

Towards Sustainable Tourism in the Western Indian Ocean

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Abstract—Tourism in the Western Indian Ocean (WIO) has grown rapidly in recent years, and now constitutes an important sector of national economies in most countries. However, tourism-related problems have grown concomitantly, and in many areas are a serious threat to environment and society. Overuse of fresh water and other natural resources, cultural and economic conflicts between local communities, tourist industry and tourists, lack of participation of local communities in decision making, and environmental pollution are just a few examples of the problems associated with tourism. In most WIO countries, there is a lack of integrated planning, and the objectives of tourism development are generally insufficiently defined. As negative effects become ever more obvious, there is an urgent need to re-structure the industry towards sustainability. This article presents the findings of a workshop on planning sustainable tourism, held in Zanzibar, Tanzania in 2003, along with a review of the existing literature on tourism development in the WIO.

INTRODUCTION AND BACKGROUND

The Western Indian Ocean (WIO) comprises a wide range of countries with substantial potential for tourism, including Kenya, Tanzania, Mozambique, South Africa, Seychelles, Comoros, Madagascar, Mauritius and La Reunion. This article focuses on the islands of the WIO region if not indicated otherwise, as the characteristics of countries such as South Africa or Kenya often differ fundamentally from those of the islands. Tourism in the WIO has grown substantially in recent years, with tourist arrivals and bed numbers increasing by an order of magnitude in most countries over the past 15 to 20 years. International tourism is now an important pillar of local and national economies, building on the wide range of attractions in the region, such as National Parks and World Heritage Sites, superb diving opportunities, vast beaches and a great variety of cultural sites. However, growing tourist numbers

have also had a range of negative social, environmental, economic and political consequences. In most WIO countries, there is a clear lack of integrated planning, and the objectives of tourism development are generally insufficiently defined. As negative effects become ever more obvious, there is an urgent need to re-structure the industry towards sustainability.

Countries in the WIO region are different in terms of size and population, but in particular the islands share characteristics of mono-structured, export-dependent economies, high unemployment rates, and dependence on imports. Industrial development is usually severely constrained by the lack of local financial capital, human resources, small domestic markets, poor infrastructure, high transport costs, and the dependence on single commodities and export markets. As economic problems are prevalent in virtually all countries in the WIO, tourism has usually become the favored option to generate employment, income and

foreign exchange earnings, to initiate regional development, to finance infrastructure, and to restore and protect cultural sites.

Within the region, tourism development has taken many different approaches, for example, the Seychelles have successfully focused on high-value tourism, and there are plans to turn the country into a "3-5 star destination" (cf. Gössling and Hörstmeier 2003). Some 130 000 tourist arrivals generated US\$112 million in 2000, corresponding to 20% of Gross Domestic Product (GDP) and 60% of foreign exchange earnings (Shah 2002). The islands have, also through the

capita has as yet remained below US\$500 in the islands, with a corresponding HDI value of 0.511 (in 2000; UNDP 2003). Table 1 shows some selected key parameters for tourism in the WIO.

Problems associated with tourism development

Problems associated with tourism development involve a wide range of economic, environmental, social, and political aspects. A workshop on Planning Sustainable Tourism was thus held in Zanzibar, Tanzania in October 2003 in order to

Table 1: Selected parameters for tourism in the Western Indian Ocean, 2000-2004

Country	Land area	Population (000)	Tourist arrivals (000)	Average length of stay	Total spending (Mil. US\$)	Spending per tourist (US\$)
Kenya	582,650	32,021	927	8.7	329	354
Tanzania	945,087	37,445	552	8.0	450	815
Mozambique	801,590	18,811	n.a.	n.a.	n.a.	n.a.
South Africa	1,219,912	42,718	6,640	n.a.	4,270	643
Seychelles	455	81	122	10.5*	171	1,402
Comoros	2,170	652	24	n.a.	15	625
Madagascar	587,040	17,501	170	21*	115	677
Mauritius	2,040	1,220	702	n.a.	697	993
La Reunion	2,517	766	432	6.7	311	406

Sources: CIA 2004, 2006; WTO 2003, 2004; *leisure tourists: STA 1998 (Madagascar); Gössling and Hörstmeier 2003 (Seychelles); WTO 2003 (South Africa).

contribution of tourism, become one of the wealthiest nations in Africa, reaching a Human Development Index value of 0.811 in 2000 (HDI values range between 0.275 for Sierra Leone and 0.942 for Norway; UNDP 2003). Furthermore, in both the Seychelles and Mauritius environmental protection has become a key issue, now based on sophisticated environmental management plans. In contrast, Kenya is with some 940,000 international arrivals (in 1999), one of the most important countries in terms of visitor numbers, but suffers from declining tourist arrivals, probably a result of the deteriorating security situation in the country. Nations such as Madagascar see emerging tourist industries with continuously increasing tourist numbers, which is largely attributed to the attraction potential of the country's unique ecosystems. Finally, some countries such as the Comoros have, with some 24,000 visitors per year, just started to develop a tourism product. GDP per

discuss problems and solutions for tourism development in the WIO (cf. Gössling and Jiddawi 2004). The participants of the workshop, coming from a wide range of countries in the WIO, including Tanzania, Mauritius, Kenya, Comoros, Mozambique and Madagascar, identified the following problems (table 2):

Economics

Countries in the WIO region have become involved in tourism for reasons that appear to be similar: there is a perceived need to generate jobs and to diversify the economy, often coupled with reduced levels of foreign exchange earnings as a result of declining world-market prices for commodities. However, a precondition for tourist infrastructure development is financial capital, which is often provided by foreign investors, with a concomitantly large backflow of revenues.

