programmes	Amount of forest listed as 'critical' that is protected by law	Proportion of protected areas gaining income from tourism	Number of ecotourism activities in conservation areas	Tourist visits to conservation areas
Criteria					
1. Relevant	✓	✓	✓	✓	✓
2. Reliable	✓	✓	✓	✗	✓
3. Feasible	✓	✓	✓	✓	✓
4. Stable	✓	✓	✗	✓	✓
5. Trend	✓	✓	✓	✓	✓
6. Scope	✓	✓	✓	✓	✓
RESULT	PASS	PASS	FAIL	FAIL	PASS
7. Historical	✓	✓			✗
8. Secondary	✓	✓			✓
9. Participatory	✓	✓			✓
10. Simple	✓	✓			✓
TOTAL SCORE	4	3			3
RESULT	PASS	PASS			PASS

Source: Twining-Ward, 2002

collecting data on an ongoing basis. As a result of this process, four further indicators were rejected, reducing the core list to the 20 indicators shown in Table 1. All the indicators except for 4b, hotel water usage calculated in litres were measured in percentages. This significantly simplified the interpretation and presentation of the data.

With all the terms, measurement systems and contact points for each indicator identified, the focus shifted to clarifying common data sets, identifying key contact people, obtaining necessary permissions and designing surveys to collect the data. It was clear from the start that given the limited human and financial resources of SVB, if the indicators were dependent on the collection of large amounts of primary data, the monitoring programme was not going to be

sustainable. Wherever possible, therefore, efforts were made to keep the number of primary surveys to a minimum, either by combining data collection for several indicators into one survey, or by finding alternative secondary sources of data. As a result, only four primary surveys were undertaken in order to collect data for 11 indicators. These included a tourist accommodation survey, tour operator interviews, an attraction site evaluation and a survey of market stalls. Over a period of five weeks with the assistance of the PAC, the SVB interviewed 78% (25) of accommodation facilities, 100% (18) tour operators/activity providers and inspected the top 20 most visited tourist attraction sites and handicraft stalls in all three markets.

### **Interpreting the Results and Drawing up an Action Plan**

The baseline data collection took a further six weeks to complete, and as the data became available, following the model recommended by Marion (1991), it was inputted directly into an electronic database, specifically designed for the purpose. In the analysis of the data, one of the difficulties of the place and time-specific approach became apparent. As most of the indicators were being collected and assessed for the first time, there was no yardstick by which to compare results. What, for example, were the implications of 8% of holidaymakers going on nature tours and 27% of hotel employees receiving training during the year? If the previous year's results had been available and showed that only 2% of holiday-makers went on nature tours and 10% of hotel employees received training, trend analysis would be possible, but without a clear point of reference, it would still be largely a matter of judgement and guesswork as to whether the change should be interpreted as an improvement or deterioration of the situation. This was potentially a serious problem for the project and one that needed to be resolved not only to assist the interpretation of the current year's results, but so that SVB would have a process in place to assist the interpretation of indicator results on a long-term basis.

Consequently, the establishment of a form of reference point for desirable indicator performance was seen as essential. Various alternatives were considered such as the use of benchmarks, and thresholds but in the end, based on the successful experience of the Tourism Optimisation Management Model used in Kangaroo Island, 'acceptable ranges' were used for this purpose, defined as a goal or a set of conditions which, in a given situation, represent the proposed 'desirable state' (Manidis Roberts, 1997). As in the TOMM, the ranges were estimated on the basis of current indicator results, experience from other destinations, and the advice of experts in the appropriate fields.

With an acceptable range established for each indicator, the interpretation of results became a far simpler process of assessing whether the results fell inside or outside the acceptable range. Indicators were rated 'good' if the actual result was better than the acceptable range, 'acceptable' if the actual result was within the acceptable range or 'poor' if the actual result was worse than the acceptable range. For some of the indicators where historical data was available trends could also be assessed, according to whether these represented a positive or negative change in relation to the acceptable range. Table 3 gives an overview of the results from 1999.



