

# Malaria in the Dutch East Indies: A Study on Indigenous Health During Colonial Times

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Abstract: Malaria prevention is basically one of the parts that is inseparable from the efforts of the colonial government to form a Jawatan / Rakyat Kesehatan Service in 1925. In addition there are also efforts to establish an initial health service through an army hospital. This health service is basically a continuation of the Army Health Service (Militair Geneeskundige Dienst) in 1808 which was established during the administration of Governor General H.W. Daendels. At that time there were three large Army Hospitals: in Batavia (Jakarta), Semarang and Surabaya. Civil health efforts began in 1809, and the Government Regulation on Civil Health Services was issued in 1820. In 1827 the two departments were combined and only in 1911 was there a real separation between the two departments (Health Promotion Team, 2006: 6). Indonesian malaria in the Dutch colonial era. Malaria is endemic in Indonesia due to colonial government policies and environmental factors and human behavior. This epidemic then spreads to various blood through human activities and the environment. The government and indigenous people are trying to eradicate the outbreak. They did the effort but there was discrimination and difference in treatment. This study discusses the case of Indonesian malaria in the Dutch colonial era.

## 1 INTRODUCTION

In the history of human civilization, malaria is a tropical infectious disease that has caused suffering and death until now. Since this disease is considered mysterious until now, molecular research has continued to develop and malaria cases are still a health problem for people in the world including Indonesia.

Each year Indonesia's 230 million people collectively suffer at least several million cases of malaria caused by all four known species of human *Plasmodium*. Despite a long history of pioneering work in malaria prevention, treatment and control reaching back to the early 1900s, no systematic review of malaria in Indonesia has yet been undertaken.

### 1.1 Human population

The Republic of Indonesia in Southeast Asia making up the Indonesian archipelago straddles the equator and stretches 5200 km from west Malaysia to Papua New Guinea. The country consists of 17,504 islands

(only 6000 of which are inhabited), covering a land area of 1.9 million km. The archipelago comprises seven main islands: Sumatra, Java, Kalimantan, Sulawesi, Maluku, Lesser Sundas and Papua. Sixty percent of Indonesians live on Java and Bali, representing only 7% of the land area of Indonesia. More people live in rural (57%) than in urban areas (43%). The ratio of male to female is 1:1. The age distribution of the population is 30% young (0–14 years old), 65% productive age (15–64 years old) and 5% old age (65 years old).

### 1.2 Healthcare Delivery Systems

Healthcare services are made up of primary health centres, public hospitals, private and semi-private pharmaceutical industries and private sector healthcare facilities. Primary health centres are mainly located in sub-districts and provide maternal and infant care, family planning and in-patient and out-patient services to the community, as well as communicable disease control services. In 2007, there were 8234 primary health centres, with a centre serving, on average, about 27,400 people. The number of primary health centres increases at a rate

of about 2.7% per year. The service coverage by province ranged from 8000 to 52,000 people per health centre. Seven provinces failed to meet the standard target of a maximum of 30,000 people per health centre. These were Riau, Banten, West Java, Central Java, East Java, Bali and West Nusa Tenggara. The area coverage per centre was 192 km<sup>2</sup> on average; however, in sparsely populated Papua, Central Kalimantan and East Kalimantan area, coverage was greater than 1000 km<sup>2</sup>.

The number of hospitals was 1319 in 2007, which provided a total of 142,707 hospital beds. Ownership of these hospitals was 49% private and 51% public and government operated. The overall ratio of population to each hospital bed was 1581:1. The Indonesian Ministry of Health (MoH) declared the ideal ratio to be 1000 people per bed. The annual increase in hospital beds is typically 1.1%. The total number of people seeking hospital treatment was about 30 million in 2005, with ~7.8% of them being referred from lower levels of healthcare delivery, including primary health centres.

The activities of the pharmaceutical industry ensure the availability, accessibility and distribution of drugs to the community. By 2005, according to the Drug and Food Control Agency, there were 465 standard pharmaceutical companies and 1634 small, traditional drug companies in the production sector.

According to the Indonesian MoH in 2007 there was about half a million health personnel employed in Indonesia. Nurses and midwives made up 54% and 14%, respectively, of that number. Typically, for every 100,000 people, there were 138 nurses and 35 midwives. Eight percent of these half a million health personnel were licensed physicians, yielding a service ratio of about 19 physicians per 100,000 people. Health personnel specializing in public health made up two percent of this half a million, with a service ratio of approximately four per 100,000 people. The distribution of health personnel was 257,555 (45%) at hospitals and 184,445 (32%) at healthcare Centre.

