Not quite paradise: Inadequacies of environmental impact assessment in the Maldives

Shahida Zubair a, David Bowen b,*, James Elwin c,1

a Independent consultant, Male’, Maldives, and Oxford, UK
b Dept. Hospitality, Leisure and Tourism Management, Business School, Oxford Brookes University, Oxford, UK
c Dept. Planning, School of Built Environment, Oxford Brookes University, Oxford, UK

Article info
Article history:
Received 21 October 2008
Accepted 21 December 2009

Keywords:
Environmental impact assessment (EIA)
Environmental impact statement (EIS)
Sustainable tourism
Tourism planning
Maldives

Abstract
The Maldives, a Small Island Developing State (SIDS), has seen a rapid development of its tourism industry over the last 35 years with visitor numbers rising from 1062 visitors per year in 1972 through to over 600,000 today. Both in popular conception and reality the Maldives relies on its marine life and beaches to sustain a tourism industry that contributes over 30% of total GDP.

However, the Environmental Impact Assessment (EIA) system in the Maldives is insufficient and this paper analyses the causes and consequences of this situation. This is researched through an analysis of Environmental Impact Statement (EIS) Reports, compared against accepted best practice, of a series of established tourism resorts; and through in-depth interviews with high-level officials from Government, commercial tourism resort operators and tourism associations. Sustainable tourism is a critical commercial reality and the implementation of a more appropriate EIA process, as part of that approach, is crucial as the Government leases more islands for tourism resort developments.

1. Introduction
This article critically evaluates the process of environmental impact assessment (EIA) in project appraisal and sustainable tourism development of tourist resorts in the Maldives, Indian Ocean. Since 2001, 76 EIA applications have been received in various economic sectors – 54 from the tourism sector (MoTCA, 2007) – but there has been no in-depth evaluation carried out by the government or academics on the strengths and weaknesses of the process.

The Maldives is a tropical island destination with a ‘sophisticated tourism industry’ (Domroes, 2001:122). The tourism industry of the Maldives has been praised and cited as an example of ‘successful’ tourism development by a number of academics (Domroes, 2001; Ellis & Amarasinghe, 1997; Inskeep, 1991). Indeed, according to Inskeep (1991), writing during the initial tourism boom on the islands:

‘The Maldives represents one of the most successful examples of planning and developing environmentally controlled and regionally staged small island tourism in the world.’

Tourism has played a significant role in the Maldives since the 1970s, mainly because of its growth potential and its ability to earn foreign exchange and generate employment. The growth of the tourism industry has made a major contribution to the overall economy of the Maldives by improving living standards of most Maldivians, either directly through employment and business opportunities, or indirectly through tax payments to the government. Tourism revenue has been used for social schemes such as schools and medical clinics. (Nethconsult/Transtec & Bord Faillie, 1996:52). The total investment cost at book value of the Maldivian tourism industry was stated to have passed $500 million by 2003, an increment of about 150 percent over 10 years (MOT, 2003) and one that has not since faltered except for the period in the immediate aftermath of the December 2004, tsunami.

Such extensive tourism development has raised concerns over the resultant environmental effects. However, the Maldives, an archipelago state of 1190 low-lying islands comprising 26 natural atolls, grouped into 20 atolls for administrative purposes, presents a significant challenge in terms of sustainable tourism development. As on other such islands, resources are limited, the natural environment is fragile and, with some inevitability, economic and social activities are concentrated in the coastal fringe. Increased tourism development can clearly put pressure on limited resources such as fresh water and land availability, and jeopardise small island sustainability (UNEP, 1999).

* Corresponding author. Tel.: +44 (0) 1865 483426; fax: +44 (0) 1865 483878.
E-mail addresses: shahidazubair@gmail.com (S. Zubair), dbowen@brookes.ac.uk (D. Bowen), jjfelwin@brookes.ac.uk (J. Elwin).
1 Tel.: +44 (0) 1865 483415.
Tourism in the Maldives was initially developed in an unplanned laissez-faire manner by the private sector, with the opening of two resorts in 1972 (MoTCA, 2006). Tourism development continued in this unplanned manner for the next decade with the development of three more resorts. Tourism was concentrated on islands close to Hulhule Airport and the adjacent island of Malé, the capital of the Maldives. Visitors typically arrived on a combination package holiday, offering a culturally oriented tourism stay in neighbouring Sri Lanka, and an island and diving experience in the Maldives. The growth of tourism rapidly advanced as tour operators in Germany, Italy and the UK realised the potential for sun, sand and sea holidays, away from the crowded islands of the Mediterranean, and so the Maldives was soon marketed as a separate destination. The runway on Hulhule Airport was completed to international standards in 1981, and this allowed both direct charter and scheduled flights from Europe. In 1981 alone, as a result of the new direct services, European arrivals increased by nearly 50% (Cockerell, 1995). The Maldives thus became an accessible destination, mirroring the situation in other islands in the Caribbean, off the coast of Africa and in the Asia-Pacific region. Tourism became recognised as the major source of foreign exchange and government revenue, with a growth in GDP contribution from 11.5% in 1980 to 33% in 2000 (MPND, 2004). In 2005, the figure was reduced to 23% (MPND, 2006) largely because of the tsunami but increased to 27% in 2006 (MoTCA, 2007) – well on its way to pre-tsunami levels. Tourist resorts have expanded into previously undeveloped zones and the number of visitor arrivals has increased from 1067 in 1972 to 564,000 in 2003 and 601,923 in 2006 (MoTCA, 2007) – more than double the indigenous population (298,968) of the same year (MPND, 2007) – and 683,012 in 2008 (Ministry of Tourism, Arts and Culture 2009).

