

# Nias Island: Looking at the life and health of the *Ono Niba* in the 19th century

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**Abstract.** This article aims to describe the living and health conditions of the people of Nias Island. The geographical conditions of Nias Island, which are swampy on the coast and hilly in the interior, as well as its climate, which can affect differences in temperature, humidity, and rainfall, could affect the health of its residents. Apart from that, the habits of Nias residents in choosing food and the environment in which they live have determined health conditions and the spread of disease on this island. In various reports of Europeans who integrated with the population of Nias Island through trade relations, it was stated that many residents of Nias Island suffered from skin diseases and there were several endemic diseases, such as smallpox, cholera, and dysentery. These conditions caused population mortality to increase in Nias Island during the 19th century.

**Key words:** disease, health, living environment, mortality, Nias Island, *Ono Niba*

## Introduction

The 19th century was a pivotal time for the Nias people, a community with a rich cultural heritage. Taking a closer look at their lives and health during this era offers us a valuable glimpse into their unique way of life. During the 1800s, the Nias people lived in harmony with the natural surroundings of their island home. Their daily routine was deeply intertwined with the rhythms of nature, as they relied on agriculture and fishing for sustenance. The fertile land and abundant marine resources provided the foundation for their survival (1).

In terms of health, the Nias people prioritized a holistic approach. They believed that the well-being of an individual was closely connected to their spiritual and physical balance. Traditional healing practices and rituals, often steeped in symbolism, were employed to address ailments and maintain a state of equilibrium (2). In this era, the Nias people faced various challenges to their health. Epidemics, such as smallpox and measles, had a devastating impact on their population. These

diseases were introduced by outsiders, whose contact with the Nias people increased due to trading and missionary activities (3). Despite these hardships, the Nias community displayed tremendous resilience. They adapted to the changing circumstances and embraced new opportunities while safeguarding their rich traditions. Their ability to evolve in the face of adversity is a testament to their strength and determination.

The lives of the Nias people in the 19th century were shaped by their deep connection to nature, their spiritual beliefs, and their ability to adapt. Exploring these aspects provides us with a profound understanding of their history and the challenges they encountered. It reminds us of the importance of preserving cultural heritage and fostering resilience within communities.

## Methods

This research uses the historical method, which consists of four stages, namely heuristic, critics, interpretation, and historiography. Heuristics is used for

document collection, such as documents and government official reports as primary sources. Magazines like the Medical Journal of the Dutch-Indies as an object of research as secondary sources. After data collection requires verification, inter and extern critics for data findings. Therefore, data is interpreted so that narrated in historiography.

## The landscape of the Nias Island

In the Nias language vocabulary, the word Nias came from *Niba* which means person or human. The Nias people call themselves *Ono Niba* which literally means 'descendant of humans', while the island they live on, the Nias Island, is called *Tanö Niba* which literally means 'the land of humans' (4-5). The Nias Island is currently administratively part of North Sumatra Province in Indonesia, which is still categorized

as a marginalized area. In contrast, during the 19th century, Nias Island played a strategic role economically and politically for the Dutch colonial government. This is because geographically, it was located on an important shipping and trade maritime route west of Sumatra (6).

There are many islands in the waters west of Sumatra that form a string of straight lines stretching from southwest to southeast, parallel to the island. This stretch of islands consists of Simeulue Island, Banyak Islands, Nias Island, Batu Islands, Mentawai Islands and Enggano Island. Around Nias, there are also a series of small islands varying in size, such as Nusa Island in the South, Senau and Lafau Islands in the North, Hinako, Lawandra, and Bawa Islands in the West, and Siriwaoe, Soma and Onolimbu Islands in the East (7). Out of this entire chain of islands, Nias is the largest island with a land surface area of 4,000 km<sup>2</sup> (8) (Figure 1).

