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Island Tourism and Sustainability: A Case Study of the Lakshadweep Islands

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Lakshadweep archipelago, off the south-western coast of India, is a relatively little known island tourism destination. With a very fragile environment, traditional society and marginal economy, and almost entirely dependent on the mainland, Lakshadweep has been developing tourism as an important economic activity. With its geographical and environmental limitations, sustainability is a major issue in Lakshadweep tourism. However, the islands seem to have turned these limitations to their advantage by developing and managing tourism in a controlled manner. This paper considers the development of tourism in Lakshadweep islands within the context of sustainability. Examining the structural and developmental features of Lakshadweep tourism, the paper seeks to identify specific development and management patterns, if any, and explores potential strategies for promoting sustainability-oriented tourism in Lakshadweep.

Introduction

Tourism development, as widely recognised, entails a number of negative and positive impacts (Archer & Cooper, 1994; Hunter & Green, 1995; Mathieson & Wall, 1982; Ryan, 1991; Smith & Jenner, 1989). Islands in general and those in less developed world in particular seem to be more vulnerable to the negative impacts of tourism. Remoteness, perceived 'difference', smaller size, slower pace of life, distinct culture, exotic wildlife, and pristine environment are some of the basic characteristics of islands (Baum, 1997; Lockhart, 1997). These characteristics tend to attract a large number of visitors to islands, and the smaller ones have always been of particular interest to tourists on the lookout for the distant and exotic.

Having recognised the potential contribution of tourism to economic diversification, employment generation and in overcoming developmental disparities, island communities have long been trying to introduce tourism as a major economic alternative (Lockhart, 1997). Consequently, a good number of island destinations have now become synonymous with mass tourism, especially in the Mediterranean and Caribbean regions. While their geographical, cultural, ecological and economic features attract visitors, the fragility and limitations of these same elements make the island environment and communities more vulnerable to the pressures of tourism. Most of the island destinations experience considerable environmental and social problems (Conlin & Baum, 1995; Davies, 1996; Filho, 1996; Guthunz & Krosigk, 1996; Mathieson & Wall, 1982; Mose, 1997). A number of issues such as the fragile environment, limitations of resources and infrastructure, vulnera-

Table 1 Strategies for sustainability-oriented island tourism development

- Segregated tourism, enclave tourism, and integrated tourism (Guthunz & Krosigk, 1996)
- Structural, logistical, and educational measures (Filho, 1996)
- Visitor management (Edwards, 1996)
- Assessment of carrying capacity (Johnson & Thomas, 1996)
- Environmental auditing (Stabler & Goodall, 1996)
- Ecological labelling (Mihalic, 1996)
- Alternative tourism, and community-based tourism (Dann & Potter, 1997)
- Cultural tourism, nature tourism, and adventure tourism (Albuquerque & McElroy, 1995)
- Comprehensive planning (Helber, 1995)
- Rejuvenation planning (Conlin, 1995)
- Small-scale tourism development (Long & Wall, 1995)
- Insular planning (Inskeep & Kallenberger, 1992)
- Strategic management (Keane, 1992)
- Strategic planning (Cooper, 1995)
- Low-impact tourism, community involvement and product diversification (Andriotis, 2001)

bility of the indigenous societies, and lack of experience and expertise in tourism development, make it very difficult for island communities to absorb and manage the inevitable impacts of tourism. The situation is further exacerbated by 'structural difficulties', which perpetuate dependency, leading to higher levels of economic leakage (Buhalis, 1999). Progress from Butler's (1980) destination life-cycle stages of exploration to decline could happen quite rapidly in island tourism destinations.

Sustainability, thus, is a major issue in island tourism. Improvements in the quality of life of the host community, provision of a higher quality of visitor experience, and maintaining the quality of the environment in island destinations – major objectives of sustainable tourism (McIntyre, 1993) – pose a major challenge to island tourism destinations, especially for the smaller islands with their inherent limitations. Some of the island destinations in the Mediterranean region, for example Ibiza, have already experienced decline and have had to resort to rejuvenation strategies. As Lockhart (1997: 4) states, 'island tourism planners are now seeking to diversify away from the attraction of 'sun, sea and sand', which are typical of mass tourism, into special activity holidays and business travel characterised by higher spending patterns and niche segments of the market'. Islands, with their environmental and geographical limitations, and distance from the mainland – purported disadvantages – have ideal settings not only to follow a planned and controlled approach to tourism development but also to introduce remedial measures effectively. A partial review of literature

points to a number of measures and development patterns for sustainability-oriented development of island tourism (Table 1).

This multitude of planning, development and management approaches is, probably, an indication of growing concern about the negative impacts of tourism in islands. They also underline the complexities involved in developing sustainable island tourism. These complexities include, for example, geographical diversity (ranging from micro islands such as found in the Maldives to the bigger ones such as the Seychelles and Mauritius); cultural sensitivity; political structure (varying from island nations to the peripheral regions of a larger political entity); levels of economic development; environmental fragility; remoteness; level of dependence on the mainland; and limited experience in tourism management. Not surprisingly, it is very rare to find an island tourism development model with universal relevance. By employing planning, management, legislative and conservation measures, and actively involving all major stakeholders, especially the host community, it is possible for tourist destinations to make progress towards sustainability. A major aid to reaching sustainability is the development of more precise indicators of sustainable tourism (Miller, 2001). These would provide island tourism destinations with clear objectives to focus on. The experiences of established island tourism destinations and various sustainable tourism development strategies developed in recent decades, would act as sources of guidance to island tourism developers.

Methodology

This paper aims to analyse tourism development in the Lakshadweep islands within the context of sustainability. These islands provide an appropriate setting to consider the environmental, sociocultural, and economic issues in island tourism development. Being tropical and coral islands they have reasonable potential to attract visitors. The coral reefs and the physical environment are very fragile and hence vulnerable to negative environmental impacts. A very traditional island society makes the sociocultural problems of tourism immensely relevant to the islands. Being a peripheral region of mainland India, the island economy is marginal, and could be easily susceptible to negative economic impacts. Moreover, the smaller size of islands allows for detailed analysis of the sustainability issues, which may be problematic in the case of larger human settlements where it could be difficult to separate the effects of tourism from other aspects of human activities.

Examining structural and developmental features of tourism in Lakshadweep, the paper seeks to identify specific development and management patterns that would be of interest to island tourism planners and researchers elsewhere. A case study approach, which as a research method allows flexibility in gathering empirical data (Brotherton, 1999) and is appropriate to studies with a high exploratory element (Gummesson, 1991), has been adopted to achieve these aims. The research was carried out in three phases. Firstly, an extensive survey of literature associated with island tourism, sustainable tourism, and tourism planning was carried out to develop the conceptual foundation of the research. Secondly, a number of reports and studies on India in general and

Lakshadweep in particular were analysed to develop a clear understanding of tourism and other related development issues on both the mainland and the islands. The analysis generated the background information to identify and explore specific issues relative to sustainability, development trends, and the emerging scenario of tourism in Lakshadweep in detail. Thirdly, primary data were collected from selected key informants from the islands. They included senior officials from the Society for Promotion of Recreational Tourism and Sports (SPORTS) and the Tourism Department, senior executives of the Bangaram Resort, and owners of private tourist huts. The data collection methods employed were telephone interviews and e-mail questionnaires. The number of key informants had to be limited to seven due to logistical issues. The resultant data were used to develop the case study. Employing the process of familiarisation and discovery (Hampton, 1999), an in-depth understanding was developed on historic, present and emerging dimensions of tourism development in Lakshadweep. This, in turn, led to identification of specific tourism-planning and management patterns in the island. The paper thus presents a descriptive case study of island tourism in Lakshadweep with a specific focus on planning, management and sustainability issues.