In the 1980s, a Tourism Master Plan (1983–1992) developed with the help of the European Union, allowed a move towards a new tourism zone in Ari Atoll with fourteen islands developed for tourism. Under the aegis of a Second Master Plan (1996–2005) tourism development was expanded into a further six new atolls – South Maalhosmadulu Atoll, North Maalhosmadulu Atoll, Faadhhippolhu Atoll Mulaku Atoll, North Nilandhe Atoll and South Nilandhe Atoll. This process has continued apace, with new atolls and islands released for lease by the Government in 2006 so that development has now reached almost every corner of the Maldives – with 35 new islands being developed for tourism (MoTCA, 2006). There are currently 94 tourism resorts in operation (MoTCA, 2008) and each is an autonomous unit, totally self-contained, providing its own infrastructure of electric power, water supply, restaurants, leisure facilities, sewage and solid waste disposal as well as accommodation and other facilities for its employees. Such ‘enclave tourism’ in the Maldives, a ‘one island one resort policy’, was considered by Dowling (2000) to help minimise negative impacts of tourism, by allowing local cultures, traditions and lifestyles to be sustained – the inhabitants of the resort islands are limited to tourists and staff.

Environmental management was not formally recognised by the Government of the Maldives until the early 1980s. However, the last quarter of a century or more has seen many achievements in terms of establishing a legal and institutional framework for environmental management. The Citizen’s Majlis (Citizen’s Parliament) passed the main law that regulates tourism in the Maldives (Act No. 15/79) in November 1979 (Niyaz, 2002). With subsequent clauses and amendments this has been replaced by the Maldives Tourism Act (Law 2/99) (MoTCA, 2008) that is the basis for a number of regulations, standards, and controls including building and sanitation standards; disposal of garbage; an electricity code; carrying capacity; and a code of tourist behaviour. The unusual and unexpected storms, flooding and destruction in the capital Malé and on other islands in 1987 and 1988 led to the establishment of the Environmental Protection and Preservation Act of Maldives (4/1993) in April 1993 (Asian Development Bank, 1999).

This article is based on academic literature, a variety of governmental reports and, especially, an assessment of eleven existing Environmental Impact Statements (EISs). An EIS presents the findings of an Environmental Impact Assessment (EIA) and in the case of the Maldives, at the time of the research, was submitted to the Ministry of Environment Energy and Water (MEEW) during the process of planning consent. The eleven EISs used in this study were submitted over the period 2001–2004 and so the developments were already both constructed and in operation. The exact EISs selected cover resorts spread through various atolls – Horubadhoo, Dhunikolhu, Kihaadhuuffaru and Fonimagoodhoo (in South Maalhosmadulu Atoll); Meedupparu (in North Maalhosmadulu Atoll); Kanuhuraa and Madhiriguraidhoo resorts (in Faadhhippolhu Atoll); Hakuraahuraa (in Mulaku Atoll); Filitheyo (in North Nilande Atoll); Vilu Reef (Mheedhufushi Island) and Velavaru (in South Nilande Atoll) Fig. 1. Access to EISs in the Maldives, at the time of research, was not granted to the local community as a matter of course and, moreover, the EISs were (and remain) written in the medium of English rather than Dhivehi, the native language. So, the chance to review the EISs represented a rare and considerable opportunity – and was given as a special dispensation to the authors. For substantiation, the article also draws on information gained through interviews with key figures involved with environmental assessment in the Maldives over the last ten years. These are people working in the public sector – comprising MoTCA, MEEW and MPND; and further in-depth interviews with the Maldives Association of Tourism Industries (MATI) and a range of resort owners/operators including the leading resort chain Universal Enterprises Private Limited (with 8 resorts in the Maldives). These represent a relevant spectrum of key stakeholders. Interviews were based on the apparent gaps that existed between the theory as represented by Glasson, Therival & Chadwick model (1999) and the EISs as made available for the research. Whilst the details from the interviews and the scrutiny of the EISs are specific to the Maldives much of the evaluation is applicable to Small Island Developing States (SIDS) in general.

2. Tropical small island developing states (SIDS), tourism and sustainability

Since historical times, islands have fascinated human beings. As Gossling (2003) pointed out, tropical islands still represent individual freedom, peaceful environments and an abundance of food – and are thus often perceived as happier, better places. Indeed, Thor Heyerdahl (1986) described the Maldives as ‘an exhibition of green velvet’.

Small Island Developing States (SIDS) are often characterised by their remoteness, perceived ‘difference’, smaller size and slower pace of life, distinct culture, exotic wildlife and pristine environment (Baum, 1997; Lockhart, 1997). Such islands attract large numbers of visitors often in search of the exotic. According to the United Nations (2003a), SIDS account for 22 percent of the 49 Least Developed Countries (LDCs) of the world and are often among the back-markers of the development march. The Maldives is given both LDC and SIDS status by the UN (United Nations, 2003a, 2003b). UNEP (1994) identified a plethora of problems facing SIDS and these include susceptibility to natural disasters; narrow range of resources; overuse and immature depletion of resources; dependence on international trade and, therefore, vulnerability to global developments; high population density; relatively small watersheds and threats to supplies of fresh water; and costly public...
administration and infrastructure, including transportation and communication. In addition, there is often a high degree of endemism and a high level of biodiversity but, conversely, relatively small species numbers and so a high risk of extinction among flora and fauna.

