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Comparison of Overseas Influence within Historical Formation of Mass Green Turtle Consumption in Mosquito Coast, Nicaragua and Bali, Indonesia

西加勒比海绿蠵龟肉的历史

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ABSTRACT

The meat of the green turtle played a crucial role in the history of the west Caribbean Sea. Even now, the Miskito of Eastern Nicaragua consume more than 7,000-8,500 herbivorous sea turtles annually, and even more are consumed in Bali, Indonesia. The purpose of this study is to identify any common characteristics or remarkable differences between modern mass consumption of green sea turtle meat in the Mosquito Coast, Nicaragua, and Bali, Indonesia. Using the Mosquito Coast as a model timeline allows for comparison with the case of Bali. In case of the Mosquito Coast, discovery of Las Tortugas ('Turtle Islands', the present-day Cayman Islands) by Columbus triggered the exploitation of turtle meat. It later gained popularity among British buccaneers. In comparing timelines with the case of Bali, only the peak of the trends in the mid-20th century overlaps. The Dutch attitude toward green sea turtles was quite different from that of the British. According to the several historical sources, the strategy of the Dutch was co-operative with the Muslims' desire to protect turtle nests and the eggs they favoured. The Dutch avoided conflict by leaving the highly esteemed green sea turtle eggs unviolated. This made those two region of comparatives quite identical. One thrived under British favour; the other survived despite the prejudice and taboos of the Muslim kingdom, which led to an indifferent attitude during the Dutch colonial era. With the aid of concealed networks of Sama-Bajau, the green sea turtle meat, once regarded as a traditional attraction of the Balinese, seemed to evolve in a very different manner from that of the Caribbean.

摘要

绿蠵龟在西加勒比海的历史上扮演了重要的角色。甚至现在,尼加拉瓜东部的米斯基 托印第安人每年仍然要消耗 6-7 千草食海龟。这篇文章的目的就是要分析现在米斯基 托印第安人对海龟的消耗在西加勒比海开发和绿蠵龟消费量中的历史价值。结果显示: 哥伦布发现开曼群岛(龟岛,现在常称鳄鱼岛)是人类开发西加勒比海的起点,之后 海龟肉的味道受到了英国探险者的喜爱,绿蠵龟肉在英国的普通厨房中也流行起来。 随着绿蠵龟汤在欧洲的流行,开曼群岛水域海上资源的开发日益发展,并开始向南拓 展。开曼群岛的海龟产业规模大、时间长,一直持续到尼加拉瓜政府批准濒危物种公 约。而现在,开曼群岛捕鱼船队的残骸成为米斯基托印第安人的渔船。米斯基托人也 正在调整欧洲技术和适应自主管理规则,以使他们的收益最大化。除了原始商业之外, 沿海居民还发明了从未见报道的新烹饪方法,包括用番茄酱和陆龟肉做的汉堡牛排, 用小块冷烤的沙拉油烤芥末调味的绿蠵龟肉。开曼群岛捕鱼船队撤出后,这些变化在 沿海地区得到广泛发展。

INTRODUCTION

The mass consumption of green sea turtles has been problematized throughout many waters of the tropics. Two such places were the Mosquito Coast of Nicaragua and the island of Bali, Indonesia (Figure 1; King 1981; Nietschmann 1973; Parsons 1962; Polunin and Nuitja 1981; Suwelo, Nuitja, and Soetrisno 1981). Recent statistics (as of the 1990s) by Greenpeace estimate that the total amount of sea turtles consumed annually in Bali varies from 20,000 to 30,000, and in the Mosquito Coast from 7,000 to 8,500 (Lagueux, Campbell, and Strindberg 2014). Although these two regions demonstrate the highest rates in the tropics besides Papua New Guinea (Humber, Godley, and Broderick 2014; Spring 1981), interpretation of such carnivorous acts in those regions during the modern age has been poorly debated.

This chapter is experimental in attempting to clarify the characteristics of mass consumption of green sea turtles in Bali, Indonesia, through two-way comparison with another coastal region of high demand (the Mosquito Coast, Caribbean Sea). Both share several common features, not only in their tropical environmental factors but also in terms of long history of regional formation along



Figure 1 The Locations of Investigation

with contact from overseas outsiders. It may be very interesting to determine whether any distinct commonalities exist in terms of the regions' ethno-historical formation of mass consumption of scare marine resources.

Although recent accumulation of comparative studies on single food commodities and substances have been reported on many occasions (Coe and Coe 1996; Jenkins 2000; Kurlansky 2002; Ikeya 2006; Mintz 1985; Mintz and Du Bois 2002; Silvano and Sabban 2012; Willard 2001), comparative studies of green sea turtles as food materials are very scarce or undesirable on account of the current circumstances of resource depletion after mass exploitation seen worldwide in the 1970s (King 1981).

According to Mintz, ethnographic studies of food production industrialization and distribution in modern diets are quite scarce (Mintz and Du Bois 2002); Ishige has suggested that it was obvious that most people of peripheral regions of southeast Asia abandoned their subsistence lifestyle and have tried to adopt the market economy. Ishige also mentions having observed similar changes in diet throughout southeast Asia. Sealed pouch technologies, freezing, microwaves, and home kitchen electronics could be found almost everywhere (Ishige 2000). From Ikeya's studies of meat industries or animal protein production throughout the tropics, very large-scale commercial chicken egg production is found even in the northernmost regions of Thailand and its indigenous territories, places once believed to be relatively removed from 'modernized production technologies'. Traditional camel trading found around India and through east Africa has also shown expansion in recent years (Ikeya 1993; 2006: 128-138), and urbanized confinement rearing of domesticated pigs has spread, very rapidly even in the suburbs of Kinshasa, DR Congo (Ikeya 2015). Taking previous studies into account, there might be potential to discover something by comparing those two crucial mass consumptions of green sea turtles.

PURPOSE AND METHOD

The purpose of this study is to identify any common characteristics or remarkable differences between modern mass consumption of green sea turtle meat in the Mosquito Coast of Nicaragua and Bali, Indonesia. This is accomplished by investigating ethnographic and historical records of both regions. Due to language barriers and unfamiliarity with the waters of insular Indonesia, the ethno-historical investigation focused primarily on the Mosquito Coast of Nicaragua, where the author conducted fieldwork for 15 months, rather than on Bali, Indonesia. Historical reconstruction begins in the early 16th century based on the beginning of exploitation in the Mosquito Coast, and ends with the late 20th century, when industrial peaks around the British Cayman waters become problematized.

RESULTS

1. The Mosquito Coast as a Model Timeline

Discovery of Las Tortugas (Cayman Islands, 16th–17th centuries)

Exploitation of sea turtles in the west Caribbean Sea began in the 'era of Discovery'. Incredible numbers of turtles resided on a group of small islands. The islands were discovered by coincidence on Christopher Columbus's fourth voyage, while he was returning to Cuba from the coast of Panama in 1503. Columbus named the islands 'Las Tortugas' due to the great number of sea turtles he found. Following his discovery, the nearby island (present-day Jamaica) came under the governance of Spanish immigrants with the aid of west Africans.