**Table 3** Indicator Results from 1999

<i>Environmental sustainable tourism indicators</i>	<i>Result</i>	<i>Acceptable range</i>	<i>Performance</i>
Tourism village participation in land conservation	26%	50–75%	POOR (a)
Tourist participation in nature tourism	8%	20–40%	POOR (a)
Tourism village participation in marine protection	42%	50–75%	POOR (a)
Tourist participation in marine tourism	23%	20–40%	ACCEPTABLE (b)
Hotels using secondary or tertiary sewage treatment	8%	30–50%	POOR (a)
Hotels composting their biodegradable waste	76%	60–80%	ACCEPTABLE (b)
Tourism sites passing SWA water quality tests	50%	70–90%	POOR (a)
Water usage per guest night in hotels (in litres)	928*	500–1000	ACCEPTABLE (b)
<i>Economic sustainable tourism indicators</i>			
Proportion of hotel jobs in rural areas	48%	40–60%	ACCEPTABLE (b)
Proportion of new businesses focused on tourism	4%	10–20%	POOR (a)
Contribution of direct tourism businesses to GDP	4%*	10–20%	POOR (a)
<i>Social and cultural sustainable tourism indicators</i>			
Villages included in tourism awareness programmes	28%	25–50%	ACCEPTABLE (b)
Hotel staff going on training courses	27%	25–50%	ACCEPTABLE (b)
Tourism operators informing tourists about village protocol	72%	50–70%	GOOD (a)
Proportion of traditional events in Tourism Festivals	50%	50–70%	ACCEPTABLE (b)
Proportion of handicraft stalls in the markets	21%	20–40%	ACCEPTABLE (b)
<i>Tourism indicators</i>			
Evaluation of quality of key tourist attraction sites	35%	60–80%	POOR (a)
New hotels undertaking environmental assessment	33%	90–100%	POOR (a)
Tourist landscapes under threat from development	20%	0–5%	POOR (a)
Tourism operators using sustainable tourism practices	48%	60–80%	POOR (a)

(a) Poor; (b) Acceptable; (c) Good; \* Data from 1998

As shown in Table 3, just one of the 20 indicators, the number of tourism operators informing guests about cultural protocol, achieved a result that was better than the acceptable range (72%). Eight of the indicators gave results that fell inside the acceptable range. Of these, the proportion of hotels composting their organic waste scored the highest (76%) (although there was a large difference between urban and rural hotels in this respect).

Of the 11 'poor' indicator results, perhaps the most critical is that only 8% of sampled accommodation facilities were found to be using secondary or tertiary wastewater treatment. This is of particular concern given the number of hotels located in low lying areas of Apia and in the coastal zone where the danger of ground water pollution through flooding and seepage from septic tanks is at its highest. Another related area of concern is water quality. That only half the villages important for tourism have safe drinking water, presents an additional health risk to both tourists and local residents. Even a few cases of water-borne

disease, if reported by the international media, could seriously damage Samoa's image as a safe and family-friendly destination.

Improvements were also found to be urgently needed at attraction sites, as 20% were considered by tour operators to have deteriorated during the year and only 35% scored a 'good' or 'excellent' rating on the SVB attraction evaluation form. The number of tourists participating in nature tourism (8%) was also found to be very low given the importance of nature to the country's tourism image. In other contexts this might be considered a positive sign, but with the current low volume of tourism in Samoa, the objective was to encourage tourists to visit conservation areas in order to provide nearby villages with increased opportunities for income and employment generation and a financial incentive to continue conserving their nature resources.

### Indicator Implementation Framework and Action Plan

Having developed indicators and monitoring protocols, and collected and interpreted indicator results the monitoring process may appear to be complete. However, in order to ensure the information generated by monitoring is actually used to help in the transition towards more sustainable tourism development, the next crucial step is to establish a system whereby indicator results can actually be converted into management action.

The implementation framework for the Samoa sustainable tourism indicator project (shown in Figure 3) was developed in consultation with SVB and PAC members. First, the indicators were monitored and the results interpreted using the acceptable range system as described above. Next, possible causes of 'poor' results were discussed with PAC members and experts in the appropriate fields in Samoa, such as water quality, environment impact assessment and craft production, and alternative management responses generated. The responses were then prioritised and drawn up into an action plan and directed to appropriate divisions of the Samoa Visitors Bureau for implementation. The effectiveness of the action projects was finally assessed through the regular monitoring and review of the indicators.

