

# 5. Traditional Conservation and Utilization of Wildlife in Papua New Guinea

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## Summary

*The majority of the rural people of Papua New Guinea depend partly or wholly on the use of the region's many species of fauna and flora. Traditional life-styles which have evolved over hundreds of years have developed practices that deliberately set out to conserve wildlife resources, and these include seasonal hunting and harvesting, and giving special protection to certain species that are important to the community. Unfortunately, some traditional practices are particularly destructive to wildlife, and as human populations have increased, their impact has become greater. However, the major threat to wildlife is the massive habitat destruction which is associated with population resettlement schemes and agricultural and mining developments.*

*The formation of Wildlife Management Areas initiated at the request of landowners is a most encouraging movement which has the potential to retain traditional practices of wildlife conservation, at the same time preventing further habitat destruction.*

## Introduction

Papua New Guinea is rich with culture (traditional music, dance, plays, etc.), wildlife and various other natural resources. The majority of Papua New Guinea people live in remote areas which are scattered all over the country. Because of the remoteness and ruggedness of the country there are still areas where people have not been touched by Western civilization and have not changed from their old ways. Many of these rural people still depend partly or wholly on the natural resources they cultivate from their gardens or collect from the bush. Most of them still practise their Melanesian style of hunting, gathering, harvesting, playing, dancing, singing, talking, treating sickness, family planning, using medicinal plants and many, many other traditional activities, which are still there because the ecosystems surrounding them are unchanged.

However, with the pace of modern-day technology, and with the introduction of sophisti-

cated weapons, roads, exotic forestry plantation fishing, agriculture and resettlement schemes, the natural beauty of Papua New Guinea and the accompanying traditional life-styles are being threatened as never before. This paper deals with some aspects of these problems in relation to wildlife conservation in lowland areas of Papua New Guinea.

## Traditional Practices and Wildlife Conservation

### 1. Practices that deliberately set out to conserve wildlife resources

*Seasonal ban on hunting every three to four years by the Maopa people in the Marshal Lagoon area*

There is a traditional hunting season called *Iwatha-Kala*. *Iwatha* means a digging stick for cultivating the land, and *Kala* means food. So every three to four years when the people finish their cultivation work with digging sticks and start to harvest their crops, a special occasion is held to mark the period. This occasion is *Iwatha-Kala*, when several things take place such as hunting, fishing, and exchange of food among relatives and between neighbouring villages. The activities last for a week. When the time comes for this traditional occasion, especially after the Christmas period, all the men and young girls from nearby villages gather together in their clan groups and prepare for hunting. Before they enter the bush, each clan leader must perform his clan's traditional ritual. While the rituals are performed, the men who own the hunting group will go to each appropriate spot surrounding the hunting area and set the bush on fire in a circular formation. When the fire is almost complete and the bush is cleared, the people from all the clans rush in chaos and chase any animals they can find. Men and girls can be seen chasing wallabies and pigs together up the hills, down the valleys or into

nearby unburnt bushes. It is undoubtedly a unique spectacle.

Whatever animals are killed on this occasion can be shared later with relatives. Hunting of this kind lasts for a week, and those people who do not want hunting on their land can go fishing. The advantages of this traditional hunting is that people do not hunt in one area alone. They select from three available bushlands which are used by the whole community. They will select bush which has numerous animals and thick vegetation, and once an area is selected and hunted on, it will be left alone for another three to four years. This allows the bush to regenerate or to follow the pattern of bush-fallow rotation, a system which is also used in gardening. Hunting alone with bush burning not only helps the people to find the animals easily, but also helps to improve the grass as well as introducing or promoting new plant species in the area.

Another advantage of this hunting ceremony is that the Marshall Lagoon people can confirm and establish firm relationships with sisters, brothers, cousins, uncles and other relatives by sharing and exchanging the meat obtained from hunting. These family ties also help to prevent inter-marriages between cousins or close relatives. At present, because of the introduction of modern weapons, population pressure, and easier access to more remote wildlife areas, it is doubtful whether the animals will withstand the changes that are now taking place. Possible disappearances of hunting grounds may destroy the traditional practices.