Table 2: Problems related to tourism development in the WIO region**Economic/Managerial**

- * Lack of local investors
- * Foreign investment leads to dependency-structures and backflow of money
- * Prices for local goods and products increase with the advent of tourism
- * Economic diversification is needed - focus often entirely on tourism
- * Lack of knowledge about donors (conservation areas)
- * Sights not known by tourists (marketing)
- * Marketing cooperation between private sector, government and local communities not working
- * Lack of infrastructure (access roads, transport)
- * Inadequate accommodation
- * Entrance fees for cultural sights and protected areas arbitrary
- * Beaches and intertidal zones: use for tourism, fishing or seaweed-farming?
- * Privatisation of beaches - loss of public access
- * No licensing (e.g. guides, drivers)
- * No collection of visitor data
- * Security of tourists cannot be guaranteed
- * Uncertainty about the role of NGOs in the development process
- * Training of staff and guides inexistent or insufficient
- * General lack of qualified staff

Socio-cultural

- * How to organize community-based tourism?
- * Consultation and participation of local communities in decision-making insufficient
- * Information provided to local communities insufficient
- * (New) protected areas often inhabited
- * Code of conduct for tourists needed
- * Crime persistent or increasing
- * Prostitution and sex tourism on the increase
- * Commercialisation of religious rituals, traditional ethnic rites and festivals
- * Lack of educational means for tourists

Environmental/health

- * Insufficient hygiene (e.g. public toilets)
- * No monitoring of ecosystems
- * Area Management Plans missing
- * No Environmental Impact Assessment
- * Low level of compliance to regulations in protected areas by local people
- * Waste disposal/management
- * Insufficient access corridors to protected areas
- * Pollution - e.g. sewage from hotels
- * Trampling of corals
- * Beach vegetation removal for hotel constructions
- * Difficulties in finding indicators for defining carrying capacities
- * No limits to visitation
- * Endangered species (such as turtles) often tourist attraction
- * Fresh water availability
- * Land scarcity and conflicting land use interests
- * Competition for construction materials and other resources
- * Vanishing of species as a result of tourist demand (e.g. lobster)
- * Digging coastal sand for construction
- * Clearing of patches within the intertidal zone from anything tourists could stamp on (safety)
- * Anchor damage
- * Clearing of mangroves for construction materials
- * Diving and snorkelling impacts
- * Management frequently exchanged - in consequence no interest in sustainability

Political

- * Lack of socio-political stability
 - * Too many actors involved in decision-making
 - * Local versus national legislation
 - * Corruption
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Source: Gössling & Jiddawi 2004

Investors often come from the industrialized countries, even though there is an increasing trend of intra-regional investment. For example, the five star Lemuria Resort in the Seychelles was built by a Mauritian chain, and hotels in Zanzibar are now often constructed and run by Kenyan or South African investors. The backflow of money is substantial, as illustrated by the example of Mnemba Island northeast of Zanzibar. Mnemba, a small, exclusive island, attracts a particularly wealthy clientele, with prices per bed night being in the order of US\$ 350 (in 2003). The island is run by the South African company Conservation Cooperation Africa (CCA), and markets itself as an eco-destination generating substantial benefits for adjacent communities. However, investors behind CCA are large South African Banks, which receive an annual rent of 25% on the loans provided (Hotel Management Mnemba, pers. com. 2003). Consequently, the backflow of money is substantial. Income generation also raises the question of distribution - often, benefits may be distributed very unevenly within the national population, while the costs of tourism development, such as rising prices for local goods and products, can be felt anywhere (cf. Gössling 2001a). The question of distribution also includes formerly public areas, such as beaches, which may now be used exclusively by hotels.

Economically, it is also interesting to consider the time horizons over which development processes are implemented. Investments by the tourism industry are usually planned so as to be paid off in as little as 3-5 years, representing a situation where immediate profits are coupled with delayed or latent costs. In consequence, the long-term economic and environmental interest in a given destination may be low. Furthermore, the management of many hotels may be frequently replaced in some destinations. In Zanzibar, for instance, the management in most resort hotels

changes at least once a year. Under such circumstances, it is unlikely that managers are concerned with sustainability, which can only be achieved through a long-term interest in a place and a profound - usually evolving - understanding of the processes degrading the environment.

As mentioned above, tourism can also be a major factor triggering modernization processes. As the income derived from tourism-related activities often outweighs the income from traditional extractive activities, it can lead to the rapid replacement of these activities. This can be positive, when such processes reduce the pressure on the environment, or questionable, as in cases where economies become mono-structured and dependent on tourism (cf. Gössling 2003a).

With respect to protected areas, participants of the workshop suggested that there often seems to be a lack of knowledge about potential international donors funding the implementation and management of such areas, while entrance fees for protected areas (and cultural sights) often seem arbitrary and generally too low (cf. Gössling 1999). Furthermore, guides in such areas are often poorly qualified, while there is a lack of infrastructure including access roads and adequate accommodation. Other weaknesses include poor marketing and marketing cooperation, data collection, and lack of security (comments by workshop participants, 2003).