The 1999 Sustainable Tourism Action Plan identified 10 priority areas for action and these were communicated to stakeholders along with all the indicator results in a four-page bulletin, *Samoa's Sustainable Tourism Status Report 2000* (SVB, 2000). As of October 2001, six of the proposed action areas have been addressed, tourism awareness programmes have been reviewed, training programmes have been run for conservation area managers, attractions sites and tour guides, a new information brochure has been produced for tourists, and a workshop has been held for hoteliers on sustainable tourism practices. The four other areas for action are ongoing (a review of waste-water standards, water quality issues, work on the restoration of damaged tourist sites, and the criteria for environmental screening). In this way *Samoa's Sustainable Tourism Status Report 2000*, has proved to be an effective planning tool for SVB activities during the year as well as giving it additional information with which to approach Treasury and donor agencies for funding of specific activities.

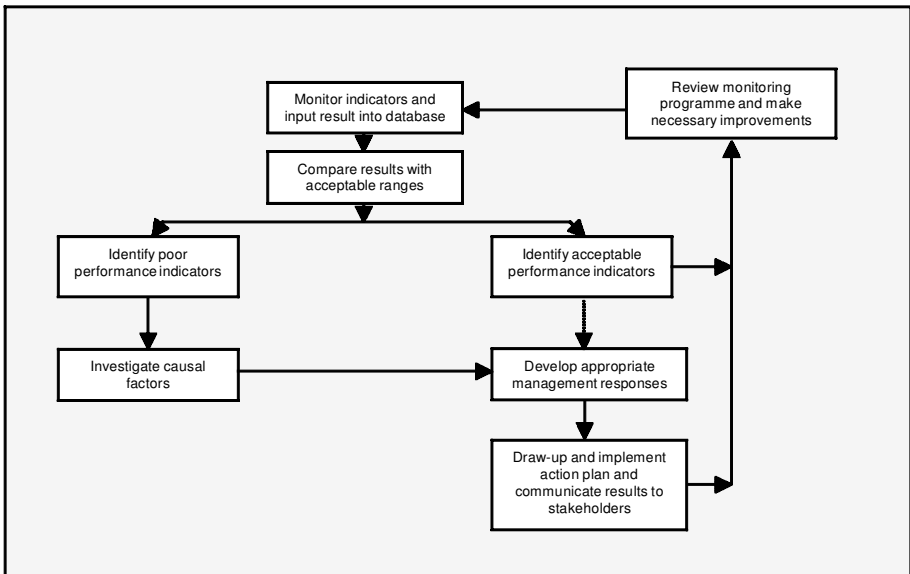
In addition to the Status Report, an Indicator Handbook was written as a 'do-it-yourself' internal reference guide for SVB on how the indicators were

developed and how they should be monitored (Twining-Ward, 2001). The Handbook includes information on sustainable tourism in general, how the indicators were monitored and a set of information sheets detailing all the technical information required to monitor the indicators on an ongoing basis. Although this will need to be regularly updated, it has helped raise awareness about the project and through the South Pacific Environment Programme, helped disseminate information about the work to other small Pacific Island states.

### Reviewing and Improving Monitoring Systems

The final activity prior to re-monitoring the indicators was to review the indicator programme and suggest any necessary improvements and adjustments to the indicators and data collection techniques. Initial evaluation of the indicators and review of wording, definitions and data collection procedures took place directly following the first round of monitoring (January 2000) with further revisions undertaken (October 2001) prior to the second round of monitoring. The purpose of both phases in the review process was to assess the performance of individual indicators, indicator wording and definitions and discuss possible improvements to data collection methods based on lessons learned.

As a result, 12 of the indicators were accepted without change, three were accepted with small changes in data collection techniques (nos. 1b, 2b, 7a) four indicators were completely revised (nos. 3a, 4b, 8a, 9a), one was rejected (no. 9b) and two new indicators were added. The new indicators were ‘the percentage of tourism operators currently active members of an industry association’; and ‘the percentage of projects from the annual sustainable tourism action plan that have been completed during the year’. Although altering the indicator list meant, in some cases, losing the ability to effectively compare indicator trends over time,



**Figure 3** Indicator implementation framework  
 Source: Twining-Ward (2001)

the committee decided that ensuring the actual indicators were clearly focused on current issues, and that data collection methods were continually improved, was regarded as more important to the integrity of the programme and as an issue diminishes in importance, it does not need to be measured any more. In this way, it became clear that ST indicators and their monitoring systems should not be cast in stone but represent a current 'best fit' that can and must be reviewed, adapted and improved as new information becomes available and new issues emerge.