#### *Seasonal harvesting of crabs*

Another good example of a traditional practice which conserves wildlife involves the seasonal harvesting of crabs (Graham Levi, pers. comm.). In Central New Ireland, the people have a certain season for collecting spider-claw crabs. During the period November to December, this species comes out in large numbers, and according to the existing local customs, only women are allowed to collect this particular crab. The women are expert in collecting the females, which are believed to be more fleshy and tasty, and the males are left alone. According to the beliefs of the people, they must only collect during the first month of the season when the crabs are large and fleshy. The collection of the crabs is abandoned during the middle of the breeding season, when people feel that the crabs become small and less fleshy. Although the crabs are still there in abundance they are not collected.

According to the informant, and my previous experience of the area, the crab resource is

abundant and is available seasonally each year. This kind of crab is widespread in Papua New Guinea.

#### *2. Practices and customs which are incidental conservation measures*

There are certain beliefs or practices that were not deliberately designed for conserving wildlife but undoubtedly have incidental effects on conservation, and they involve a variety of species and traditions.

##### *White wallaby in Marshall Lagoon area*

In the Aroma area of Marshall Lagoon, there is a mystic belief that if a white wallaby is seen in the bush it is not to be killed. This unknown wallaby species is quite different from the other wallabies found there, and is light to creamy in colour with long eye-lashes, long whiskers and a blood-red nose. It looks beautiful and it is referred to as the 'Mother Wallaby' of all the wallabies in the area. It is regarded as a sacred animal, and because of this the people do not kill it. If they do, it is believed they may have no luck in their future hunting ventures.

In the past the people used to trap this animal in their traditional nets and because it was regarded as sacred, it was let free. They used to decorate it with flowers and all the good things they could find in the bush before releasing it. The idea was that if they treated that wallaby kindly, it would give them good luck in their search for wild animals.

##### *The bowerbird*

A traditional practice of using one of the bowerbirds (*Amblyornis macgregoriae*) in selecting wives or husbands among the Kewabi speaking people of the Southern Highlands Province, is common, especially in the Ialibu area. If a boy wants to get married he must go to the bush and obtain a fresh leaf of a fern and a particular straight-shafted shrub about a foot in height. He will tie this fern leaf upright on the crown of the shrub with a leaf of sedge grass which is used for women's grass skirts. He will take the shrub and look for a newly cleared bower built by MacGregor's bowerbird. Before planting the shrub near the bower, he will ask the bird, 'Tell me which girl I will marry?' He will then plant the shrub and hide near the bower where he can see the bird and shrub. The boy will wait for hours in the bush. Gradually the bowerbird will approach and display with and around the bower. In doing so the bird will pick up the fern leaf and place it near a tree, shrub or herb. The first letter of its name will indicate the initial

of the girl he should marry and the parents will arrange to buy their son that wife. This procedure is also used to indicate names of villages or places from which one will select a wife.

Quite clearly, MacGregor's bowerbird has a very important role to play in the traditional life of the community, and thus every effort is being made to protect it, particularly in the new Siwi-Utame Wildlife Management Area.

#### *Black long-tailed birds of paradise*

The Kumbeme people believe that the black long-tailed bird of paradise (*Astrapia stephaniae*) represents the women in their culture. The long black plumes represent the long grass skirts which are dyed black and are worn by women in the area. It is believed that if a young man dreams about this bird, it means a young woman is coming his way for a future marriage. Because of this and other beliefs, this bird is not killed for its plumes in the Ialibu area.

The Mailu people of Amazon Bay imitate the dance of the birds of paradise. The Raggiana birds of paradise (*Paradisaea raggiana*) are important in the lives of many people who use them to suit their particular purposes. The Mailu people imitate the dance of *P. raggiana* as their traditional dance called *Tovi*, which is famous along the south-east coast of Papua. Because of the display and the brilliantly coloured plumes of this bird, people acquire these as their symbol and preserve them. The Sepik people and all other people on the northern coast of Papua New



Fig. 5.1. The Sepik people and all other people on the Northern Coast of Papua New Guinea use plumes of *Paradisaea minor*, the Lesser Bird of Paradise. (Photo credit: WWF/Alain Compost.)

