

Tourism Focus

A regular section reporting on developments in the field of sustainable tourism,
and on the activities of the UNEP Tourism Programme



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Tourism and coral reefs

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Abstract

Sustainable tourism development can allow countries with coral reefs to benefit economically from tourism. However, coral reefs are threatened by natural and human-induced environmental stresses often directly or indirectly related to tourism. Sustainable tourism requires that all activities in those countries be integrated into a comprehensive plan with a long-term approach. It also requires a political will at appropriate government levels, and that all stakeholders be included in decision-making on both current and future tourism projects.

Résumé

Le développement du tourisme durable est l'occasion, pour les pays qui possèdent des récifs coralliens, de bénéficier des avantages économiques du tourisme. Le problème c'est que ces récifs font l'objet de menaces environnementales naturelles et anthropiques, souvent directement ou indirectement liées au tourisme. Le tourisme durable nécessite l'intégration de toutes les activités de ces pays dans un plan global à long terme. Il suppose également une volonté politique à tous les niveaux de gouvernement impliqués et la participation de toutes les parties prenantes aux décisions touchant les projets touristiques actuels et futurs.

Resumen

El desarrollo del turismo sostenible puede aportar grandes beneficios económicos a los países que cuentan con arrecifes de coral. Sin embargo, el coral se ve amenazado por los embates naturales y por la actividad humana, provocados directa o indirectamente por el turismo. El turismo sostenible conlleva la inscripción de todas las actividades turísticas en un plan integral, aplicable a largo plazo. A esto debe unirse el apoyo político de las esferas gubernamentales apropiadas y la inclusión de todos los sectores concernidos en la toma de decisiones relativas a los proyectos turísticos inmediatos y futuros.

Coral reefs have developed all over the world, in the two tropical zones and in the three oceans. They expand near the surface along coasts where the sea water temperature is above 20 °C. Occupying about 1 million square kilometres, they are the world's most important constructions built by living organisms. Corals (about 800 species) are the main builders of these huge masses of calcium carbonate. The living reefs lie atop the skeletons of billions and billions of ancestors. The ability of corals to have such a calcium carbonate skeleton is due to their symbiotic relationship with the algae they breed in their soft tissues. A square metre of a coral community can calcify up to 10 kg of carbonate per year. In the Indo-Pacific, calcareous algae are also important as builders.

In that framework – like buildings in a city – almost every animal phylum on the planet has representatives. There are so many species that the coral reef ecosystem is the most diverse in the sea and as rich as tropical rain forests. Other

main inhabitants are echinoderms, molluscs, sponges, crustaceans, worms, and of course fishes. Coral reefs can develop in nutrient-poor waters with a great ability to recycle organic matter and a very high productivity.

Coral reefs and humans
But like every place on earth, coral reefs are of interest to human populations. About 100 countries are bordered by coral reefs, almost all developing countries faced with managing problems including increasing demographic pressures. Half a billion people live within 100 km of a coral reef, and some 100 thousand take all they need for life from coral reef resources. Reefs protect the coastline and communities may develop nearby, often attracted by their calm lagoon waters.

Some island countries only exist due to corals, such as certain archipelagos of atolls or low islands (e.g. the Maldives, Kiribati). There are 420 atolls in the world, most of them in the Pacific and most inhabited by people whose

resources are limited to coconuts and coral reef fishes. Reefs provide construction materials and protein for communities with a subsistence economy. Reefs and lagoons are the location of pearl oyster culturing (such as for the black pearls of French Polynesia).

World coral reef degradation

Due to human demographic pressures, which are increasing on coral reefs, and due to the absence of integrated coastal management, coral reefs are being degraded. Construction of harbours, marinas and airports is reducing the extent of fringing reefs near urban areas, which is not without consequences for the equilibrium of the whole coral reef ecosystem – mainly because fringing reefs are areas where fish juveniles grow before they spread out over the whole reef as adults. In addition, dredging causes extensive destruction where it occurs, with degradation all around. Heavy terrigenous sedimentation, coming from rivers and due to bad land management, is suffocating corals and reefs. Nutrients from agriculture and sewage give an advantage to algae on corals. Overfishing, sometimes using destructive methods, is also damaging reefs and threatening their survival.