Given such a list of disadvantages, it is easy to understand why tourism is often viewed by many political leaders of SIDS as an easy option for economic development (Coccossis, 2001). Tourism can become an important source of income and its role in economic performance can outshine that of agriculture (Filho, 1996). Indeed, the growth in tourist arrivals between 1990 and 2008 to many island destinations was more rapid than overall annual world tourism growth. For example, the number of visitor arrivals more than doubled for Madagascar, Maldives and Mauritius with only Fiji registering a small increase in arrivals. Such tourism development has the potential to put excessive pressures on elements of the

![Figure 1: EIS resort locations](http://www.maldivesnet.com/wp-content/uploads/2007/12/maldives-map.gif)

**Fig. 1.** EIS resort locations.
environment beyond the various carrying capacity threshold limits of the islands – thereby compromising sustainability (Holden, 2000). This situation is exacerbated by change in the wider world ecosystem such as climate change and sea-level rise. In 2001, the Intergovernmental Panel on Climate Change (IPCC) (under UNEP and the World Meteorological Organisation), which represents the international scientific consensus of governments and independent scientists, stated that ‘most of the observed warming over the last 50 years is attributable to human activities’ (Insights, 2004).

In small island nations, the largest concentrations of settlements are sometimes not further than 1–2 km from the coast, and sometimes much less. In most of the eastern Caribbean states, for example, more than 50% of the population live within 2 km of the coast; in Barbados it is estimated to be in the region of 60% (Nurse, 1992). Neto (2003) has pointed out that significant rises in sea level could cause serious problems to tourism-related activities, notably low-lying coastal areas and small islands – including an accelerated process of coastal erosion; loss of land and property, including tourist facilities; dislocation of people; more frequent storm surges and coastal flooding; increased saltwater intrusion into scarce fresh water sources and high financial costs associated with attempts to adapt to such changes. Many SIDS are only a few meters above sea level, and it is no exaggeration to state that they may be facing annihilation as a result of significant sea-level rise. Among the most vulnerable of these islands are the Marshall Islands, Kiribati, Tuvalu, Tonga, the Line Islands, Federated States of Micronesia, Cook Islands (in the Pacific ocean); Antigua and Nevis (in the Caribbean Sea); and the Maldives (Gaffin, 1997). In the context of the Maldives, key environmental threats certainly include global warming, sea-level rise and also coral bleaching (Price & Firaq, 2000). This situation is exacerbated by change in the wider world ecosystem such as climate change and sea-level rise. In 2001, the Intergovernmental Panel on Climate Change (IPCC) (under UNEP and the World Meteorological Organisation), which represents the international scientific consensus of governments and independent scientists, stated that ‘most of the observed warming over the last 50 years is attributable to human activities’ (Insights, 2004).

In small island nations, the largest concentrations of settlements are sometimes not further than 1–2 km from the coast, and sometimes much less. In most of the eastern Caribbean states, for example, more than 50% of the population live within 2 km of the coast; in Barbados it is estimated to be in the region of 60% (Nurse, 1992). Neto (2003) has pointed out that significant rises in sea level could cause serious problems to tourism-related activities, notably low-lying coastal areas and small islands – including an accelerated process of coastal erosion; loss of land and property, including tourist facilities; dislocation of people; more frequent storm surges and coastal flooding; increased saltwater intrusion into scarce fresh water sources and high financial costs associated with attempts to adapt to such changes. Many SIDS are only a few meters above sea level, and it is no exaggeration to state that they may be facing annihilation as a result of significant sea-level rise. Among the most vulnerable of these islands are the Marshall Islands, Kiribati, Tuvalu, Tonga, the Line Islands, Federated States of Micronesia, Cook Islands (in the Pacific ocean); Antigua and Nevis (in the Caribbean Sea); and the Maldives (Gaffin, 1997). In the context of the Maldives, key environmental threats certainly include global warming, sea-level rise and also coral bleaching (Price & Firaq, 1996) – and such is the extent of the problem of sea-level rise that the newly elected President has characterised the environmental threat as a security issue and a human rights issue for the Maldivian people as much as an environmental issue (Nasheed, 2009).

Sustainable development of tourism remains a crucial element for the future of the tourism industry in SIDS. Strategic planning for tourism development has to be envisaged both at the global level and at the local level. Global sea-level change may be beyond the control of SIDS. But local policies and practices within the tourism industry – such as coral reef mining; land reclamation; construction of harbours, jetties, breakwaters and groynes; over-utilisation of aquifer resources; inadequate disposal of sewage, toxic and non-biodegradable wastes – can exacerbate global environmental effects. The socio-cultural environment is also affected – for example, the creation of family instability due to absent husbands and fathers engaged in the tourism industry; conflicts between fishing and tourism; and the loss of community natural assets, such as local coral reef that is ‘acquired’ by a new tourism resort.