Society and culture

Changes to society and culture induced by tourism are complex, and their subjective nature makes it difficult to assess and evaluate these. Nevertheless, it seems clear that tourism contributes to the commercialisation of religious rituals, traditional ethnic rites and festivals, high and often increasing crime rates, begging, and problematic tourist-host interactions, such as, in the most unfavorable

cases, prostitution involving children (cf. Gössling *et al.* 2004b; Harrison 1992, 2001; Pearce *et al.*, 1996; Schutte 2003; Smith, 1989; Smith and Brent, 2001; Shaw and Williams, 1994; Weaver, 1998). Tourism is also rapidly replacing traditional economies, and is now, to some authors, 'the main vector of the worldwide diffusion of the modern, Western, capitalist economy, which is uprooting and replacing other modes of economic and social relationships' (Greiner 2002, p. 241). For instance, Rochoux (1999) reports that, in 1946, employment in La Réunion was concentrated in agriculture, forestry and fisheries (66 %), while services accounted for only 15 %. In 1990, 73.3% of the jobs were in the services sector (mostly tourism-related), while the island's agricultural sector had declined to 7.6%. Similar trends were reported for coastal communities in Zanzibar. A study of the village Kiwengwa found that, within five years (1994 to 1999), tourism had become the sole source of income for 10% of the households, while 50% of households had become economically involved in (and often dependent on) tourism (Gössling 2001a). More generally, local involvement in development processes is usually negligible, and little information on proposed projects is provided to communities before these projects are actually carried out. In such cases, communities are often all too sudden confronted with tourist lifestyles, and options to organize community-based forms of tourism or to establish codes of conduct for the visitors are very limited.

Environment

Environmental consequences of tourism have often been looked at from a local point of view. It should be noted, however, that tourism based on long-distance travel by aircraft also contributes to global environmental change, including the spread of diseases and the use of energy and concomitant emissions of greenhouse gases (Gössling 2002a). For example, air travel contributes to about 90% of the emissions of carbon dioxide equivalents (CO₂-e) of a typical long-distance journey, i.e. transport produces substantially larger emissions than accommodation and activities (Gössling 2000). In both relative and absolute terms, emissions reach an order of magnitude that is

clearly not sustainable (Gössling 2002a; Gössling *et al.* 2002). Consequently, the use of fossil fuels and related emissions of greenhouse gases is, from a global point of view, the most pressing environmental problem related to tourism.

Climate change, to which tourism contributes, will also lead to the loss of species, sea level rise, and more extreme weather events, such as tropical storms. For example, increasing water temperatures, as observed during El Niño Southern Oscillation (ENSO) phenomena, have been more frequent and intense in recent decades (IPCC 2001). The 1997-98 ENSO, for instance, had a severe impact on the climate of the Indian Ocean. In March and April 1998, seawater temperatures increased on average by 1.5°C above values measured during the same period in 1997. Following the event, coral mortality ranged from 50-90% over extensive areas of shallow reefs in the Seychelles (Lindén and Sporrang 1999). Regarding sea level rise, particularly low-lying islands could be seriously affected. The IPCC (2001) calculates that the global mean sea level will rise by 0.09-0.88 meters between 1990 and 2100. This is primarily a result of the thermal expansion of the oceans and the melting of glaciers and ice caps. Sea level rise may also lead to land submergence, beach erosion, increased storm flooding, changes in the tidal range, higher seawater tables and reduced fresh water supplies, all of these primarily affecting islands and coastlines (cf. Leatherman 1997).

Local environmental consequences of tourism are manifold. Tourism often competes with traditional activities for scarce natural resources, such as land, fresh water, timber, or marine edible species. Tourism-related changes of the physical environment include land conversion for infrastructure development (airstrips, ports, roads and accommodation establishments); excessive fresh water use; physical degradation of reefs through jetty construction, and touching, trampling, buying and collecting reef species; erosion caused by infrastructure developments; deforestation of mangroves for construction materials; alteration of coastal wetlands; lake, lagoon and marine pollution; and reef damage through anchoring, sedimentation, sewage discharge and microbial/nutrient pollution, sand

mining and dredging (cf. Biagini 1999; Buchan 2000; Daby *et al.* 2002; Gössling 2001b; Gössling *et al.* 2004a; Liew 1990; Ramessur 2002; Wong 2003). Furthermore, cruise ships have been depicted as polluters of the marine and coastal environment through the dumping of rubbish and plastic (cf. Buchan 2000). All these environmental changes may contribute to or add on existing threats to ecosystems, which have been reported throughout the WIO.

Furthermore, most countries in the WIO have so far not established Area Management Plans, and Environmental Impact Assessments (EIA) are usually not part of tourist infrastructure construction procedures (with the notable exception of Mauritius; Ramjeawon and Beedassy 2004, as well as Tanzania, where EIA was introduced in 2004). However, even in cases where such regulatory instruments exist - for example in Zanzibar - they might often not be applied (Gössling 2003b). Continuous monitoring of species or protected areas has remained an illusion even in countries such as the Seychelles, which is particularly due to high costs of management. Environmental change may not always be obvious, which makes the application of EIA or the definition of ecological thresholds even more difficult. For example, local populations in coastal areas in Zanzibar reported that the number of mosquitoes had dramatically increased after the construction of large hotels (Gössling 2001a). While these observations are not obviously interconnected, evidence suggests that the irrigation of hotel gardens (leading to small puddles) as well as the dumping of plastics (with water remaining in thousands of plastic bags) have provided new breeding grounds for the insects. This may in turn impact on the health of locals and tourists, as anopheline mosquitoes are the vectors carrying *Plasmodium spp.*, the organism causing malaria. The example illustrates the difficulties that arise in the evaluation process. With respect to frequently visited natural areas, there are also perceived difficulties in defining acceptable visitation levels or "carrying capacities", while newly established areas or those in peripheral locations often receive too few visitors to make a significant contribution to financing these areas.