Lakshadweep: An Introduction

One of the smallest territories in India, Lakshadweep, meaning one hundred thousand islands, is an archipelago comprising 36 coral islands covering an area of 32 km². Located in the Arabian Sea, between 220 to 440 km off the Kerala coast, India, it has a population of 60,595 people living on 10 inhabited islands. The climate is tropical with temperatures ranging from 20C to 32C.

Though there are no historical records available on the origins of the islands, the first settlers were believed to have arrived during the fourth century AD from Kerala. Having been under control of several rulers from the mainland, the islands were annexed by the British in 1799, who ruled it as 'Laccadives' until Indian independence. It became a Union Territory of India in 1956 and was renamed Lakshadweep in 1973 (George, 1997). For administrative purpose the islands now comprise a district with four 'Tehsils' (sub-divisions), and this is headed by an administrator, who is normally a career civil servant. The administration and governance were further decentralised in 1994 by introducing the 'Panchayat Raj' system, a local self-governance system by which 'Village (island) Panchayats' were set up in all inhabited islands, and a 'District Panchayat' for the entire archipelago. With democratically elected members, most of the governance, along with staff and funds, was transferred to these 'Panchayats', now responsible for planning and implementing a wide range of development schemes. The islanders also send an elected member to the Indian Parliament.

With 87.5% literacy, the islands are among the relatively better developed regions in the country (Union Territory of Lakshadweep, 2001). Ethnically the islanders are very similar to the people of Kerala, on mainland India. Converted to Islam in the seventh century AD, they follow conservative customs and traditions, and alcohol is prohibited on all islands except Bangaram Island Resort. Despite the influence of Islam, there still prevails a caste system based on



Figure 1 Location of Lakshadweep in India

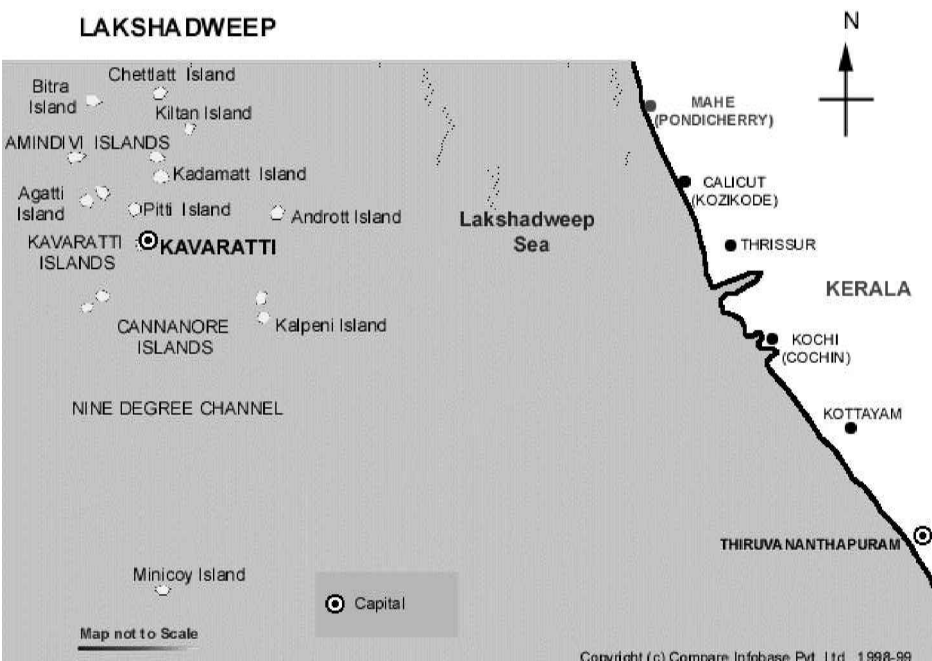


Figure 2 Map of Lakshadweep

occupation such as landowners, sailors, and farmers. Some of the islands such as Kavaratti and Agatti still follow the joint-family system. *Marumakkathayam* (the tradition of female inheritance, which used to be prevalent in the neighbouring Kerala), is still followed in many of the islands. Women thus enjoy a position of prominence, and in Minicoy island, women manage all family affairs, with husbands taking their wife's family name after marriage. There are no restrictions on remarriage of divorcees and widows. Well known for the simplicity and honesty of its people, Lakshadweep boasts a crime-free society. Houses are never locked and the islanders would feel offended if visitors tried to lock hotel rooms. As the island's tourist brochure proclaims: 'The fact that very young children are allowed to wander around alone wearing chunky jewellery is a pointer to a [crime-free] way of life' (SPORTS, undated brochure).

Economy

The economy of Lakshadweep is influenced by limitations of its geography. Though there are no per capita indicators specific to the islands available, about 45% of the population have been identified as living below the poverty line, that is, living on less than US\$1 a day (World Bank, 2000). More than 4000 families receive various kinds of assistance under the rural development and poverty alleviation schemes of the Central Government. A primitive economy in many respects, coconut farming is the major source of income. The annual yield of coconuts is approximately 28 million nuts, which are processed to make copra and sold to coconut-oil mills on the mainland. However, the recent economic liberalisation and removal of import restrictions have led to a glut of cheaper oil from abroad, and have brought down the price of coconuts drastically (from an average of eight to two rupees per coconut), leaving the sector in a major crisis. Other crops include banana and a few vegetables grown in coconut plantations. Obviously, fishing is another major economic activity. There are 496 mechanised fishing boats and 500 country crafts operating in different islands. Annual fish catch in 2000 was 10,800 tons, generating a total income of Rs220 million. About 6200 islanders are engaged in fishing as workers and small entrepreneurs. In the early 1990s, the Central Government allowed multinational trawlers entry into the Indian seas, and this resulted in a virtual desertification of the sea, leaving the fishing industry in the country, especially in the islands, in total turmoil.