It seems a truism that to establish a sustainable approach in SIDS there is a need for the implementation of methods that reduce negative impacts on the environment. Also, environmental auditing and monitoring processes have to be incorporated into the tourism planning and development process. Global warming and other global environmental threats are of crucial importance to the Maldives, a point repeatedly stressed by the government of the Maldives. EIAs in themselves, even when effectively prepared, cannot address such global effects – but they can give a signal of intent, that is more than symbolic, to move towards a sustainable approach.

3. EIA and sustainable tourism

In an overview of terminology, as part of a literature critique on sustainable tourism, Liu (2003) characterises ‘sustainability’ as implying a steady state – steady life conditions for years to come; ‘sustainable development’ as managed change; and ‘sustainable tourism’ as all types of tourism (conventional or alternative forms) that are compatible with or contribute to sustainable development. This is generally compatible with Cater (1993) who considered the objectives of sustainable tourism as meeting the needs of the host population for increased standards of living in the short and long term; dealing with growth in tourist numbers; and safeguarding the natural environment. Liu (2003) concluded the critique by identifying four issues of central importance for further research. The first of these is ‘not to limit growth but to manage growth in a way that is appropriate to the tourists, the destination environment and the host population’ (Liu, 2003:472) – shades of Cater (1993); and the second is ‘to develop policies and measures that are not only theoretically sound but also practically feasible... (otherwise) sustainable tourism runs the risk of remaining irrelevant and inert as a feasible policy option for the real world of tourism development’ (Liu, 2003:472).

A properly managed system of EIAs has the potential to help address both of these issues. As there is always likely to be pressure for new tourism developments, at least until the oil runs out, a strong case can be made that the tenets of sustainable tourism can be applied in part through the implementation of EIA into the tourism project planning process. Since its birth in the National Environmental Policy Act of 1969 (NEPA) in the USA, EIA has spread across the globe to the point that a regularised (and often regulated or legislated) system of EIA for project appraisal can be found in every continent and in very many countries (Wood, 2002).

There have been a variety of attempts to define EIA (James & Boer, 1998; Munn, 1979; Wathern, 1992). EIA is principally a tool for planning and decision-making. It identifies, predicts and evaluates the likely environmental impacts of development projects, both beneficial and adverse and then proposes alternatives and mitigating measures – to eliminate or minimise the negative impacts and optimise the positive impacts. It is a systematic process that examines the environmental consequences of developmental actions in advance, a mechanism for environmental protection, with the emphasis on prevention (Glasson, et al, 1999). Brookes and Miller (2003:270) note that ‘at the project level, the process of EIA at its best is iterative, perhaps identifying the need to redesign after initial consideration of impacts.’ Glasson et al (1999) and Weston (1995) believe that the introduction of EIA has been beneficial to the planning process and environment as a whole. In theory, EIA has brought a range of benefits in so much as it provides more details about projects and their environmental consequences and releases that information into the public domain much earlier in the planning process than with non-EIA projects; it forces developers to consider the environmental consequences of their proposals at the beginning of the project design process; and it ensures that environmental mitigation measures are introduced at the design stage of major projects, and not tacked onto the end in the form of conditions. It seems that EIA works best when there is a specific legal requirement for its application, where authorities are accountable for taking its results into consideration in decision-making – and when an EIS is prepared (Wandelsorde-Smith, 1989; Wood, 2002). Indeed, the EIS can be viewed as the ‘end product’ of the whole process – and this acts as a strong rationale for the emphasis that is placed in this paper on the EIS statements, submitted 2001–2004, from a selection of eleven tourist resorts.

Hardy, Beeton, and Pearson (2002) in their overview of the conceptualisation and operationalisation of sustainable tourism argue that ‘more emphasis has often been given to tourism’s effects upon the environment and economy, rather than to factors related to its effect on communities’ (Hardy et al., 2002:491). But the requirements of sustainable tourism cannot be merely imposed. And again, in advocating EIAs it might be stressed that a properly
managed system of EIAs has the potential to enfranchise or even empower local communities. Community representatives, government agencies, and other stakeholders should have the chance to review the EIA – and public hearings should be held in local communities. The ‘public’ may be the people affected by a development, or it may be pressure groups, members of non-governmental organisations (NGOs) or quasi-statutory bodies (‘public watchdog committees’), the media and others who are most affected (Barrow, 1997). So, consultation and participation must be employed at every stage of the EIA process. However, as Wood (2002) notes, consultation and participation can only be effective if copies of EIA documents are made public at each stage of the EIA process (e.g. at the ‘scoping’ stage as well as on completion of the EIS). Such documents need to be made readily available at a number of locations convenient to those most likely to be affected by the proposal concerned. The documents also need to be accessible in the sense of being clear and comprehensible, especially a non-technical summary of the EIS (Sheate, 1991) – so that participation moves beyond ‘manipulation’, ‘tokenism’ and ‘partnership’ to ‘citizen control’ (Arnstoin, 1969:217; Canter, 1996).

Of course, EIA can have weaknesses in its implementation. Existing administrative structures can be complex and confusing, leading to inconsistency in standards. In the tourism industry, since it is developers who normally carry out the assessment, this situation can cause inadequate and inaccurate information to be provided for decision-making and planning (Ding & Pigram, 1995).