Politics

Tourism development processes are often to the benefit of governments and tourist industry (Dieke 2000; Gössling 2003c). Richter (1980, p. 257) predicted 25 years ago that the 'new governmental function of tourism promotion will be a potential source for expanding power'. In fact, the ways in which tourism can enhance state power can be intricate. For example, in the case of Zanzibar, coastal zones in possession of local communities are leased to the tourist industry and handed back to the government after 33 years, which represents a shift of control from local communities to the government. In the Seychelles, the debate over environmental conservation is led by political and economic elites, justifying stricter environmental legislation and the establishment of protected areas. The implementation of protected areas, however, reflects a process of nationalizing natural resources and can thus be seen as a means to allocate entitlements (and thus power and economic benefits) to the state. However, shifts of power can also be more immediate, for example when remote beaches - which formerly were of little interest to the government - become valuable resources for tourism development. In such cases, national law is often applied to areas that were formerly independent, and generally in possession of local laws and regulations considerably well adapted to e.g. resource use (cf. Gössling 2003a). Once such local law is replaced by national law, local natural resource use systems might often vanish.

Regarding decision-making processes by the government, the great number of actors involved usually makes these complicated. For example, the tourist industry, non-governmental organizations, international organizations and those ministries concerned with natural resources may often influence the management of protected areas. Finally, political stability has a major influence on tourist arrivals. Terror attacks, political unrest, electoral fraud and other events have all shown to have a strong and usually lasting effect on visitor arrival numbers in destinations in the WIO (cf. Gössling 2003b). For example, in Kenya, blacklisting by tour operators as a result of political instability caused declining bed occupancy rates,

which fell to 24% in April 1998 as compared to 52% in the previous year (Sindiga 2000).

Case studies

In order to illustrate the diverse character of tourism development processes in the WIO, three case studies are presented in the following section. These include Madagascar, a country with a vast potential for nature-based tourism; Zanzibar, a group of two major islands (Pemba and Unguja), which has seen a rapid development towards mass tourism; and the Seychelles, which have developed an exclusive high class tourism product financing environmental conservation.

Madagascar

Madagascar is, with its size of 580,000 km², the fourth largest island in the world, and well known for its richness in species diversity (Mittermeier, 1988). Approximately 80% of its fauna and 90% of its flora are endemic, with an estimated 12,000 species existing in the island (ANGAP, 2001). Human activities such as poaching, shifting cultivation, and slash-and-burn cultures have led to a decline in the island's ecosystems. The National Association for the Management of Protected Areas (Association Nationale pour la Gestion des Aires Protégées, ANGAP) reports an annual loss or heavy degradation of 900,000 to 1,400,000 ha of forest (ANGAP, 2001). This rapid loss of ecosystems has made the island the 'highest biodiversity conservation priority in the world' (Mittermeier *et al.*, 1990: 13). In an effort to protect the nation's endangered ecosystems, the number of protected areas was gradually extended to 46 (IUCN categories I-IV; ANGAP 2003), with a total size of more than 10,000 km² (cf. Hannah *et al.*, 1998).

Tourism in Madagascar started relatively recently compared to other destinations in the tropics. By 1980, there were still as few as 12,000 international tourist arrivals, including both leisure and business tourists (EIU, 1993). By 1990, visitor numbers had increased to 53,000 (about 58% of this leisure tourists; STA, 1998), but declined sharply in 1991 as a result of political instability during a prolonged period of strikes and

campaigning for change in government. In order to promote growth, the National Committee for the Development of Tourism in Madagascar (Comité National pour le Développement du Tourisme de Madagascar) was founded in 1991, and air traffic liberalized in 1994. This increased the number of flights and led to declining airfares. In 1997, visa regulations were liberalized, which now could be obtained upon arrival. The implications of these changes and the re-established political stability were felt immediately and tourist arrivals grew to more than 170,000 in 2001 (Ministère du Tourisme, 2003). France and its overseas department La Reunion are the most important markets for Madagascar, accounting for 66% of all tourist arrivals (data 2001; Ministère du Tourisme 2003). Tourism brought in about US\$94 million in 2001 (excluding international transport), and is ranking second in terms of foreign exchange earnings after exports of agricultural products (Ministère du Tourisme 2003; STA 1998). The industry generated an estimated 17,560 jobs in 2001, out of this 14,010 in hotels and restaurants and 3,550 in tour operators, travel agencies, etc. (Ministère du Tourisme 2003).

Tourists to Madagascar cannot be considered as typical "sun, sand, and sea" visitors. They rather show characteristics of being better educated and relatively wealthy. A survey of leisure tourists in Madagascar found that the average length of stay is relatively long with 21 days, as is the tourist's educational status (70% reported a higher education, *niveau d'études supérieur*) (STA, 1998). A main motive for travelling to Madagascar is the visitation of protected areas, with two thirds of the tourists stating that 'ecotourism/environment' is the most important reason for visiting the island, even though "sun and sand" ranked second with 24% (STA, 1998). Currently, Madagascar is still an unknown destination. The most important means of promotion are word-of-mouth channels (recommendations by friends etc.), which are mentioned by more than 60% of all leisure tourists (STA 1998). Only 10% of all tourists got to know about Madagascar via the media, and promotional campaigns had virtually no importance at all.

