



SWM SUSTAINABLE WILDLIFE MANAGEMENT PROGRAMME



Hunting practices in the Bismarck Forest Corridor

Papua New Guinea

Papua New Guinea (PNG) is home to one of the most ecologically and culturally diverse regions in the world. However, natural resources and cultural identity are under threat from deforestation and depletion of wildlife. Indigenous Peoples in PNG are the recognized owners of the natural resources within their traditional territories. Given this, supporting communities to govern the sustainable use of their natural resources and encouraging relevant government agencies to provide timely and competent assistance to communities is the most appropriate pathway to protect community rights and achieve equitable and durable natural resource management and development outcomes.

Materials and methods

Information on traditional hunting in the highlands of PNG was obtained from previously published studies and from new surveys collected as part of the Sustainable Wildlife Management (SWM) Programme, including:

- a recollection survey in which hunters were interviewed on the means of capturing animals and the species often captured (45 hunters in 3 communities);
- a hunter encounter survey during wildlife monitoring surveys sessions around the Danbagl community, as it was established prior to the start of the SWM Programme that hunters in this community consume the meat in the forest rather than in the village. Data was gathered from 13 field trips across 37 capture dates from April 2017 to May 2020.

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The hunting system

The PNG Highlands have been home for thousands of years to Indigenous Peoples surviving on a mix of hunting, gathering and growing crops on small family farms. Today, hunting for food is most often practised opportunistically when animals are encountered in the forest, when travelling along paths from one community to another, or when in the forest to gather palm-nuts or other non-timber forest products. The more isolated communities, like Kwiop where the SWM Programme is implemented, are also the more heavily reliant on forest products for food and income. There are also some professional hunters who make a living selling mammal skins and birds, which are highly valued for making traditional costumes (*bilas*) used in cultural events. While they are few in number, professional hunters are the greatest threat to the vulnerable species in the region, such as the Goodfellow's tree kangaroo (*Dendrolagus goodfellowi*) and the Pesquet's parrot (*Psitttrichas fulgidus*).



Pesquet's parrot (also known as vulturine parrot). Its feathers are traditionally used for bilas.



A performer from Papua New Guinea wearing a bilas.

Governance of hunting: the importance of customary rules

In PNG, Indigenous Peoples have constitutionally recognized territorial ownership rights, typically at the tribe (community) or clan level, and have tenure over 98 percent of the land in the country. Customary law allows hunters to hunt within the clan- or family-owned territory. All clan members are aware of their traditional land boundaries and can only hunt within their own clan's boundaries. An exception occurs only when the clan decides, most often for cultural reasons, to prohibit hunting in subsections of their territory. Access to game species by rural community members is generally restricted by culturally specific prohibitions predicated on gender roles, initiation rituals, genealogies, totemic associations, and the supernatural. Certain forested areas in the Bismarck Forerst Corridor are considered "taboo" based on the belief that spirits of deceased relatives still persist, sharing the space with the flora and fauna of the area where they died. Their constitutionally recognized tenure rights mean that Indigenous landowners have the authority to make collective decisions about the sustainable use of wildlife on their lands, within the context of national statutory law. Though customary law allows a clan to punish members who break the rules, they have no formal jurisdiction over outsiders who break clan laws within clan territory. Historically, clans might decide to go to war to penalize other clans for breaking their laws.

To minimize the risk of inter-clan conflict over differences in wildlife management rules among clans, the SWM Programme encourages community-based organizations (CBOs) to develop a Conservation Deed, a formal legal extension of customary laws recognized by both provincial and national governments and enforceable. It allows communities to govern the delimitation of different land-use zones and the permissible resource uses within each zone, through consensus of clans within the community.

Hunters and their practices

The bow and arrow is the traditional means used for hunting in the BFC. However, in the two surveys it is the second-most-used hunting technique after the slingshot. Hunting methods differ across communities and between generations.

Hunting methods

- **Older generations:** bows and arrows; leg-hold traps fabricated with bush-rope-like vines.
- **Younger generations:** sling shots; trained dogs; snares; tree felling; leg-hold traps fabricated with plastic; smoking out burrows.

Hunting is most frequent when clan members are in the forest to gather pandanus (*Karuka*) palm nuts during June and July.

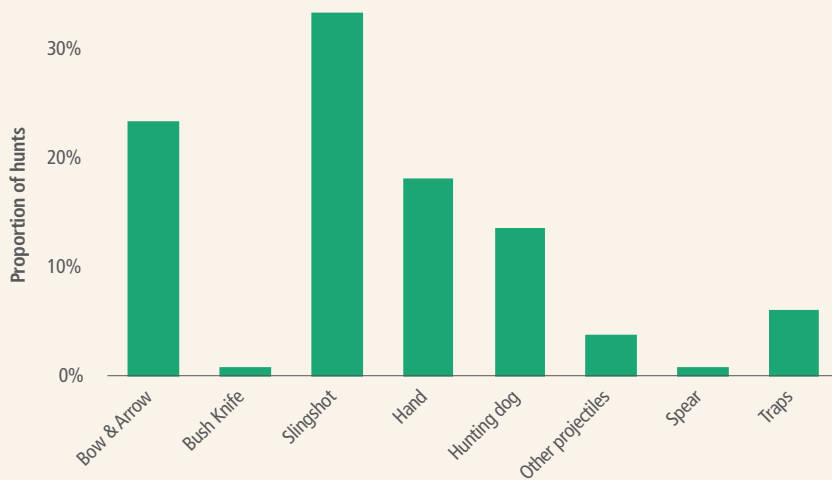


Figure 1: Recollection survey – Hunting techniques used to capture game along the Bismarck Forest Corridor (source: SWM Programme)

Species hunted

The forests within the island of New Guinea are unlike other tropical forest ecosystems because they lack large-bodied native species. The largest native mammals are the arboreal tree-kangaroo and cuscus, weighing less than 7 kg on average, and the terrestrial echidna (a spiny, long-nosed insectivore), weighing up to 10 kg. The largest birds are the cassowary, which can weigh up to 60 kg, and megapodes (medium-sized chicken-like birds).

