Seashore villages in Amakusa: Takahama and Sakitsu

A comparative study of population registers and disaster management in 19th century Kyushu, Japan*

SATOSHI MURAYAMA[a], NOBORU HIGASHI[b]
[a]Kagawa University, [b]Kyoto Prefectural University

1. Two patterns of smallpox outbreak in traditional Japan. Smallpox is a serious, contagious, and sometimes fatal infectious disease. There is no specific treatment for it, and the only prevention is through vaccination. Variola virus causes a severe form of smallpox. According to a report by the Centers for Disease Control and Prevention, variola major smallpox historically has an overall fatality rate of about 30%. For thousands of years, smallpox outbreaks have occurred from time to time, but the disease was eradicated as a result of a successful worldwide vaccination program. The last reported case of smallpox in Japan was in 1955.

Generally, direct and fairly prolonged skin contact is needed in order to spread smallpox from one person to another, though the disease also can be spread through direct contact with infected bodily fluids or contaminated objects such as bedding or clothing. Rarely, smallpox has been spread by an airborne virus in enclosed settings such as buildings, buses, and trains. Humans are the only natural hosts of variola. Smallpox is not known to be transmitted by insects or animals.

A person with smallpox is sometimes contagious at the onset of fever (the prodrome phase), but is most contagious at the onset of rash. At this stage, the infected person is usually very sick and is not able to move around in the community. The infected person is contagious until the last smallpox scab falls off.

Modern medical knowledge has surpassed the traditional understanding of smallpox. However, the symptoms and the changing conditions of smallpox patients were carefully observed in the past. *Toso-Tebiki-Soh* (*The Handbook for Smallpox*), published in Japan in 1778 (*Anei* 7), describes the symptoms quite accu-

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rately (Rotermund 1995, 15-17). However, the central problem in dealing with this disease was the degree of understanding of its contagiousness. The only way to prevent the spread of smallpox was to keep patients in quarantine facilities. At the same time, medicine rites and magic rituals were also customary.

The traditional understanding of the contagiousness of smallpox was clearly different from the modern medical understanding, which insists that smallpox patients are contagious until their last scab falls off. In the traditional Japanese understanding, the 15th day after the scabs first begin to fall off was the end of contagiousness. Also, according to traditional Japanese medical books, it was believed that the patients died mostly on the 11th and 12th days after symptoms first appeared (Appendix 1).

Using well-informed, quantitatively analyzed demographic sources, Sköld reported the historical change in smallpox mortality. In Sweden, although 300,000 persons died from the disease between 1750 and 1900, mortality declined sharply at the beginning of the nineteenth century (Sköld 2002, 75-76). Crude death rates declined continuously between 1750 and 1900 (Sköld 1996, 27-36). In Japan, smallpox epidemics were the worst in both infection rates and mortality rates in premodern times until a vaccine was introduced after 1849 (Sakai 2008, 202-204). Smallpox is often assumed to have been one of the main causes of human death in pre-industrial Japan (Fujikawa 1969; Fukase 1999). Unlike the case in Sweden, inoculation was never successfully spread in Japan, though it was introduced in Japan in 1744 from China. Smallpox in Japan was not entirely endemic, because many people evaded infection. Smallpox infection was seen as a religious issue, and spontaneous recovery was desired.

Watanabe (2010a) described two types of smallpox outbreaks in Japan. Outbreaks of smallpox have been recorded since the 8th century and occurred repeatedly in most areas of Japan during the early modern period. The interval between outbreaks in this historical period has had two patterns. In one pattern, observed in densely populated areas, outbreaks occurred after short intervals of less than 10 years. In these areas, smallpox was endemic and most of the infected were children (Suda, Soekawa, 1983; Kawaguchi, 2001).