The islands have been declared a 'no-industry' area by the Central Government, in that large-scale industrial development is neither feasible nor allowed. The geographical and environmental limitations allow only a limited number of small- and medium-scale industries on the islands. Industrial activities on the islands are mainly small scale, and based on coconut products and fisheries. Coconut husk provides the basic raw material for a number of factories, and there are altogether 22 units manufacturing various coir-based products under the public sector, employing more than 316 islanders. There are also a number of small coir units functioning in the private sector in different islands, 63 of them set up with governmental subsidy. Two coir spinners' cooperative societies set up by the Government help the self-employed and small units to market their products. The workforce in coir processing units consists mainly of women, the majority of whom work part time. Boat building was once an important occupation, but with the advent of motorised boats it is in decline. Only two

boat-building yards remain, and these along with 11 workshops in various islands take care of repairs and servicing of the fishing vessels. The canning factory in the Minicoy island processes fish, especially tuna, which is available around the islands. Making handcraft products using sea-shells, coconut-shells and wood is another important occupation on the island (George, 1997). Other industrial units on the islands include a hosiery factory in the Kalpeni, a desiccated coconut powder unit in Kadmat, and a smoked fish and fish meal unit in Agatti. Coral mining, which used to be a major industry, is now banned. The islanders are also famous for their sailing skills and a large number of them, especially from the Minicoy islands, work as seamen all over the world.

Except for the self-employment units and micro-enterprises in the private sector, most of the industries are in the public sector. Considering the lack of economic development in the islands, as evident from large numbers of people under the poverty line, it is not surprising that the public sector has been at the forefront in initiating industrial development activities. Moreover, the land reforms introduced in the 1970s fragmented larger land holdings, inhibiting wealth accumulation and entrepreneurial activities in the islands.

Unemployment is another major problem, and the majority of jobs are found in the agriculture and fisheries sectors. Industrial units and government offices are major employers providing a total of 4458 jobs. There are an estimated 442 small-scale and self-employment units in the private sector, which are mainly owner-operated businesses. There are no statistics available on the number of people engaged in agriculture, but it can be surmised to involve large numbers. However, the seasonal nature of jobs and rampant under-employment leaves a question mark over the quality of jobs in agriculture. The dire unemployment situation is evident from the relatively large number of 9380 educated applicants (in 1999) on the Employment Exchange register seeking jobs (Union Territory of Lakshadweep, 2001).

As a result of their geography, the islands depend heavily on the mainland for almost everything. Most of the items for daily consumption have to be transported from Kerala and whenever there are disruptions of shipping services, common during the monsoon season, the islanders experience shortages of supplies. Due to over-reliance on the mainland for supplies, infrastructure development is bound to be very expensive. The limited tax and other revenue generated from within means that the islands need development assistance from Central Government, and its annual budgets are heavily subsidised (see Table 2). Lack of resources on the islands also means that a good proportion of the income generated in the islands is spent on supplies from the mainland. Even though there has been no research on economic leakage, the problem is very real in Lakshadweep.

Telecommunication facilities are available on all islands, but the Internet is still beyond the reach of ordinary islanders. Diesel generators are used to produce electricity. There are regular boat services plying between the islands, and regular shipping and airline services provide access to the mainland. In addition, there is an island-to-island, and island-to-mainland helicopter service. Potable water is extracted from the shore-wells, but some of the islands experience shortage of water.

Table 2 Revenue receipts and revenue expenditure (Rs in 000s)

<i>Year</i>	<i>Revenue receipts</i>	<i>Revenue expenditure</i>
1984–85	11,740	195,273
1985–86	12,812	228,366
1986–87	13,530	253,091
1987–88	18,469	337,151
1988–89	21,563	395,072
1989–90	10,115	334,707
1990–91	15,842	385,594
1991–92	29,947	419,779
1992–93	30,967	610,000
1993–94	33,744	826,000
1994–95	34,151	873,601
1995–96	50,268	1,309,800
1996–97	54,843	1,323,588
1997–98	66,850	1,439,217
1998–99	85,379	1,720,734

Source: <http://lakshadweep.nic.in/budget.html>

Tourism in Lakshadweep

Lakshadweep is often described as a ‘coral, sand, lagoons, sea and surf paradise’ (e.g. Air India, 2000), and the islands do live up to this image. Coral colonies with a rich variety of marine fauna, and shallow lagoons with beautiful beaches, fringe the archipelago. Tourist activities include deep-sea-fishing, coral viewing, reef walking, diving, water sports, and visits to museums, aquaria, villages, handicrafts units and coir-making centres. The culture and traditions of the islanders, especially various folk dances, are also popular with visitors.

Introduced in the early 1980s, tourism is emerging as a major economic activity and the islands have been receiving a steady flow of tourists (see Table 3). Germans and Italians constitute the majority of international visitors. Providing direct employment to more than 152 islanders, tourism generates more than US\$500,000 (23 million rupees) in revenue to the islands, which represents about US\$129.4 per tourist to the island’s economy. Spend per visitor in the islands is almost three times higher than the US\$45 on mainland India (Jithendran & Baum, 2000). Almost half of all direct jobs in tourism are in the public sector. The privately owned tourist huts are run as small business ventures and provide employment to about 20 islanders, and there are about 20 islanders working as tourist guides in various islands. Although there are no figures available on indirect and induced jobs created by tourism, the fact that the tourism industry uses mostly local resources (handicrafts, fish, coconut products, etc.) means that a considerable proportion of the island’s revenue and jobs can be traced indirectly

Table 3 Tourist arrivals in Lakshadweep

<i>Year</i>	<i>Domestic</i>	<i>Overseas</i>	<i>Total</i>
1991–92	3841	1049	4890
1992–93	2287	1159	3446
1993–94	2931	621	3552
1994–95	3178	1059	4237
1995–96	3455	1168	4623
1996–97	3502	1511	5013
1997–98	3229	1162	4391
1998–99	2773	875	3648
1999–00	1379	741	2120
2000–01	2992	871	3863

Source:<http://lakshadweep.nic.in/sports.htm>

to tourism. The islands were also among six destinations identified for intensive development as part of the *National Action Plan for Tourism* of the Central Government (Government of India, 1992). Setting up a Special Area Development Authority and preparation of a master plan were two immediate actions envisaged. But no Special Area Development Authority was set up for Lakshadweep tourism, and the master plan is still in the process of preparation. As is the case with many tourism plans and policy documents in developing countries, the National Action Plan for Tourism seems to be yet another expression of intention.

Tourism is organised in a very restricted manner and only six islands, five inhabited and one uninhabited, have been provided with facilities for tourists. According to tourism officials, the five inhabited islands were selected for tourism on the basis of three criteria: (1) geographical size; (2) availability of drinkable water in sufficient quantity; and (3) proximity to transport route. In order to ensure that the negative social impacts are minimised, access to three islands, Kavratti, Kalpeni and Minicoy, is limited to domestic tourists, and international tourism is confined to Bangaram, Agatti and Kadmat islands. As the islands have an extremely fragile ecosystem and scarcity of land, the tourism policy has been to follow ‘a middle path between tourism promotion and environmental conservation with a trade-off calling for careful choices detrimental to neither’ (see Table 4). The strategy followed includes promotion of water-based tourism and ‘high-value low-volume quality eco-tourism’ (Union Territory of Lakshadweep, 2001).