About 10% of coral reefs have been destroyed without any possibility of recovery, and 50% of those remaining are in danger. On a world scale, the most seriously threatened reefs are in the South-East Asian and Caribbean countries, not forgetting that a massive bleaching event in 1998 caused catastrophic mortality among coral. This affected all regions of the world, but mainly that of the Indian Ocean. Research pro-

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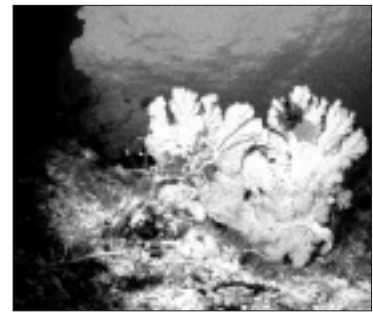
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Eco-tourism: mangrove walks ©GBRMPA



Gorgonian and whip corals ©GBRMPA



Pontoon moored at Kelso Reef near Townsville ©GBRMPA

grammes have been launched to address some of the social and economic consequences.

Tourism and coral reefs

Tourism activities in the coastal tropics are based on sun, sea and sand. Coral reefs and white sand beaches are therefore emblematic of tourism. Tourism is the largest industry in the world, with more than 600 million visitors a year, increasing to over a billion by 2010. Destinations in coral reef countries are among the most rapidly expanding markets. About 300,000 diving trips are proposed to about 6 million divers, but diving is not the only activity. Among others are staying on beaches, cruises, yachting, fishing and sports (e.g. surfing, jet skiing). The types of degradation of reefs due to tourism activities can be divided into five large categories: waste, including sewage; recreational, such as anchor damage to corals; construction, such as wharves and piers; misuse, such as coral harvesting; and bad management, such as overcrowding of fringing reefs.

Among tourism activities, some experiences have been or are successful. One could mention the Great Barrier Reef off the east coast of Australia, with its long-term management plan, or the Maldives, with selective activities organized on different islands and in the context of Muslim culture. Bonaire is an example of a self-sufficient coral reef park deriving income from visitors. Dominica has an eco-tourism approach at the governmental level.

Choice of development and carrying capacity

One cannot develop all the different types of human activities on coral reefs, as many of these are not compatible with nature preservation. This is especially true in the case of small tropical islands with lagoons and reefs. The smaller the island, the smaller the number of

economic activities that can be supported. It is not possible, on a small island surrounded by a coral reef belt, to have both intensive agriculture and important tourism activities. There would be a risk of conflicts of interest and pollution problems. Moreover, the carrying capacity of the reefs themselves faced with tourism activities needs to be taken into account. One reef, like one island, can support several hundred tourists per year but not hundreds of thousands. Decisions must be made between mass tourism, eco-tourism or high-level tourism. All these decisions are likely to be made by the local and/or governmental authority in accordance with its development policy.

Such choices are determined above all by the natural environment. Australia, with its approximately 350,000 km² Great Barrier Reef, had the possibility to organize areas with different uses such as fishing, recreation and navigation. Tourism in the Great Barrier Reef Marine Park is jointly managed by the Great Barrier Reef Marine Park Authority and the Queensland Department of Environment and Heritage. The Maldives decided to devote some islands to tourism, and some of these islands cater to tourists with a special interest in diving.

Political will at governmental level

Political will is needed in order to produce a sustainable development plan for tourism activities. Coordination among different ministries (Tourism, Environment, Development) is essential to avoid conflicts. This has been realized using different structures (commissions or delegations), with participation of the private sector and all stake-

holders. In Australia again, consultation with the tourism industry is being established through the Association of Marine Park Tourism Operators. In Egypt, where there were three times more divers on reefs in 1996 (600,000) than in 1994 and serious degradation, a special committee was set up (National Committee on Reefs Recreative Activities).

Community involvement

The tourism industry in the tropics is recent, and it occurs in different cultural contexts. Tourism will not develop in the future without any connection with local communities. More and more local communities are reluctant to accept hotels which function in a closed economy while taking advantage of the natural environment which is the heritage of villagers, even if there is no conflict of interest in terms of the space and resources of the coral reefs.