In contrast, the intervals between outbreaks observed in remote areas, where the population was dispersed over large geographic areas, were generally more than 10 years and up to 20. The infected included not only children but also young adults and even mature adults (Kobayashi, 2000). Smallpox was not endemic in this pattern, and outbreaks were associated with the contingent introduction of pathogens from other areas, which exposed many people to infection. Watanabe applied the model of the spread of measles in communities of different population sizes developed by Cliff and Haggett (1989) to these patterns of smallpox outbreak in early modern Japan, where mass vaccination was not yet available. Watanabe (2010a) suggested that periodic mass variolation of children was carried out to mitigate the impact of an epidemic in one part of the Ryukyu Islands, where the latter type of outbreak was prevalent (Kobayashi, 2000). On the other hand, Watanabe (2010a) also suggested that, in areas where it was endemic, the smallpox pathogen may have circulated gradually.

Watanabe (2010b) studied how the smallpox pathogen was actually transmitted. In doing so, she focused the transmission process of smallpox during the 1790^{s} in a rural area of northeast Japan, where the disease was endemic. She analyzed a series of records prepared by a local administrator, which described not only the expansion of outbreaks among these settlements but also the sequence of disease onset among individual patients. She also clarified the pathogen's transmission pattern. This pattern focused on the contacts between groups of children in adjacent settlements as a possible cause of the spread of the disease. In her paper, Watanabe described the association between the speed of smallpox transmission and children's range of movement. The lack of medical understanding about contagiousness increased the fear of smallpox, especially in remote areas, where the second pattern of smallpox outbreaks predominated. According to a contemporary Japanese work, *Toso-Mondo* (*The Smallpox Dialogue*) (Higaki 1952, 7), in Amakusa people isolated and abandoned those infected with smallpox out of fear of contracting the terrible sickness. Fathers, mothers, and other family members who became infected were banished. Even if they recovered, they could never return to their homes if they had been away for more than 100 days.

In this paper we analyze this second pattern of outbreak in the Amakusa Islands, where smallpox was not endemic but where people nonetheless experienced frequent epidemics. They feared smallpox so much that they tried to quarantine all those infected with the virus to prevent its spread and save lives. In the case of one village, Sakitsu, where people were isolated, a significant portion of the population died.

In the case of a nearby village, Takahama, the conditions were different, as a doctor and others cared for the infected in a mountain hut instead of abandoning them. The fatality rate of the last smallpox sufferers, who moved to the mountain hut after the doctor had returned to his country, was especially high. As is addressed below, not all infected persons were cared for effectively. Another point to be addressed is that the date of death was not always on the 11th or 12th day after the appearance of initial symptoms. Inadequate nutrition, unsuitable care, and abandonment would have created their own problems other than the symptoms of the disease itself that could lead to death (Radtke 2002).

2. Population change and the influence of smallpox outbreaks in Takahama and Sakitsu. From the carefully kept population records of the time, we know that in Takahama, a town in the Amakusa Islands in Japan (Fig. 1), 183 people contracted smallpox in the 5-month period between December 1807 and April 1808, and 78 of them died of this disease. Before the introduction of a vaccine, the only way to bring an outbreak under control was to quarantine the infected. According to historical sources, there were quarantine huts in Amakusa from the start of the 18th century (Higaki 1952, 7).

In comparison with Takahama (Appendix 2; Appendix 3), Sakitsu (Appendix 4), a village close to Takahama, suffered a dramatic population loss because of three outbreaks of smallpox in 1801, 1813, and 1834. The population was reduced from

Fig. 1. *Amakusa in Japan*

2,400 to 1,400 during that time. In the present study, we attempted to determine the differences between Sakitsu and Takahama that led to their markedly different experiences with smallpox.

Historical sources of information on the smallpox outbreak in Takahama from 1807 to 1808 show that there were two types of quarantine huts. One of them, called *Yama-goya* (mountain hut), was built in a mountainous place, and the other, *Nozoki-goya* (exclusion hut), was built within the village on the way to *Yama-goya* (Δ in Appendix 3). The sources list the name, sex, age, and familial relationships of each person infected with smallpox.