For the Spanish conquistadores, Jamaica was not a target of crucial investigation. Lacking gold and silver, Spanish Jamaica instead developed as a supply port for cargo vessels.

Spanish Jamaica lasted for 150 years, during which time the few coastal towns were developed. Then, in 1655, the island was conquered by English naval forces led by Oliver Cromwell. Jamaica and the nearby Las Tortugas were of tactical importance to the English; they were relatively close to the headquarters of Hispaniola, Cuba, and the inland Spanish Latin American colonies, but also geographically removed from the reach of the Spanish and Portuguese conquistadores (Figure 2).



Figure 2 The Political Structures of Caribbean Sea (Late 17th century) Source: Masuda (1993), modified by the author.

After Cromwell's invasion in 1655, Las Tortugas was renamed the 'Cayman Islands' after the abundance of caiman reptiles found there (Long 1730, repr. 1970).

At the time, the abundance of sea turtles around the Cayman waters was an attraction for both the English and the French. Edward Long, a historian of 17^{th} - and 18^{th} -century Jamaica, noted that:

They were are never occupied by the Spaniards; but, after other European adventurers found the way into America, they became much frequented by rovers of different nations, and chiefly by the French, for the sake of their turtles (Long 1970: 309).

From the early 18th century on, the Cayman Islands of British Jamaica were gradually exploited and inhabited, first by English settlers and later by Africans.

At the time, Cayman Islanders functioned as suppliers of cotton and sugar to the Jamaican mainland. This led to the establishment of the Cayman capital, Bordentown, and the three islands of Grand Cayman, Little Cayman, and Cayman Brac. As British Jamaica grew larger, these three neighbouring Cayman Islands become important bases for obtaining sea turtles. The first census was taken and the first official maps created during this time period (1773). Along with the population increase seen in British Jamaica, a result of immigration from other British navy colonies and Barbados in late 17th century (Figure 2, B), the population of the Caymans also increased (from 933 in 1802 to 1166 in 1833).

Demand for green sea turtles was especially high among pirates or privateers. Pirate activities against Spanish colonies become more apparent in those days, increasing demand for sea turtle meat onboard ships, where meat was otherwise limited to salty dried rations.

Descriptions of turtle meat being procured by buccaneers with the help of local Indians first appeared in *A New Voyage around the World* by William Dampier (1970):

[For their fishing skills], they are esteemed and coveted by all Privateers; for one or two of them in a ship, will maintain 100 Men: So that when we careen our Ships, we choose commonly such Places where there is plenty of Turtle or Manatee for these Moskito Men to Strike: and it is very rare to find Privateers destitute of one or more of them, when the commander, or most of the Men are English; but they do not love French, and the Spaniard they hate mortally (Dampier 1970: 15).

'Moskito Men', currently known as Miskito or Miskitu, captured green sea turtles for the buccaneers, and for the sake of their inland political circumstances with Spanish conquistadores, they were sympathetic to other European piracy. The treatment of Miskito by British voyagers and settlers at the time is also worthy of note: The *Moskito's* are in general very civil and kind to the English, of whom they receive a great deal of Respect, both when they are aboard their Ships, and also ashore, either in Jamaica, or elsewhere, whither they often come with the Seamen. We always humour them, letting them go any whither as they will, and return to their Country in any Vessel bound that way, if they please. They will have the Management of themselves in their striking, and will go in their own little Canoa, which our Men could not go in without danger of oversetting: nor will they then let any white Men come in their Canoa, but will go a striking in it just as they please: All which we allow them (Dampier 1970: 17).

The British were eager for contact with lowland indigenous peoples, not only for trade but also to identify ways to escape Spanish counterattacks. According to von Oertzen, Rossbach, and Wünderich, the bays and estuaries of the coast inhabited by the Indians served as a much-cherished hiding-place for various groups of pirates (von Oertzen, Rossbach, and Wünderich 1990). The political influence of Britain and France in this region, especially the former, grew larger with the construction from 1631 to 1641 of a British settlement on the Island of Providencia, which lay just off the Mosquito Coast. Alliance between the British and Miskito was strengthened through the activities of Providence Island Company, an English chartered company of the west Caribbean Sea founded in 1629. The British crowned Miskito leaders as kings or chiefs. (Conzemius 1932; Helms 1971; Olien 1998). Those territories of the British and Miskito Alliance were collectively called the Mosquito Kingdom.

Although the influence of the Kingdom on the actual subsistence life of the Miskito or the fictiveness of the Kingdom in indigenous villages remained debatable, the influence of piracy by Miskito along the Caribbean coast seemed to have substantial effects. According to M. W., an early explorer of the Mosquito Coast, Miskito raiders reached as far north as the Yucatan, and to the Costa Rican coast in the south. Their motives seemed to be the capture of English merchants' slaves, who were generally shipped to Jamaican sugar plantations for work, but the places were also inhabited by many sea turtles (M. W. 1732).

The Miskito king and the British concluded a formal Treaty of Friendship and Alliance in 1740. The British Crown appointed John Hodgson Superintendent of the Shore. The British established a protectorate over the Mosquito Kingdom, often called the Mosquito Coast (M. W. 1732). For some time all was well, but with the end of American Revolutionary War (1783), Britain was forced to cede control of the Mosquito Coast to Spain.

Britain officially withdrew from the Mosquito Coast at the end of June 1787, but Loyalists in America, who had remained loyal to the British Crown during the American Revolution, began to re-settle there. In total, they numbered 537 free people with 1,677 slaves from the Mosquito Coast to the Bay settlement in British Honduras. Despite the official withdrawal, Britain maintained an unofficial protectorate over the Mosquito Kingdom. They often intervened to protect Miskito

interests against Spanish encroachment (Floyd 1967). In this context, green sea turtles were captured and exchanged through the British-Miskito Alliance of the $16^{th}-17^{th}$ centuries.

Growing popularity of turtle soup in Europe (18th century)

As British presence in the west Caribbean Sea was maintained, exports from the West Indies to Britain also increased. Consequently, the taste of west Caribbean green sea turtle was gradually recognized and popularized in the kitchens of the British mainland (Beeton 1993; Avrton 1975; Hughes 1998; Panavi 2010). According to Elisabeth Ayrton, many common English dishes of the 1970s were developed from those colonial expeditions. These include curries and kedgeree from India, pepper pot from Guyana, and turtle soup from the Caymans (Ayrton 1975). Turtle soup made of herbivorous green sea turtles become popular in Britain as early as the mid-18th century, earlier than curries, the complex combinations of spices and herbs introduced at the beginning of 19th century. However, though curries diversified widely throughout Britain (being combined with yoghurt, combined with coconut milk, served with the fish or only vegetables, etc.), green sea turtles meat was primarily prepared as a soup. Kedgeree, which can be traced back to the *khichri* dish of 14th-century India, was also found in a recipe book written in the late 18th century, as was pepper pot, flavoured with cinnamon and a special sauce made from cassava root and Caribbean hot peppers, a stewed meat dish from Guyana served at Christmas and other celebrations.

