

WILDLIFE UTILIZATION AND FOOD SECURITY IN WEST PAPUA, INDONESIA¹

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Abstract: Forests and the benefits they provide in the form of food and income play an important and often critical role in enabling people around the world to secure a stable and adequate food supply. Gathering plants and other non-wood forest products (NWFPs) including wild animals hunting has direct contributions of the forest to food supply. The present paper provides information on the role of wildlife utilization as food sources in West Papua. Specifically, description of species preference, and socio-cultural background is presented. Field survey was conducted opportunistically to some parts of the province from 1998 to 2001. Observation has done and semi structural interview was carried out. A supplemented by a review of the literature based on previous researches in the Universitas Negeri Papua, Manokwari was done to complete the field survey information. Utilization of wild animals in West Papua was purely done through hunting. Wildlife is one of the most important forest products that contribute directly to food supply. Terrestrial mammals such as deer and wild boar are commonly hunted because they are widely distributed, occur close to human habitation and has higher biomass that give advantages in maximizing meat yields to gain more commercial benefits. Some factors are identified as critical threats to the wildlife in West Papua. Currently, FAO is proposing further consideration of wildlife management and utilization. Guidelines for policy approaches, institutional arrangements, and project design and implementation have also proposed for integrated program on food security and forestry.

Key words: *wildlife utilization, food security, West Papua*

INTRODUCTION

Arnold (1998), in examining the contribution of forests to sustainable livelihoods, defines forests "to include all resources that can produce forest products. These can comprise woodland, scrubland, bush fallow and farm bush, and trees on farm, as well as forests". Forests and the benefits they provide in the form of food and income play an important and often critical role in enabling people around the world to secure a stable and adequate food supply.

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The reason is because forests are one of the most accessible productive resources available to people. They are home to approximately 300 million people who living adjacent to forest areas and depend on shifting cultivation, hunting and gathering for some aspects of their food security (FAO, 1996).

Gathering plants and other non-wood forest products (NWFPs) including wild animals hunting has direct contributions of the forest to food supply. In many areas, small rodents, reptiles, birds, snails and insects, as well as larger animals, make up a much more important part of the diet than is generally realized.

For three million years or more man has been consuming wildlife of various kinds. As it was proofed, great variety of wild animal foods, including mammals, birds, reptiles, amphibians, fish and also invertebrates, which are still being collected today by men. Evidence obtained by anthropologists in various parts of the world indicates that primitive man already had certain preferences in his use of animal protein.

It is clear that tropical forests are rich in biodiversity, and wildlife in tropical forest is an important resource for local communities living in and around those forests. In West Papua, wildlife utilization has never previously been studied, despite the exploitation is now increasing for varies purposes, and one of the objectives of this present paper was therefore to observe how wild animals contributed for food security purpose. In this paper, I present information about the role of wildlife utilization as food sources. The description of species preference, and socio-cultural background in regard to the utilization as determined by field observations and interviews local people was also done.

METHODS

Field survey on traditional hunting activities was conducted opportunistically during my fieldwork to some parts of the province from 1998 to 2001. Direct observation has done and semi structural interview (including head man, tribe leader, hunter and some considered key persons) was carried out A supplemented by a review of the literature based on the research undertaken by students from Universitas Negeri Papua, Manokwari was done to complete the field survey information.

Some areas were covered by this study. These are Nabire Regency, particularly in the coastal area Napan Yaur of Cenderawasih Bay National Marine Park, Rumberpon Island, Manokwari, mountainous areas of upland Kebar and upland Tamrau, coastal area of Yongsu Jayapura, marshland area of Mamberamo River basin and Wasur National Park in Merauke.

RESULTS

Wildlife Richness

Indonesia, is one of the nations with the richest terrestrial biodiversity and second only to Brazil. Approximately 12% of the world's mammal species could be found within the 17,000 islands that comprised the Indonesian archipelago. Indonesia is located within the Indomalayan fauna of tropical Southeast Asia and lying east of Australo-Papuan fauna (Whitmore, 1987 as cited by Riley, 2002). Its strategic location, together with its species-rich forest environment contributes to the high diversity of animals present in the area.

West Papua (one among five main islands in Indonesia) probably represents one of the highest levels of diversity and endemism of flora and fauna in Indonesia.

Geographically speaking, about 146 mammals, 329 reptiles and amphibians and 650 birds inhabit its diverse ecosystems, these represent more than 50% of Indonesia's terrestrial biodiversity (Conservation International, 1999).

Wildlife Utilization

Several reasons have been identified for wildlife utilization throughout the world. It directly and indirectly contributed to human communities. The utilization of wildlife is mostly based on values of wildlife itself that could be classified into (1) commercial value, (2) recreational values, (3) aesthetic values, 4) scientific value (biological, educational), (5) social value – additional value and (6) negative value (Bailey, 1934; Dassman, 1964). The term wildlife used here refers to non-domesticated, free ranging animals in their naturally associated environment/habitat include terrestrial vertebrates, mammals and birds.

In West Papua, people obtain advantage from wildlife as part of traditional culture. The use of bird's plumage, canine teeth and hide of mammals are common in traditional costume displays. Particular wild species are also considered as symbol for example, one of the state universities in Papua used Bird of paradise (Burung Cenderawasih) as symbol. In terms of scientific researches some international NGOs have their branch office in Papua. Together with other institutions they work and conduct research on wildlife biodiversity and conservation in West Papua (Pattiselanno, 2003).

