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# Multiple Use Management Planning in Queensland, Australia: the Koombooloomba Ecotourism Project (a case study)

JOHN KEHL, BRETT WARING, ROBYN SMITH and DAVID NALDER

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## Introduction

In August 1999 a multiple use management plan was released for Koombooloomba state forest, North Queensland, as part of a trial for the development of a new multiple use forest management planning system called MUMPS (Multiple Use Management Planning System).

Queensland, Australia's second largest state, has 4 million hectares of publicly owned state forest. State forests are public lands which have been permanently reserved under the provisions of the Forestry Act 1959 for the purpose of generating forest products, watershed protection and a range of other compatible uses including honey production, ecotourism, grazing, military training, mining, quarrying, recreation, education and scientific research. In addition to these sanctioned uses, governments and the community are increasingly expecting state forest management to actively protect biodiversity, wilderness areas, landscapes and water quality as well as to promote cultural heritage values.

All the other states of Australia have similar state forest systems with goals pertaining to multiple use. Australia has no system of nationally controlled forests and these state forests are the equivalent of a national forest system. In view of increasing public criticism of forest management, all the Australian states and the Commonwealth reached an agreement. The timing and tone of the National Forest Policy Statement (COMMONWEALTH AND STATE GOVERNMENTS, 1992) reflected Australia's commitment to the international agenda of ecologically sustainable forest management. This statement endorsed the multiple use of state forests and confirmed the goals of planning and managing the use of forests so as to protect biodiversity, wilderness, landscapes, cultural heritage values and water quality. The NFPS also committed the states to develop and adopt forest management systems which included codes of practice and management planning systems that involved extensive community consultation.

A significant proportion of the state forest in Queensland is located in the coastal zone. Most of the population of Queensland is also located in this coastal zone which places a wide range of demands on these forests.

The state forests in these coastal regions are generally confined to poor quality land or steep mountainsides, the latter of which support either good quality eucalyptus forest or rain forests. Because of the quality of the timber as well as their proximity to major towns, these forests have been historically a major economic resource, providing building material for the development of the state. More recently, the ecological significance of these forest areas in terms of high biodiversity, endangered species and isolated, relicual populations has led to widespread conflicts over timber harvesting and the ultimate cessation of logging in the state-managed rain forest (HOLZWORTH, 1999). At the same time, the demands placed on these forests with regard to a wide range of recreational pursuits, from bushwalking to horse riding to driving four-wheel

vehicles, have been increasing steadily. Eco-tourism is viewed by many as a viable, alternative economic use for these forests and a way of supporting communities previously reliant on harvesting timber.

## History of Multiple Use Forest Management in Queensland

Multiple use management of state forests in Queensland traditionally meant the production of timber with certain secondary activities, as long as they did not interfere with the primary use. Thus, grazing, honey production, extraction of gravel and recreation were facilitated as acceptable secondary activities. However, little thought was given to balanced use or integrated planning. The only serious assessment of resources and planning was related to sustaining timber production and scheduling the sale of forest products.

In theory, this changed in 1987 when a policy of «balanced» multiple use of forest was adopted. Management Priority Area Zoning (MPAZ) was introduced to provide forest managers with a tool to facilitate the development of balanced multiple use systems. MPAZ was a manual paper map based system. It partitioned forest land into primary priority use zones with a variety of secondary uses. However, its implementation was hampered by a lack of information, staff and resources necessary for planning operations. Thus, little has changed. With a few exceptions, management continued to reflect the *status quo* and to focus on timber.

However, the MPAZ approach of dividing the land into logical management units and defining compatible primary and secondary uses was sound and has been incorporated into MUMPS. Its major failing was its autocratic approach, which did not enable community input.

The development of MUMPS (Multiple Use Management Planning System) began in 1998. This system is based broadly on MPAZ but also incorporates GIS and decision-support together with structured community participation.