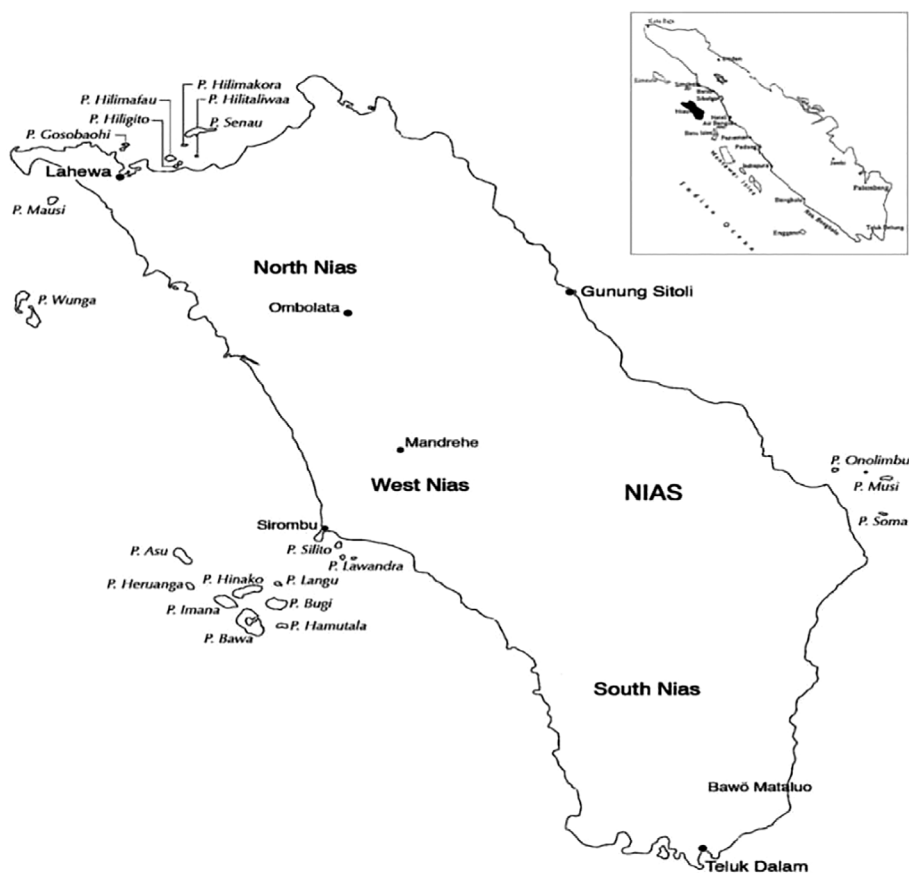


Figure 1. Nias Island.

Nias Island is located at coordinates between 0° 31' 50" – 1° 32' 25" North and between 97° 3' 48" – 97° 56' 30" East (7). The geographical position of the island stretches from northwest to southeast, just like the island of Sumatra. The closest coastal city to Nias Island is Sibolga, located on the west coast of Sumatra, which is about 70 miles away (9).

The topography of the interior of Nias Island is mainly hilly or mountainous, with valleys interspersed with narrow plains. These narrow plains are usually used by the *Ono Niba* people as their villages. The land conditions in the interior are interspersed with undulating terrain and most of the area is covered by dense tropical forests. In general, inland areas are fertile, especially in the central to southern parts. The valleys between mountains and hills are utilized as rice fields, while on the dry hillsides, corn, cassava, taro, sago, and coconut are planted and cultivated (10).

In general, inland areas and coastal areas are connected by mountain ranges. From the easternmost tip, this mountain range stretches towards the center to the south. From the northwest, the mountain range is continuous to the southeast. The mountains on Nias Island have an average height of almost 2,000 feet or around 600 meters above sea level, with the highest peak being Hili Lolomatua, which is 886 meters above sea level. Meanwhile, the peaks of the hills on Nias Island have an average height of 100 feet or 30.5 meters above sea level (7, 10–11). From this mountain range, there are hilly slopes that stretch down to the coastal areas with irregular and steep terrain, especially in the west, south, and east, creating many bays and steep headlands. The plains in the coastal areas are narrow with undulating land surfaces. This is different from the north and northeast sides which have quite wide and sloping plains. However, the coastal plains where the soil is low are generally washed away by mud deposits carried by river flows, and when the rainy season arrives these plains often turn into swamps (7).