The strategy pursued on the islands is to promote water-based tourism to minimise pressure on the scarce land, and to develop competitive and comparative advantage over the mainland coastal destinations. In 1998, the first Water Sports Institute and the Laccadives Diving Centre was set up in Kadmat Island. The Water Sports Institute trains both locals and tourists, and works very closely with the Water Sports Institute at Goa. The Laccadives Diving Centre (LDC) was

Table 4 Tourism policy of Lakshadweep: Highlights

- Preserve fragile ecological and environmental structure
- Preserve local culture and social fabric
- High-value and low-volume tourism
- Sustainable tourism based on the carrying capacity
- Sea-based ship tourism for larger numbers
- Air-based airline/helicopter tourism for high-value tourists only
- Local features:
 - no violation of prohibition
 - promotion of folk art and culture
 - eco-friendly water sports, mainly non-mechanised
 - promotion of scuba diving
 - promotion of solar power and biological toilets
 - collection of non-biodegradable waste
 - disposal of kitchen waste in open sea
 - promotion of smokeless stove in kitchen
 - dissuasion of diesel generation
 - installation of silent generators to avoid noise pollution
- Training of staff
- Privatisation of facilities on stringent terms

Source: Pillai, 2002

leased out to a Bombay-based private company and is now run by a diving enthusiast. LDC has developed into a flagship water sports attraction in the region, and is the only CMAS (World Underwater Federation)-approved centre in India. The increasing popularity of LDC has led to augmentation of water sports facilities, especially diving, on other islands. Presently, all tourist islands except Minicoy have water sports facilities. Following the strategy of developing the islands as a destination for diving and water sports, plans are afoot to develop water sports facilities on all islands within the next three years. A programme to train local youths in water sports and diving is already underway.

There are restrictions on access, and permits are required even for domestic tourists to visit the islands. The Administrator, head of the Union Territory Lakshadweep, is the competent authority to issue entry permits to both domestic and international visitors, and these permits – issued for specific islands – can be obtained from the Administrator's offices in Kochi and Delhi on the mainland. Even though the permit system was introduced for ethnic and security reasons, it provides an effective mechanism to control visitor numbers. At present there is no restriction regarding the number of visitors allowed at a given point in time, but limitations of transportation and accommodation capacity act as a self-regulating mechanism.

Tourism development in Lakshadweep is the responsibility of two public-

sector organisations, the Society for Promotion of Nature Tourism and Sports (SPORTS), and the Department of Tourism. The Department of Tourism is responsible for tourism planning, policy and promotion, and it works very closely with the National Tourism Organisation. Started in 1982, SPORTS is a quasi-government organisation, which functions as the nodal agency for tourism. It operates as the commercial wing of the Department of Tourism, and implements various tourism projects funded by Central Government.

Most of the beach resorts and other facilities such as water sports centres are owned and operated by SPORTS. The resorts on Bangaram and Agatti islands, leased out to the private sector, also belong to SPORTS. The tourist information centres of SPORTS in Kochi, Kerala and Delhi, in addition to providing information, function as booking offices for various tour packages. Over the years, SPORTS has operated five different types of package tours, some involving stays on the islands and some offering day trips to islands with overnight stays on ships. The tour packages including stays on the islands were a recent development, mainly a consequence of introducing a limited number of small tourist huts on some islands.

Tour packages are the major source of income for SPORTS. It operates up to fourty packages annually, each with a maximum of 160 tourists, indicating an annual capacity of about 6400 tourists. Compared to this, the total visitor numbers to the islands have rarely been above 5000 (see Table 3). The frequent disturbances in shipping services to the islands have been cited as the main reason for the underperformance. This was clearly evident during the 1999–2000 season, when one ship broke down and visitor numbers plunged to an all-time low of 2120 (Table 3), and tour packages per annum dropped from 40 to six. The success of tourism in Lakshadweep is thus greatly dependent upon efficient shipping services, and there has been intense lobbying going on with the Central Government to augment shipping services to the islands.

The uninhabited island of Bangaram has already become a well-known island resort, attracting celebrities and high-spending tourists from both abroad and the mainland. With tariffs ranging from \$120 to \$350 a day, the resort with its 30 huts is normally booked well in advance, reaching 100% occupancy rates during high season. It provides excellent water sports, including scuba diving to the wreckage of the *Princess Royal*, a warship sunk in battle between the French and British almost 200 years ago. The resort is also noted for its environment-friendly management practices and the absence of amenities such as air conditioners, television, telephone and newspapers. Following the philosophy of eco-friendly tourism, the resort has been built using locally available building materials and it uses local food produce as much as possible. Guests are encouraged to leave the marine flora and fauna undisturbed, and the absence of eco-unfriendly amenities such as air conditioners and hot water again exemplifies its environmentally friendly practices. Originally built by SPORTS, the resort was leased out to the Casino group of hotels from the mainland. The resort pays SPORTS about 5.4 million Indian rupees annually as rent, and it is required to employ at least 40% of its staff from the islands. Access to Bangaram is by air from Kochi to the nearby Agatti islands, and then by speedboat or helicopter. The fact that outsiders operate a very successful island resort has created resentment among the islanders, and there have been calls to hand it over to an island cooperative

society on expiry of the present lease. However, despite local protests, the lease to Casino group was renewed recently. The experience and reputation of the hotel group in developing Bangaram into an internationally acclaimed resort and its status as a flagship attraction for the entire islands is said to have influenced the administration's decision in its favour. However, the recently developed resort at Agatti was leased to a local cooperative society.

Despite its potential to be a successful island destination tourism development in Lakshadweep has been very slow. There are still a number of attractive uninhabited islands which could be developed into resorts capable of attracting high-value quality tourists. Emergence of the neighbouring mainland state of Kerala as a major tourist destination in the region should be advantageous to Lakshadweep. Kerala is the only gateway to the islands and tourism development in Kerala will invariably provide more exposure to Lakshadweep. However, shortcomings in transportation facilities and infrastructure pose a major hurdle. The unreliable and limited shipping services and a small airstrip that can handle only smaller Dornier aircrafts have restricted tourism growth in the islands. Shipping services are available to Kavaratti and Minicoy islands only, making access to other islands more difficult. Moreover, the vessels used are intended to transport both cargo and people, and have very basic amenities compared to standards available on cruise liners or ferry services elsewhere. Air links are presently confined to Kochi, Kerala, whereas the important domestic market is located in major metropolitan cities such as Delhi, Bombay, Calcutta, Ahmedabad, and Bangalore. Direct air links to at least some of these cities would greatly enhance accessibility to the islands, especially as some of these cities are major ports of entry for overseas tourists.

The neighbouring Maldives archipelago, which has already developed an attractive and successful brand identity as a destination for high-quality diving and water sports, provides a good example of a successful island tourism destination. However, there have been indications of environmental problems in the archipelago and suggestions made to limit visitor numbers at popular diving sites (WTO, 2000). This provides an excellent opportunity for Lakshadweep to promote its diving and water sports attractions. Any linkage with the Maldives could give a tremendous boost to tourism in the islands. Joint marketing, the setting up of tourist information centres in Maldives, developing transport links, and promoting a tour circuit involving the two island groups and Kerala are among potential strategies available for further growth of Lakshadweep tourism. The South Asian Association for Regional Cooperation (SAARC) provides the framework for such joint efforts for tourism development in the region. Such joint efforts to develop tourism were identified as a priority area in the '1996 Male Declaration of SAARC' (SAARC, 2001).