The future of multiple use planning and MUMPS in Queensland is by no means certain. Threats to its success arise from two sources. First, some powerful community-based conservation organisations oppose the multiple use of forests, particularly of coastal mountain forests, on the grounds that a large part of the mountain forest habitat has already been lost and fragmented as a result of settlements of European immigrants. They are of the opinion that the remainder should be reserved for conservation and wilderness. Second, recent legal decisions indicate that Australia's indigenous population may be entitled to lay claim to much of the state forest under Native Title. These legal decisions as well as Commonwealth and State legislation have led to considerable uncertainty among the indigenous population and land management agencies about the status of publicly owned land. Much of the land may have a new «owner/man-

agers» who does not accept the highly structured approach to planning taken in Europe.

## Outline of MUMPS

MUMPS is designed to be implemented mid-way in a three-stage system of planning, from regional strategic plans to operational planning (e. g., fire management or logging). It is intended to be implemented on 50 000 to 100 000 ha, with the planning area subdivided into 100 to 150 planning units. The size and shape of the unit are not fixed but are part of the planning process and are chosen to reflect logical landscape units. These planning units are generally determined by geol-

ogy, vegetation associations and patterns of human use. A MUMPS plan is designed to determine primary use and compatible secondary use for each planning unit.

The objectives of the MUMPS process are to:

- produce a plan which will be used by the land managers;
- derive maximum benefit from the sustainable use of forest resources;
- provide greater certainty for both commercial and non-commercial forest users;
- satisfy the core objectives of ecologically sustainable development;
- provide structured opportunities for community consultation and participation;

**Table 1: Primary Phases and Consultative Components of the MUMPS process.**

PHASE	ACTIVITY	TARGET GROUP/ PARTICIPANTS	OUTCOMES
Phase One (Steering)	Setting the scope of planning exercise, establishing a Steering Committee and operational protocols. Identification of potential stakeholders. The role of the Steering Committee is to manage the process, ensure accountability and equity and to be the first step in the resolution of any disagreements that may arise.	Agency/Community Leaders	<ul style="list-style-type: none"> <li>• Identification of range of interests to be incorporated into the planning process.</li> <li>• Suggested level of community and stakeholder participation.</li> </ul>
Phase Two (Methods)	Identify broad issues, anticipated forest area, the number of forest values to be assessed, site-specific planning methodology and community engagement strategies including the type of interaction between participants and the information support system.	Planning Group (MUMPS team)	<ul style="list-style-type: none"> <li>• Anticipated forest area, site-specific methodology and community engagement strategies.</li> </ul>
Phase Three (Issue Identification)	Identification of specific issues relating to the plan area through both random (ads, flyers, etc.) and targeted (direct contact with known interested parties) community interaction. Issue submissions categorised spatially and thematically to aid interrogation and incorporation into decision-making.	<ul style="list-style-type: none"> <li>• General Community</li> <li>• Specific Interest Groups</li> </ul>	<ul style="list-style-type: none"> <li>• Classification and prioritisation of issues to be resolved and conflicting interests to be reconciled.</li> </ul>
Phase Four (Interpretation and Extension of Methodology)	Introduction of the Planning Methodology to target groups and fostering an acceptance/consensus among likely participants. Modification of the process as necessary.	<ul style="list-style-type: none"> <li>• Agency Leaders</li> <li>• General Community</li> <li>• Specific Interest Groups</li> <li>• Expert Groups</li> </ul>	<ul style="list-style-type: none"> <li>• Agreement relating to the methodology and delineation of planning unit boundaries.</li> </ul>
Phase Five (Analysis)	1. Collation of base line data sets from existing sources within the Department (e.g., GIS and Remote Sensing Layers, Data bases, etc.). Collection of site-specific data through application of Forest Use Assessment Models. Participation of experts in the inventory of the resource characteristics of the plan area.	Experts (Inventory)	<ul style="list-style-type: none"> <li>• Base line inventory data.</li> <li>• Data base of specific information on site and planning area.</li> </ul>
	2. Participation of community representatives in the assessment of the general demands that the community places on the range of forest uses relevant to the plan area. Community preferences or value indicators are separate from issues of inventory, compatibility of specific uses and management practices.	Targeted Groups: <ul style="list-style-type: none"> <li>• General Community</li> <li>• Specific Interest Groups</li> </ul>	<ul style="list-style-type: none"> <li>• Set of social preferences for the planning area. Aggregated social preferences and site-specific data sets to derive a classification of significance for each forest use in each planning unit.</li> </ul>
	3a. Using information gathered in Phase 5, Sections 1 and 2, compatibility between individual activities is assessed through sequential analysis and mitigation of impacts. 3b. Analysis and response to issues. Issues identified in phase three are specifically addressed by the management team. 3c. Compilation of draft plan. The notes of the management group generated while resolving incompatibilities and making allocation decisions form the substance of the management plan.	Experts (Management)	<ul style="list-style-type: none"> <li>• Set of compatible activities identified within and between planning units.</li> <li>• Phase 3 issues addressed.</li> <li>• Detailed rationale for each decision on allocation.</li> <li>• Draft Management Plan.</li> </ul>
Phase Six (Review)	Release of draft for comment.	<ul style="list-style-type: none"> <li>• General Community</li> <li>• Specific Interest Groups</li> </ul>	
Phase Seven (Finalisation)	Completion of the final plan including comments where appropriate. A body to resolve appeals, grievances and complaints is necessary.	Experts (Management)	<ul style="list-style-type: none"> <li>• Refined Planning Outcomes.</li> </ul>
Phase Eight (Approval)	Approval and adoption of planning outcome.	Agency Leaders	<ul style="list-style-type: none"> <li>• Final Plan</li> </ul>