There is not a single mountain out of the series of mountains on Nias that shows volcanic activity. According to Gusti Asnan (2007), this is because the islands on the west coast of Sumatra are in the outer volcanic arc of the Mediterranean mountain range, while the volcanic inner arc is in the Bukit Barisan

mountains also on Sumatra. Regarding this, Niewenhuisen and Rosenberg (1863) had written in their research exploring Nias Island in 1854 that “neither volcanoes nor traces of volcanoes were found on the island, nor are there any stories and legends among the people who tell it.”

This does not mean that Nias is safe from earthquakes caused by volcanic activity, as tremors from earthquakes originating from the east and southeast of Sumatra can still be felt in Nias. Usually, the shock or vibration does not cause damage, and its duration is rarely more than half a minute (12). Apart from volcanic earthquakes, Nias Island itself often experiences tectonic earthquakes, most of which originate from the sea. This tectonic earthquake is caused by the movement of oceanic plates which causes faults. The energy produced by these faults causes what is referred to as *duru danö* (earthquakes), which are often followed by *aloro* or *galoro* (large tidal waves or tsunamis). Several earthquakes which were then followed by tsunamis occurred in 1843, 1861, and 1907. Many deaths and losses were caused by the earthquake and tsunami (7, 13). According to Rosenberg (1878), during his stay in Nias in 1855, at least 9 earthquakes occurred between February and September, but Rosenberg did not report any tsunami that year.

There are also many rivers in Nias flowing in all directions. Among the many rivers on Nias Island, six rivers played important roles, namely the Modjeia, Lapau, Sobu, Sheetu, Moroo, and Nojo rivers. These rivers are said to be significant because at several river mouths, there are growing settlements of migrant residents, some of whom have become economic and political centers on this island. Apart from that, because the river body is deep and wide, it is possible to navigate upstream, wherein in the upstream section there are settlements or villages of native Nias residents. These rivers all flow to the north, while their headwaters vary, some from the mountains in the west flow to the center and then to the north, and there are also those from the southeast that flow east to the north. Meanwhile, in the south, the role of rivers is considered less important because the distance between the mountains and the coast is short, causing the rivers in this area to be small, fast, and rocky, making it difficult to navigate upstream (7,10).

As explained above, Nias is located off the west coast of Sumatra, its western part directly faces the Indian Ocean (Indonesian Ocean). The series of small islands located around it have not completely succeeded in protecting it from the waves of the Indian Ocean which are known to be large and strong. The relatively high waves in the western and southern parts of this island make it difficult for ships wishing to anchor in this area, especially at the seaports (natural harbors) Teluk Dalam and Lagundri. The cause of the large waves, apart from being caused by the expanse of the open sea of the Indian Ocean, is also due to the strong gusts of wind in this area (12).

Along the waters of the west coast of Sumatra, there are no consistent seasonal winds. The position of this area, which directly faces the Indian Ocean, is relatively free from the influence of air pressure caused by heat flows from the Asian and Australian continents and is divided in two by the equator, which is the main cause of seasonal wind deviations in this region. The northern coastal area up to 2° North Latitude is influenced by the southwest and northeast monsoons. The area located south of 2° North Latitude to the equator (including the Banyak Islands, Nias Island, and Batu Islands) is the seasonal border area. Then, the area located south of the Batu Islands to the Sunda Strait is controlled by the Indian Ocean monsoons, namely the northwest and southeast monsoons (12).

The position of Nias Island, which is close to the equator, causes this island to have a humid and hot tropical climate. This situation is described by Jan Herman Semmelink as follows:

*“Het eiland Nias is een echt tropenland. Het ligt ook vlak bij de linie en is dus één van de warmste landen van de aarde. Toch wordt de hitte gedurende den meesten tijd van het jaar nog al getemperd, want de hemel is er veel met wolken bedekt en er valt ook veel regen. Maar dit samengaan van warmte en regen geeft aan het eiland een klimaat, dat verslappend op de zenuwen werkt”* (14).