This paper first presents the historical data sets that characterize Takahama and Sakitsu, and then describes the quarantine policy in Takahama. How many of those who were moved to the huts died, and how many recovered? The age structure and causes of death of the infected are analyzed according to documents relating to the quarantine huts in combination with demographic and household data derived from the Japanese population register, *Shumon-cho* (*Ueda-ke Monjo*; *Sakitsu Monjo*). We then analyze population registers and other historical sources of Sakitsu in order to clarify the characteristics of this seaside fishing village, and we compare the two villages.

The most reliable data on the population of Amakusa are dated 1827 (*Bunsei* 10). This register gives a total population of 141,797, of which 68,803 were males, 67,910 were females, and 5,084 were persons whose gender is unclear. When these unknowns are excluded, the ratio of males to 100 females is 101,3. The population was estimated to have increased about five-fold in the Genroku era, from 1688 to 1704 (Higaki 1952), however, Higaki estimates the population after the Shimabara Revolt, in the mid-17th century, at around 16,000. If we consider this number to be the minimum population of Amakusa, we see that it increased slightly less than ten-fold in the following 200 years, until the end of the Tokugawa period.

The decrease in population caused by the Shimabara Revolt was rapidly alleviated by government-fostered migration. This population recovery can be particularly observed in the 17th and 18th centuries (Higaki 1952). Table 1 shows examples of this change in the population of four neighboring villages. In these four villages, the populations did not change uniformly. In Takahama, for example, there was a population increase in the late Tokugawa period, while in Sakitsu, the population suddenly decreased during the same period. In Imatomi and Oe, the populations tended to either decrease or remain stagnant. The reasons for these differences are unclear. Hirata suggests that, in the case of Sakitsu, smallpox and the economic isolation of Sakitsu from the other villages significantly affected its population (Hirata 2001).

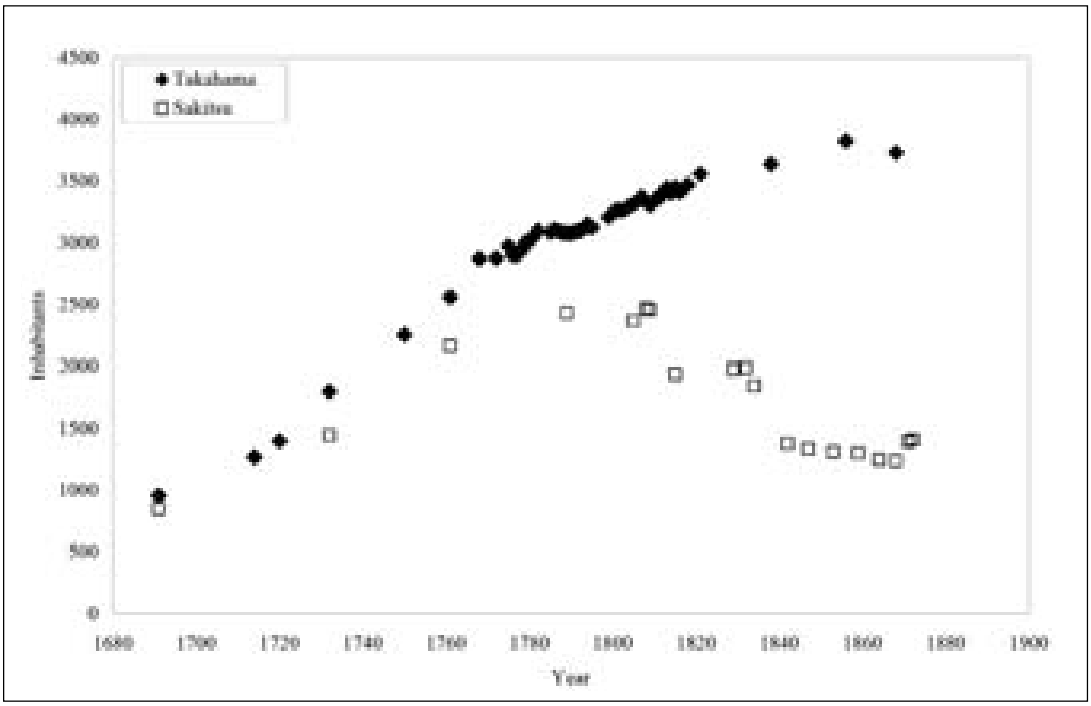
The western shore of Amakusa had few good harbours. In the Tokugawa period, only Sakitsu had a valuable fishing port in this region, and the village also had certain official privileges for port transportation. The inhabitants of Sakitsu had frequent contact with people from many regions within and outside of Amakusa, and this contact exposed them to dangers, such as smallpox, of which there were three