- ensure transparency and accountability of the forest planning process;
- minimise conflict between interest groups.

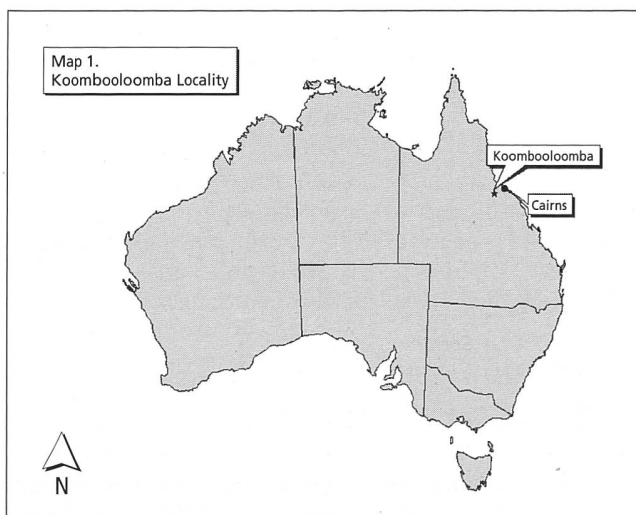
MUMPS is an eight-phase process (Table 1), which includes the forming a steering committee, defining the boundaries of the planning exercise, the collation of site-specific data, assessing and evaluating the use of forests, evaluating and incorporating community values, examining management and compatibility issues and preparing a draft for public comment followed by a final plan.

One of the major challenges in designing a modern planning system that makes good use of the GIS, of modeling and of decision-support systems is the difficulty of integrating this technology and appropriate interaction with the community. MUMPS is designed to make use of technology and enable extensive community participation, but it is structured to avoid the two extremes, i. e., planning driven by technology, by a «black box» or «dominant stakeholders». At both extremes, there tends to be poor stakeholder ownership of the final plan. Productive participation is encouraged by using planning teams rather than individual planners, with the role of the planners being that of facilitators rather than decision-makers. Regardless of how technically «good» the plan may be, without broad community acceptance it is unlikely to guarantee the certainty sought by the users of forest resources.

Phase 5 of MUMPS is based on three evaluative steps:

- evaluation of the potential of each planning unit to deliver the desired result, independent of the other uses, e.g., evaluating a site in terms of conservation, independent of timber production or recreation;
- evaluating the community's ranking of each use, independent of a particular site, e.g., assessing whether the community considers timber production more or less important than conservation;
- reconciling the above parameters to obtain an indicator of the community benefit attributable to each value in each planning unit, identifying and securing the most valuable elements of the planning area, assessing ramifications and compatibility issues and compiling management prescriptions and intent (the basis of a draft plan) repetitively.

To ensure its utility, MUMPS is being developed in an iterative manner using MUMPS modules and concepts that are tested in a field trial, while the whole system is being integrated and refined.



Map 1: Koombooloomba Study Area.