Nature belongs to local communities, not to tourists. There is increasing pressure from local authorities (government and/or villagers) to be involved not only in resorts presently functioning, but also in the planning of future tourism projects. This situation is sometimes emphasized by the political opposition against the local government, often through associations for the protection of the environment. Tourism operators should pay increasing attention to communities' participation in all projects.

Long-term strategic planning

Long-term strategic planning is one way to ensure sustainable tourism development related to



Snorkelling on Lamont Reef

coral reefs. A long-term plan is necessary in order for each recreational activity to develop within the spatial and time limits which have been decided. Such a long-term plan recognizes some objectives to be reached in the future: a healthy environment, optimum fishing, carrying capacity in terms of tourists, eco-labelling, etc. A 25-year strategic plan for the Great Barrier Reef has been elaborated, related to its inscription on the World Heritage List in 1994.

Eco-labelling

The tourism industry, as well as governments and local communities, should do more than protect the environment (on which both the industry and inhabitants' economies depend). Together with regulations, voluntary approaches are a recent way of ensuring long-term commitments and improvements. An example is eco-labelling, a tool for certification of environmental performance which promotes high environmental standards and gives tourists the possibility to choose sustainable recreational activities. A number of eco-labels

have been established in three main focus areas: facilities-accommodation, services-tour operators, and recreational interests such as beaches and nature parks. These eco-labels are not specific to any one type of ecosystem. Some are well known, such as the Blue Flag in Europe.

Integrated coastal reef area management

Coral reefs exist between land and sea. They have to be protected from degradation in their own space, and from that coming from the land or the sea. The greatest danger is from the land, where human activities develop. Many reefs have been destroyed because of bad land management, such as deforestation for agriculture or urbanization, when sedimentation has killed the reefs. Watersheds have to be considered in regard to all human activities. Integration of tourism infrastructure and activities in a management plan for coastal reef areas considers only one aspect of human activities in the area.

As for the reef area itself, the best solution is to define zoning for activities (e.g. snorkelling, diving, jet skiing, navigation, fishing) or allow

no activities at all (e.g. strict reserves). Marine protected areas (parks and reserves) are interesting ecologically, but also for tourism development. Regulations preserve the reefs, but parks are also one way to sensitize and educate interested tourists.

Sensitization and education

More and more tourists are concerned with preserving the natural environment. They appreciate all efforts and ask for information on the subject, being happy to have green tourism.

In fact, the best success for the tourism industry, in coral reef areas as in others, is to ensure that tourists are happy with their trip. This will be based not only on transportation, service and accommodations, but increasingly in the future also on how successfully the natural and cultural environment was integrated where they spent some days or weeks. What better success than for a tourist to say when back home: "The hotel was fine, the coral reefs were beautiful and well preserved, and we now understand how important these reefs are for the local community"? ♦

The International Coral Reef Initiative (ICRI)

The International Coral Reef Initiative (ICRI) was founded by eight governments on the initiative of the United States. The other countries are Australia, France, Japan, Jamaica, the Philippines, Sweden and the United Kingdom. ICRI is a partnership among countries and organizations seeking to implement Chapter 17 of Agenda 21 (and other international conventions and agreements) for the benefit of coral reefs and related ecosystems. Since its creation in 1995, when both a call for action and a framework for action were adopted, ICRI has come to encompass the participation and support of additional governments, UN organizations (in particular, UNEP and its Regional Seas Programmes Units), sources of multilateral development funds (especially the World Bank), environmental and developmental NGOs (such as IUCN and WWF), scientific associations, the private sector (including the tourism industry) and foundations.

Regional workshops were organized between 1996 and 1998 to define national and regional needs and priorities and catalyze the development of national coral reef initiatives, which now exist in various forms (e.g. in Australia, France, Mexico and the US). A call for action and a framework for action, elaborated in 1995, have been adopted by more than 80 countries out of the over 100 that have coral

reefs. Major activities concern management, capacity building, research and monitoring, and review of the implementation of ICRI objectives. Important roles are played by UNEP and the International Oceanographic Commission (IOC) of UNESCO. A Global Coral Reef Monitoring Network (GCRMN) has been launched to monitor reefs and determine their status regularly. Monitoring is carried out at different levels of complexity, ranging from that undertaken by villagers to the work of scientific teams, and involves several networks such as Reef Check.