As mentioned, the administration is currently preparing a 'comprehensive master plan for developing low volume high value eco-tourism' (Union Territory of Lakshadweep, 2001). Attracting private-sector investment has been identified as the strategy for new developments. The process has already been set in motion by encouraging private tourist huts in Minicoy and Kalpeni islands. However, bigger projects involving huge expenditure will need investors from the mainland, especially for the proposed development of four uninhabited islands, Suheli, Cheriyaakara, Cheriyaam and Tinnakara. The target of increasing

Table 5 Accommodation in the Lakshadweep islands

Islands	Tourist huts owned by		Number of beds
	SPORTS	Private sector	
Bangaram		30	60
Kadmat	29		58
Agatti		10	20
Minicoy	10	3	26
Kavaratti	5		10
Kalpeni		4	8
Total	44	47	182

Source: <http://lakshadweep.nic.in/sports.htm>

tourist numbers to 10,000 during the next five years is realistic (Union Territory of Lakshadweep, 2001), provided adequate infrastructure and facilities are developed, especially transport linkages and water sports.

Sustainability issues in Lakshadweep tourism

As stated earlier, the Lakshadweep islands have a very fragile environment and any type of activities, tourism or otherwise, should be compatible with this reality. Life in Lakshadweep is affected by shortage of fresh water, which has been one of the factors responsible for limiting tourism in selected islands. A very high population density of over 1894 per km² further exacerbates pressures on the environment. The small size of the islands makes all kinds of impacts highly pronounced, with immediate effects on the islanders’ lives and ecosystem.

Water pollution, damage to corals and other marine flora and fauna are some of threats posed by tourism to marine ecosystems (Mathieson & Wall, 1982). Disposal of sewage is a major problem in Lakshadweep. Most oceanic islands have no or a very limited supply of fresh water and so must use salt water extensively, which can inhibit the bacterial breakdown of sewage (Mathieson & Wall, 1982). Dumping sewage in the sea is a common practice in most of the islands, and rubbish thus deposited may then be washed up onto the islands or the surrounding reefs, causing pollution. In the case of Lakshadweep, waste is disposed of in the outer sea or taken to the mainland. Both have environmental implications, and any increase in the number of visitors and changes in consumption patterns would imply increased waste disposal problems and ecological hazards.

With its major attractions and recreational activities based on marine ecosystems, environmental problems are likely to occur in Lakshadweep. With very limited carrying capacity, the islands would find it difficult to absorb these impacts, necessitating a very careful and well-planned approach to tourism development. The majority of key informants expressed concern about increasing levels of water pollution and littering, especially in islands such as Kavaratti, Kadmat, and Agatti. Although they have not yet become serious, this situation

may change, especially if there are no preventive or remedial systems in place. Non-biodegradable plastic bags are a major pollutant on the islands, and tourists contribute to this menace. Coastal erosion has been another major problem, initiating a coastal tree planting project coordinated by the Administration. Expansion of tourism, especially marine based, is likely to increase the pressure on beaches. Balancing the tourists' need for open beaches with coastal protection poses a considerable challenge. The local tourist ratio of about 10:1 currently limits levels of pollution and coastal erosion. As the islands experience increases in visitors and facilities, these threats are likely to become more visible and serious with consequent implications for both tourism and the natural environment.

Until the mid-1980s, coral mining was a major economic activity, with Government providing incentives to promote it as an industry. Better sense prevailed and now it has been completely banned, saving the islands from certain ruin. Traditionally, coral had been used to build homes, and even though its use as building material has been controlled by law, the high costs of bringing building materials from the mainland still poses a major threat to the coral reefs. As corals form a major attraction and the basis of a number of recreational activities it is essential that they are saved for and from tourism. A direct threat comes from souvenir-hunting tourists, who pick up corals despite strict warnings. According to local tourism officials, damage to coral reefs has been detected and steps are being taken to control the damage with the assistance of an Australian expert and the National Institute of Oceanography, Goa. Water pollution from sewage and other wastes, including detergents used by tourists, cause further damage to coral colonies (Matheison & Wall, 1982). Uncontrolled water sports cause major damage to corals in several ways, e.g. the impact of propellers of boats; oil spillage from tourist boats as well as other vessels; tourists who indulge in reef walks; diving and swimming. Recent years have seen an increase in 'bleaching' of corals surrounding the islands, which happens due to global warming and increased pressure and pollution on corals, affecting their colour and beauty.

The 'islandness' of the local community, manifested in its 'simplicity' and a crime-free society, is very vulnerable to outside influence. Interaction with tourists and their culture could bring about sociocultural changes, threatening the prevailing system of social order. The islands follow a unique social system based on voluntarism that helps the islanders live and organise their lives as a mutually supportive social unit. The informal community groups are based on age groups, ranging from young children to senior citizens. Islanders belonging to each age group are expected to perform certain community functions; for example, young children run errands, youths help in more physical community work, and elders take decisions affecting the islands. When there are functions such as weddings and funerals, almost all preparations are made by islanders on a voluntary basis. This system is a manifestation of very strong social cohesion. Exposure to tourism and the potential for the 'demonstration effect' could have an unsettling effect on the traditions and value system followed in the islands (Burns, 1999). The society is still very conservative, and as on mainland India islanders still have the system of arranged marriages. Premarital sex and public displays of intimacy are taboo. The islands are also an alcohol- and drug-free

zone. When 'high-value' visitors from overseas indulge in their normal holiday behaviour, there are likely to be sociocultural repercussions, especially when more islanders are employed in tourism.

Dependence on the mainland for most supplies increases import propensity and economic leakage. Except for coconut and fish, most items consumed by tourists are imported from the mainland. With soil unsuitable for major crops and very limited economic activities, broadening linkages between the tourism industry and the island economy could prove problematic. Even though no statistics are available on economic leakage, it can be surmised to be very high. As Oppermann and Chon (1997: 114) observe, 'high leakages are the primary reason for the disenchanting performance of tourism in developing countries'. Even communication links with the mainland are a victim of this phenomenon. The Shipping Corporation of India operates shipping services, over which islanders have no control. Any breakdown of shipping services, as in 1999–2000, raises a wave of protest in the islands against 'neglect' from the mainland. Concerted efforts by islanders have succeeded in getting another new ship allotted, although the only long-term solution is for islanders to organise water and air transport themselves. Local self-government institutions and the private sector could introduce smaller vessels and helicopter services. Major contributions, however, have to come from private-sector tourism businesses, whose active participation in tourism development has been identified as a long-term strategy by the island's tourism department.

Almost all tourism-related planning and development decisions on the islands are taken by the Central Government's Department of Tourism. SPORTS' mandate is limited to executing decisions taken by the national tourism organisation. Although the recently introduced local self-government organisations have been vested with decision-making powers on development of the islands, they do not have the experience or expertise to make any meaningful contribution to formulating tourism policies or plans. The tourism master plan being prepared by the Administration does provide an opportunity to consult and involve islanders. However, details on the consultative processes have yet to be revealed by the administration.

The evidence, so far, suggests sustainability is a major issue in Lakshadweep tourism. Its structural, geographical, economic and social situation makes it highly susceptible to various negative impacts and calls for strategies to minimise them.