## The Koombooloomba Case Study

### Planning Area

The planning area is approximately 33 000 ha including the Koombooloomba state forest (SF 605) plus a small section of state forest 251 (Map 1). The area surrounds a man-made lake with a hydro-electric generating facility and some cleared land near the dam wall.

The Koombooloomba state forest is in the southern part of the Wet Tropics World Heritage Area, in the catchment of the upper Tully River on the plateau above the Tully Gorge. The area is considered to be a major asset for outdoor recreational pursuits and for demonstrating significant World Heritage values.

Ravenshoe is the nearest commercial centre, lying approximately 40 km to the north of Koombooloomba.

### The Planning Project: Background

The Wet Tropics World Heritage area (900 000 ha) was registered by the World Heritage Convention in December 1988. As a result of this listing, rainforest logging, which had provided the local community with a livelihood, came to an end in the Koombooloomba state forest. In addition, the tin mining industry suffered when the price of tin fell, effectively closing the second major industry in the area.

As a result, the government promised to investigate viable options for replacing these sources of income. Of the local government areas in Queensland, Herberton Shire is among the lowest in terms of income per capita (\$188 average weekly wage, ABS, 1996). It also has one of the highest rates of unemployment (19.6%, ABS, 1996). Tourism is considered to be a possible panacea.

In 1997, the state authorised a study of the potential of ecotourism in the Koombooloomba state forest. A clear planning model did not exist and a relatively unstructured community planning initiative commenced with the establishment of a steering committee consisting of 38 members with a voting quorum of 18. The paradigm selected for the project involved group discussions and debates.

However, the role of the steering committee was not clearly defined, and the process quickly got bogged down. One of the main problems was confusion as to the role of the committee to «steer the process» or to make the decisions concerning land use.

The Department of Natural Resources (DNR) is the custodian and regulatory agency responsible for the management of the Koombooloomba state forest. It, therefore, had an interest in ensuring that an appropriate process be applied for evaluating the capacity of the landscape to provide for a range of possible commercial tourist activities. It was also responsible for assessing the compatibility and integration of ecotourism with other goals and uses of the area. In late 1998, it was decided to establish guidelines for the stalled ecotourism planning project by applying elements of the MUMPS process.

### MUMPS and the Koombooloomba State Forest

The stalled ecotourism planning process and the already existing steering committee meant that MUMPS did not start with a clean slate as would usually be the case. The 38-member committee was transformed into a MUMPS style steering committee.

Phase 1 (establishment of a steering committee) and phase 2 (defining the planning area boundaries and contact-

ing stakeholders) of MUMPS had already been completed, as were parts of phase 3 (identifying community concerns). However, the phase 3 task of informing the community on the MUMPS process and encouraging stakeholders to participate remained to be carried out.

Phase 4 had not been done at all. This involves engaging stakeholders, such as agency leaders, expert groups and specific interest groups in the actual planning methodology to be applied in the three elements of phase 5. It requires bringing these participants to a level of understanding of the process and gaining their acceptance of the methodologies. This phase was not without its difficulties. The indigenous people did not accept that their cultural heritage values should be ranked and evaluated alongside other values. Their objections were so strong that the indigenous cultural heritage values were excluded from this stage of the analysis and dealt with separately. Likewise, some conservationists were uneasy about comparing the habitats of endangered species with other uses such as timber production. Nonetheless, they chose to participate in the process, and their concerns were subsequently alleviated when conservation was given the highest score in phase 5.2.

In Phase 5.1, nine forest values were assessed:

- conservation of nature;
- cultural heritage<sup>1</sup>;
- outdoor education;
- outdoor recreation;
- ecotourism;
- military training;
- quality of the landscape;
- quality and quantity of water;
- other uses (timber harvesting and minor forest products).

Phase 5.2: the community assessment of the relative value began. The outcome of this process for the Koombaloo state forest is that the conservation of nature received the highest ranking and military training the lowest (Figure 1).