Overall, tourism in Madagascar is largely self-organizing, with little governmental control, regulation or support. While an increasing number

of people profits from tourism development (cf. Gössling *et al.* 2004b), which is also an important contributor to the financing of protected areas, there are also a number of social problems becoming eminent. For example, prostitution and child prostitution seem widespread and increasing, as observational evidence and interviews with locals and non-governmental organizations suggest. A joint report by the Madagascan Ministries of Tourism, Population, and Labour and Social Law (MTPLS 2003; see also ILO 2002) suggests that there is a confirmed number of more than a hundred children with an age of 14 or younger being sexually exploited in Madagascar, particularly in the large cities and popular tourist destinations. The figures of teenagers (<18 years) being involved in prostitution are far higher, and probably in the order of several thousand (MTPLS 2003). The problem might also be reflected in the high arrival rates of male tourists (67%; STA, 1998), even though Madagascan men also buy sexual services. In this context it should be noted that Madagascar has ratified the Worst Forms of Child Labour Convention (#182), requiring immediate action to eliminate the worst forms of child labor including prostitution (ILO 2002).

Zanzibar

Zanzibar is one of the destinations in the tropics that have relatively recently established tourism as a sector of its national economy. For decades, the islands relied almost entirely on exports of cloves for their foreign exchange earnings. These also constituted the majority of government revenue. However, in the 1970s and 1980s, Zanzibar lost its dominant role in the international clove trade when other countries joined the production of the cash crop. World market prices fell drastically as a result of the growth in supply, with concomitant detrimental consequences for Zanzibar's economy. In response to these developments and facing pressure from the World Bank, the International Monetary Fund (IMF) and USAID for more liberal trade and investment policies, the government sought to establish new sources of income and focused on tourism (Honey 1999). In 1986, the Tourism Investment Act was established, encouraging foreign investors to make

proposals for hotel constructions. Massive infrastructure development began to take place in the mid-1990s and still continues today. In 2002, there were about 6 640 beds in 190 hotels and guesthouses (Commission for Tourism 2002), with a planned capacity of more than 15 000 beds by 2015 (MWECLE 1993). Today, tourism is Zanzibar's second major foreign exchange earner, officially contributing with US\$ 3.1 million to the Zanzibar economy in 2000. The number of international tourist arrivals has increased from 8 967 in 1984 to 97 165 in 2000 (Commission for Tourism 2002). There were some 2600 official jobs in Zanzibar's tourist industry in the late 1990s, most of them low-paid service positions in hotels (Honey 1999).

Problems stemming from tourism development in Zanzibar are complex (Gössling 2001a,b; 2002b; 2003b; Gössling and Schulz 2005), as illustrated by investment approval procedures: based on the 1986 Tourism Investment Act, these worked on a 'first-come first-served' basis, with the effect that the government did not choose between competing investment proposals (Sulaiman 1996). Very few applications were rejected and investment was encouraged before either a tourism policy or a land-use plan had been developed. In 1993, when the Tourism Zoning Plan was finally published (MWECLE 1993), a total of 86 hotels and guesthouses had already been approved (Sulaiman 1996), most of them by foreign investors (Gössling 2003b). Companies constructing hotels needed land primarily in the coastal zones. The socio-economic consequences for coastal communities were fundamental because these were forced to give up lands in return for financial compensation, which was paid by the tourist industry to the traditional owners of coconut trees on the respective lands, the only resource with a local market value (the beaches themselves were village property; Sulaiman 1996). Payments per coconut tree were in the order of TSh1,000-20,000 (US\$2.5-55) in 1990, which was a fair price in the eyes of many locals. In fact, as most villages along the coast still lived largely outside cash economies, the amount of money obtained by individuals for selling a number of trees often seemed to correspond to a small fortune. However, in the course of the coastal development process, the

value of land increased continuously. In 2002, the amount of money paid for plots of land was already in the order of TSh0.4-1.5 million (US\$410-1,545) per tree, a sum far beyond local purchasing power (Gössling 2003b). Even though communities appeared ready to sell their land use rights in the early 1990s, they were little informed about the consequences or adequate levels of compensation. Furthermore, there were no systems to save or re-invest the money received for the trees, and usually the financial compensation obtained for the trees disappeared rapidly (Sulaiman 1996). From a more abstract point of view, villagers not only lost resources such as coconut trees, but also entitlements to these resources, including access to the coral rag area, the beach and the tidal zone. All of these have traditionally been the basis for local livelihoods (Sulaiman 1996). As pointed out earlier, hereditary rights to land were turned to the government with independence, but it was with the advent of tourism that this shift in ownership became perceptible. As land entitlements are now gradually shifted to the government (land lease contracts usually expire after 33 years), and as the administrative and procedural forms, which regulate bureaucracies in the institutional center, now also become applicable to the formerly independent periphery, this process also represents an allocation of power to the government. This is just one example of tourism-related changes in Zanzibar that could be seen critically (cf. Gössling 2001a,b, 2002b, 2003b).