## 2 RESULT AND DISCUSSION

Research on malaria in HindiBelandawas first carried out by Allard van der Scheer in 1891. Van der Scheer ended his tenure in 1899, however, it was not long. Re-malaria-related research was conducted a year later. A German doctor named Robert Koch visited the HindiaBelandai on September `889 to make series of research expeditions on malaria in the tropics. His research report entitled "Professor

Koch's Investigations on Malaria" can be read in The British Medical Journal (Vol. 1, No. 2041, 1900).

Political Ethics has its intended good effect as the reciprocity from the Dutch to the Indonesian people but it turned into a misery. There were three policies of the ethical politics: education, immigration and irrigation. But, The irrigation programs were not maintained well so the malaria outbreak became a serious problem in Java island. The Cultivation system policy in Indonesia brought enormous wealth and prosperity of the Netherlands. The Dutch colonial system in Indonesia from 1870 to 1900 brought suffering to the local population. The land law in 1870 gained the foreign investors grabbing land from the kingdom. The Sugar Law, as well as polices from the kingdom which encouraged the growth of the Dutch East Indies economy, made the Europeans and Chinese people richer and the indigenous people poorer. As Furnivall said (1983:326): "...under the Chinese liberalism who benefited greatly from the freedom of the company, and if the profits plummeted, the Europeans felt more about the excess opportunity of their competitors."

The situation caused the criticisms of the colonialism in the Netherlands and in the Dutch East Indies colonies that only brought benefits to the Dutch, while the local population lived in poverty. (Robert Van Niel, 1984:19)

Besides in Batavia, Dr. Koch also conducted research in Ambarawa. This region was chosen because there were military hospitals with complete facilities and had characteristics as malaria endemic areas. The Ambarawa landscape with its rice field and swamping area is very conducive to the development of malaria.

In Ambarawa, Dr. Koch collected and examined blood samples of hundreds of children in three villages close to rice fields and swamps. As a result, he concluded that children, especially toddlers, were more susceptible to malaria. However, immunity to malaria will increase with age.

The Ethical Politics was supposed to be a reciprocation but turned into disaster. Irrigation is mismanaged, malaria brought disaster on the island of Java.

The Section I and II infrastructure projects were successfully constructed in the mid-1895. At that time, the Governor-General of the Dutch East Indies had turned to Carel Herman Aart van der Wijck. The Department of Public Works continued to develop the Section III project which included the primary canal on the bank to the right of the Ciranjang river.

In her book, "Etika yang Berkeping-Keping: Lima Telaah Kajian Aliran Etis dalam Politik Kolonial 1877-1942", the historian, Elisabeth Locher-Scholten, wrote that it invited the concerns of the ethics who encouraged the implementation of 100 million guilders loan to the Dutch government in order to fund the projects in the Indies.

After the irrigation infrastructure was completed in 1904, other problems followed. The government disregarded for the environmental conditions in Cihea, especially the land conditions. Furthermore, the government did not consider that farmers in Cihea were backward and not accustomed to using irrigation flows which in that era were fairly modern. The water that flew through the rice fields turned out to be stagnant and never receded. Water puddles also spread, inundating land other than rice fields. As a result, Cihea became a malaria epidemic area.

Eight years since the irrigation had been operated, Cihea was declared as a malaria endemic area. From the report compiled by W. van Gorkom regarding malaria endemic area in Cihea, it can be seen that there was a high mortality rate of people due to malaria. From around 22 villages in the Cihea region, the death rate of the population reached an average of 50 percent. The irrigation infrastructure within an ethical spirit turned out to disaster. Over the next few years, at least until 1930, the victims fell on the side of the population.

After irrigation was operated, the government allowed the establishment of a private Dutch paper mill. The government wanted to make a big deal from the irrigation. Meanwhile, the farmers were taxed from the investment interest invested by the colonial government. The badness of the colonial government could also be seen from the way they handle the malaria epidemic slowly, so the problem was dragged on while the suffering of the population never ended. This is an example of how the face of colonial ethics is covered on hypocritical mask.

Owing to mismanagement of irrigation malaria came back to attack and bring disaster on the island of Java showing liberal political policy towards indigenous people. The progress of the country's trade gained from the sale of forced crops carried out in Indonesia produced wealth and prosperity to the Netherlands.

One more factor that arose along with the advancement of agriculture and industry in the liberal era was the increase in the number of people who were mostly migrants. The situation gets worse if the unemployed city residents invade the area outside the city to find work. The breadwinner for

the Indonesian population is left behind because positions that require proficiency are characterized for Christians.

One impression of industrial development in the Liberal era was the increasing population growth. After 1870 the number of Europeans on Java began to increase. This change was a result of the speedy citizens who entered the area that was previously reserved for government employees. This new European group worked for the company or in the private sector that started to grow and developed. They began to hold associations to foster a sense of brotherhood that was different from the European community who arrived early to work as employees of the royal court. Local people only worked as laborers.