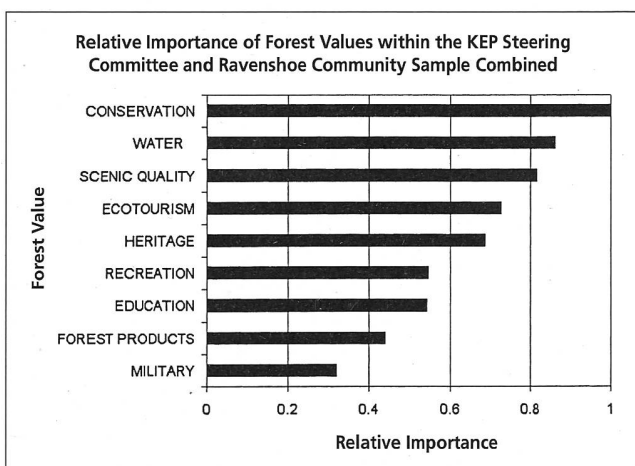


Figure 1: Assessment of community values: Residents of Ravenshoe and steering committee of the Koombaloo Ecotourism Project.

Phase 5.3: the iterative process of securing the most valuable elements of the planning area, determining secondary uses and assessing management and compatibility began in a workshop and involved the steering committee of the Koombaloo Ecotourism Project. Supported by a decision support system prototype that managed and presented the data, the workshop provided the members of the steering committee with an opportunity to consider the decision-making

<sup>1</sup> Indigenous cultural heritage was not evaluated in Phase 5.1

process and the reconciliation of competing interests. Following a number of iterations, the steering committee delegated the remainder of phase 5.3 and the draft plan to a smaller sub-committee of management experts.

Phase 6: draft of a management plan (KOOLBOOLOOMBA ECOTOURISM PROJECT, 1999). The plan suggests that the primary goal of Koombaloo is the conservation of the environment and that the other proposed activities must be compatible with this goal. The plan proposes the development of an ecotourism village on previously cleared land and suggests the evaluation of the potential interest of private industry (for the development of accommodation, education and interpretation facilities, restaurants and other infrastructure). It also identifies a possible route for a cable-car and upgraded roads.

The plan proposes that most other recreational activities could be accommodated within the area without compromising conservation and identifies sites and routes for camping, bushwalking, horse riding, bicycle riding and four-wheel vehicles. The study identifies a number of areas that should be especially protected as Scientific Areas under the Forestry Act 1959.

While the indigenous representatives did not agree with indigenous cultural heritage values being included in the analysis phase, they remained participants in the process and are considering the implications of the draft plan.

### Lessons Learned from the Koombaloo Planning Exercise

1. The Steering Committee was too large to function effectively, and some members were confused about the role of the committee. A more structured approach has subsequently been adopted, which clearly defines the role of each group and which separates the responsibilities for process (Steering Committee) and content (Management Expert Group).
2. In response to criticism by stakeholders, the conservation values evaluation model was re-worked, with additional input from a range of ecologists.
3. The quantity and quality of information must be sufficiently high to reassure some of the stakeholders that their specific concerns are being seriously evaluated. Some resources should be available to gather additional data where this becomes a crucial issue.
4. Indigenous stakeholders are unwilling to accept all the goals, especially when, for example, sacred sites are considered together with other forest values. A new paradigm, which will include indigenous issues, is being explored. This may involve an additional phase in the MUMPS planning process after the draft plan is developed but before it is released to allow for input from indigenous stakeholders.
5. The MUMPS process is very dependent on community support and participation, and a serious breakdown in stakeholder or community support can derail the process. Thus, a communications/consultation expert must be a member of the multi-disciplinary planning team.
6. A MUMPS planning exercise is an expensive process (approximately \$A 150 000 per 100 000 ha plus the salaries of three to four professional planners for about 18 months).

### Conclusion

Based on two criteria (see below) this trial was judged a success:

1. A comprehensive draft of the management plan was produced which provides guidance for future use and management of each planning unit in the state forest. An

acceptable schedule was drawn up. In addition, the plan addressed ecotourism and identified suitable locations for future development and a method for achieving it.

2. The stakeholders and the local community accepted the MUMPS methodology and remained engaged in the process.

Additionally, the trial confirmed the importance of communication and the need for a dedicated communications expert. It also identified two short-comings in the MUMPS process which are currently being addressed: the treatment of indigenous cultural heritage issues and the conservation model.