The popularity of green turtle soup was immense at the time. Supply, however, was limited; imitation turtle soup, called 'mock turtle soup', was even invented to satisfy the demand. Mock turtle soup was prepared using the head and foot of a calf, instead of the meat or greenish, jelly-like fat of the sea turtle. Its cooking required great skills.

Hannah Glasse, author of *The Art of Cookery Made Plain and Easy*, also recorded recipes for mock turtle soup in 1758:

Take a calf's head, and scald the hair off as you would a pig, and wash it very clean; boil it in a large pot of water half an hour; then cut all the skin off by itself, take the tongue out; take the broth made of a knuckle of veal, put in the tongue and skin, with three large onions, half an ounce of cloves and mace, and half a nutmeg beat fine, all sorts of sweet herbs chopped fine, and three anchovies, stew it till tender, then take out the meat, and cut it in pieces about two inches square, and the tongue in slices, mind to skin the tongue; strain the liquor through a sieve; take half a pound of butter, and put in in the stew-pan, melt it, and put in a quarter of a pound of flour, keep it stirring till it is smooth, then put in the liquor; keep it stirring till all is in, if lumpy strain through a sieve, then put to your meat a bottle of Madeira wine, season with pepper and salt, and Cayenne pepper, pretty high; put in force-meat balls and egg-balls boiled, the juice of two lemons, stew it one hour

gently, and then serve it up in tureens (Glasse 1758).

In those days, a large portion of the green turtle meat consumed in Britain came from the Caribbean Sea. According to Kristine Hughes,

From the mid-eighteenth century on, enormous green sea turtles from the West Indies were transported to England in freshwater tanks fitted into the holds of ships. These turtles were prized by goumets, who ate the boiled belly and roasted back meat, along with such corner dishes as fins and guts in rich sauces. To host a turtle dinner became a sign of wealth and prestige. For those who could not find or afford these delicacies, mock turtle soup was substituted. The large turtle shells were placed in the center of the dining tables used as serving dishes (Hughes 1998: 21).

In contrast to the high demand for green turtle soup in British kitchens, supply dwindled more and more. Cayman waters, once believed to be most abundant in green sea turtles, began to suffer from overexploitation. This caused the price of West Indies green turtles to grow relatively high.

Southward of the British Caymans (19th century)

The shortage of supply and growing demand for turtle meat on the British mainland caused several problems in the Cayman Islands (Parsons 2000). Large amounts were required and shipped, but supply was never able to meet demands. Lewis Carroll, author of *Alice's Adventures in Wonderland*, satirically described the circumstances with the crying Mock Turtle character in his book. The Mock Turtle has strange appearance, with a calf head and calf foot, carapace, and pair of front turtle flippers. It constantly cries tears of sadness, and sings the excellence of turtle soups suffering shortages in the kitchen. Its songs are seen in several chapters, one of which was Chapter X, 'The Lobster Quadrille'. The Mock Turtle sings out loud after dancing with lobster:

Beautiful Soup! Who cares for fish, game, or any other dish? Who would not give all else for two pennyworth only of beautiful Soup? Pennyworth only of beautiful Soup? Beau-ootiful Soo-oop! Beau-ootiful Soo-oop! Soo-oop of the e-e-evening, Beautiful, beauti–FUL SOUP! (Carroll 1993, orig. pub. 1865).

Alongside the Mock Turtle appear lobster quadrille dancers, the quadrille being a fashionable dance in late 18th- and 19th-century Europe and the European colonies, and the lobster another popular marine product from the Roman period. The story and conversations of the Mock Turtle and lobster address others luxury products, including snails, salmon, eel, sole, porpoise, and seals, those which made the British kitchens of the 19th century fairly rich.

The high demand for sea turtle is also seen in statistical sources summarized by scholars (Ingle and Smith 1938; Rebel 1938[1974]; Parsons 1962). Although

the Caymans' main industry was initially plantation work, shipbuilding and sea turtle fishing also came to provide huge opportunities for the islands' workers. Through the intensified activities of Caymanian turtle fishers from the 18^{th} to as late as the mid- 20^{th} centuries, resources around the Cayman Islands grew scarcer and scarcer (Parsons 2000). The large continental shelf spreading 100 kilometres from the inland Mosquito Coast became a major fishing ground of the Caymans. Huge exploitation took place, exerting enormous pressure on the Mosquito Coast's resources. Von Oertzen *et al.* record regulations announced by the British governor:

That, from and after the 1st January, 1845, all Turtling Vessels must be furnished annually with a License, for which sixteen dollars per annum will be charged – such License to be procured from the Commandant or Chief Magistrate of the District at which each turtling vessel may first arrive; and every such Vessel found fishing on shall be liable to a Fine of five dollars, and to the seizure of the Turtle or Tortoise Shell she may have on board. That, whereas the Turtle-fishing, in general, on the Mosquito coast, Islands and Keys, has been seriously insured by the thoughtless and improvident practice of destroying the nests of Turtles, for the purpose of carrying off their egg; -and whereas the public authorities have determined on using every means in their power in order to put a stop to this practice in future (von Oertzen et al. 1990: 96–98, 'Proclamation regulating port duties and turtle fishing').

Improvement of fishing techniques also provided new opportunities for Caymanian fishermen. Unlike large sailing ships, the turtling vessels used by Caymans in those days were relatively small schooners. Less than 20 meters in length, they were able to sail quickly in the shallower waters of the Nicaraguan continental shelfs. Their manoeuvrability was much better, and they could also run against the prevailing northeast winds. According to Roger Smith, an underwater marine archaeologist of the Caymans, the schooners could also carry several smaller wooden crafts called catboats (6 meters in length). These were designed to capture another valuable marine turtle, the Hawksbill turtle, whose carapace was highly valuable in the Asian market (Bilmyer 1946; Smith 1985; Parsons 1962).

During that period, exploitation of marine turtles could be observed throughout the Caribbean Sea: the southern coast of the US, Florida, the Gulf of Mexico, Turks and Caicos, the Bahamas, the Greater Antilles of Puerto Rico, Cuba, Jamaica, and offshore of Honduras and Nicaragua (Ingle and Smith 1938). Under such circumstances, exploitation of sea turtles in Nicaraguan waters south of the Caymans was strengthened. According to Ingle and Smith,

Practically all of the Green Turtles landed in these islands are caught on the banks and shoals of Nicaragua, Honduras and Costa Rica, since they are greatly depleted in the Caymans. Nevertheless, the quantity landed is relatively large and the Caymans are the principal center of the whole industry. The turtles are taken during January to March and from July to September, the weather being a prime factor in determining the season. Twelve to seventeen schooners with an average of 10 men are engaged in the industry. Nets used are of 30 to 33 thread cotton line with meshes 10 inches knot to knot, and provided with wooden decoys. The shorter nets are 12 fathoms long by about 4 fathoms deep. Longer nets are also used, 30 fathoms long and 8 fathoms deep. They are set at night (Thompson 1947).