## Lessons Learned

Indicators can inevitably only provide a snap-shot at a particular time in a particular place and are not a substitute for detailed scientific study of destination processes, in depth stakeholder participation or the harnessing of indigenous knowledge. However, if one acknowledges that not everything can be monitored, the challenge then is, from past experience and social learning, to recognise key areas of STD concern in a particular place and monitor these in the hope that small changes may, at a later date, have much wider ramifications. Notwithstanding, the project does serve to highlight some of the practical and methodological difficulties of STD monitoring in a small island state

Although the monitoring project is still ongoing and its long-term implications for the sustainability of tourism in Samoa are far from clear, several important lessons can be noted from the Samoa example: the importance of formulating clear objectives before trying to identify indicators, the value of establishing a multi-disciplinary advisory panel, and the necessity of designing an effective and flexible implementation framework for converting indicator results into management action.

The concerns of stakeholders and the issues facing tourism development are space and time-specific. If indicators are to have a degree of public resonance and local ownership that is essential to their implementation, they need to reflect the critical issues currently facing the destination. Consequently, any monitoring process needs to start with the identification of key STD issues and formulation of clear objectives, not in an international context, but in the context of the locality under study. By spending a great deal of time and effort in arriving at a stakeholder consensus on what appropriate objectives should be, the problem of identifying appropriate indicators is much simplified.

Having the interdisciplinary PAC in place helped SVB understand the importance of adopting a more comprehensive and integrative approach, addressing tourism concerns in the context of the broader social and economic situation in the country rather than in isolation – especially important given the close inter-linkages of these elements on a small island. The Committee also provided an important means for SVB to access a wider network of stakeholders and helped ensure that monitoring systems were not only put in place, but there existed the will and knowledge to use them to work towards the sustainable development of tourism in Samoa.

Finally, the design of an effective and flexible implementation framework meant that the monitoring process was able not only to generate data about the state of STD in Samoa but convert this into tangible management action. In so doing it became a

more proactive management tool capable of bridging the gap between government departments and also between information and action. The US National Research Council Board on Sustainable Development, a widely represented, interdisciplinary group of distinguished scholars (NRC, 1999: 3–4) explain:

Ultimately, success in achieving a sustainability transition will be determined not by the possession of knowledge, but by using it, and using it intelligently in setting goals, providing needed indicators and incentives, capturing and diffusing innovation, carefully examining alternatives, establishing effective institutions, and, most generally, encouraging good decisions and taking appropriate actions.

## Conclusion

Samoa's STD monitoring programme has been initiated, but there is still much work to be done to ensure a successful transition to sustainable tourism development in the country. The indicators are going to need continual review and adaptation as more usable knowledge and technology becomes available and new issues arise. Work also needs to be done to make the indicator project, handbook and database part of an interactive SVB web site ([www.visitsamoa.ws](http://www.visitsamoa.ws)), where data can be continually updated, and accessed by the general public, and to increase the project's social learning outcomes.

Although the indicators themselves are unique and specifically designed to address STD issues in Samoa, there is no reason why the methodology, if suitably adapted, might not form the basis for STD monitoring elsewhere, particularly in a small island situation. Likely adaptations would be to ensure the methods used for stakeholder involvement are compatible with the norms and value systems in the place under study, and that the study boundaries are appropriate to the size of the destination and the level of development of its tourism industry. In the case of a small island country like Samoa with a very low level of tourism, and clear geographic resolution, it has been possible to develop national-level indicators, but for a larger country, particularly one that exhibits a wider variety of ecological and social conditions or has a more developed tourism industry, regional or even local indicators might be more appropriate, depending on the needs and interest of stakeholder groups.

The Samoa Sustainable Tourism Indicator Project has shown that monitoring sustainable tourism is about far more than identifying appropriate indicators. It is about clarifying what STD means in the context of a particular place and a particular group of people, about selecting indicators that not only have technical merit but are also feasible given the resources of the organisation concerned and that strike a chord with the people who are going to use them. Finally it is about providing an appropriate enabling environment and capacity so that the indicator data can be interpreted and acted upon, and the monitoring programme can be regularly reviewed and adjusted given the dynamic nature of small island tourism.

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