Guinea use plumes of *P. minor* as their emblem in their traditional dancing and other ceremonies (Fig. 5.1).

#### *Hunting of wildlife in Ialibu*

It is only the important Highlands people, especially the Kewabi and Imbongu speaking people, who are allowed to use the plumes of the King of Saxony bird of paradise (*P. alberti*) and the blue bird of paradise (*P. rudolphi*). It is a traditional practice that only the village elders can wear more plumes of these birds than the others, and the traditional wealth of these village elders is illustrated by the numerous plumes in their head-dresses. An elderly man can wear up to 20 different pairs of plumes of birds of paradise species (Fig. 5.2). One thousand two hundred different head-dresses of *P. alberti* plumes, 50 of *A. stephaniae* and 50 of *P. rudolphi* have been counted in the upper Mendi area.

#### *3. Traditional customs and practices that did not or do not help to conserve wildlife resources*

Just as certain traditional practices directly or indirectly help with the conservation of wildlife, others are particularly destructive, as the following examples illustrate.

#### *Morga Ceremony in the Highlands*

In the Mendi and Mt. Hagen areas of the Highlands, the local people have a traditional *Morga* ceremony (pig and cassowary feast) once every 5–10 years, depending on the number of pigs or cassowaries each man has accumulated between ceremonies. In the ceremony, relatives, friends and people from other tribes are invited to attend the feast at a selected ceremonial ground which has three to five long grass-thatched houses built especially for this purpose. The ceremony lasts for days or weeks, during which time dancing, peace-making and cultural exchanges take place. Women and children also take part. All the pigs, cassowaries, meat from the bush, potatoes, and vegetables are shared and eaten during the singing. At this ceremonial gathering each family has to cook its share of meat on hot stones covered by fern, banana and other vegetable leaves. They eat, dance and give endless speeches.

It is during this ceremony that friendship and peace are established and maintained among tribes. Here, a large-scale exchange of pigs, cassowaries, shells and plumes takes place. A man who has more pigs, shells and plumes will show off here and share his wealth with the men he invited, and he will validate his leadership by doing so. At a later ceremony, the men who received goods from him will pay him back in

return, and this goes on for many generations. This practice of killing so many cassowaries, pigs and other animals is undoubtedly detrimental to the wildlife populations.



Fig. 5.2. An elderly man can wear up to twenty different pairs of plumes of birds of paradise species. (Photo credit: WWF/Eugen Schuhmacher.)

#### *Harvesting of Megapode eggs in the Eastern and Western New Britain Provinces*

A large number of wildfowl eggs are harvested each year in the Eastern and Western New Britain Provinces. This protein resource has been in use for generations, and it has become a traditional practice, with the eggs being used on a number of ceremonial occasions. Thousands of eggs may be collected in just one week, and with the growth of the human population, there is no doubt that this practice is resulting in a serious reduction of the wildfowl population.

#### *Present Situation and New Problems in Relation to Wildlife Resources*

The growth of the human population and the advent of modern technology are presenting serious threats to the wildlife of Papua New Guinea. Some of the major contributing factors are as follows.

- (1) Clear cutting and selective logging of forests in which wildlife lives.
- (2) Large-scale agricultural development for oil palm, rubber, cocoa, coffee and other products

which result in the replacement of large tracts of wildlife habitats.

(3) Easier access to rich, remote wildlife habitats by means of road transport.

(4) Trade in wildlife for modern goods and other items including money (Healey, 1977). Plumes of birds of paradise are heavily utilized in the Highlands. Southern Highlands people claim that big parties of Chimbu people come asking for plumes in large quantities from the Southern Highlands area. This uncontrolled collection of wildlife is growing rapidly.