About 200 turtles are taken by each boat during the season, the weight ranging from 80 to 200 lbs. and averaging about 155 lbs. There is a 10 per cent loss in transit during the passage from the mainland to the Caymans and about 5 per cent during subsequent shipment to the United States (Ingle and Smith 1938: 52).

The fact that exports of green turtles from waters near the Caymans alone exceeded the combined exports of Florida, Cuba, and Jamaica (Ingle and Smith 1938: 52–53) illustrates the richness of the resources of the Nicaraguan continental shelf in those days.

Towards recent mass consumption on the Mosquito Coast (20th century)

Cayman-based massive exploitation of green sea turtles in Nicaraguan waters continued until the 1960s. Circumstances changed as Britain grew less influential in the political structure of west Caribbean Sea. As did many British colonies after World War II, British Jamaica chose to become independent in 1958. Ten years after Jamaican Independence, pro-American diplomacy by the Nicaraguan government raised fishing license fees steeply and built canned turtle meat factories supported by American development capital.

Around 1968, Bernard Nietschmann, a cultural geographer, began to investigate coastal Miskito turtle fishing villages, continuing his research for a long-term period. According to Nietschmann, coastal Miskito showed very high reliance on herbivorous green sea turtle meat, in both their subsistence economy and diet. He estimated that about 70% of the Miskito's total animal proteins came from green sea turtle meat (Nietschmann 1973). At the same time, thousands of green turtles were being sent to the canned turtle meat factories built in the large port of Puerto Cabezas and Blue Fields (Figure 3). Nietschmann warned that the subsistent life and turtling culture of the Miskito would not endure for long with the contemporary high rates of exploitation (Nietschmann 1979), and he was correct. Soon after construction of the canning factory, in 1977, the Nicaraguan government ratified the Convention on International Trade of Endangered Species (CITES) of wild flora and fauna. Under those regulations, green sea turtle fishing and trade in Nicaraguan waters were limited only inside the Autonomous regions. The current management system was practically established for the survival and subsistence of the indigenous people or descendants of the 'Moskito Men' who aided the British privateers, and it regulates the current production and consumption of the Mosquito Coast.



Figure 3 Mosquito Coast

Source: INTER (Instituto NIcaraguense De Estudios Territorios) and Mapa Republica de Nicaragua, Honduras, Defence mapping Agency Aerospace, USA. TPC-K25B, 1: 500,000. and Region de Puerto Cabezas. 1: 250,000 (Joint Operation Program Air)

Although current Miskito living in the Autonomous regions of Eastern Nicaragua consume permitted numbers of sea turtles (within the area of Autonomous regions), their catches range annually from 7,000 to 8,500 (Lagueux 1998; Lagueux et al. 2014). Many efforts have been made for the sustainability of the turtle resources and their consumption habits (Garland and Carthy 2010), but the issue remains problematic. According to the author's field observations, high consumption of green sea turtle meat in the present-day Mosquito Coast has occurred in places with insufficiently developed modernized electronics for storage, and the relatively cheap meat of the turtle has been re-distributed in peripheral areas of coastal bay cities rather than the meat of domestic animals (Takagi 2016).

According to past ethnological studies of Miskito, their general diet is similar to that of tropical lowland Indians of Central and South America (Conzemius 1932). Historically, foodstuffs were mainly acquired by fishing, hunting, and slash-and-burn agriculture. Foreign domesticated animals, such as cattle, fowl, and horses, become abundant in the early 20th century. According to Eduard Conzemius, with rather primitive meat procurement, agriculture on the lowland Miskito Coast developed extensively not to meet commercial demand, but as the historical means of subsistence:

In order to make their plantation (M.:*insla*; S.:*yamak*) the Indians cut down a patch of the forest, generally on the bank of a navigable stream. The rough work, that is the felling of the trees and the clearing of the ground, is essentially man's work. The large hardwood trees are usually left standing, but all the other giants of the forest are cut down. This work takes place at the beginning of the dry season, about February or March. Toward the beginning of May fire is set to the tangles mass. When the ground has thus been prepared by the men, the women take charge of the future plantation, the planting and cutting down of the grass and weeds being their occupation. Sometimes the man and wife do the planting together. The harvesting is the work of the females (Conzemius 1932: 60).

The foodstuffs obtained by fishing, hunting, agriculture, and gathering were cooked according to Miskito culinary arts. Conzemius also left detailed records of Miskito cooking methods:

Meat and fish are either boiled with water or roasted in the hot ashes. The meat is obtained from the chase; the Miskito living on the edge of the savannas also own cattle which they slaughter for meat. Other domestic animals, as pigs and fowls, are seldom eaten, but are commonly sold to strangers; this is also the case with fowl eggs. The Indians, as a rule, do not care much for the flesh and products of animals of foreign origin. Certain indigenous animals are taboo. The favorite meat of both tribes is the red monkey (*Ateles* sp.) and the white-lipped peccary (*Tayassu* sp.) (Conzemius 1932: 88).

Along with the development in the Autonomous regions, the huge continental shelfs at the Caribbean edge became highly productive spaces for harvesting lobster, conch, shark fin, jellyfish, and sea cucumbers. A lobster boom in particular was seen, much adored and highly esteemed beginning in the 19th century on the East Coast of the US. Lobster exploitation on the Nicaraguan continental shelfs is flourishing today.

Nietschmann's most recent studies identified more than 100 fishing camps for lobster divers in the 1990s. Conch, pearls, shark fins, sea cucumbers and jellyfish were also collected by local Miskito fishers. An incredible number of corals were scattered widely throughout the oceans, named and recognized by coastal Miskito communities (Nietschmann 1997).

Current turtle production on the Miskito Coast under resource management rules has been hugely influenced by large investment in lobsters and other cash products. Although the map shows the current green turtle fishing grounds of the Miskito Cays rather spatially scattered, turtling is now done loosely within the coastal villagers' lobster fishing territories (dotted lines drawn from each village to the sea represent the approximate lobster fishing territories for each village). Compared to the spatial distribution of 1960s spear turtle fishing observed in the Pearl Cays of the southern coast (Nietschmann 1973), the spatial distribution of current net turtle fishing observed around the Miskito Cays of the northern coast has also grown with the development of lobster fishing. The production of green sea turtles has been integrated much more into the regional scale. Miskito fishers tend to capture more green sea turtles on farther ground, and all turtle fishing by Miskito is accomplished in a 12-meter wooden boat with self-woven nets (much shorter than the Cayman fishing nets described in the previous section), rather than the spears noted in ethnographic records (Conzemius 1932; Nietschmann 1973).