The Coordinating and Planning Committee (CPC) is the ICRI's executive body. Its secretariat, which had moved from the US State Department to Australia, is currently in France until the next International Conference on Coral Reefs in Indonesia in October 2000. The most recent CPC meeting, held in Paris on 15-16 March, had 35 participants. A new call for action, adopted at the end of 1998, emphasizes the importance of public awareness, participation by all stakeholders (including involvement of communities), more integrated coastal zone management for more sustainable development of coral reef areas and resources, and the well-being of all affected communities.

The French Initiative on Coral Reefs (IFRECOR)

On 17 March 1999, the French Government launched the French Initiative on Coral Reefs (IFRECOR), a national activity to encourage the protection and sustainable management of coral reefs in French overseas departments and territories (the "DOM-TOM"). The national IFRECOR Committee is made up of elected representatives and delegates from the DOM-TOM, government administrative bodies, scientific and technical experts, and representatives of concerned NGOs and socio-professional groups. The committee will be placed under the co-presidency of the Ministry of Spatial Planning and the Environment and the State Secretariat for Overseas Affairs. It will be supported by local committees consisting of local stakeholders in each department and territory that has coral reefs.

The principal aims of the Committee are ensuring that both policy-makers and the public are aware of the cultural, social, ecological, economic and political importance of coral reefs; ensuring that coral reefs are protected and sustainably managed (with local community participation) as part of an integrated DOM-TOM coastal management system; and establishing a forum in which the DOM-TOM

can share experience with coral reefs and contribute to the information dissemination.

The following actions have been identified:

- ♦ elaboration of a national strategy and action plan for protection and sustainable management of coral reefs in the DOM-TOM;
- ♦ mobilization of financial support;
- ♦ support for implementation of the action plan based on two complementary approaches – by type of problem affecting all coral reefs (erosion, water pollution, fishing, etc.) and by integration of all problems at specific pilot sites;
- ♦ implementation of information and educational strategies;
- ♦ creation and/or federation of coral reef monitoring networks in the DOM-TOM as sub-nodes of the global network;
- ♦ strengthening French cooperation in regional activities.

For more information about IFRECOR and the ICRI, contact: ICRI Secretariat; Fax: +33-1-42-19-17-72; E-mail: genevieve.verbrugge@environnement.gouv.fr; http://www.environnement.gouv.fr/icri

Tourism and Recreation: the Great Barrier Reef Marine Park

Tourism is the main commercial use of the Marine Park. Every year it contributes around \$650 million dollars to the Australian economy. In 1997, tourism brought over 1.5 million visitors to the area.

The majority (around 85%) of marine tourism use of the Marine Park is centred in the offshore Cairns and Whitsunday areas, representing only 5% of the Park. In Cairns the marine tourism industry attracts large numbers of international tourists, with day visits to pontoon and mooring sites and extended diving and fishing charters. Whitsunday marine operations focus largely on visits to island bays and resorts, with Australia's largest bareboat fleet operating in the area.

The volume and profile of tourism use of the Great Barrier Reef Marine Park has changed significantly in the past 20 years, presenting new challenges to managers. As marine tourism has expanded and diversified, the Great Barrier Reef Marine Park Authority has adopted a more strategic and integrated management approach which considers both the individual and cumulative impacts of tourism and recreation use.

Ensuring that the ecological impacts of tourism and recreation activities are effectively managed remains a priority for the Authority. It is important that the policies developed provide for both the conservation of natural and cultural values and an appropriate balance of use opportunities. In particular, priority is being given to building strong working relationships with the Marine Park tourism industry.

Tourism use is jointly managed by the Great Barrier Reef Marine Park Authority and the Queensland Department of Environment and Heritage, within the statutory framework of zoning plans, management plans and permits. The Authority's new approach to managing marine tourism will be based on:

- ◆ strategic policy and planning;
- ◆ direct management;
- ◆ self-regulation by the industry; and
- ◆ active partnerships.

Strategic policy and planning

The Authority is developing a Reef-wide plan for managing tourism use throughout the whole of the Marine Park. This will provide a strategic framework for future management which takes into account the cumulative impacts of tourism use. The planning process will identify natural, social, cultural and heritage values which could

be affected by tourism and recreation, and will also identify methods to protect values.