(5) Hunting with shotguns has started to replace the old form of hunting wildlife using bows and arrows, and this is more effective. As an example, the number of shotguns in the Mendi area has increased from one in 1967 to 150 in 1978.

(6) Large-scale mining and fishing, and population resettlement schemes are rapidly destroying natural wildlife habitats. As the population increases, more new areas are cleared for gardens or for other purposes. 'Slash and burn' agriculture has spread into previously untouched areas.

#### **Ways in which Traditional Conservation Practices should be Encouraged and Regulated Using Existing Legislation**

The traditional control measures in conserving wildlife and its habitat should be enforced using existing wildlife legislation, such as the Fauna (Protection and Control) Act of 1966 and its amendments. Under the Fauna Act the Minister for Environment and Conservation can declare a Wildlife Management Area and protect certain wildlife species from over-exploitation. The Minister can also appoint the traditional land owners as Wildlife Committees, who should then make wildlife laws controlling hunting, harvesting and the taking of wildlife from Wildlife Management Areas. When the rules which are made by the Wildlife Committees are officially gazetted in the Government Gazette, they become national laws like any other laws in the country. A Wildlife Management Area is a piece of land, of any size, kept for the conservation and management of wildlife—both plants and animals. Many of these areas are already declared in the country. They are run by committees of people with traditional land rights to the areas. Each committee is chosen by the people and it decides on rules for looking after the area. These rules are made law only when they have the support of all the people, and the rules can be changed if new problems arise or

if the reason for making the rule has disappeared. Hunting and the use of plants is not stopped in a Wildlife Management Area unless there is a special reason to do so. If there is a special problem with one kind of animal or plant, rules can be made to correct the problem. This does not effect the use of other animals eaten or used by the people.

Wildlife Management Areas are thus reserved *at the request of landowners* for the conservation and controlled utilization of wildlife and its habitat, and in these areas many of the traditional conservation and utilization practices can continue to the benefit of both the local people and the wildlife species. With careful management, some of these wildlife management areas have the potential to produce meat, skins, eggs and other by-products on a sustained-yield basis, (yielding a major source of income for villagers), and in addition further considerable income can be obtained both directly and indirectly from the tourist industry.

### Recommendations

Knowing the important values and benefits of the traditional practices in wildlife conservation and realising the possible problems which may

disrupt these traditional practices and wildlife resources, it is recommended that the following actions be implemented as soon as practicable.

(1) A thorough survey must be carried out of all the existing traditional conservation practices which may be useful in wildlife resource management planning and conservation.

(2) Use should be made of the available traditional conservation practices which conserve wildlife and its habitat.

(3) An investigation is required to determine if sufficient representative areas have been established to conserve the most endangered species of wild flora and fauna and their habitats.

(4) The National government, Provincial governments, community government, the local leaders of Papua New Guinea and the tertiary institutions should be asked to work together in developing and conserving the important natural forests and the wildlife resources of the country.

### References

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## 6. A House is a Tiny World

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### Summary

There are twelve ethnic groups in the Central Sulawesi area. Each has its own local language, social customs and ways of living, and much of this variety is influenced by the natural environment where the groups live. This paper analyses this variety with respect to the building of houses and the traditions associated with this building. Housing materials depend on climatic conditions, availability of resources and cultural norms. The people of Central Sulawesi believe that a house and its occupants become one unit, and thus housing materials are selected that are most suitable for the occupants. It means that a house is like a tiny world for them, and a spiritual relationship is established between the house and the people who live there. Every effort is made to create a unity between man and his environment when building a new house, and in this connection each group follows orderly social customs and traditions obtained from their ancestors. Particular emphasis is given to the selection of suitable building materials to fit local environmental conditions, and wood and fibre are favoured. Homage is paid to the surrounding environment, especially those items that possess spiritual forces. It is concluded that those profitable customs and traditions retained from their ancestors which positively support the advancement of the ethnic groups should be maintained.