The fishing boat, called a *duri tara*, is not only used in turtle fishing but also functions as cargo transport, carrying villagers and necessities between the port town and the villages. Compared to the boat used in 1960s spear fishing (called a 'Sea Dori' in Nietschmann 1973, about 6 meters in length according to the surviving data), the current turtling boat is twice as large, allowing coastal villagers to catch as many as 15 to 20 turtles in one fishing voyage, three to four times more than in previous spear fishing practice. The *duri tara* (Figure 4) was developed after Caymans left the Nicaraguan waters. According to several boat owners and the shipwright of the village studied in this research, one Cayman boat craftsman, after grasping the Cayman industry, immigrated to the north Miskito village of Sandy Bay and started making the structural wooden boats that

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Catboat Cayman Island(Smith 1985)

Catboat Ajax, Cayman Island in Roger, S(1985) Drawnn by Roger , C. Smith Built by Lee Jervis.





Duri Sirpi (Small boat) Mosquito Coast

Dori Sirpi, Nicaragua GRAAN, Pahara. Drawnn by Author November 2015. Built by, unknown



Figure 4 Current Miskito "Duri Tara" Source: Takagi (2019) Dori Tara, Nicaragua GRAAN, Awastara. Drawnn by Author November 2015. Built by, Injot Downs, Tito Hiralio, Awastara endured to be built in modern ages. Currently, the boats have spread widely among Miskito of the northern coast.

Miskito also imported Cayman net fishing techniques. The fishers cast more than 15 nets on the surface of water, just above the underwater coral. These corals are collectively called *walpa* or *walpaya*, a Miskito idiom meaning 'the house of green turtles'.

Finding the corals (*walpa*) is most difficult task of the voyage. According to the tropical oceanographers Robert and Murray, the underwater corals of the Nicaraguan continental shelf can hardly be seen by unskilled fishers and foreign travellers. Sometimes those underwater coral communities extend from 100 meters to 2 kilometres in diameter (Roberts and Murray 1983). The search for underwater corals is so difficult that it must be done by the most skilled fishers or young villagers with better eyesight. The time for searching for underwater coral is also quite limited; it must be done around noon, when the sun is highest and the water becomes clearer. After the fishers cast the nets, they wait until dawn, then capture the turtles that become entangled by the net during the night (Takagi 2016). Miskito fishers continue this task for about a week until their catch meets the proper numbers. At the busiest season of the year, just before the closed season of February, called *Siakwa Kati* (month of aquatic turtles), the wooden boats return from Miskito Cay almost every day with dozens of captured turtles. The current green turtle fishing grounds of the Miskito are illustrated in Figure 5.

Under the current resource management rules of the north Autonomous regions, distribution of green turtle is limited only within the Puerto Cabezas regional district, including small coastal Miskito villages. There are as many as 65 registered merchants who can sell green turtle meat in Puerto Cabezas, where it is slightly cheaper than the meat of domesticated cattle, pigs, and chickens in the central market (green turtle meat is about NIO 35 per pound, whereas chicken and beef are NIO 40–45 per pound). The distribution of green sea turtles in Puerto Cabezas was investigated from 18 to 28 February 2013. During that time, the total of 109 sea turtles were brought in from farther Miskito Cays and sold to buyers. Most turtle buyers were women. Nietschmann has already mentioned that reciprocal distribution of turtle meat had to be strictly limited between women, part of which tradition is still seen at the port of the Miskito Coast today (Nietschmann 1973).

The current method of selling the meat is unique. One of the housewives of researched district walks with a male employee carrying a handcart. She walks mainly in the northeast district of Puerto Cabezas, stopping at houses one by one to talk with customers. She always carries a memo book, called a 'trust book', with a pencil, in which she records the names of customers who carried no bills. Because some women's husbands are away lobster fishing on the open sea, payment is made after the husbands return safely from voyage with some cash. Of course, this is only possible on condition that the husband does not drink too much after returning. A difficult task for Miskito women around the coast is to



Figure 5 Fishing Ground (Green Sea Turtles) Source: Takagi (2019)

prevent their husbands from drinking freely immediately after their fishing expeditions. To prevent this, some women go directly to the Miskito Cays themselves to obtain whatever cash their husbands earned at sea. That is the reason Miskito women can sometimes be seen lining up on the pier at the port. They are waiting for departure.

The case of the Mosquito Coast as a model timeline

Following the discovery of Las Tortugas (the Cayman Islands, 16th-17th centuries) around the 16th century, west Caribbean Sea turtles were repeatedly exploited.

Industrialized peaks led by British Cayman fishers with the aid of Miskito and by factories built with US development capital in the mid-20th century led to the current circumstances of green sea turtle exploitation. Now, however, turtle production among Miskito is regionally integrated to meet the increased demand of enlarged coastal populations, incorporated with huge investment in and flourishing of other marine products, such as lobsters, exported to North America. Having outlined this basic timeline, we move now to reconstructing the historical formation of current mass green sea turtle consumption in Bali, Indonesia.

2. The Case of Bali, Indonesia, Compared by Time

Trade of non-meat products (tortoise shells, 16th–17th centuries)

Unlike in the Caribbean, where procurement of green sea turtle meat was the primary motive of turtling, tortoise shells or carapaces (mainly those of the Hawksbill turtle) have been collected for centuries in the waters of Indonesia. According to Lindsay and Westerlaken, aside from sacrifices in Hindu rituals, the island's massive consumption might be a very recent activity (Westerlaken 2016; Lindsey 1995). According to Covarrubias,

[compared to] the routine of cooking the everyday meal, when it comes to preparing banquet food, it is the men, as is universally the case, who are the great chefs and who alone can prepare the festival dishes of roast suckling pig [bé guling] and sea-turtle (penyú), the cooking of which requires the art of famous specialists. Few bandjars (small village district) enjoyed as great reputation for fine cooking as Belaluan (name of small village district); there the great banquet dishes were prepared most often because the bandjar was prosperous, and there lived famous cooks who were always in great demand to officiate at feasts. People spoke with anticipation when Pan Regog (chef's name) or Madé (chef's name) directed the preparation of epicurean dishes such as "turtle in four ways" or the delicious *sate lembat* (Bali style sate) (Covarrubias 1937: 105).

Dishes of green sea turtle were abundant as festival food in Bali in those days, and the adoration of the Balinese for the flavoured meat of the turtles was described in mouth-watering detail:

For days before the banquet of the bandjar (small village district) four or five stupefied turtles crawled under the platforms of the balé bandjar (ceremonial space) awaiting the fateful moment when, in the middle of the night, the kulkul (type of drum) would sound to call the men to the gruesome task of sacrificing them. A sea-turtle possesses a strange reluctance to die and for many hours after the shell is removed and the flaps and head are severed from the body, the viscera continue to pulsate hysterically, the bloody members twitch weirdly on the ground, and the head snaps furiously. The blood of turtle is carefully collected and thinned with lime juice to prevent coagulation. By dawn the many cooks and assistants are chopping the skin and meat with heavy chopping axes (*blakas*) on sections of tree-trunks (*talanan*), are grating coconuts, fanning fires, boiling or steaming great quantities of rice, or mashing spices in clay dishes (*tjobek*) with wooden pestles (*pengulakan*).

