

educational model, did not make allowance for, or respect of the country's culture and history. The current Education Master Plan (2000–2010) recognises these shortfalls, and consequently, there are now opportunities to incorporate traditional knowledge into national education.

The formal legal system faces the same problem because Vanuatu is in a transitional period in terms of its economic and socio-political development. The newly gazetted Environmental Management and Conservation Act (2002) strives to integrate traditional resource management approaches and practices into the formal legal system. It consists of laws designed to protect, conserve, develop and manage Vanuatu's environment for all people, and is based on the fundamental traditional principles and values that underpin traditional concepts and practices. The act consists of three major components:

1. Environmental impact assessment (EIA). Aimed at reducing conflicts, the law recognises an additional role for each agency, and gives additional powers to provinces and municipalities;
2. Biodiversity and bioprospecting. This component manages the activities of researchers in the country via a permit system. The goal is to ensure that government and communities have

access to research results, and to help prevent research piracy;

3. Conservation of biodiversity. This component reinforces traditional resource management. Conservation is often based on perceptions, with the rules, boundaries and enforcement left to communities, which decide the width of protected areas, as well as the permitted activities, penalties, courts and registration. There is no law on enforcement: the government only provides support and back up, and there is, therefore, considerable flexibility.

Lessons learned and recommendations

Sustainable resource management in Vanuatu must be based on traditional resource management principles and values to be successful. However, these traditional resource management principles and values have been challenged by western ideologies, lifestyles and ethics. The integrated resource management systems currently implemented under the Environmental Management and Conservation Act (2002) constitute the most appropriate resource management system for rural Vanuatu; one that seeks to unify the economic, environmental and social objectives that underlie the philosophy behind sustainable development.

Case Study 2

Traditional management of marine resources in Palau

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Traditional laws and conservation practices

Pre-western contact

Palau was traditionally divided into *beluu* (villages), where a village council was responsible for managing public domain lands. Palauans have always been known as conservation-minded people and were taught to take only what they needed and leave the rest for future use.

The major traditional conservation practices were moratoriums (*buls*) and *taboos*. *Buls* were put into effect by the village *rubaks* (traditional chiefs) to help manage resources. For example, a vertical coconut frond buried in the soil indicated to the villagers that there was a ban in effect. Traditional chiefs had an intimate knowledge of the spawning season of fish species, and would enact a *bul* to

ensure that resources were naturally replenished during spawning seasons, thus guaranteeing sustained supplies of fish for the long-term.

Palauans had certain foods that were or are still taboo to them. Different reasons were given for the taboo: the animal was a protective spirit, or it was bad to eat certain foods during pregnancy or illness.

The nature of traditional management systems ensured more effective engagement of resource users in management decisions. As a result, decisions were more relevant, compliance with rules was improved, conflicts were reduced, and economic development paths were more in line with the desires of the people. Relatively decentralised and exclusive tenure systems lent themselves for better maintenance and application of the vast body of ecological knowledge gained by genera-

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tions of people in intimate contact with the resources they relied on.

What remains today?

Traditional management is still in practice today. There have been several recent examples of traditional chiefs exerting their authority over marine resources. The chiefs of Ngarchelong and Kayangel negotiated an agreement to share fishing grounds, and together imposed a closure over a number of reef channels and areas known to be fish spawning aggregation sites. Within these two states, respect for the law and for chiefs is strong, and compliance is believed to be high. But the more meaningful test of this and similar customary laws is in compliance by fishers from other states. Such a test occurred when a fisher from Koror was caught violating the Kayangel/Ngarchelong fishing ground closure. The chiefs of Ngarchelong confiscated his boat and fishing gear. After negotiations between the chiefs of Koror and Ngarchelong, a fine was paid to Ngarchelong.

However, the power of traditional chiefs is beginning to erode with the development of a strong centralised national government. Therefore, traditional chiefs are now being integrated into the state governments to retain more influence.

Interface between traditional and governmental laws: Issues and challenges

According to Palau's constitution, the states are given "exclusive ownership" of inshore resources (measured from the land seaward to 12 nautical miles from traditional baselines). Therefore, management of marine resources lies with the states.

The Ngaremeduu Conservation Area involves several states, including Ngatpang. This state has a very traditional government that actively participates in management decisions regarding the conservation area. The laws enacted by the states involved in the Ngaremeduu Conservation Area encourage traditional management practices in the conservation area, including sustainable development. A compromise between western and customary models is being achieved through the inclusion of traditional chiefs in legislatures and state government bodies. Other regulations are in place and new ones are being initiated that will help strengthen customary management of resources and knowledge.

The Marine Protection Act of 1994

An example of a regulation that is in place and that helps strengthen customary management of

resources and knowledge is the Marine Protection Act (MPA) of 1994. The MPA incorporated traditional knowledge of spawning periods, and imposed seasonal closures for important fish species. It also imposes size limits on certain marine resources.

Protected Areas Network Act

The development of a balance of power between the states and the national government is slowly evolving, and mechanisms are being developed that encourage cooperation. The Protected Areas Network Act (passed in 2003), strengthens customary management of resources and knowledge. The PAN serves as a framework that encourages collaboration between Palau's national and state governments on protection of the country's marine and terrestrial biodiversity. It will help address local resource management issues through the establishment of an interconnected network of protected areas, and will support states' efforts to effectively manage their natural resources.

Boundaries, enforcement, penalties and conflict resolutions

Marine enforcement is very costly and states may not be able to afford the expenses involved; therefore, state governments usually request that the national government enforce regulations and impose penalties. Conflicts are increasingly being resolved through the court system instead of through customary means; thus the courts have become part of the customary process of dispute resolution.

Lessons learned and recommendations

Palau is currently seeking a balance between government and traditional leadership. Many customary rules used in the past (such as temporary fishing closures over particular areas), are consistent with modern legal and fisheries management methods, and are being increasingly used today. One important expression of Palau's customary authorities, rules and processes is its marine tenure patterns, which feature village-level control. This is a critical aspect of custom in terms of marine resource management, and it is completely consistent with Palau's constitution.