In the future, some fundamental problems will have to be solved in Zanzibar in order to establish a more sustainable tourism. For example, from today's point of view, it was wrong to compensate local people for their coconut trees by paying one lump sum (corresponding to an arbitrary net present value). Instead, an annual rent should have been paid, which would have been better adapted to the cultural characteristics of life in coastal communities, where it is rather unusual to have money in excess that needs to be saved or re-invested. Furthermore, the tourist industry needs to respect the ecological limits of the islands, where scarcity of fish, fresh water and other resources can already be felt (Gössling 2003b, Gössling *et al.* 2004). It may be easy for hotels to overcome this scarcity by purchasing at higher prices or

turning to imports, but this is not an option for the local population. Moreover, even though there are now some environmentally aware hotel managers, the majority of the tourist industry seems still to ignore environmental issues - despite the fact that the existence of the hotels is ultimately based on pristine, intact environments. There may be two major reasons for this: (i) the unstable political situation of the past, which resulted in low investor confidence in the long-term economic viability of this destination and (ii) the frequent changes of the management of most large hotels (usually at least once a year). Under such circumstances, it is unlikely that managers are concerned with sustainability, which can only be achieved through a long-term interest in the place as well as a profound understanding of the processes that have a negative impact on the environment. Finally, and overcoming these fundamental problems, the government's officially proclaimed (Honey 1999), but practically non-existent commitment to ecotourism needs to be put to practice. Given the dependence of the government on foreign exchange earnings and the likelihood of corruption, this will not be an easy task.

Seychelles

The Seychelles, a republic of 115 coralline and granite islands comprising 455 km² of land and a surrounding exclusive economic zone of almost 1.4 million km², have strongly committed themselves to environmental conservation. The first environmental management plan for the islands was presented in 1990 (RoS 1990), and followed by the 'Environment Management Plan of Seychelles 2000-2010' (MET 2001) and the tourism management plan 'Vision 21 - Tourism Development in Seychelles 2001-2010' (MTCA 2001a). Both documents aim at achieving environmentally sound development in the islands, with tourism holding a key position in this process.

Environmental achievements can already be seen as remarkable. Half of the terrestrial surface of the islands is preserved in protected areas, proportionally more than in any other country in the world. Monitoring programs and the eradication of alien species have ensured the survival of threatened species and those 1,500

species endemic to the islands (Shah 2001; 2002). Environmental impact assessments are regularly carried out before new tourist infrastructure can be built, and programs are aimed at restructuring particularly those economic activities that need to be seen as harmful to the environment. The Seychelles have also hosted a number of international conferences on the environment, and they are at the forefront of initiatives such as 'Small Islands' Voice' (SIV). SIV was launched by UNESCO in 2002 as an attempt to achieve cooperation on environmental policies by the 42 of the 189 member states of the UN that fall under the category 'small islands'.

All these activities have made the country a pioneer in environmental conservation and have contributed to its image as an eco-destination. This image helps to attract a particularly wealthy tourist clientele expecting to experience unique, pristine and unspoiled environments. In return, these visitors finance protected areas through governmental revenue, entrance fees and donations. In 2000, tourism ranked second to fisheries in the national economy, contributing about 20 % to GDP and 60% to foreign exchange earnings (Shah 2002). In contrast to most other tropical destinations, the Seychelles have been able to attract an up-scale segment of international tourism, with prices per bed-night reaching from US\$40 in guesthouses to US\$2,000 in one of the most exclusive hotels in the world, *Frégate Island Private*. Tourism has also contributed to making the Seychelles one of the wealthiest nations in Africa with a per capita GDP of US\$12,508 in 2000 (PPP US\$), ranking 47 in the United Nations' Human Development Index (of 174 nations; UNDP 2002).

Tourism in the Seychelles began in the late 1960s, when visitors still arrived exclusively by ship. It was not before the international airport in Mahé opened in 1971 that tourist arrivals rose significantly, increasing from 1,600 in 1970 to 15,300 in 1972. After a long period of political instability, tourist numbers climbed to 130,000 in 2000. On top of this, some 10,000 cruise ship passengers on day tours visited the islands in 2000 (MISD 2001a). Arrivals are expected to reach 180,000 in 2005 and 195,000 in 2010 (MTCA 2001b). Simultaneously, accommodation

establishments are being upgraded to turn the Seychelles into a 'three to five star destination'. Tourist expenditure per day is expected to rise from US\$102 per tourist in mid 2002 to US\$150 by 2010. In the upper tourism segment, the number of tourists spending more than US\$500 per day is expected to more than double by 2010 (MTCA 2001).

The structure of the Seychelles' tourism industry consists of a mixture of large hotels and small guesthouses in both foreign and national ownership. Three quarters of the existing hotels and guesthouses have fewer than 25 beds, 18 % have 25-99 beds and 7 % have 100 or more beds. It should be noted, though, that the structure of the size of accommodation establishments in the Seychelles is changing, with foreign-owned chains gaining control over an increasing number of beds. This is in contrast to the proclaimed goal to promote eco- and community-based tourism.