Based on the statement by Semmelink, it is in line with the records of the Dutch colonial government which stated that the temperature of Nias Island and the islands around the equator was hotter compared to Padang and Pariaman, two famous port cities on the west coast of Sumatra. The hot conditions on this island are influenced by the proximity of the sea, but according to Dutch colonial government records, this island has pleasant and healthy air, because all parts of the island receive good sunlight every year (15).

Based on the discussion above, of course we wonder how hot the temperature is on Nias Island. According to observations by Nieuwenhuisen and Rosenberg (1863), which were carried out for ten months (from 1 October 1854 to 31 July 1855) on Gunung Sitoli, stated that the average temperature on Nias Island was 24¼° Celsius at 6 o'clock in the morning; 31° Celsius at midday; and 26° Celsius at 7:00 pm. This average temperature calculation is based on the data depicted in Table 1.

Based on Table 1, the highest heat level recorded is 32° Celsius, but the maximum temperature can still rise to 34° Celsius during the day, while the minimum

**Table 1.** The average temperatures, weather, and wind conditions on Nias Island.

Months	Temperature (Celsius scale)			Rainy days	Storms	Prevailing winds
	6:00 am	Midday	7:00 pm			
1854						
October	25°	30°	28°	14	4	NE
November	24	31	24½	23	11	NW & SW
December	25	30	28	24	-	SW
1855						
January	23	30	27	10	-	variable
February	25	32	26	12	5	variable
March	24	30	27	21	11	NW
April	24	31	26	18	10	NE
May	25	32	27	7	8	ENE
June	24	31	25	19	5	NE & E
July	24	31	24	16	4	NW & SE

temperature is 20° Celsius at night. Nias Island has quite high rainfall, accounting for 200 days a year. The rainy season occurs in October, November, and December. On the other hand, in May, June, July, and August, it rarely rains. During the rainy season, storms accompanied by lightning often accompany them, this is caused by strong wind gusts from the northeast to the southwest (7, 16). The high rainfall on Nias Island often causes flooding in the lowlands and valleys adjacent to riverbanks, the footpaths that residents usually walk on often become muddy and slippery, and if heavy rain occurs for a long time, it will cause puddles like swamps that are knee-depth (10).

### The physical form of the *Ono Nihā* people from Europeans' view

The population inhabiting Nias Island is divided into two, namely the native population also called *Ono Nihā*, and the immigrant population or other community groups who come from Sumatra, such as the Acehnese, Batak, and Minangkabau people. Apart from that, there are also other nationalities such as Chinese and Europeans. According to several experts, the native Nias population is physically different from other Indonesian ethnic groups. According to William Marsden (2013), the physical form of the native Nias population is described as follows:

*“Compared with the Malays, the skin colour of the Nias people, especially the women, is lighter. They are also smaller in stature, and shorter in height. Their mouths are wide and their noses are very short. Their earlobes are pierced, widened, and elongated in such an extraordinary way that, in many cases, they almost touch the shoulders... but these extremely long earlobes are usually flattened and reduced in length until they return to their original size. This was done when they were taken away from their own country”* (17).

Other than Marsden, J.T. Nieuwenhuisen and H.C.B. von Rosenberg (1863) gave a more detailed depiction of *Ono Nihā* in their work:

*“The Nias people have yellow skin; shades of yellow-white to light brown. Their hair is not too*

*coarse and is dark brown or black, and some are reddish, although not much. They are like other Polynesians, little-haired, but a large number of individuals found among them are fully bearded, some of them cut them off and some wear them as part of the same fantasies as we have in Europe. Nias people are generally from four feet nine inches to five feet tall; in the south of Nias they are taller, reaching five feet four inches to five feet six inches, but not all. Their heads are usually elongated and rounded; eyes slightly inward like a Chinese person; cheekbones protrude less than Malays; the noses are not wide open like the Caucasian race; The mouths are large; the lips are not too thick but curve slightly around the chin. The shoulders were narrow, and their entire body was slender”* (7).