Tourism Development in Lakshadweep: Trends

All future development of tourist facilities must be based on enhancing and enjoying the richness of marine life and coastal resources. This delicate ecology has to be preserved at all costs . . . This ecological resource has, therefore, to be disturbed to the minimum and enjoyed to the maximum. (Working Group on Tourism Development set up by the Island Development Authority (SPORTS, undated brochure: 4)).

Winner of the National Tourism Award for most eco-friendly tourism destination for the year 1996–97, Lakshadweep tourism follows a 'philosophy of preservation' as its guiding principle. In the social domain, allowing only

domestic tourists on inhabited islands is a deliberate but effective approach to avoiding sociocultural problems. According to a local tourism official, 'social problems are minimum, as contact between tourists and locals are kept to the bare minimum . . . This is a deliberate policy of the Administration to avoid cultural and social friction'. An overview of tourism development and management practices allows their classification into three categories: 'controlled tourism', 'segregated tourism' and 'enclave tourism' (Guthunz & Krosigk, 1996). These classifications represent some of the environment-friendly tourism development policy alternatives. Being in the initial stages of tourism-development (Butler, 1980; Prideaux, 2000), these measures could be of relevance to the islands in adopting proactive and sustainable tourism development strategies. However, these classifications do not reflect their deliberate adoption as specific tourism development approaches in the islands. Rather, the emphasis in Lakshadweep has all along been to develop tourism with minimum negative impacts.

Enclave tourism

Restricting visitors and their holiday activities within specific tourist enclaves away from local people is widely regarded as a strategy to limit negative impacts of tourism. The characteristics of enclave development, according to Jenkins (1982: 239), are:

- (1) 'The specific infrastructure is not intended to benefit directly the resident-indigenous community.'
- (2) 'The site location is physically separate from an existing community of development, with the chosen site intended to generate its own transient tourism "community".'
- (3) That the facilities are most used, if not exclusively used, by foreign tourists.'

Enclaves make it possible to restrict impacts to a limited area, and minimise or even prevent any interaction between local residents and tourists. Bangaram Island Resort provides a very good example of enclave tourism. Until very recently, the uninhabited island was the only resort where foreign tourists could stay, and it has been marketed and run as an exclusive and luxury tourist destination. The resort is completely insulated from other islands, and it follows price-enclavism through prices relatively unaffordable to ordinary domestic tourists. Even though enclave tourism is said to gradually lead to social changes via locals employed at the resort (Guthunz & Krosigk, 1996), Lakshadweep appears to be currently free from any such problems. However, separation of the local community from the enclaves can seriously limit linkages between the tourism industry and the local economy, essential for the economic sustainability and localisation of economic benefits.

Segregated tourism

Segregated tourism seeks to optimise the earnings and minimise the unwelcome cultural impacts of tourism by keeping visitors, especially the overseas ones, as far from local society as possible (Guthunz & Krosigk, 1996). With its emphasis on keeping tourists and local residents separate, segregated tourism in the Maldives has been said to minimise negative social impacts of tourism on the

host community (Salih, 2000). With only ship-based day visitors from the mainland allowed onto the islands, Lakshadweep has followed the strategy from inception. Even the recently introduced tourist huts on the islands are located as far away from the local community as possible. Interaction between visitors and the local society has thus been deliberately kept to the minimum. In order to limit social disruptions, only domestic tourists are allowed on most of the islands. Moreover, according to tourism officials, day tours are still and will continue to be the major type of tourism organised by SPORTS. This strategy seems to work well in Lakshadweep, as is evident from the fact that even after 18 years of tourism, there have not been any instances of serious social problems from tourism. However, segregation can deprive visitors of some of the most sought-after holiday benefits such as experiencing and interacting with the local culture. Segregation can also considerably reduce economic benefits to the islanders. For example, when the majority of visitors stay on ships, islanders lose a major source of tourist income.

Controlled tourism

Controlled tourism refers to regulating the number of visitors, tourist facilities and activities, in order to minimise pressure on resources and undesirable impacts. Control can be exerted through various methods such as entry restrictions, reducing the number of facilities, pricing, and by enforcing behavioural guidelines. The Lakshadweep Administration controls tourism through a number of measures: (1) restricting access through a system of entry permits; (2) allowing tourism only on six islands; (3) allowing only domestic tourists to all but two inhabited islands; (4) limiting the number of tourist beds to a total of 182; (5) organising ship-based day visits; and (6) pricing tour packages relatively higher than a normal domestic holiday. Although Lakshadweep does not enjoy a very high profile compared to the Maldives or the Seychelles, its low-density tourism has been the result of deliberate policy. Even the target set for the next five years is a modest number of 10,000 visitors. There is also a set of behavioural guidelines developed by SPORTS, which is publicised through tourist brochures (Table 6). Despite the fact that there are no effective means of enforcing them, they do help sensitise visitors about some concerns.

Table 6 Behavioural guidelines for the tourists in Lakshadweep

<ul style="list-style-type: none">• Don't litter the land or the water.• Don't pick any coral – it is a punishable offence.• Alcoholic drinks are prohibited on all islands except Bangaram.• Don't take drugs or narcotics – it is a punishable offence.• Don't go out of your island lagoon without permission of the SPORTS authorities and a proper escort.• Don't pluck tender coconuts yourself. A fall can prove to be fatal. The coconut trees are privately owned and unauthorised plucking of coconut is a theft.
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Source: SPORTS, undated brochure: 7

Promoting Sustainability-oriented Island Tourism in Lakshadweep

As is evident in Lakshadweep, it is not unrealistic to develop and manage island tourism in an environmentally responsible manner. However, owing to various structural and political reasons, it is doubtful whether Lakshadweep has been able to realise its potential as a tourist destination, attracting 'high-value' visitors and generating higher local income. It is also unlikely that these islands will be able to overcome these impediments in the foreseeable future. In a sense, these constraints have contributed towards the sustainability of tourism in Lakshadweep almost accidentally. However, Lakshadweep tourism can introduce many measures to enhance its sustainability orientation and competitiveness within the existing structural and political framework. Filho (1996) has suggested a number of measures – structural, logistical and educational – to promote rational development of tourism in islands, which are of relevance to Lakshadweep.

Structural measures are aimed at 'preventing the damage of an area's landscape attractiveness as a whole' (Filho, 1996: 66), which can be achieved through the limitation of development. Lakshadweep, with its controlled and segregated tourism and limited infrastructure, seems to have already adopted measures aimed at maintaining its structural integrity. However, with likely pressure from islanders and commercial interests to open up more islands and areas for tourism, structural measures will have to be incorporated into Lakshadweep's tourism development plans. Assessment of environmental impacts (Inskeep, 1991) and identification of sensitive areas have to be a prerequisite for any future expansion.