## Summary

Queensland, Australia's second largest state, has 4 million hectares of publicly owned state forest, managed for multiple use. The government and the community expect state forest management to protect biodiversity, landscapes, cultural heritage values and water quality. State forests are also available for a wide range of commercial and non-commercial uses including timber harvesting, honey production, eco-tourism, grazing, mining, quarrying, education, scientific research, military training and recreation.

A proportion of this estate is located throughout Queensland's coastal zone, in close proximity to the major population centres. In the coastal mountains in particular, the juxtaposition of high conservation values, commercial timber, recreation and eco-tourism demands precipitates conflict over forest use and presents a challenge for multiple use planning systems.

Beginning in 1986, state forest planning utilised a system called Management Priority Area Zoning (MPAZ). This was a manual system which partitioned forestry land into primary priority use zones with a variety of secondary uses permitted. Decisions were made by professional foresters without public input. Although many of the concepts in MPAZ are still valid, such an autocratic approach is no longer acceptable.

In 1998, development began on a new forest planning system known as MUMPS (Multiple Use Management Planning System). It is broadly based on MPAZ, but incorporates GIS and decision-support technology coupled with the capacity for structured community participation. MUMPS is designed to operate on a scale of 50 000 to 100 000 ha, with the planning area subdivided into 100 to 150 planning units. At its analytical core, MUMPS is a phased process for forming a steering committee: collation of site-specific data, assessment and evaluation of a number of forest uses, procedures for gauging and incorporating community and stakeholder values and a process for examining management and compatibility as well as the preparation of a draft and final plan.

To ensure its effectiveness, MUMPS is being developed in an iterative manner with field trials based on MUMPS modules and concepts, while the whole system is being integrated and refined.

The Koombooloomba Ecotourism Project is one of these MUMPS trials. The site of the trial is a tropical, mountainous region in northern Queensland, partly in the Wet Tropics World Heritage Area. It includes an hydro-electric dam within publicly owned native forest and encompasses a number of key values including the world heritage rainforest, conservation, hydro-power generation, indigenous culture, timber, eco-tourism and recreation. In this case, MUMPS took over a stalled, unstructured planning process. The MUMPS process reinvigorated the earlier planning project, broadened the assessed values and resulted in a management plan.

The case study demonstrates how forest managers, the community (including traditional Aboriginal land-owners), commercial tourism, recreationists and the hydro-electricity industry can cooperate in the sustainable management of a listed World Heritage mountain forest area. Issues associated with the methodology, community involvement and management implications are discussed and analysed.

## Zusammenfassung

### Bewirtschaftung vielfältig genutzter Wälder in Queensland, Australien: Das Ökotourismus-Projekt Koombooloomba als Fallstudie

Der öffentliche Wald des zweitgrössten australischen Teilstaates Queensland von vier Millionen Hektaren wird im Sinne einer multifunktionellen Nutzung bewirtschaftet. Regierung und Öffentlichkeit erwarten von der forstlichen Bewirtschaftung den Schutz der Biodiversität, der Landschaft, des kulturellen Erbes und der Wasserqualität. Der Staatswald steht einer breiten Nutzung offen, welche Holz- und Weidenutzung, Honiggewinnung, Ökotourismus, Bergbau, Erziehung, wissenschaftliche Forschung, militärische Übungsmöglichkeiten und Erholung mit einschliesst.

Die Wälder der Küstenzone liegen in unmittelbarer Nähe von bevölkerungsreichen Städten. Besonders in den küstennahen Gebirgswäldern birgt die Nachbarschaft von Schutzgebieten und vielfältigen Nutzungsansprüchen (Holz- und Energienutzung, Erholung und Ökotourismus) ein Konfliktpotenzial, dem durch ein Planungssystem für eine vielfältige Nutzung begegnet werden soll.

Die forstliche Planung von 1986 erlaubte eine Zuordnung der Waldflächen zu Vorrangnutzungen und zu einer Vielfalt von sekundären Nutzungen. Die Entscheide wurden von den Forstbehörden gefällt. Obwohl einige dieser Konzepte noch in Kraft sind, ist ein solcher autokratischer Ansatz nicht mehr opportun.