Likewise, Th. C. Rappard (1909) also gave a similar account to describe the physical form of the Nias people:

*“Although they belong to the Malayo-Polynesian race, they differ in many ways from the Bataks, Malays, etc. They are also very different from the tribes that inhabit other islands to the west of Sumatra, except for the inhabitants of the Batu islands who came from South Nias.... the average height of the men is five feet, in South Nias, many men are taller; here in particular we find a population slimmer and more refined than the Malay tribes. Women are smaller than men”* (16).

From these three accounts, especially Rappard (1909) and Nieuwenhuisen and Rosenberg (1863), the Nias people in the south had a taller stature than the Nias population in general. The main factors causing this were nutritional imbalances or food availability. Apart from that it could also be caused by natural factors and heavy workloads. On this issue, Rappard (1909) provided a comparative description, namely that men in North Nias generally did not look strong or were weak and malnourished, while men in South Nias had strong stamina and were fit. In addition, he also stated that married women in North Nias looked ugly from an early age, walked unsteadily, and were slightly bent with hanging breasts and stomachs, as well as having a long-term habit of breastfeeding their children sometimes until the fifth year. Meanwhile,

the women in South Nias had slim, elegant bodies, and looked more prosperous.

The South Nias people had stronger and healthier stamina because of their better nutritional intake and sufficient sources of food and drinks. In terms of work, it is divided more evenly between men and women. In contrast in North Nias, both men and women looked weak and malnourished, but women generally had a heavier workload (16). In general, the division of labor among Nias people was that the men gathered wood and stone to build houses, looked after the livestock and fed them, hunted, and sometimes helped the women work in the paddy fields. Meanwhile, despite the women only working in the paddy fields, they also pounded paddy for rice, cooked, looked after children weaved, and the hardest work was carrying fruit or leaves for livestock food every day using baskets or bags placed on their backs. Children, both boys and girls, were accustomed to carrying water and firewood from a young age (7).

## Food

The main food for the *ono niha* was rice, both in the north and south of Nias. If rice was not available, they replaced it with taro, cassava, sweet potato, pumpkin, sago, or corn. Besides that, coconut and selected herbs were also consumed. Papaya leaves, whether cooked or raw, were very popular as a side dish. Meanwhile, they would obtain meat from their livestock consisting of pigs, goats, and chickens. If these were not available, they would hunt wild boars, deer, all kinds of birds, snakes, crocodiles, fish, and shellfish. Salt was never cooked with food but consumed directly. Not only that, the Nias people's food intake was also obtained from their habit of consuming fruit such as bananas, papaya, guava, and durian. Apart from that, Nias people also often consume betel, gambier, areca nut, tobacco, and sugar cane (7, 15, 18–19).

According to Nieuwenhuisen and Rosenberg (1863), the art of cooking of the *ono niha* people was still at a very low level. They did not know food processing techniques such as making flour from rice or corn which could then be processed into food ingredients as Europeans did in Nias at that time. Apart from

that, they were bad at processing and consuming meat, especially pork. If a pig were to be slaughtered, they would pierce its heart with a knife or spear, then someone would place its foot over the puncture wound, making its blood not flowing out. Then the animal was cut into pieces and put into a pan to cook without washing the meat. But there were also those who ate it raw – not just the flesh but also the skin, intestines and even blood. They did that because they did not get to eat meat every day and considered meat as luxurious food available only during special events.

Apart from produce from gardens, rice fields and hunting in the forest, to meet their food needs, the *ono niha* also traded in coastal areas. Usually, they brought various forest products and craft products which were then exchanged for salt, tobacco, and others. It was through these trading activities that *ono niha* interacted with the outside world. In a context like this, upstream and downstream relationships occurred, where in the upstream or inland areas there are *banua* (villages) *ono niha*, while in coastal areas there are villages of migrant residents (20).