Logistical measures aim to maintain an area's ability to cope with the pressures imposed by visitors. By upgrading the disposal and waste management systems these measures reduce the environmental impacts of waste (Filho, 1996). In Lakshadweep waste disposal could pose problems in the future, especially with the possibility of increased tourist activities. Even though there have been instances of littering and water pollution, Lakshadweep at present is not affected by any major environmental impacts. But, with the likely expansion of tourism, it is not inconceivable that such problems could increase in the future, and hence the introduction of logistical measures will be essential. Damage to coral reefs is already evident in many islands. The increase in marine tourism, with its emphasis on water sports, is bound to increase pressure on corals. Even activities such as coral walking, allowed on presumably dead corals, can have implications for the stability of the coral ecosystems. The provision of coral-based recreational activities may need to be reconsidered.

Educational measures are designed to raise awareness of both the host community and the visitors about the impacts of their behaviour on the environment. Educational measures are also crucial for equipping potential and existing tourism industry personnel with the necessary skills, knowledge and attitudes. At present Lakshadweep has no facilities for tourism education and has to rely upon institutions in the mainland. There are skill shortages, especially in the hospitality sector, and the major resort complexes usually employ skilled personnel from the mainland in housekeeping, culinary and other key service areas.

In 2000, SPORTS sent a group of 30 islanders to the Taj group of hotels in Kochi, Kerala to be trained as chefs, and this skills resource is now available to the local labour market. Officers of SPORTS and the Department of Tourism are

Table 7 Promoting sustainability-oriented tourism development in Lakshadweep

<i>Item</i>	<i>Implications</i>
1. Assessment of carrying capacity and tourism capabilities	Limitation in visitor numbers and tourist facilities
2. Identification of sensitive areas	Appropriate location and limitation of tourists, facilities, and recreational activities
3. Sustainability-oriented human resources development	Development of appropriate skills, knowledge and attitude among the potential and existing tourism industry personnel; environment-friendly behaviour on the part of the visitors; and awareness about the pros and cons of tourism development among the local community. Employment of locals.
4. Waste management systems	Pollution control
5. Broadening the economic base and developing linkages between tourism and the local economy.	Minimising economic leakage, localisation of economic benefits, long-term economic viability of tourism. Avoiding local resentment.

Source: Adapted from Filho (1996: 64)

frequently sent to major tourism-training institutions on the mainland, such as the Indian Institute of Tourism and Travel Management (IITTM) and the Kerala Institute of Tourism and Travel Studies (KITTS). Before the Water Sports Institute was set up, islanders were sent to the Water Sports Institute in Goa for training. Further, there have been no tourism extension or awareness programmes carried out in the islands. As specific training programmes on island resort development and management are not available in India, islands suffer from skill shortages in these vital areas. Using the existing educational infrastructure, human resources development programmes could easily be introduced in the islands. The islands’ tourism could benefit further by adopting human resources development as one of the strategies for sustainability-oriented tourism development (Jithendran & Baum, 2000) as a priority policy area.

With a relatively limited economic base and dependence on the mainland, economic leakage has been very high in the islands. High levels of economic leakage undermine the aim of localisation of economic benefits and meaningful participation of the local community in tourism. It also engenders local resentment. The social and economic sustainability of Lakshadweep tourism thus depends greatly on integrating tourism into the local economy, which could be difficult in prevailing economic conditions. Since the tourism industry provides a good market for local products, developing and broadening agriculture and other small-scale industries (e.g. handicrafts, vegetable farming, etc.) on the islands could help facilitate more linkages between tourism and these sectors. Such measures could broaden the island’s economic base, and retain a higher proportion of tourist spending within the local economy, enhancing economic viability of the islands’ tourism.

Table 7 lists some of the essentials for promoting sustainability-oriented

development of tourism in islands. These measures are both practical and necessary, and they would help enhance the sustainability of Lakshadweep tourism.

Conclusion

Islands with their geographical, environmental, structural and political limitations are more vulnerable to the effects of tourism and in many cases lack the capacity of the mainland to absorb these impacts. As a result, sustainability-oriented tourism development strategies assume greater importance in island tourism destinations.

Although relatively better developed compared to other regions in India, Lakshadweep faces serious development problems. Lack of infrastructure, limited resources, and heavy dependence on the mainland impose serious constraints on the island's development. With its tremendously attractive natural resources, Lakshadweep has the potential to become a high-quality tourist destination. With its traditional economic sectors, such as coconut farming and fisheries experiencing a major crisis, Lakshadweep desperately needs economic alternatives. Tourism development could offer an effective alternative option for the island's economic development. However, Lakshadweep has all the characteristics and shortcomings of a small island state, for example, a fragile environment and vulnerable society, and any form of negative impacts from tourism could have a very pronounced effect on its ecosystem and social fabric.

An analysis of the trends and practices in Lakshadweep tourism so far points to the benefits of a sustainability-oriented development approach, which can be categorised into controlled, segregated and enclave tourism. These approaches have proved to be effective in minimising, if not avoiding, most of the deleterious consequences of tourism. As a tourist destination in its earlier stages of development (Butler, 1980; Prideaux, 2000), Lakshadweep may have been fortunate not to have major pressure on its environment and society. But there are plans to increase tourism to the islands, and the preparation of a master plan is already underway. However, any enhancement of tourism on the islands needs to be planned and handled very carefully, incorporating principles and objectives of sustainability (McIntyre, 1993). Moreover, initiatives to increase linkages between tourism and the island's economy are essential to keep economic leakage to the minimum, and ensure economic sustainability. A gradual and guarded development is possibly more desirable. The structural, logistical, and human resources development approaches discussed in the paper are of particular significance for the long-term sustainability of tourism in Lakshadweep.

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References

- Air India (2000) On WWW at http://www.airindia.com/inflight/nam_ldeep.htm. Accessed 20.11.00.
- Albuquerque, K. and McElroy, J.L. (1995) Alternative tourism and sustainability. In M.V.