Additionally, although there is a general sense that EIA is a ‘good thing’, the diversity of application makes such a comment a potentially dangerous generalisation. It can create a false sense that EIA is achieving more than it really does, or that it promises much whilst it delivers less (Weston, 2002). Indeed, in his review of the shortcomings of EIA, Weston (2002) concluded that for EIA to be more effective there needs to be better public participation and circulation of information; a reduction of poverty so that environmental impact assessment can be given a higher priority; a firm legislative foundation; a clear schedule of what is to be subject to environmental assessment; better data; participant integrity; and adequate avenues of appeal if there are problems. This is a stern set of requirements for a developed rich economy and liberal democracy yet alone small island developing states such as the Maldives.

4. Evaluation of the EIA procedure and EISs of selected tourism projects in the Maldives

The findings and evaluation in this section are based on the academic literature, government reports, EIS assessments and the range of in-depth interviews outlined earlier. It is instructive to apply the background theory to the reality of the Maldives. The Environmental Protection and Preservation Act of Maldives (4/1993) provides the basic framework for the EIA process in the Maldives and, under Article 5 (1) of the Act, it is stated that an EIA study needs to be submitted to MEEW – formerly Ministry of Environment – before implementing any activity that may have an impact on the environment (Saeed & Khaleel, 1998). However, although EIA reports have to be submitted to MEEW, all aspects of tourism development are regulated and carried out by MoTCA. The MoTCA remit includes protection of the natural landscape, pollution prevention control, protection of the marine environment and monitoring of the construction and operation of tourist development projects (Asian Development Bank, 1999).

As a general comment, and as replicated elsewhere in other destinations (by no means confined to SIDS and LDCs) it can be argued that, despite progress, the legal and institutional framework is not very well co-ordinated and some of the existing environment laws are not properly enforced. The MoTCA regulations and the Environmental Protection and Preservation Act of Maldives (4/1993) specify the level of emphasis given to preserve the environment and that a project that has undesirable impacts on the environment should be terminated and should not receive compensation. However, because of a lack of capacity, resources and trained personnel in the relevant departments, combined with the complexities of the legal system, crucial elements were reported to be overlooked in the very late 1990s (Asian Development Bank, 1999) – and were continuing to be overlooked at the time of the research nearly ten years later.

With specific regard to the EIA process, the focus of this work, there are some fundamental problems. The EISs – the findings of the various EIAs – were assessed in this research using a judgemental approach based on the well-established review package for environmental impact statements developed by Glasson et al. (1999). The Glasson et al. package through its systematic approach and discipline helps to assess the quality of an EIS in great detail – and considers the EIS as a whole. The package is divided into eight sections: description of the development; description of the environment; scoping, consultation and impact identification; prediction and evaluation of impacts; alternatives; mitigation and monitoring; non-technical summary; and organisation and presentation of information. Each section comprises a number of individual review criteria, each one graded on the basis of the quality of the material provided. Each individual section is awarded a grade and so the EIS can finally be awarded an overall grade. The review package grades the EIS and its components against the following criteria:

A = Relevant tasks well performed, no important tasks left incomplete
B = Generally satisfactory and complete, only minor omissions and inadequacies
C = Can be considered just satisfactory despite omissions and/or inadequacies
D = Parts are well attempted but must, as a whole, be considered just unsatisfactory because of omissions and/or inadequacies
E = Not satisfactory, significant omissions or inadequacies
F = Very unsatisfactory, important task(s) poorly done or not attempted

By using this grading system, the reviewer builds up a complete in-depth understanding of the project and its impacts and, therefore, identifies aspects of the EIS that need completing. A juxtaposition of the EIA process for tourism projects in the Maldives and widely accepted best practice epitomised by Glasson et al. (1999) presents a most unfavourable, even alarming comparison. Fig. 2 identifies common elements that are found to be missing from EISs in most of the eleven Maldivian tourist resorts that were evaluated for this paper. For example, the description of the developments (Fig. 2, #1) frequently lack information on types and quantities of waste matter and residual materials generated during the construction and operation phase of resorts, so that there is no indication of how wastes and residuals are handled or treated prior to disposal. Completed developments are autonomous units, totally self-contained – providing their own electric power and water supply (from desalination plants). But the EISs do not take into consideration methods of disposal of liquid and solid waste from restaurants, bungalows, and diving centres – as well as the disposal of used oil and other fuel generated by the powerhouse and boats.

Many resorts still use septic tanks to store sewage effluent that is then pumped offshore beyond the house reef, but EISs invariably do not mention either the depth of the outfall pipe or the methods and frequency for testing seawater quality.
Consideration in the EIIs of step #2 (Fig. 2) – the description of the environment – also shows insufficient emphasis on key elements that outline the baseline conditions in the area occupied by and surrounding the given resort projects. For example, there is often no mention of potential soil and groundwater contamination caused by the storage of liquid and solid waste on site; or coastal erosion, sedimentation and damage to coral reef through dredging of lagoons or construction of jetties and water villas. Scoping, too, (#3, Fig. 2) – the step in which it is decided which impacts and issues should be covered – is largely omitted in the EIA process (and EIS report) in the Maldives. The purpose of scoping is to identify from all possible impacts, those that will be significant and is, therefore, a key focus of the EIA. At the scoping stage of the EIA from all possible impacts, those that will be significant and is, therefore, a key focus of the EIA. At the scoping stage of the EIA.