Tab. 1. *Population change in four villages in Amakusa*

	1691 *Genroku 4*	1808 *Bunka 5*	1816 *Bunka 13*	1817 *Bunka 14*	1827 *Bunsei 10*	1856 *Ansei 3*
Imatomi	407	1890	1925	1939	1945	1840
Sakitsu	850	2466	1962	1955	1865	1346
Ooe	889	3179	3259	3275	3290	3186
Takahama	958	3336	3414	3440	3629	3826

Sources: Hirata 2001, 151; ASU-6, ASU-7, ASU-8, ASU-9, ASU-10, ASA-2.

Fig. 2. *Population change in Takahama and Sakitsu, 1690-1879*



Sources: ASU-1, ASU-2, ASU-6, ASN-1, ASN-2.

epidemics. Sakitsu had no good areas for agriculture, so its inhabitants meshed their economy with that of Imatomi, a neighboring agricultural village. The isolation of Sakitsu was exacerbated by the spread of smallpox. In 1808, Sakitsu had its largest population, 2,466 (*Bunka 5*), but by 1864 to the village had only 1,252 inhabitants (*Bunkyu 3*) (Fig. 2; Tab. 2).

Nagasaki-Daikan-Kiroku-Shu reports that in 1834 (*Tempo* 5), 507 persons (27%) of the 1851 population Sakitsu contracted smallpox, and of these, 338 (18% of the total population, 66.7% of the infected population) died. Such statistical data for the smallpox outbreak in 1813 (*Bunka* 10) are not available, but one record shows that most people took refuge from the village in another region, and that only 100 persons remained there (Hirata 2001, 223). Most people in the village emigrated by ship.

3. The seaside fishing village of Sakitsu. The population of Sakitsu increased from 850 in 1690 to 2,466 in 1808, decreased to 1,252 in 1864, and increased again to 1,414 in 1872 (Tab. 2). The number of housing units increased from 60 to around 250. The average number of people per household was between 5,4 and 17,7.

The population increased 1.68-fold in the years 1732 to 1789 (Tab. 3), and the number of houses increased 1.32-fold. Servants' houses were not counted in 1732. The number of servants doubled between 1761 and 1789. The average household size grew from 13.9 in 1732 to 17.6 in 1761, to 17.8 in 1789. This change must be observed with caution, because the way in which housing units were recorded changed several times during this period.

Tab. 2. *Population change in Sakitsu, 1691-1872*

Year	Population	Males	Females	Number of Households	Average Household Size
1691	850	420	430	60	14.2
1732	1448	737	711	104	13.9
1761	2165	1108	1057	123	17.6
1789	2429	1204	1235	137	17.7
1805	2368	1206	1171	209	11.3
1808	2466	1251	1215	221	11.2
1809	2457	1253	1204	221	11.1
1815	1946	998	948	159	12.2
1822	1885	981	904	157	12.0
1829	1980	1015	965	247	8.0
1832	1989	1029	960	250	8.0
1842	1382	714	668	250	5.5
1847	1339	685	654	246	5.4
1853	1312	679	633	225	5.8
1856	1346	707	639	229	5.9
1859	1305	702	603	229	5.7
1864	1252	655	597	228	5.5
1871	1400	702	698	248	5.6
1872	1414	709	705	247	5.7

Sources: ASU-2; ASN-1, ASN-2; ASS-1.