The strategies will be implemented through changes in legislation and policy, statutory Plans of Management, and education and training. The first Plans of Management, for the Cairns and Whitsunday areas, were gazetted on 22 June 1998, incorporating provisions for protection of the values of both areas and for managing use of the Reef, particularly tourism and recreation activities. These plans introduce management strategies such as settings, limits to use for some sites, recognition of historic use of sites by tourism operators, and a booking system for access by these operators to some sites or areas. Similar strategies may be applied through other Plans currently being developed for the Cardwell/Hinchinbrook and Capricorn/Bunker areas.

Direct management

The Authority, in consultation with the Queensland Department of Environment and Heritage, is revising its approach to managing the current permit system. Presently based on detailed assessment and ascribed conditions at the individual tourism operation level, the system will be changed to more standardized individual permits based on statutory requirements concerning activities within the Park.

The standardization of the permit system will be introduced in parallel with the implementation of the Cairns and Whitsunday Plans of Management, and will be extended as planning is completed in other areas. Individually crafted permits will be replaced with a range of standard permits based on class assessment. Large and complex tourism proposals and developments will still require individual assessment.

Self-regulation by industry

The Authority has been working with the marine tourism industry to encourage and facilitate greater self-regulation, through the adoption of codes of conduct and compliance with best environmental practices. A number of industry associations have been effective in regulating their activities through their own codes.

Many operators who recognize the importance of interpretative activities employ staff with appropriate skills to inform passengers about the Reef and best practices. The tourism industry training programmes developed by the Authority for Marine Park tour operators in 1996 continue to be implemented and reviewed. Operators are encouraged to facili-



tate staff training through this programme.

The Authority is investigating, with the marine tourism industry and other stakeholders, systems of accreditation for Marine Park guides and operators. Authority staff are working closely with the Whitsunday bareboat industry to pilot a staff training programme which will form the basis of future accreditation for this industry.

Active partnerships

Stakeholder participation will continue to be an important component of marine tourism management, through involvement in development and review of management plans and policy. Formal processes for consultation with the tourism industry are being established through the Association of Marine Park Tourism Operators (AMPTO). Mechanisms for community consultation have already been established through coastal Regional Marine Resource Advisory committees, with representation from all stakeholder groups. In addition, new expertise-based Reef Advisory Committees are to be established by the Authority to advise on issues specific to the four new Critical Issues Groups, including the Tourism and Recreation Group. The Great Barrier Reef Consultative Committee will continue to fill a strategic advisory role to the Minister and the Authority.

Tourism industry members continue to assist managers and researchers with site monitoring and visitor surveys in order to gain a better understanding of the cumulative impacts of tourism. The Cairns marine tourism industry is involved in the development and implementation of site monitoring systems through the "Eye of the Reef" programme.

Summary

Tourism management in the Great Barrier Reef World Heritage Area has come under considerable scrutiny in the past ten years, as expansion and diversification in marine tourism has challenged existing strategies. The Great Barrier Reef Marine Park Authority, working closely with its partners in management, the Queensland Department of Environment and Heritage and the marine tourism industry, is adopting a more strategic and integrated management approach. The focus of future management will move away from individual operations to place-based management, with emphasis on preventing and managing cumulative impacts. Integral to the success of this approach will be continued consultation with stakeholder groups during the period of change.

All photographs in Tourism Focus N° 11 courtesy of the Great Barrier Reef Marine Park Authority.

For more information, contact Annie Ilett, Director, Tourism and Recreation, Great Barrier Reef Marine Park Authority, P.O. Box 1379 Townsville 4810, Australia, Tel.: +61 (0)7 4750 0700, Fax: +61 (0)7 4772 6093. <http://www.gbrmpa.gov.au> ◆

UNEP's contribution to ICRI

UNEP contributes to the mission and goals of the International Coral Reef Initiative (ICRI) by creating awareness of the need to protect sensitive environments such as coral reefs, and of the conditions and principles of sustainable tourism. It disseminates examples of best practices and voluntary initiatives such as eco-labelling, codes of conduct and environmental management systems.

At the request of the ICRI Coordinating and Planning Committee (CPC), UNEP will prepare a report on tourism and coral reef protection. This report will serve as the basis for discussions on tourism during the next CPC Meeting in Guadeloupe in October 1999.