## Population and living environment

According to Paul Wirz (1930), most of the *banua* were on top of hills, surrounded by bamboo fences as defensive fortifications, with a steep staircase as the entrance. This was intended to ensure their land was safe from enemy attacks during conflicts or head-hunting (19, 21). So, it needs to be understood and underlined that the entire Nias Island in this period of time was never a complete political unit. There has never been a single kingdom formed on Nias Island that could oversee all or part of the territory. There were only *banuas* which each had their own sovereignty. This fact is why inter-*banua* wars often occurred in Nias. However, sometimes they formed an alliance, usually due to certain interests, such as when there was a battle against the Dutch. In northern Nias, an alliance called *Öri* was formed, which was a combination of several *banuas*.

Information about the *banuas* in Nias and the number of residents in each village in the 19th century is fortunately available. The earliest data is in the

report of John Prince (Resident of Natal, Sumatra) and William Jack, which was a committee formed by Sir Thomas Stamford Raffles that was sent to Nias Island in 1820. It stated that the population of Nias Island was 131,100 people and there were 20,410 residential houses which they surveyed in 11 districts (Table 2). However, Raffles in the letters he wrote to the British government in Calcutta did not provide detailed figures. He only gave an estimate of the population as seen in his statement: "My attention is at this moment directed to the Island of Nias, lying off Nattal, a little to the north of Padang: it contains a population of from one to two hundred thousand active, intelligent, and industrious people, and is the granary of this coast ..." (22). The detailed data on the number of districts, houses, and residents in Prince and Jack's report as quoted by Engelbertus Eliza Willem Gerards Schroder is in Table 2.

During the period of Dutch colonial rule, data regarding the population of Nias was provided by a

**Table 2.** Districts, Houses, and Population of Nias Island, 1820.

No.	Districts	Houses	Population
1.	Madsino	3.500	21.000
2.	Orahili	800	7.000
3.	Lagundri	1.000	7.000
	Teluk Dalam	900	5.000
4.	Ira One Lase	2.000	16.000
5.	Sifalago	1.300	8.000
	Somabawa	1.040	6.000
6.	Ono Dahu	3.200	20.000
7.	Idano Lawa	800	4.000
8.	Ono Zega	900	5.000
9.	Lulujai	70	500
	Ono Limbu	60	3.300
10.	Gunung Geati	640	3.800
	Boa dan Bale	20	-
11.	Larago	1.000	6.000
	Gunung Sitoli	710	3.800
	Golora, Baoosa	70	200
	Afia	1.200	7.500
	Baluku	500	3.000
	Lowu	700	4.000
Total		20.410	131.100

number of people, such as Domis (1834) which estimated around 200,000 people, Donleben (1848) with about 169,500 inhabitants, Nieuwenhuisen and Rosenberg (1863) with around 230,000-250,000 people, Mansveld (1877) with around 500,000 inhabitants, Modigliani (1888) with around 88,000 inhabitants, Rappard (1904) with around 300,000 inhabitants, and Schroder (1908) with around 200,000 inhabitants. In addition, a census conducted by the Dutch government in 1914 estimated the population of Nias Island at around 135,000 people. The report by Nieuwenhuisen and Rosenberg (1863) is considered the most detailed out of all these reports because they had traveled to several areas on Nias Island, hence they were able to provide other data such as the number of residential houses of 216,924 spread across 54 villages and found in 17 districts (23).

The validity of the population figures from the experts above is not completely accurate. They also admit it in every report they make. Nieuwenhuisen and Rosenberg for example had estimated the population based on the assumption of calculating an average number of 10 heads per house in North Nias and 15 heads per house in South Nias, and then multiplied by the number of villages in each respective region (7, 10).