Feral pigs, cassowaries, tree kangaroos, cuscus, echidnas, ringtail possum and megapods are the species most commonly hunted for food. A 2014 study shows that vulturine parrots, cassowaries, birds of paradise and the New Guinea harpy eagle are the bird species most often hunted to use in bilas.

Declining habitat from deforestation and increasing hunting pressure because of growing national demand for bilas combine to threaten the long-term survival of most hunted species.

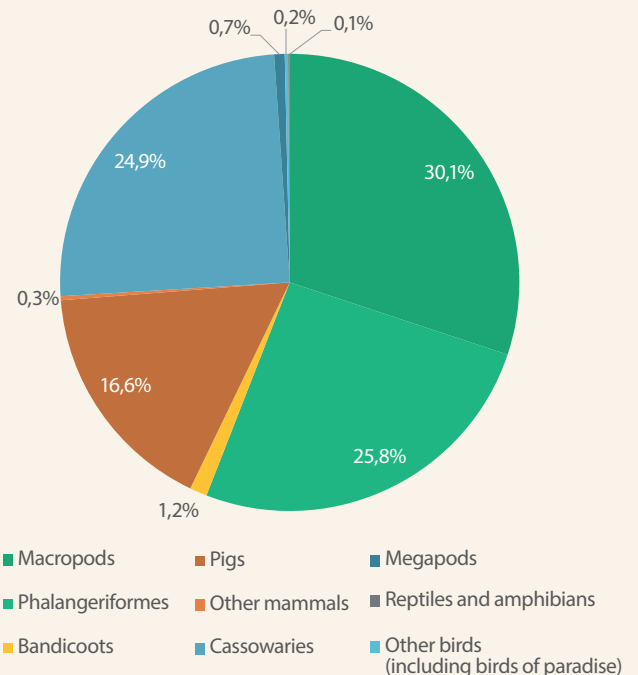


Figure 2: Hunter encounter surveys in Danbagl – Biomass percentage distribution by animal groups

Populations of many species are already considered low-density, with many species on the IUCN Red List.

The results of the hunter encounter survey done at Danbagl suggest that four wildlife families dominate the biomass of catch, listed here in descending order: possum/cuscus family (*Phalangeridae*); ringtail possums (*Pseudocheiridae*); tree kangaroo (*Macropodidae*); and rats (*Muridae*). Birds, apart from cassowaries, are not represented in the hunting offtakes, due to low body weight.

Sustainability of hunting practices

Since the early 1990s, several studies on hunting offtake have raised concerns that hunting might be unsustainable for a number of species, particularly larger-bodied animals. The hunter encounter survey carried out in Danbagl, where reliance on hunting is lower than in other communities, suggests that the number of endangered tree kangaroos captured is of concern. Given that tree kangaroos only have one young every two years, current offtake levels are likely unsustainable.

Achievements of the SWM Programme and lessons learned

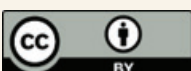
In the first years, the SWM Programme in PNG focused on working with and listening to the CBOs and building community respect and confidence through strict adherence to rights-based approaches, including Free, Prior and Informed Consent.

Analysis of the literature and offtake surveys at the SWM sites show that, regarding terrestrial species, research and management priorities should concentrate on the few taxa that compose most of the catch: cassowaries, tree kangaroos, cuscus, echidnas, ringtails and megapodes (for consumption of eggs). Presentation of this information to communities enabled local agreement to establish specific rules for hunting these species within the deeds. These rules, such as specific species hunting bans or a maximum number of offtake per hunt, have been set in place to encourage sustainable use of the species, including other nationally protected species such as birds of paradise. Additionally, to reduce pressure on these taxa, village chickens have been distributed to target communities along the BFC. Furthermore, through the reforestation program, native tree crops are being planted as additional sources of protein. Similar to many other places around the globe, younger generations in PNG are becoming less connected to nature and less aware of traditional customs and practices. Today, less information is passed down from one generation to the next compared to in the past. One important aspect of the SWM project is bridging this gap: by working with community opinion leaders and story tellers to inspire and inform all generations to value nature and seek the balance needed to achieve sustainable use of forest resources while still meeting basic needs. The preservation of traditional knowledge is essential for maintaining the sacred link between nature and culture. The SWM project is intent on keeping these values in mind while building capacity within CBOs to self-govern and achieve durable and equitable economic, cultural and environmental sustainability.



The SWM Programme is a major international initiative that aims to improve the conservation and sustainable use of wildlife in forest, savannah and wetland ecosystems. It is being funded by the European Union with co-funding from the French Facility for Global Environment (FFEM) and the French Development Agency (AFD). Projects are being piloted and tested with governments, national partners and communities in 16 participating countries. The initiative is coordinated by a dynamic consortium of four partners, namely the Food and Agriculture Organization of the United Nations (FAO), the Center for International Forestry Research and World Agroforestry (CIFOR-ICRAF), the French Agricultural Research Centre for International Development (CIRAD) and the Wildlife Conservation Society (WCS).

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