Tab. 3. *Development of the seaside fishing village of Sakitsu, 1732-1789 (ratio)*

Year	Population		Households (= H.)		Boat-owning H.		Servant H.		Fisherman H.	
1732	1448	1.00	104	1.00	13	1.00	0	0.00	91	1.00
1761	2165	1.50	123	1.18	15	1.15	6	1.00	102	1.12
1789	2439	1.68	137	1.32	15	1.15	12	2.00	110	1.21

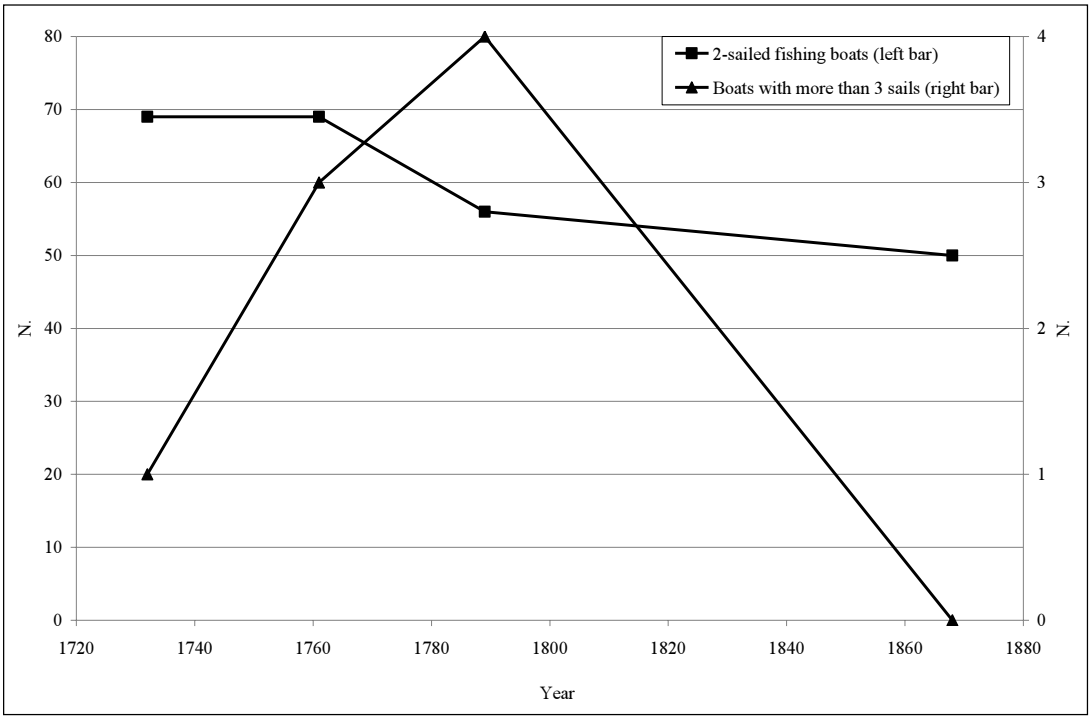
Sources: ASU-2.

It is possible to reconstruct some family lines. Appendix 5 shows that, in 1803, the way in which units were recorded was fundamentally changed. Before 1803, extended family members were included in a unit. In 1803, the extended households were separated, and much smaller units were then identified. The increase in the number of houses reflects mostly the change in the recording system.

The recording systems can be divided into two periods: the first period lasted from 1789 until 1803, and the second was instituted from 1803 onward. We were able to obtain detailed village information from 1732, 1761, and 1789, because village records (*Meisai-cho*) are available for those years.