Das forstliche Planungssystem von 1998 (MUMPS) stützt sich zwar auf die vorhandene Planung, wurde aber mit GIS sowie entscheidungsunterstützenden Technologien ergänzt. In dem für grosse Operationsmassstäbe konzipierten Planungssystem werden Steuerungsgruppen gebildet, Standortdaten und Waldnutzungen erfasst. Die Öffentlichkeit, finanzielle Interessen, Vorgaben zur Prüfung der Bewirtschaftung sowie Verträglichkeitskriterien werden einbezogen. Im iterativen Prozess wird die Effizienz und laufende Verfeinerung des ganzen Planungssystems gewährleistet.

Das auf dem Planungssystem basierende Teilprojekt ist dem Koombooloomba-Ökotourismus in der tropischen nördlichen Bergregion Queensland gewidmet, die teilweise zum Welterbe-Gebiet «Wet Tropics» gehört. Die Region umfasst einen Stausee in einem öffentlichen Naturwald und schliesst eine Reihe von Schlüsselwerten zu Regenwald, Schutz, Kultur, Tourismus und Erholung mit ein.

Die Fallstudie zeigt, wie die forstlichen Bewirtschafter, die Gesellschaft (einschliesslich die Aborigines als Landeigentümer), Tourismus, Erholung und Elektrowirtschaft nachhaltig in einem als Welterbe aufgeführten Gebirgswald zusammenarbeiten können. Diskutiert und analysiert werden die Methoden, die Beteiligung der Öffentlichkeit sowie die Probleme der Bewirtschaftung.

## Résumé

### Gestion de forêts multifonctionnelles dans le Queensland (Australie): étude du projet d'écotourisme de Koombaloo

Les quatre millions d'hectares de forêts publiques du deuxième plus grand Etat australien, le Queensland, sont gérés de façon multifonctionnelle. Le gouvernement et la population attendent de la gestion forestière qu'elle protège la biodiversité, le paysage, le patrimoine culturel et la qualité de l'eau. Les forêts domaniales servent de base à une vaste gamme d'utilisations: exploitation de bois, production de miel, écotourisme, pâturage, industrie minière, éducation, recherche scientifique, entraînement militaire et loisirs.

Les forêts de la zone côtière se situent à proximité des centres à forte population. Dans les montagnes côtières notamment, le voisinage de zones protégées, de l'exploitation de bois, des activités récréatives et de l'écotourisme génère des conflits d'utilisation qu'un système de gestion multifonctionnelle permet de résoudre.

La planification forestière de 1986 a permis de classer l'aire boisée en utilisations prioritaires et en une multitude d'utilisations secondaires. Les décisions n'ont cependant été prises que par les autorités forestières, sans consultation de la population. Bien que quelques-uns de ces plans soient encore en vigueur, une telle approche autocratique n'est plus acceptée.

Quoique basé sur la planification existante, le système de planification forestière de 1998 a été complété par le SIG et des technologies d'appui à la décision. Conçu pour des opérations à grande échelle, ce système a nécessité la constitution de groupes de pilotage et le recensement des données stationnelles et des utilisations de la forêt. Il a associé la population et les intérêts financiers, et bénéficié de prescriptions pour l'examen de la gestion et de la compatibilité. En vue de garantir l'efficacité, le système comprend des processus itératifs permettant le développement et l'amélioration de l'ensemble du système.

L'écotourisme de Koombaloo est l'un de ces projets. Il concerne la région montagneuse tropicale du nord du Queensland, recouvrant partiellement la zone du patrimoine mondial des forêts pluviales. La région comprend un barrage hydroélectrique, sis dans une forêt naturelle publique et une série de valeurs clés concernant la forêt pluviale, la protection, la culture, le tourisme et les loisirs. L'ancien processus de planification a été élargi dans ce sens.

L'étude montre comment il est possible de faire collaborer les gestionnaires forestiers, la population (y compris les aborigènes en tant que propriétaires fonciers), le tourisme, les adeptes de loisirs et l'industrie hydroélectrique, à la gestion durable d'une forêt de montagne faisant partie du patrimoine mondial. L'étude discute et analyse les méthodes, la participation du public et les problèmes de la gestion.

*Traduction:* CLAUDE GASSMANN

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