At the end of the liberal era, it became clear that the predictions and expectations of the liberal group through a liberal economic system would bring greater prosperity to Indonesians who could not be tested before when they had confirmed a planting system that only helped destitution and misery in Indonesia. Such circumstances caused the local population to become dissatisfied (Ledge, 1972: 101).

By 1990 the situation had reached the height of the upheaval, resulting in the banquet of Van Kol, a deputy who was the representative of the socialist party (Ledge, 1972: 101). Before this, Van Deventer had also stated in his idea regarding debt:

"..... there is no need to be sure that the Netherlands has extorted wealth from the East Indies at the time of the plant and because it involves muruah, women who are paid because they receive assistance; the Dutch has extorted wealth from the East Indies at the time of the plant and because they keep the money, it is worth paying the debt by obtaining assistance from the Dutch treasury to help with the financial condition of the colonies and seek Indonesian virtues "(Ledge, 1972 : 101).

The new European community who lived in Java began to see the development of the lives of the local people which were declining. They began to want a more open and modern political change. They demanded from the government and wanted a power of autonomy to take care of financial matters that were freer than the government. The liberal base is a system designed for European private investors and they have succeeded in accumulating wealth from the colonies. The liberal basis provides limited opposition to the forced cultivation system. The liberal basis is the basis for wanting to implement human rights, namely religious freedom, freedom of expression and freedom in education. In 1860 the

liberal mind was actively developing in Europe and gave birth to people who were free and humane.

The liberal group always insisted on the government so that the element would pass the giving of things to the promised autonomy of government in the Indies - Dutch colonies. Under the government of the Liberal Foundation the Indies colony - the Netherlands had turned into a tool for the production of the world economy protected by the government. Local residents began to be introduced to the system of low-wage workers. Residents began leaving the rice fields because they were attracted by the system of wages and the value of money. To facilitate the delivery of merchandise from the results of cultivation to the European East Indies government regulating shipping associations they carried out monopolies that diverted shipping and shipping operations to local residents.

Various criticisms made by Dr. Abraham Kuyper, as an expert in winning the Netherlands, finally brought a downfall to the liberal party. Kuyper wrote an editorial plan on our progress or our progress. He wrote about his moral responsibility in supporting the virtues of the Indonesian population. The intended debt other than the proceeds of the forced planting wealth (1830-1870) also resulted in gains during the liberal period obtained in the Netherlands.

### 2.1 Period 1959-1968 (Malaria Extermination Period)

Malaria control in Indonesia began in 1959 with the existence of KOPEM (Malaria Eradication Command) at the center and in the area of the establish of the Malaria Eradication Service which was an integration of the Malaria Institute, as well as training for the establishment of the Malaria Training Center in Ciloto and 4 field training centers outside Java.

During this period malaria control was called the eradication period, where the focus of eradication was carried out on the islands of Java, Bali and Lampung. The main activities carried out were spraying insecticides, treatment with Chloroquine and prophylaxis. It was not until 1961-1964 that insecticide spraying was carried out outside Java and Bali. This effort was quite successful in the Java and Bali regions with a decrease in parasite rate.

In 1966, efforts to eradicate malaria faced various obstacles, caused by funding decreasing both from the government and from outside assistance, the spread of *Anopheles aconitus* resistance to DDT and *Dioldrin* in Central and East Java, the resistance

of *Plasmodium falciparum* and *Plasmodium malariae* to Pirimetamin and Proguanil and increased tolerance of *Plasmodium falciparum* to Primakuin in Irian Jaya.

Then in 1968, KOPEM was integrated into the Directorate General of P4M (Prevention of Eradication and Eradication of Communicable Diseases), so that it no longer used the term eradication but eradication.

### 2.2 Period 1969 - 2000 (Malaria Eradication)

With the integration of malaria control efforts with the health care system, malaria activities are carried out by Puskesmas, hospitals and other health care facilities. Along with ecological changes, in 1973 it was reported that the existence of resistance to *Plasmodium falciparum* in Yogyakarta, even in 1975 in all provinces in Indonesia, accompanied by a case of *Plasmodium* resistance to Sulfadoxin-Pirimethamin (SP) in several places in Indonesia.

In 1973 import patients were found from East Kalimantan in Yogyakarta. In 1991 there were reported cases of resistance to *Plasmodium vivax* against Chloroquine on Nias Island, North Sumatra Province.

## 3 CONCLUSION

Political Ethics has its intended good effect as the reciprocity from the Dutch to the Indonesian people but it turned into a misery. There were three policies of the ethical politics: education, immigration and irrigation. But, The irrigation programs were not maintained well so the malaria outbreak became a serious problem in Java island.

The Dutch colonial system in Indonesia from 1870 to 1900 brought suffering to the local population. The land law in 1870 gained the foreign investors grabbing land from the kingdom.

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