Efforts to become a sustainable nation have sparked many debates in the Seychelles, and the conservation of the environment is a subject addressed by various groups. In contrast to developments in Europe and the USA, where a broad public movement pressed for stricter 'green' legislation, environmental laws in the Seychelles have been implemented in a top-down process under the one-party state of president France Albert René in the mid-1970s. This policy continued even after the turn to democracy in the early 1990s. The Seychelles have also systematically explored the possibilities of international funding for preserving their ecosystems. The EMPS 1990-2000, for example, was presented to donors in 1990 and raised pledges of US\$40 million (Dogley 2001). However, the country also devotes a substantial part of its national budget to environmental conservation. Even though the overall integration of environmental concerns into planning is remarkable in the islands, critics point to a number of deficits. For example, it has been criticized that conservation efforts have been slowed down because of the involvement of a great number of different actors, whose coordination and cooperation has been insufficient (MET 2001). Several marine protected areas are legally implemented, but have remained unmanaged due to the lack of financial means and qualified,

motivated staff (cf. Shah 1995, 1997; see also Lindén and Lundin 1997). Resource use is particularly high in upscale hotels. For example, the 240-bed five-star Lémuria Resort in Praslin uses more energy than the rest of the island with its 6,500 inhabitants and its more than 1,500 beds in hotels and guesthouses (cf. Gössling *et al.* 2002). The expectations of luxury-oriented up-scale tourists also make it necessary to import a vast array of goods and products. As imports are based on the use of fossil fuels - vegetables, for instance, are imported by air - this has also enlarged the ecological hinterland of the islands and contradicts efforts to become sustainable.

Towards sustainable tourism

Sustainable tourism is “tourism that is developed and maintained in an area (community, environment) in such a manner and at such a scale that it remains viable over an indefinite period and does not degrade or alter the environment (human and physical) in which it exists to such a degree that it prohibits the successful development and well-being of other activities and processes” (Butler 1993). Based on this definition, the most prevalent problems related to tourism development in the WIO region will be discussed in the following section, including economic, socio-cultural, environmental, political and general suggestions for progress towards sustainable tourism.

What kind of tourism? Any country developing a tourism product should first of all decide on the kind of tourism it wishes to establish. All too often, development processes take place without taking into consideration such basic questions as: should tourist numbers remain small or be allowed to grow (to what level)? Which kind of accommodation is needed and which source markets are to become important? Raising questions such as these can help to specify objectives and needs. Note that sustainable tourism generally means attracting regional visitors, as the environmental impact of long-distance travel contradicts any effort to become environmentally sustainable.

Participation. Tourism development in the WIO is driven by certain groups of actors, usually governments in cooperation with the international

tourism industry, and with the support of external actors such as economic and environmental organizations (cf. Gössling 2003c). The interest of these actors may often differ from those of local stakeholders, because the groups of actors meeting in the development process may generally have very different conceptions of development, environment, place, time, wealth and social relationships, even though development aspirations of local stakeholder groups may generally also follow a broader ‘western’ pattern of modernization. When developing tourism towards sustainability, it should be considered that the likeliness of conflict is greater if there are more pronounced differences between hosts and guests in terms of income levels, lifestyles, cosmologies, etc. Particularly undesirable forms of tourism may develop in those cases where local populations remain uninformed about tourism development and excluded from decision-making.

Communication. Governments need to inform local communities on their plans for tourism development, and to involve them early in planning, decision-making and implementation. Furthermore, information on the amount, use and distribution of tourism-derived revenues needs to be transparent and readily available in order to actively discourage corruption. In areas where tourism development has already had negative consequences, there might already be local initiatives to address problems. For example, in Zanzibar, local communities and a number of hotel managers seem to be increasingly aware of the negative impacts of tourism, and there are now ‘community-based’ tourism projects, inviting visitors to experience village life. It seems that such initiatives in theory can raise an interest in local lifestyles, traditions and rules, and create a climate of mutual respect. Within the villages, there also appear to be more debates on the benefits and disadvantages of tourism development. Such local debates should be encouraged because they often involve a large number of stakeholders, and are thus important instruments in solving tourism-related conflicts. Even hotel managers show concern about the conflicts that tourism development has caused in Zanzibar, and there are already calls for stricter environmental regulation. A number of hotels have also started since the mid-

1990s to inform their guests about appropriate behavior, such as dress codes in local villages, the importance of saving fresh water, or the problems associated with buying marine artifacts (cf. Gössling *et al.* 2004).

Protected areas. Protected areas are an important attraction in most WIO countries. At present, most protected areas charge low or comparably small entrance fees, despite the fact that protected areas are often a primary travel motive, and even though they do usually not generate enough financial resources to cover their maintenance costs. Given the importance of protected areas for travel decisions and the generally low level of entrance fees, it can be assumed that fees and taxes for protected areas could be substantially increased. However, what price should be charged for access to these areas? In economic theory, the amount of money tourists are ready to pay for visiting protected areas is assessed through willingness-to-pay (WTP) (Laarman and Gregersen 1996). Obviously, WTP is higher or lower in relation to the specific site's attributes. These comprise attraction factors (e.g. scarcity value, such as Lemurs in Madagascar) and infrastructure factors (transportation, accommodation, guide services, etc.). In order to improve management and to increase revenues, a questionnaire should thus be administered to all visitors of a given protected area to collect data on WTP, and to adjust prices after analysis of the data. Managers should also consider the objectives of their pricing policies. For example, are entrance fees charged for revenue generation, to indicate that natural areas have a financial value, to discourage low-income visitors, to relieve crowding, or to help pay for educational measures (cf. Laarman and Gregersen 1996)? Moreover, different fees can be charged depending on the visitor categories (local vs. foreign tourists, children vs. adults), the character of the activities carried out (more or less environmentally harmful), etc. It should be noted that visitors are generally less reluctant to pay fees when they know how their fees are used. For example, contributions to on-site management are generally better accepted. Tourists may also be willing to make donations over and above entrance fees in order to conserve

the environment they have visited (Laarman and Gregersen 1996).