---

**Table: Missing Elements from Review Criteria**

<table>
<thead>
<tr>
<th>Section</th>
<th>Elements missing from review criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1 Description of the development</td>
<td>Description of types &amp; quantities of waste matter, energy (noise, vibration, heat, and radiation) generated during construction and operation of resort. Indication of how these wastes &amp; residual materials are expected to be handled/treated prior to release/disposal. Indication of the eventual disposal site. Description of potential for any accidents, hazards and emergencies during construction. Description of total land area taken up by the construction site, resort buildings &amp; any extra facilities and landscape areas. Description in further detail of any need for dredging works and the reinstatement and after-use of sand and sediment taken during construction of water bungalows in resort lagoon. Map location of above.</td>
</tr>
<tr>
<td>#2 Description of the environment</td>
<td>Indication using maps of the areas expected to be significantly affected by various aspects of resort development (water bungalows, plunge pool, infinity pool, diving school). Precise definition of the affected environment Inclusion of any potential significant effects occurring away from the immediate areas of construction and operation, which might be caused by the dispersion of pollutants, infrastructure requirements of the resort development and traffic generated during the construction and operational phase of the resort.</td>
</tr>
<tr>
<td>#3 Scoping, consultation, and impact identification</td>
<td>Precise listing of all those consulted to appraise the project - to include the general public, relevant public agencies, relevant experts and special interest groups. Information on impact of the project on aquifer, and lagoon/reef. Identification and impact on the local community Further information on impact of resort development on aquifer of island, lagoon and house reef. Further details of impacts (economic, social &amp; environmental) on the local community (in the atoll where resort is to be developed) directly/indirectly affected by the development of the resort during construction/operation of the resort. Listing of the regional and government offices approached to research baseline environment conditions of island and its surrounding environment. Listing of all stakeholders, people from the local community (from atoll) and NGO’s involved in the consultation process. Indication of methods of consultation.</td>
</tr>
<tr>
<td>#4 Prediction and evaluation of impacts</td>
<td>Further details on the nature and location of impacts from resort development and the sensitivity of the receptive areas to change. Provision of clear information on the timescale over which impacts are likely to occur, such as whether impacts are short, medium or long term, temporary or permanent, reversible or irreversible. Discussion of the significance of impacts on the local community (in the atoll). Further provision of information on the significance of protection of environmental resources and its justification.</td>
</tr>
<tr>
<td>#5 Alternatives</td>
<td>Outline of alternative processes, such as alternative energy solutions and indication of reasons for their choice and their main environmental advantages and disadvantages. Provision of information on substitution of non-renewable resources with renewable and energy efficient resources. Provision of evidence that alternative design, layout, scale and operating conditions have been considered in the resort development process – together with their main environmental advantages or disadvantages</td>
</tr>
<tr>
<td>#6 Mitigation and monitoring</td>
<td>Provision of a clear monitoring plan. This should include monitoring arrangements for all significant impacts, especially where uncertainty exists, to check the environmental impacts resulting from the implementation of the project and whether they conform to the predictions made. Provision of methods for monitoring significant impacts of the resort development during construction and operation. Provision of measures that will be put in place, including any modification in resort design, construction and operation to mitigate impacts. Details of how mitigation measures will be implemented. Consideration of replacement of facilities/resources for pollution control. Provision of a clear monitoring plan.</td>
</tr>
<tr>
<td>#7 Non-technical summary</td>
<td>Information on impact prediction and mitigation. Description of any residual impacts of resort development. Summary of main findings of the environmental assessment.</td>
</tr>
<tr>
<td>#8 Organisation and Presentation of Information</td>
<td>Provision of information on severe adverse impacts, substantial environmental benefits and other controversial issues. Full reference and details of external sources contacted for baseline survey. Provision of detailed maps and graphic materials to show location of significant impacts.</td>
</tr>
</tbody>
</table>

**Fig. 2. EIS Analysis – missing elements from review criteria.**
argued that the key to successful scoping is public participation and consultation (Barrow, 1997; Glasson et al., 1999; Wood, 2002) so that those with local and specialised knowledge about the receiving environment can aid the identification of ‘significant’ impacts. However, the stakeholders, mainly local fishermen and farmers are unaware of the proposed development and so are not given any opportunity to participate. The authors of the EISs do not appear to have consulted with the local community – nor with NGOs with specialised knowledge. Consultation is just with the developer and government departments and ministries.

This omission of consultation in the EIA process has led to an increase in grievances within the local community as many fishermen and farmers feel that some resort developments displace their fishing or farming grounds without any prior warning or compensation. They have lost revenue but feel powerless to do anything about it. As sustainable development must be built by, through and with the commitment of local communities (Sheate, 1991) this presents a significant flaw in the current EIA process. The eleven resorts covered by the EISs studied in this research have now been developed and are in operation on one of the world’s most fragile ecosystems. Taking all these factors into consideration, good environmental management over the life of the project – and monitoring is essential in that process.

The result of so many missing elements inevitably results in some low evaluative judgements using the Glasson et al. (1999) package. For each resort, each criterion considered was given a grade from A to F as defined above and the resort was then given an overall grading. In the eleven resorts that were evaluated the overall EIS grades were E (3 resorts); D (3); C/D (4) and C (1). In sum, the EISs as reports – the EISs only seem to barely fulfill the current mandatory requirements.