### Introduction

The Central Sulawesi Province (68 033 km<sup>2</sup>) consists of four regencies (Donggala, Buol Toli-Toli, Poso and Banggai) with 62 sub-districts and 1281 villages. The Province has distinct wet and dry seasons, and rainfall varies from 400 to 3000 mm/year. Upland areas are slightly cooler (20–30 °C) than the lowland areas (25–31 °C). Monthly humidity varies from 71 to 76%. The majority of the Province consists of mountain ranges covered by dense forest. The total population of 1 300 000 people can be divided into twelve ethnic groups. The average population density is 19 people/km<sup>2</sup>.

The majority of the population in the rural areas, especially those living in the mountain ranges, are greatly influenced by their environmental conditions, and this has a profound

influence on the building of houses. This paper examines the traditional house forms of two of the ethnic groups of Central Sulawesi, the Kulawi Group (Donggola Regency) and Lore Group (Poso Regency).

### The House Form

The traditional dwelling house for the Kulawi Group is called *hou* or *bola*, and for the Lore it is

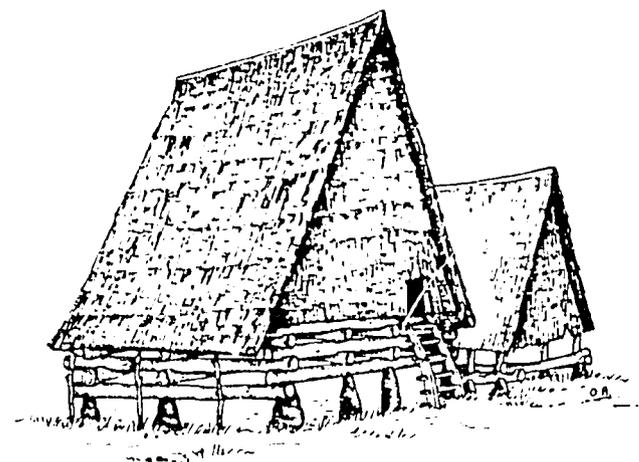
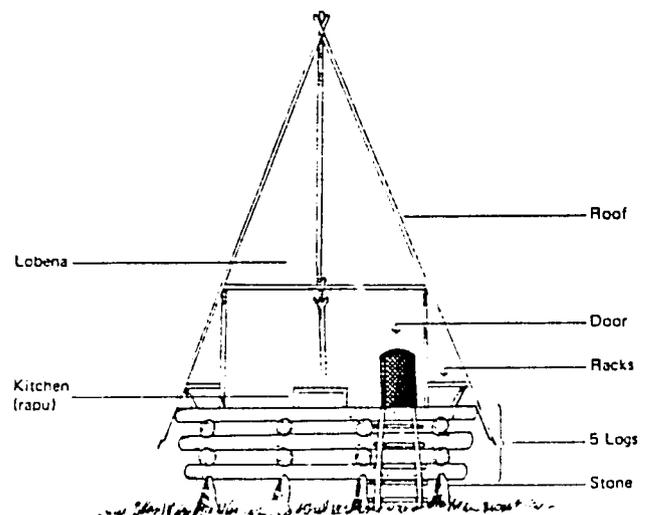


Fig. 6.1. The traditional *tambi* house has one large hall which is not divided into separate rooms. The cross-section of the house (above) shows the five layers of logs and the *rapu* in the middle of the *lobena*.

called *tambi*. Houses vary in size from 30 to 60 m<sup>2</sup>. The roof of the house is in the form of a pyramid with a 45° angle (see Fig. 6.1), and consists of one large hall (*lobona*) which is not subdivided into separate rooms. In the middle of the *lobona* is the kitchen (*rapu*) from 1.5 to 2 m<sup>2</sup>, which has three functions, cooking, illumination at night and a fireplace for space-heating in cold weather. The roof has a number of racks which surround the large hall, and these are used by the occupants as beds and as a place for keeping household goods. The house has only one door in its front part, with a ladder and steps made of wood. The lower parts of the house are made of up to five logs supported by big stones.

Houses built for meetings, worship or food stores have the same general form as a dwelling house, but differ in measurements and in the variations found inside.