As food sources, wildlife also plays an important role to people who live in rural areas. Limited access to animal protein supplied by domestic livestock, and available food source from wildlife are the major reason to acquire wild animals for consumption. West Papuan natives hunt animals for food and display materials of traditional costume (McKinnon, 1984; Beehler, 1985; Petocz, 1994).

Wildlife resources are utilized in many various ways among tribes reflects economic, socio-cultural and ecological differences. According to Ntiamoa-Baidu (1997) utilization was derived mostly from four main sources: harvesting from wild sources, game ranching, game farming and domestication.

Hunting as Tool of Utilization

Utilization of wild animals in West Papua was purely done through hunting. Hunting by local communities in West Papua plays an important role in traditional life as part of the culture. However, currently, the most purpose of hunting is to look for essential protein as food sources, and to gain more economic benefits by selling wild animals and their products. Hunting in West Papua often refers to subsistence hunting, which relies on traditional tools. Since the ancient ancestors, people have maintained a relationship with nature.

They have adopted the use of forest materials to build traps, arrow and bow, spear and snare to catch wild animals. Based on the interview, hunters acknowledged that most of the traditional hunting tools were produced from bamboo, rattan, fiber ropes, and some elastic plants which, were used to set trap and snare. Pajmans (1976) explained that materials utilized for making traditional tools usually derived from the forest such as

Hibiscus sp., Trema sp., and Ficus spp, Syzigium sp., Aglaia sapindina and Dodonea viscosa.

Hunting is considered a tool of wild animals harvest. Generally, hunting is divided into subsistence hunting mostly using traditional tools (de Vos, 1973; Ojasti, 1996) and modern/sport hunting using guns (Bigalke, 1973, Robinson and Redford, 1994, Robinson and Bodmer, 1999). The purpose of subsistence hunting is more on providing essential protein sources meat for family consumption, while sport hunting is mostly emphasis in outdoor recreation or nature adventure.

Contribution on Food Security

Many people in rural communities include natives of West Papua value forest for the benefits obtained from gathering plants and other non-wood forest products (NWFPs) include hunting wild animals. It was observed that wildlife utilization in West Papua mostly derive from a pattern of harvesting from wild sources by hunting.

Food security is defined as physical and economic access to food, for all people, at all times, and always concerned with food availability (Hoskins, 1990). However, some factors can also influence food security include economic, social status, health, education and cultural background. These factors play an important role in the contribution of wild animals to food security in West Papua.

Based on socio-cultural background, hunting is part of culture and life style of natives West Papua that contributed significantly to food security. Nomadic life style is a common practice found in rural communities in West Papua. Native people are most relies on generosity of the nature by gathering plants and animals.

Fact shows that wildlife is one of the most important forest products that contribute directly to food supply. Economically, difficulties to afford animal protein from domestic livestock led people to gather from the nature. Beside, forest based activities also provide great extra income for people. Therefore, those reasons that mention earlier are considered as significant factors that contribute significantly in food security in West Papua.

In concerned with wildlife richness, food sources are always available closer to people. For those who live around the coastal area, hunting was the one of food sources aside from fishing. While people inhabit remote areas far from the coast predominantly engaged in traditional agriculture and hunting for food.

Among animals that are being hunted, terrestrial mammals are commonly trapped or snared. Deer and wild boar are being caught because they are widely distributed. It is also found that these animals occur close to human habitation, so they are easily becoming hunting target.

Some studies have recognized different reasons in species chosen for hunting. For example, hunting is significantly correlated to biomass yield and economic value combining both market and subsistence value (Bodmer 1995; Escamila, *et al.*, 2000; Fa, *et al.*, 2000; Peres, 2000). The preference for large body size animals suggests that hunters want to maximize meat yields to gain more commercial benefits (Bodmer, 1995).

Since catch was not finished consumed in a day, or immediately sold as fresh meat, some households recently implemented the traditional way of preserving meat in various forms through smoking (smoked meat) or a combination of salting and air-drying (jerky or "dendeng" in local dialect). Excess meat is often hanged in the kitchen above

the traditional fireplace (usually using wood for cooking) to be preserved. On the other hand, during dry season, the common practice is combination of salting and air-drying.

Integrated Program on Forestry and Food Security

Nowadays, some factors are identified as critical threats to the wildlife in West Papua. These factors may directly affect both wildlife population and habitat. These are as follows:

1. Other land uses that compete in terms of the development of the province such as infrastructure development, agriculture land, logging and mining concessionaries,
2. Life animals trade and
3. Modern hunting using guns and vehicles.

A study published by FAO in 1984 concerning legislation on wildlife and protected areas in Africa already proposed further consideration of wildlife management and utilization, as contrary to strict interest for hunting and individual species' protection (FAO, 1984). Establishment of protected areas for wildlife conservation purpose, in which human activities are regulated or controlled with a view to safeguarding particular species or species' habitats is now important. Recently the creation of protected areas has been conceived as part of a "national system", or even in the framework of an international network.

Forest foods include wild animals contribute to diet diversity by supplying nutrients or proteins and they are important in supporting food security. Therefore, this challenge program in forestry to be relevant and support physical and economic access to food by all people at all times.

To have better understanding on forestry and food security, FAO was held a meeting in India participated by 27 countries raised various issues on this topic and give guidelines for policy approaches, institutional arrangements, and project design and implementation which should result in more effective food security through forestry (FAO, 1988).

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