The indicated manners of preparing the turtle are the aforementioned four styles: *lawar*: skin and flesh chopped fine and mixed with spice and raw blood, *getjok*: chopped meat with grated coconut and spices, *urab gadang*: same as above, but cooked in tamarind leaves (*asam*), *kiman*: chopped meat and grated coconut cooked in coconut cream (Covarrubias 1937: 106).

The demand for green sea turtles seemed to be high in early 20th-century Bali, but not at the level of the current conditions described by several observers. According to Westerlaken, there are several slaughterhouses around the south regions of Bali, Tanjung Benoa. Occasionally, green turtles are brought to Tanjung Benoa in large numbers; the rate of around 10 turtles per day steeply increases on ritual days. Westerlaken implies that the people who bring the turtles are the hunters, mixed crews from Sulawesi, the Moluccas, Madura, Lombok, Sumbawa, Flores, Timor, Tanimbar, and Irian Jaya, who bring their turtles to the harbour of Tanjung Benoa (Westerlaken 2016: 91).

According to several ethnographic studies, the places described are those inhabited by the maritime traders of Bugis and the 'sea gypsies' of Bajau Laut, the Sama-Bajau (Crawfurd 1856; Ellen 2003; Nagatsu 2017; Pelras 1996; Sather 1985, 1997). According to Pelras, although rice was the main product exported from the central plains of the Bugis, including the area around Makassar, tortoiseshell and other marine products, such as mother-of-pearl, agar-agar, and trepang (sea cucumber), were also re-exported by Bugis merchants around the 16th century; green sea turtles were not among the exports. Pelras noted,

In 1607 the Sultan of Johor, an enemy of the Portuguese, vainly tried to prevent these [rice] imports. Other agricultural products included coconuts, fruit such as mangoes and bananas, and vegetables. Domestic animals included buffaloes (sometimes in herds of fifty to sixty), pigs (of which great numbers were consumed in South Sulawesi), goats, chicken and ducks. Cows were still unknown but horses had become common, especially as beasts of burden. Game included deer, boar, partridges, pheasant, heron, wild duck and pigeon. Other natural products obtained by the Bugis from neighboring places and then re-exported were sandalwood from around sappanwood, aguilawood, resins, mother of-pearl and tortoiseshell (Pelras 1996: 118).

Unlike on the Mosquito Coast, whether green sea turtle can be seen as a food material is controversial in many parts around the waters of Indonesia. Much of insular Indonesia and the neighbouring waters, where large portions of the population are practicing Muslims, have a different attitude toward green sea turtles. Hendrickson indicated cases of strong opposition to eating turtles in the coastal regions of the Malay Archipelago:

For reasons which are not clearly defined, local Muslim custom seems to include a definite prejudice against the eating of turtle flesh, and this semi-religious attitude does not appear to be of recent origin. It seems reasonable to suppose that in pagan times turtles were killed for food in Malaya and Borneo, and that with the spread of Islam, the eating of turtle flesh was virtually stopped. Thus, during the past five centuries there must have been little killing of adult turtles in Malaya and Sarawak. This is in marked contrast to almost all other parts of the range of *Chelonia mydas*, where the animals have been and still are much sought after for flesh and fat, the eggs being of secondary importance. What little slaughter of adult turtles has occurred in Malaya and Sarawak, mostly by immigrant non-Muslim peoples, has been frowned upon or actively punished (Hendrickson 1958: 457–458).

According to Hendrickson, the majority of Malaysian people see turtle eggs as the favoured food. He noted that 'as a result of the exclusive importance of the eggs, a natural conservation policy has developed in which not only are turtles not eaten, but they are protected in varying degree as the providers of food for men' (Hendrickson 1958: 457–458). According to Pelzer, who conducted studies of egg collections in the Malay Peninsula,

Because most peoples of Southeast Asia avoid eating turtle meat, the marine turtles of the South China Sea - green sea turtles as well as the hawksbill turtle, the leathery turtle, etc. are rarely killed for their flesh. It is, instead, the eggs of marine turtles, especially those of the green sea turtle that Southeast Asians eat and consider a great delicacy. The demand for turtle eggs supports a thriving business in which the eggs are systematically collected and shipped to the major urban centers of Southeast Asia and to Hong Kong. Abstention from turtle flesh and reluctance to kill marine turtles have been reinforced by legal protection of marine turtles in both Western Malaysia (especially Kelantan, Trengganu, and Pahang) and Eastern Malaysia (i.e., Sarawak and Sabah) (Pelzer 1972: 9).

The pursuit of spices in Indonesia by European nations in the 16th century, in addition to the Muslims' preference for eggs over meat, had no accelerating effect on green turtle meat consumption, unlike in the Caribbean. The Bugis who indeed had in those days, controlled other resources in southern part of Sulawesi, and they become a target of Dutch for their monopoly ambitions. According to Pelras, in the 17th century, Goa-based maritime trade of the Muslim kingdom, exports of Moluccan spices, and other imports, including Indian cloth, became serious threat to the Dutch. Pelras's list of the products of trade, shown below, green sea turtle meat remains absent:

Imports included silver coins from Europe and Mexico, firearms from Europe and Japan, steel from India, gold from the Philippines, lead from Siam, copper from Japan and porcelain from China. Imports from other Insulindian areas bound for re-export included pepper from Banjarmasin and Jambi, sappanwood from Sumbawa and sandalwood from Sumba. Sulawesi itself exported tortoiseshell, rattan, wax and trepang (Pelras 1996: 265).

Around the seas of Bali, Indonesia (18th-19th centuries)

During the 18th century, live green sea turtles were shipped for sale in Britain in tanks attached to the sides of ships. A trading route was established between mainland Britain, the new colonies on the East Coast of North America, and the Caribbean Sea. The green sea turtles, which lived quite long onboard, were shipped from the Caribbean to North America. Later, trade was enhanced by steamships. Compared to the Caribbean Sea in the 18th century, exploitation of green sea turtles in insular Indonesia never came close.

According to Raffles, exports related to turtles were limited at the end of the 18th century. Raffles's list included Malayan tin, east Indonesian and north Australian trepang (sea cucumbers), slaves, cotton (or manufactured cloth), bird's nests, shark fins, tortoise shell, and agar-agar. He also recorded that 'the Bugis, indeed, are the great maritime and commercial state of the Archipelago. The cargoes of their vessels, particularly in opium, gold and cloths, often amount to fifty or sixty thousand dollars each' (Raffles 1817). The Dutch also intensified other triangular exports besides green sea turtles, such as Indian cotton, Moluccan spices, coffee from inland plantations, copper, and silver.