Regardless of the validity of the population figures given by a number of experts above, there is a striking difference between the population in 1854 and 1877. In just 23 years the population almost doubled (from 230,000-250,000 people to 500,000 people). Meanwhile, in previous years, from 1820 to 1854, the average population ranged from 100,000 to 250,000 people. This condition was influenced by several factors. First, before 1854 many Nias people were trafficked as slaves and taken away from Nias, this situation lasted until 1860 (24). Second, in this period, Nias was also hit by various epidemics, such as malaria, dysentery, and smallpox, which claimed many lives. However, in 1854 the Dutch colonial government began to introduce the smallpox vaccine on Nias Island (25). This vaccine was initially intended to vaccinate employees, soldiers, and Europeans in the Dutch colony on Nias Island, namely Gunung Sitoli. Meanwhile, the native population received vaccination when an epidemic occurred, and even then, it was limited to areas where Europeans (missionaries) worked (3). These two factors are

thought to be the reason for the increasing population in 1877. Then, in the following period up to the first decade and a half of the twentieth century, the population of Nias reportedly continued to decline. The main cause is believed to be smallpox epidemics that occurred repeatedly and caused many deaths, making the population level decreased significantly (18).

## Health and diseases

In the 19th century, there were several reports on the health problems experienced by the *ono niha* people, especially regarding both common and infectious diseases. The most common disease suffered by the *ono niha* was tendonitis or inflammation of the tendon, characterized by pain, stiffness, and burning in the tendon and its surroundings. This tendonitis usually occurs in the tendons in the hip, knee, ankle, and heel joints. The *ono niha* referred to this disease as *boe'oe kera*, and sometimes the swelling could be almost the size of an egg. The cause was due to the habit of continuously climbing, as a result of placing their house on a hill (7, 16). Apart from that, the *ono niha* also suffered from various skin diseases, as stated by Marsden (2013) as follows:

*“There is no other difference that can differentiate the natives of this island apart from leprosy which causes the skin to peel off. This disease affects the majority of the population, both men and women. In some cases, the disease covers the entire body and limbs. Meanwhile, in a number of other cases, this disease resembles the effects of skin diseases such as herpes (rash and itching on the skin) or ringworm, which extends like a partial skin disease in the form of wavy lines and concentric curves”* (17).

As if to confirm Marsden's (2013) statement, Nieuwenhuisen and Rosenberg (1863) stated that the skin disease that many *ono nihas* suffered from was endemic to this island. The main cause was believed to be due to poor body hygiene, especially among the residents in the northern part of Nias. Apart from that, it was also caused by the unclean environment in which they lived. Nias people usually placed pig pens under

their houses, as their houses were on stilts. They had a bad habit of throwing their leftover food and dirt under their house through some holes, with the intention that they would be eaten by the pigs that they kept under the house (10, 16, 26). During the day, the pigs were taken out of the pen and allowed to roam around the house, and this often resulted in their wells or drinking water sources being contaminated by the pigs. Besides that, there were mud puddles made by pigs around their houses, which could only dry up within 1 or 2 days on a hot day, but during the rainy season, these puddles would remain there for a long time, becoming a breeding ground for germs, flies, and mosquito larvae (21).

Due to these bad habits and unhealthy living environments, the *ono niha* were susceptible to various diseases such as malaria, elephantiasis, cholera, dysentery, leprosy, yaws, measles, and smallpox (7, 14, 16, 21). Malaria and elephantiasis are diseases transmitted by mosquitoes, while cholera and dysentery are a group of infectious intestinal diseases, which occur due to contamination of food and water sources carried by their livestock. Leprosy, yaws, measles, and smallpox are skin diseases that are transmitted through touch (27). Out of all these types of diseases, smallpox was the most feared as this disease could last for a longer and repeating time, causing an epidemic. Sometimes the epidemic coincided with dysentery or cholera, which heightened the population mortality rate (3).

## Conclusion

The environmental conditions as well as the hot and humid weather of Nias Island could not be necessarily seen as the cause of diseases among its inhabitants. However, the high rainfall on Nias Island often produced numerous puddles and muddy areas. A swampy environment was certainly not a good place to live, because the still water and muddy areas could become breeding places for mosquitoes that cause malaria.

The bad habits of the people and an unclean living environment also affected the *Ono Niha* people's level of health, especially regarding the spread of infectious diseases. Apart from that, the native people of



Nias were not hygienic in processing food, especially in processing pork, which included the habit of eating raw meat. Actions like these certainly pose a risk of contracting germs (disease infection) and can harm the health of the consumer.

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