Regarding the distribution of benefits from tourism in protected areas, park management in Madagascar can serve as a positive example. Recognizing Madagascar's tourism potential, the National Environmental Action Plan adopted in 1991 by the government promoted the development of "discovery- and eco-tourism" (Durbin and Ratrimoarisana 1996). Tourism in protected areas was encouraged and more national parks were created. Revenues from entrance fees of the 12,515 non-resident visitors to parks totalled US\$ 45,405 in 1994 (Durbin and Ratrimoarisana 1996) and 79,812 visitors of protected areas may have generated up to US\$ 500,000 in 1999 (own calculation). Half of the revenues from entrance receipts are transferred to local communities for development projects. Decisions about project priorities are entirely the responsibility of the communities. Protected areas also generate employment, as tourists need to be accompanied by a guide when entering a national park. Another example for successful management of protected areas is Chumbe Island on Zanzibar's west coast, a privately managed nature reserve. The reserve was officially gazetted in 1994 as the 'Chumbe Reef Sanctuary' to protect a biodiversity-rich coral reef system. The protected area was established after a three-year period of political struggle between the initiator, who had earlier worked as an aid project manager, the government and local fishermen. It was largely financed with private money as well as funds from the European Union, the German Gesellschaft für Technische Zusammenarbeit and several other donors. The running costs are now covered by a small-scale ecotourism project. A maximum of 14 visitors can be accommodated on the island, with prices per bed per night being in the order of US\$200 during the tourist season. Local rangers control nature trails and swimming activities in the reef and a range of research projects ensures the monitoring of the ecosystem. School excursions are part of the island's educational program. Most of the benefits from this project remain in Zanzibar. These and other examples show that tourism can contribute financially to the conservation of

protected areas (cf. Gössling and Hörstmeier 2003; Ogutu 2002).

Environmental conservation and spatial planning. In many countries, there are now Environmental Management Plans that make it easier to plan and manage the multiple (and often conflicting) uses of an area. Some countries such as Mauritius have already established advanced Environmental Impact Assessment (EIA) procedures for all development proposals and are now moving towards environmental monitoring plans to follow-up EIA (cf. Ramjeawon and Beedassy 2004) as well as spatial decision-support systems (Beedassy and Whyatt 1999). In other countries, EIA procedures are, with a few positive exceptions (Tanzania, Mauritius), virtually non-existent as yet. Hence, great efforts need to be made in most WIO countries to move towards improved and integrated planning and management of lands.

Information technologies. Information technologies (IT) may play an important role in the future development of tourism in the WIO. Even though only a minor proportion of the population in islands has currently access to the internet, IT could revolutionize bottom-up tourism development. Small guesthouses, for example, are put in the position of marketing themselves globally, and IT-based advertisement has proved to be a means to increase accommodation occupancy rates (di Castri 2002). Through IT, tropical countries focusing on tourism will also be able to discuss development processes or to seek external advice. For example, internet platforms such as Small Islands Voice can stimulate discussions, lead to the exchange of advice and expertise, and help to foster bottom-up development processes (cf. SIV 2004).

Research. Research has to play an important role in solving tourism-related problems. For example, research carried out by the Institute of Marine Sciences, Zanzibar has fundamentally deepened the knowledge of marine ecosystems and human interference with these systems (see for instance, several special issues of *Ambio*). However, tourism-related research has generally remained negligible in the Western Indian Ocean, with few (Kenya, South Africa) to none (Comoros, Mocambique) country-specific papers being published in internationally available, peer-

reviewed journals. Even in regions where some tourism research has been carried out, problems often persist. For example, tourism research in Zanzibar has remained largely uncoordinated, and there is no complete catalogue of which projects have been carried out. Furthermore, there is a growing number of students from industrialized countries doing "fieldwork", which might in many cases rather have the character of a holiday. Of the reports and theses written, very few are sent back to the hosting institution. Method sections in such reports often remain vague, and from a scientific point of view, research often needs to be seen as unreliable and invalid. Students may often come from departments with little experience in the field of tourism studies, and they might have little knowledge of important research questions. Identical research might be carried out several times, in some cases putting strain on the local villagers' willingness to cooperate. In order to solve these problems, it is suggested that supervisors in charge need to more carefully consider the work to be carried out by their students, and they need to ensure that a comprehensive literature review has taken place before the students are sent abroad. There is also a need to better inform students on working conditions, as many of them arrive without local contacts, and without being informed about local working rules, such as the need to obtain research permits. Research permits should possibly be free of charge, while it should be ensured that these are more stringently obtained by visiting scientists, who in turn should submit a copy of their work reports to the involved local institutions and organizations. All research carried out in the WIO should be catalogued and made available electronically (for example via the website of WIOMSA). More generally, the work of students and scientists within the WIO would also profit from more generous access to scientific journals dealing with tourism development. For example, Channel View Publications, which is publishing both the *Journal of Sustainable Tourism* and the *Journal of Ecotourism*, is granting favourable access rates to countries with lower HDI values, which is an important step towards supporting sustainability science in countries with limited financial resources.

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