Even during the 19th century, green sea turtles had yet to become a major export from Indonesian waters. Rather, they were used as sources of subsistence within separate regions. The turtles were not treated as products of commerce. According to Crawfurd's description of Bugis traders voyaging from New Guinea to Singapore,

Bugis ships were based not only in South Sulawesi itself, but also in many other places. Estimated, presumably on the basis of information given by Wajo' traders established in Singapore, that in 1825 Wajo' trading vessels numbered about 100 in Makassar, 100 in Mandar, 100 in Kaili, 50 in Wajo', 10 in Pare-Pare, 50 in Flores, 40 in Sumbawa, 50 in Bali and Lombok, 50 in Bonerate (an island in the Flores Sea south of Sulawesi), 66 in eastern and south-eastern Borneo, 20 in western Borneo and 50 in Java, making a total of nearly 700 ships operated by the Wajo' Bugis alone.

Bugis traders used these various ports as bases for collecting local products and as starting-points for their coastal trading voyages to the main ports of the archipelago and to Singapore. To Singapore they brought, from New Guinea, birds of paradise and masoya bark; from the eastern islands (the Moluccas, the eastern Lesser Sunda Islands and south-eastern Sulawesi) and from northern Australia, mother-of-pearl, shells, tortoiseshell, agar-agar, trepang and birds'-nests; from North and Central Sulawesi, gold-dust, sandalwood, birds'-nests, tortoiseshell; from Borneo, gold-dust, birds'-nests, beeswax, trepang and tortoiseshell; and from their own land, cotton sarongs, rice and coffee (Crawfurd 1856: 149–151).

Little by little, the circumstances of green sea turtle exploitation began to change near the waters of Indonesia. Some examples were seen in west Australia:

The first commercial export of hawksbill tortoise shell appeared in the WA [West Australian] trade tables in 1869 [...] and intent to commercially exploit green (or 'edible') turtles appears around the same time. The hawksbill turtle was primarily targeted for its tortoise shell, where as the trade in green turtle products included turtle meat and extract for turtle soup (calipash and calipee), turtle oil (which was thought to have medicinal properties) and skin for leather (Halkyard 2009: 4).

The increase of green sea turtle consumption was also seen in the Dutch colonies of Surinam, aided by local Indians. Records exist prior to 1940 of green sea turtles caught for export. A rough estimate indicated one thousand green sea turtles killed by local Amerindians, and from 1938 to 1939, approximately three thousand green sea turtles are killed and exported to North America and Europe. However, exploitation within Indonesia was not seen until the mid-20th century.

Heavy exportation of bekko to Japan also become evident at that time. According to Milliken and Tokunaga, 60 countries were involved in the export or re-export of bekko to Japan up to the mid-20th century, ranging from the Caribbean countries of Panama, Cuba, Haiti, Jamaica, Honduras, and Belize, to the southeast Asian countries of Indonesia, Singapore, and the Philippines. In addition, some came as far west as Tanzania, Kenya, the Maldives, the Comoros, the Solomon Islands, Fiji, and the Netherlands (Milliken and Tokunaga 1987). Unlike the Caribbean cases, the international trading route for green sea turtles was not established primarily through European contact; instead, the route of other by-products, such as eggs and tortoise shells, were set rather rigidly over a much longer period.

Exploitations in the peripheral seas of Bali (20th century)

Difficulty arose from the complex combinations of turtle-related products. As noted previously, the eggs of the green sea turtle and the shells of the hawksbill turtle were the major products of demand, with limited local consumption of green sea turtle meat among traditional maritime societies and communities around Bali. Early in the 20th century, the Dutch colonial government had already established regulations to protect the turtles' habitat and eggs. According to research from Berau Island, East Kalimantan, and North Borneo:

Eggs are sold for Rp100 (5 cents) each in local markets, so single nest yields a

profitable harvest to villagers on low incomes. Unfortunately, there are no accurate data on annual harvest of turtle eggs at Paloh. Estimates suggest that more than one million eggs are collected from Selimpai and the other four Paloh turtle beaches, a profitable venture for the collectors who, in 1989, paid an annual fee of Rp 15 million (\$7,500) for collecting rights (MacKinnon et al. 1996: 497–498).

In the mid-20th century, decline in nest numbers began to be reported. According to MacKinnon *et al.*, this decline was likely the result of oil dumping, predation by Balinese turtle hunters dynamite fishing on the corals by Filipinos, and several illegal catches (MacKinnon et al. 1996: 499). Acceleration of green sea turtle demand did not seem to be caused by the Dutch. According to Parsons,

The Dutch, although they partook of it [turtle diet or green sea turtle meat consumption], seem to have been rather indifferent to turtle in the East, perhaps because of their close association with the Malays, who avoided the meat. In the West, the French, while interested, found but a limited supply of green turtle available to them, most of the best turtling ground being under English control (Parsons 2000: 570).

In contrast to British cuisine, Dutch cuisine never adopted meat from green sea turtles on the mainland, although Dutch pirates enjoyed the flavour in the Caribbean. According to Salzman,

In 1950, *Margriet* [famous recipe book of Netherland] published its first recipes for Chinese-Indonesian dishes: *bami* (fried noodles) and *loempiah* (egg rolls). In 1955, the first advertisements began to appear for the various spices and condiments needed to prepare Chinese-Indonesian food in the home. Most telling of all, the convenience food industry started producing Chinese-Indonesian dishes. Advertisements for canned *nasi* (fried rice) and *bami* began to appear in 1954. In 1962, housewives could buy frozen *nasi* and *bami* appetizers that could be warmed up in the oven. A variety of other dishes could be made with the help of packet sauces in powdered form, which became widely available in the 1960s (Salzman 1986: 616–617).

The Japanese, who invaded Indonesia around the mid-20th century, seem to have had a profound impact on the consumption of green sea turtles as a daily habit. Records of green turtles eaten by Japanese colonialists are found even in Sarawak, Malaysia, where egg collection was a major activity. Even in Bali, according to reports by Achterkamp, 'sea turtles were caught and killed for food in Serangan [a coastal village of Bali] only from 1945. The old turtle hunter told me that in 1945 a Japanese soldier came to Serangan to hunt for food. The soldier taught the people in Serangan how to catch and prepare sea turtle for consumption' (Achterkamp 2017: 30).

The aid of Sama-Bajau also contributed to the current scale of consumption:

What we do know about the Bajo ("Sea gypsies") in historical times is that, far from being just sea nomads depending exclusively on fishing for their subsistence, they were always very active in the quest for such commodities as were in demand on the international markets - both products of the sea, such as mother-of-pearl, sea slugs, tortoiseshell, pearls, seashells, coral and seaweed, and products of the coasts off which they were living or which they visited, such as the dye-yielding roots of coastal forest plants, mangrove bark and wood, eaglewood, resins, honey, beeswax and birds' nests (Pelras 1996: 17).