- Conlin and T. Baum (eds) *Island Tourism. Management Principles and Practices* (pp. 23–32). Chichester: John Wiley.
- Andriotis, K. (2001) Tourism planning and development in Crete: Recent tourism policies and their efficacy. *Journal of Sustainable Tourism*, 9 (4), 298–316.
- Archer, B. and Cooper, C. (1994) The positive and negative impacts of tourism. In W.F. Theobald (ed.) *Global Tourism* (pp. 73–91). Oxford: Butterworth-Heinemann.
- Baum, T. (1997) The fascination of islands: A tourist perspective. In D. Lockhart and D. Drakakis-Smith (eds) *Island Tourism: Problems and Perspectives* (pp. 21–35). London: Mansell.
- Brotherton, B. (1999) Case study research. In B. Brotherton (ed.) *A Handbook of Contemporary Hospitality Management Research* (pp. 115–42). London: Wiley.
- Buhalis, D. (1999) Tourism on the Greek islands: Issues of peripherality, competitiveness and development. *International Journal of Tourism Research* 1 (5), 341–58.
- Burns, P. (1999) *An Introduction to Tourism and Anthropology*. London: Routledge.
- Butler, R.W. (1980) The concept of a tourist area cycle of evolution: Implications for management of resources. *Canadian Geographer* 2 (1), 5–12.
- Conlin, M.V. (1995) Rejuvenation planning for island tourism: The Bermuda example. In M.V. Conlin and T. Baum (eds) *Island Tourism. Management Principles and Practice* (pp. 181–202). Chichester: John Wiley.
- Conlin, M.V. and Baum, T. (1995) Island tourism an introduction. In M.V. Conlin and T. Baum (eds) *Island Tourism. Management Principles and Practice* (pp. 3–20). Chichester: John Wiley.
- Cooper, C. (1995) Strategic planning for sustainable tourism: The case of the offshore islands of the UK. *Journal of Sustainable Tourism* 3 (4), 191–209.
- Dann, G.M.S. and Potter, R.B. (1997) Tourism in Barbados: Rejuvenation or decline? In D. Lockhart, and D. Drakakis-Smith (eds) *Island Tourism: Problems and Perspectives* (pp. 205–28). London: Mansell.
- Davies, B. (1996) Island states and the problems of mass tourism. In L. Briguglio, B. Archer, J. Jafari and G. Wall (eds) *Sustainable Tourism in Islands and Small States: Issues and Policies* (pp. 36–46). London: Cassel.
- Edwards, J. (1996) Visitor management and sustainable tourism agenda. In L. Briguglio, B. Archer, J. Jafari and G. Wall (eds) *Sustainable Tourism in Islands and Small States: Issues and Policies* (pp. 137–47). London: Cassel.
- Filho, W.L. (1996) Putting principles into practices: Sustainable tourism in small island states. In L. Briguglio, B. Archer, J. Jafari and G. Wall (eds) *Sustainable Tourism in Islands and Small States: Issues and Policies* (pp. 61–7). London: Cassel.
- George, T.J.S. (ed.) (1997) *India at 50*. Chennai: Express Publications.
- Government of India (1992) *National Action Plan for Tourism*. New Delhi: Ministry of Civil Aviation and Tourism.
- Gummesson, E. (1991) *Qualitative Methods in Management Research*. Newbury Park, CA: Sage.
- Guthunz, U. and Krosigk, F. (1996) Tourism development in small island states: From Mirab to Tourab? In L. Briguglio, B. Archer, J. Jafari and G. Wall (eds) *Sustainable Tourism in Islands and Small States: Issues and Policies* (pp. 18–35). London: Cassel.
- Hampton, A. (1999) Qualitative data analysis and interpretation. In B. Brotherton (ed.) *A Handbook of Contemporary Hospitality Management Research* (pp. 287–304). London: Wiley.
- Helber, L.D. (1995) Redeveloping mature resorts for new markets. In M.V. Conlin and T. Baum (eds) *Island Tourism. Management Principles and Practices* (pp. 105–14). Chichester: Wiley.
- Hunter, C. and Green, H. (1995) *Tourism and the Environment: A Sustainable Relationship*. London: Routledge.
- Inskip, E. (1991) *Tourism Planning: An Integrated and Sustainable Development Approach*. New York: Van Nostrand Reinhold.
- Inskip, E. and Kallenberger, M. (1992) *An Integrated Approach to Resort Development*. Madrid: World Tourism Organisation.

- Jenkins, C.L. (1982) The effects of scale in tourism projects in developing countries. *Annals of Tourism Research* 9 (2), 229–49.
- Jithendran, K.J. and Baum, T. (2000) Human resources development and sustainability – the case of Indian tourism. *International Journal of Tourism Research* 2 (5), 403–21.
- Johnson, P. and Thomas, B. (1996) Tourism capacity: A critique. In L. Briguglio, B. Archer, J. Jafari and G. Wall (eds) *Sustainable Tourism in Islands and Small States: Issues and Policies* (pp. 118–36). London: Cassel.
- Keane, M.J. (1992) Strategic management of island tourism: The Aran islands. *Tourism Management* 13 (4), 406–14.
- Lockhart, D.G. (1997) Islands and tourism: An overview. In D.G. Lockhart and D. Drakakis-Smith (eds) *Island Tourism – Trends and Prospects* (pp. 3–21). London: Pinter.
- Long, V. and Wall, G. (1995) Small-scale tourism development in Bali. In M.V. Conlin, and T. Baum (eds) *Island Tourism. Management Principles and Practices* (pp. 237–58). Chichester: John Wiley.
- Mathieson, A. and Wall, G. (1982) *Tourism: Economic, Physical and Social Impacts*. London: Longman.
- McIntyre, G. (1993) *Sustainable Tourism Development: Guide for Local Planner*. Madrid: World Tourism Organisation.
- Mihalic, T. (1996) Ecological labelling in tourism. In L. Briguglio, B. Archer, J. Jafari and G. Wall (eds) *Sustainable Tourism in Islands and Small States: Issues and Policies* (pp. 197–204). London: Cassel.
- Miller, G. (2001) The development of indicators for sustainable tourism: Results of a Delphi survey of tourism researchers. *Tourism Management* 22, 351–62.
- Mose, I. (1997) Mass tourism versus eco-tourism? Tourism patterns on the East Frisian Islands, Germany. In D.G. Lockhart and D. Drakakis-Smith (eds) *Island Tourism – Trends and Prospects* (pp. 102–17). London: Pinter.
- Oppermann, M. and Chon, K. (1997) *Tourism in Developing Countries*. London: Thomson Business.
- Pillai, M. (2002) Lakshadweep: Tourism driven by ecology. *Express Travel & Tourism* (1–15 November). On WWW at <http://www.expresstravelandtourism.com/20021115/lak1.shtml>. Accessed 4.11.2.
- Prideaux, B. (2000) The resort development spectrum – a new approach to modeling resort development. *Tourism Management* 21, 225–40.
- Ryan, C. (1991) *Recreational Tourism – A Social Science Perspective*. London: Routledge.
- SAARC (2001) *Declarations of SAARC Summits – 1985 to 1998*. Kathmandu: South Asian Association for Regional Cooperation
- Salih, A. (2000) Diver's perception – the Maldives. Unpublished Postgraduate Diploma in Tourism dissertation, Centre for Tourism, University of Otago.
- Smith, C. and Jenner, P. (1989) Tourism and the environment. *EIU Travel and Tourism Analyst* 5, 68–86.
- SPORTS (undated) *Sailin(g) to Coral Islands: Lakshadweep*. Kavaratti: SPORTS.
- Stabler, M.J. and Goodall, B. (1996) Environmental auditing in planning for sustainable tourism. In L. Briguglio, B. Archer, J. Jafari and G. Wall (eds) *Sustainable Tourism in Islands and Small States: Issues and Policies* (pp. 170–96). London: Cassel.
- Union Territory of Lakshadweep (2001) On WWW at <http://lakshadweep.nic.in>. Accessed 27.10.1.
- World Bank (2000) Fighting poverty in South Asia – South Asia poverty brief. On WWW at <http://lnweb18.worldbank.org/sar/sa.nsf/2991b676f98842f0852567d7005d2cba/dcbcd93bb0f8d479852568be005741ea?OpenDocument>. Accessed 7.11.1.
- WTO (2000) Maldives study points the way for small islands. On WWW at <http://www.world-tourism.org/newsroom/Bulletin/archives/son2000/B0007015.html>. Accessed 7.11.1)