At one level the problems are very basic. The procedure lacks transparency, responsiveness and accountability. For example, there is no requirement to give the reasons or considerations on which a ‘Decision Note’ is based. Also, any consent conditions are not made public. Throughout the EIA process there is no public consultation and participation. Information from public hearings processes should contribute to the EIA through a two-way involvement of EIA experts and the public. In the Maldives this opportunity is lost, as key stakeholders are not given any opportunity to make a contribution. The public may not be aware of proposed developments. The EIS reports are written in English and are not available to the general public. Those most affected (such as fishermen and farmers) frequently live away from the capital and are very likely to be out of any information loop. Moreover, the public are not expected to participate, a hang-over from many years of non-democratic government throughout the growth period of the tourism industry.

There are still no guidelines published for the preparation of an EIS – even though the newly elected Government is making considerable strides in this regard. The whole process is linear rather than cyclical and there is an absence of an EIS monitoring plan at governmental level. MoTCA does not enforce any auditing of post EIA development and would not have the trained personnel to do so in any case. The developer carries out most auditing that takes place and can be subject to pressure from external project investors. The government owns all islands – and it is customary that within the scope of a given Tourism Master Plan some islands are selected and then leased for tourism development. As part of a bidding proposal to secure a lease an EIS is submitted to MoTCA and proposals are evaluated using a merit point system. The project proponent that proposes the highest rent scores 60 points; the best development concept scores 20 points; whilst staff facilities and environmental preservation each score only 10 points (MOT, 2003). With environmental preservation ranking so low on the list, an EIS does not receive the maximum attention it needs.

Finally, the same individuals/group of consultants prepare most of the EISs and the contents of the EISs are repeated (as can be seen in the examples above) with little difference except changes in location and names. The elements detailed as missing from EISs in Fig. 2 are seen to repeat from one EIS to another – and invariably the
same individuals/group of consultants are involved. A few personnel at MEEW carry out the review of EISs and they then issue a ‘Decision Note’ – a note that effectively amounts to planning permission. But there appears to be no co-ordination between the various ministerial departments before the decision is made and this means that the decision on whether the project is allowed to go ahead on the basis of the EIS report rests solely on the EIS reviewer at MEEW. To compound the problem, it has been recognised that the MEEW lack trained personnel to properly evaluate EIS reports (Asian Development Bank, 1999).

Even though considerations for environmental management have improved since the implementation of Environmental Protection and Preservation Act of Maldives (4/1993) the regulatory framework and practical situation is seriously inadequate. More than fifteen years after the mandatory EIA provisions were first enforced the existing process of EIA – and the ‘end product’ EISs – do not effectively contribute towards sustainable tourism development.

5. Recommendations

Specific recommendations can be suggested for the Maldives case and these recommendations are applicable to many other SIDS worldwide. MEEW formulated and published Environment Impact Regulations in 2007 that aimed at enhancing the efficiency, reliability and transparency of the EIA process. Even so there remains a lack of clear guidance by both MoTCA and MEEW. The developers feel that the EIA is a perfunctory requirement as neither MoTCA nor MEEW has adequate capacity to follow up on the Decision Notes regarding the EIA (Maldives Third Tourism Master Plan 2007–11).

With the emergent concepts of sustainable development in the 1980s, especially after the Brundtland Report (WCED, 1987), and the Rio Declaration and Agenda 21 (UNCED, 1992), public involvement in development was seen as an indispensable condition for the achievement of the social, economic and ecological objectives of sustainability. For the government to comprehensively follow the principles set out in Agenda 21 and the Malé Declaration on Sustainable Tourism (1997), a conventional EIA process should be adopted more precisely and thoroughly. Judged by the standards to which EIAs are expected to conform in developed countries, EIAs in the Maldives are seriously deficient. The quality of the eleven EISs assessed for this paper had significant shortcomings as evidenced in the examples above (Fig. 2).

It is crucial that the outcome of the EIA (the EIS report) should be understandable by individual community stakeholders, statutory bodies and other businesses, tourism industry associations, NGOs and Government Ministries – and available for the public. The onus should be on the developer to involve the public and any affected parties at the beginning of the planning process and at specific times throughout the EIA process. The decision on the planning application and the consent conditions has to be made public. In-depth information on baseline conditions has to be provided in the report, so that economic, socio-cultural and ecological carrying capacities can be assessed more thoroughly. Special emphasis should be placed on marine protected areas and dive sites, biodiversity conservation, coastal management and oil spill contingency planning. In the past, there have been islands developed for tourism without proper consideration of the physical processes operating around the islands. The magnitude, duration and geographical extent of impacts have to be predicted and the potential for indirect impacts and cumulative effects clearly presented in the EIS – particularly as tourism begins to build up in atolls that have previously not been developed for tourism (Hodson 2007). The chance for environmental degradation has to be fully acknowledged, especially during the construction phase, with mitigation measures to reduce pressures and to restore any damaged areas. For example, information on discharges to the aquifer and the marine environment, waste storage, disposal and recycling, access to the site and transport of workers, construction material and equipment use all need to be outlined. Significant impacts must be identified and alternatives have to be discussed and considered including layout and design, scale of the project and technology and management. This helps determine which impacts are significant and need to be addressed and also identifies mitigation and compensatory measures.

Substitution of non-renewable resources with renewable resources such as solar and wind powered energy, energy efficiency appliances & equipment and waste minimisation schemes (such as recycling, reusing and reducing) have to be pro-actively adopted and an emphasis placed on renewable and sustainable sourcing – the EIS should provide an account of how sustainability is incorporated into the planning process. Moreover, the EIS should contain a post-decision monitoring plan and a commitment to carry out an environmental audit of the performance of the project; using indicators such as, water quality, energy consumption, solid and sewage management.