According to Ellen, green sea turtles were hunted in several areas inhabited by Sama-Bajau near the Moluccas and East Seram:

Turtling is mainly an activity of the west monsoon and, for export purpose at least, focused on the Seram Laut area and around Gargos and Kidang. There is also evidence of less significant opportunistic harvesting for trade elsewhere, even as far north as Warus warus on the mainland coast. Buying and selling mainly takes place in the Geser or Kataloka, though transactions may also take place elsewhere between local producers and traveling traders. Both types of turtles are purchased by Butonese, who take them to Buton, Bali, and Srabaya (often lived, packed ice) (Ellen 2003: 203–204).

Along with huge exploitation of green sea turtle eggs and Hawksbill shells, green turtle meat was gradually consumed in larger quantities following the mid- 20^{th} century. Although sea fishery in colonial Dutch Indonesia was a relatively small industry, demand for meat from green turtles grew relatively stronger with the establishment of restaurants in Singapore built by the British East India Company, Japanese occupation of Bali, increase of Sama-Bajau traders around the neighbouring waters, and reconstruction of Bali as a tourist island in the earlier 20^{th} century. According to Humber *et al.*,

[In the mid-20th century], large-scale commercial take in areas with remaining abundance continued, with global capture peaking at over 17,000 tonnes in the late 1960s, principally fueled by commercial-scale exploitation and international trade. For example, during the peak of Mexico's sea turtle exploitation in 1968, it is estimated that the national take was over 380,000 turtles. The continued international trade of turtle products in the latter half of the 20th century meant that over 2 million turtles would have been needed to produce the volume of marine turtle products imported into Japan between 1970 and 1986. Against the backdrop of wide-spread commercial exploitation, a decline in traditional and small-scale turtle fisheries also occurred, resulting from increased pressures from human populations and more efficient capture methods, often with a corresponding breakdown of

associated cultural rituals that would have once promoted more sustainable take levels (Humber et al. 2014).

In addition, the economy of Bali changed rapidly. According to Vickers,

Bali was not fully tamed by colonialism until the twentieth century. Only in 1908 the whole of the island was forced to acknowledge Dutch control after a long and bloody struggle. But, in the process of taming the island the Dutch came to appreciate Balinese culture. Not only did they come to see Bali as museum of the classical culture of ancient Java, but they also became interested in the community life of the ordinary peasant. It was during the 1920s and the 1930s that the image of Bali as the island paradise really took hold. Eager to have the world forget its ruthless conquest of the island, the Dutch government began promoting Bali as a tourist destination. In so doing they made Balinese culture and village life central preoccupations of writing about the island, so shifting attention to aspects of Bali overlooked in earlier times. Suddenly wild Bali became a tame and attractive Island of Eden (Vickers 1989: 2–3).

Although many local residents of Bali remain to demonstrate their traditional ways of living, the experience of globalized tourism and cultures was nevertheless evident to everyday life in Bali.

Although it has been promoted in the global tourism supermarket as a traditional village, the development of Ubud has for over century been inseparable from links with foreign people and places. Ubud is now a global village of the latter type: a tourist boom town in a tourist boom island where people, ideas, and money fresh off aircraft and electronic media all over the world rub shoulders with each other and with those of the local village community. While the economic and political events of 1998 threatened the boom, they illustrate clearly the three-way link between Ubud, Jakarta, and the world economy (MacRae 1999: 124).

Along with its economic development as a global most-wanted tourist island, Bali's consumption of green turtle meat has increased sharply in recent times (Lindsey 1995). In addition to the traditional festival use described by Covarrubias (1937), daily consumption become very common in the form of *sate* or *sate penyu*, often mixed with other meat products, such as pork (Jensen 2009).

DISCUSSION (COMPARISON WITH THE BASIC TIMELINE OF THE CARIBBEAN)

The results of this research show that the influence of overseas European colonialists on current mass production of green sea turtles differed considerably in the two regions of study, as stated previously (Parsons 2000). In the case of the



Figure 6 Green Sea Turtles ("Lih" In Mosquito Corst) Source: Takagi (2019)

Mosquito Coast, the British directly influenced the formation of the region's current mass consumption. In contrast, Dutch do not appear to have been a direct cause of the recent increase in Balinese consumption.

A remarkable difference is that the Indonesian case seemed to incorporate other sea turtle by-products in demand between the 16^{th} and 20^{th} centuries. This make the case of Bali rather complex, and in contrast the Caribbean case is rather simple. Exploitation of green sea turtles by the British with the aid of the Miskito for the purpose of meat is clearly apparent in the latter case (Figure 6).

In the case of Bali, Covarrubias provided precise descriptions of sea turtle meat as festival food, but they alone are insufficient to grasp the current situation (Covarrubias 1937). This is also the case in Nicaragua (Conzemius 1932). Compared to the consumption peaks in the 1970s (Nietschmann 1973), the modern-day Miskito, who have integrated their fishing investment at regional levels to meet local demand for relatively cheap and sustained meat supplies, basically transferred their investment to the huge exploitation of other marine resources for the international market, such as lobster, conch, shark fins, and jellyfish. Along with those other marine products, green sea turtles are consumed on a relatively large scale (Takagi 2016).

In contrast, Bali's case seems to incorporate investment in the tourist industries which began in the early 20th century (Vickers 1989). Following the recent industrial peaks of turtle egg collection, tortoise shell extraction, and green sea turtle exportation in the mid-1970s (Hendrickson 1958; Pelzer 1972), it seems that mass consumption of the green sea turtle in daily life endures in Bali.

CONCLUSION

Although the peak of exploitation overlaps in the two regions around the mid-20th century (Humber et al. 2014; King 1981; Polunin and Nuitja 1981), the overseas influence on historical formation of mass green turtle consumption was quite

different. One region's consumption thrived under British favour; the other survived despite the prejudice and taboos of Muslim kingdoms and the indifferent attitude of the Dutch (Parsons 2000). Parsons has indeed recognized this, but verification has yet to be done, and further possibilities for application of the knowledge to Bali's current problematized mass consumption has yet to be considered. This comparative study suggests that within the Muslim world, Bali's circumstances were more disadvantageous for developing mass consumption of green sea turtle meat than those of the Mosquito Coast within the British Protectorate; how this mass consumption nevertheless developed is yet to be understood (Parsons 2000; Ellen 2003). There seems an urgent need for further studies of concealed networks of green sea turtle trade among the Sama-Bajau and the Balinese to understand Bali's current mass consumption. Given this, existing studies of Bali fail to draw the whole picture of mass consumption as they did not extend to the residence of the Sama-Bajau or Irian Jaya (Lindsey 1995; Jensen 2009). The scattered dots of regional use seen in some ethnographic records or historical sources must be compiled together. Otherwise, we will never achieve full understanding due to prejudice and the complex circumstances caused by the long history of trade by multiple ethnicities in sea turtle by-products from the waters of Indonesia.

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