## Preparation for House Building

### *Selection of materials*

Throughout the two regions, people build their houses from wood, rattans, black sugar-palm fibres, the trunks of sago trees, bamboos, and stones, all of which are readily available in surrounding areas. The choice of special wood for house building is based on knowledge that goes back for many generations. Woods that rot easily are avoided, as are species that are believed to bring bad luck. Trees covered by lianas are also avoided, for a number of reasons. For example, in Toro (Kulawi Region) the lianas supporting trees which fall to the ground are looked upon as ropes used to lower a coffin into the ground. The most favoured wood for house building comes from trees which at the time of falling to the ground were supported by other trees nearby. The people of Lore and Kulawi Region believe that the wood from the supported trees will bring success and long life to the occupants of the house.

In the Napu Region, if a tree is cut down and breaks into two parts, the wood-cutter is regarded as unlucky and the wood from that tree would not be used as building material. An even stronger view is held of the bad luck associated with taking wood from a tree that does not fall down horizontally when cut, but remains attached to the base of the tree at an angle. It is believed that a house built from such a tree will bring disasters, sickness and even sudden death to the occupants.

### *Selection of building site*

In both regions, great care is taken in selecting a site for building, and the spirit living there is

consulted. For example, the Raranggonau people kill a chicken to help them decide on the site. Before it dies, it is left to jump around near the site. When it dies, its head points either in an easterly or westerly direction. If it is the former, then the site is acceptable. However, if the neck points in a westerly direction, the site is rejected, because a house built there would bring illness and misfortune to the occupants. The Raranggonau people also use a crab to help them select a site, based on the belief that because the crab lives in the ground it knows the spirit of the earth. A needle is stuck into the back of a crab, and the animal is placed on the ground. If it moves straight away, the site is acceptable, but if the crab does not move, the site is rejected.

The Pakava people use a piece of bamboo to help with their selection. The bamboo is stuck into the ground for two days, and then withdrawn. If the bamboo is empty or only half filled with earth, the site is regarded as unacceptable, and anyone building there would soon die. In another technique, a hole is dug in the ground, and then a chicken is placed in it and covered with palm-blossom (*mayang pinang*) for three days. The chicken is then removed, and if it is still alive and all the feathers are intact, the site is acceptable. Should the chicken die subsequently, another must be found to replace it. The dead chicken must be buried with the head pointing towards the west and its legs pointing towards the east.

The people of Kulawi greet the spirits of a potential building site by placing seven grains of rice on the site for three days. If all the grains are still present at the end of the three days, it means that the spirits are happy and that building can go ahead.

### *The ceremony and house measurements*

Before any building is initiated, both the Lore and Kulawi people hold a ceremonial feast and kill a buffalo. The symbolic significance of the feast is that the owners of the house will not die of starvation in the future. The buffalo is also regarded as a symbol of wealth. Buffalo are also killed for a ceremonial feast when the house is first occupied, and the horns of the buffalo are made into decorations and placed on the house of a local nobleman.

Houses vary in size according to individual requirements and material available. However, the Kulawi group does attempt to unite the house with its occupants by relating house size to measurements of husband and wife, based on five times one third of the length of the wife's little finger plus seven times one third of the length of the husband's index finger.

## Conclusion

The houses found in Lore and Kulawi have the unique pyramid construction as described in this presentation which makes them very suitable and comfortable in humid, hot weather, and warm in the cooler weather. Ventilation is minimal. Limiting entrance to one door facilitates defence against intrusion. The logs and stones at the base of the house are not tied together. A flexible structure is thus maintained which is a very useful

safeguard against damage by earthquakes. Both Lore and Kulawi Regions have frequent earthquakes, and there is no doubt that these traditional building methods have a distinct advantage over modern techniques. In addition, traditional knowledge has resulted in the selection of wood that can last for many years, and this in turn reduces the frequency with which trees are cut down for building materials. The lack of ventilation and dark interiors (there are no windows) are distinct disadvantages, and these conditions are almost certainly detrimental to health.