The Glasson et al. (1999) model involves a number of cyclical steps and considerable interaction and feedback between the various stages, allowing public participation at most stages of the process. The emphasis is on prevention – environmental consequences of a development are examined early at the planning stage thus helping to improve relations between the developer, the government and the community.

A proposed EIA framework (Fig. 3), appropriate for Maldivian circumstances and adapted from the Glasson et al. (1999) model, revises the current EIA process in the Maldives (with all its serious shortcomings). A ‘Public Hearing Panel’ that represents the stakeholders including the local community, NGOs, conservation groups and various concerned governmental authorities must be set-up, and the public must be allowed access to participate at every stage of the planning process. At present, the scoping and screening processes are carried out at the same time and only involve the developer and government departments, excluding participation of NGOs and the local community. The proposed framework presents an opportunity for the community to voice their concerns in a transparent manner, to address any grievance and potentially stop any irreversible action from happening. The framework gives emphasis to the socio-cultural dimension allowing a platform for public participation before development – and post development through monitoring and auditing. The model will aid in supporting the government, NGOs and the tourism industry in achieving the goals of sustainable tourism development.

A comprehensive framework for assessing and monitoring tourism impacts is recommended. The role of the government in the EIA process is crucial, as it should develop standards and regulations for environmental and social impact assessments, monitoring and auditing of present and proposed tourism developments. It should also design and implement public consultation techniques and processes in order to involve all stakeholders in making tourism-related decisions. Moreover, it should create an EIA review panel that will involve all stakeholders and ensure that all government departments involved in tourism are briefed on the concept of sustainable development – so that the respective Ministers collaborate to achieve sustainable tourism development.

The tourism industry also has its responsibilities in the EIA process and the width of definition of the industry should be broadened so that sub-sectors beyond the resort developments, the focus of this study, are included. EIA should also be mandatory for safari vessels as at present there are 144 safari vessels (Ministry of Tourism, Arts & Culture, 2009) that are allowed to travel throughout
that the situation is reflected in many other national tourism spaces early to conclude that with complete surety. But it is too sustainability (related to social justice). But many the Government’s own website only has one brief mention of President has been outspoken regarding global climate issues – for be recorded as 2009 – with the formation of a new government past policy, recognised on the ground in Maldives, but not appro- priately dealt with, can be avoided. But the real turning point for the atolls – and they do not have to be accountable for their solid and liquid waste management procedures.

Finally, NGOs should represent and protect the interests of the public and local community. Among their activities, they should be part of the ‘Public Hearing Panel’ and offer input into sustainable tourism planning and development; engage public participation; seek local support for appropriate sustainable tourism development as well as opposition to inappropriate tourism development; and support the protection of the resource base.

A Third Tourism Master Plan 2007–2011 was launched in August 2007 with the assistance of UNWTO – and in line with the 7th National Development Plan – with the support of the Asian Development Bank (MoTCA, 2007). It is to be hoped that the limitations of past policy, recognised on the ground in Maldives, but not appropriately dealt with, can be avoided. But the real turning point for the Maldives as regards its general policy towards the environment may be recorded as 2009 – with the formation of a new government administration after 30 years without democracy. The elected President has been outspoken regarding global climate issues – for example, calling for reforms to the international political architecture in order to help place large developing nations such as Brazil and India at the centre of a climate change solution (Nasheed 2009). Even so, in a review of the first 100 days in office, it is noticeable that the Government’s own website only has one brief mention of sustainable development (related to social justice). But many elements that are at the centre of a growing raft of internal changes can help to push forward local action on the environment (including a sound system of EIAs) such as real efforts to establish good governance through increased transparency, responsiveness, and accountability. It just might be that the EIA (and EIS) system analysed in this paper eventually retains only historical relevance as the openness of democratic systems becomes established. But it is too early to conclude that with complete surety. In any case, this study retains relevance. The likelihood remains that the situation is reflected in many other tourism spaces around the world. Indeed, there is already evidence that the main problems identified in the EIA system of some other island states parallel that of the Maldives. Ramjeawon & Beedassy (2004) in Mauritius also use a judgemental approach – based on methods for evaluating EIA systems other than that of Glasson et al. (1999) – and report on may similar flaws relating to the EIA process, EIA reports, EIA license and post EIA compliance and monitoring. Further work is called for elsewhere to expose deficiencies and suggest practical remedies through locally adapted general frameworks.

**Fig. 3.** Recommended EIA procedure for Maldives (adapted from Glasson et al., 1999).

**Public Hearing Panel compiled by:**
- Stakeholders
- NGO & Conservation Groups
- Ministry of Atolls Development
- Ministry of Fisheries Agriculture and Marine Resources
- Ministry of Construction and Public Infrastructure
- Ministry of Tourism and Civil Aviation
- Maldives Association of Tourism Industry (MATI)
- Ministry of Planning and National Development
- Ministry of Environment Energy and Water
- Ministry of Finance and Treasury

**Sustainable outcomes for economic, socio-cultural & ecological impacts**
- Screening
- Scoping
- Impact Assessment
- Prediction
- Mitigation
- Reporting
- Decision-making
- Post decision monitoring & Environmental Audit

**References**