In 1732 (*Kyouho* 17), 1,448 people, including 737 men and 711 women, were living in Sakitsu. There were 13 boat-holder's houses and 91 fisherman's houses. Only about 10% of the total number of houses owned nets and boats; the other

Fig. 3. *Boats in Sakitsu, 1732-1761-1789-1868*



Sources: See Tab. 3, Tab. 4.

houses belonged to the working class, namely fishermen. Village records of 1732 tell us that all of the 104 houses were engaged in work related to fishing; the men worked in fishing and the women engaged in cloth and cotton making, wood gathering, and vegetable planting. Sakitsu was originally a fishing village without significant agricultural products. Sakitsu had 70 boats, one of which was a three-sailed transport boat, while the other 69 had two sails. The species of fish that were caught included the sardine, bonito, pompano, mackerel, sea bream, yellowtail, and other small types. The sardines were especially valuable for drying. Sakitsu had a good harbour where large and small boats could moor. Fourteen merchants and tradesmen were living in the village, including various craftsmen, along with two carpenters, one blacksmith, one liquor store proprietor, three malt producers, and one dyer. The merchants and tradesmen were engaged in commerce related to the importing and exporting of goods. The harbour had strong commercial connections to other ports, including Shimabara, Nagasaki, Yatsushiro, Kumamoto, Yanagawa, Saga, and Kagoshima.

The average household size increased from 13.9 to 17.6 between 1732 and 1761. The population increased by 717, from 1,448 to 2,165, while the number of households increased by 19, from 104 to 123, and the total number of fishing and bigger commercial boats increased from 69 to 72. The boats seem to have increased only slightly in number, but the number of relatively bigger craft with three sails increased from one to three. These data suggest positive economic development in Sakitsu, resulting in an increase in the average number of households.

Tab. 4. *Commercial and fishery tax (Momme, silver coin) by fishing-related commerce in villages of the Oe district*

Year	1789		1867	
	Commercial Tax	Fishery Tax	Commercial Tax	Fishery Tax
Sakitsu	27	465	0	465
Imatomi	0	0	0	0
Ooe	6	40	24	40
Takahama	45	0	177	50
Kozatoko	33	0	42	0
Simotsufukae	18	0	33	0
Tororo	6	0	0	0
Fukuregi	0	0	0	0
Total	135	505	276	555

Sources: ASU-2; ASO-1.

The average household size stagnated from 1761 to 1789, however, and the total number of fishing boats dropped from 69 to 56, although the number of bigger boats increased to four. After the drastic population decline, there were no such larger commercial boats in Sakitsu in 1868 (Fig. 3; Tab. 4).

Sakitsu was originally a fishing village, and over time it developed into a commercial town with a fishing industry. However, this development was arrested because the smallpox epidemics fundamentally changed the demographic structure of the village. While Takahama became the commercial center of this region at the end of the Tokugawa period, Sakitsu reverted to being a fishing village.

4. Takahama's success against smallpox epidemics and the population decrease in Sakitsu. The presence of smallpox in Takahama in 1807 began with the death of a man named Keisuke in December. He lived on *Suwa-no-tori* (*Suwa* Street), a district in the village, which had 122 households and a total of 540 persons. Keisuke's cause of death was not known; however, many people who attended his burial and had also had direct contact with him while he was sick showed symptoms of smallpox simultaneously. The number of patients increased to 75 by December 14 (Appendix 6).

The fatality rates in 1807 and 1808 in Takahama were, however, not very high in comparison with other areas in Amakusa. The quarantine policy was effective in limiting the number of victims. Prompt isolation of the infected, along with all the members of their household, from the other village inhabitants was effective in controlling the unrestricted spread of smallpox. Rice, *miso*, and other foods were sent from Takahama and other neighboring villages. The doctor was effective. On the other hand, famous *Shinto* priests were also invited to participate in a mysterious prayer to help eliminate the sickness from the village.

The local governor (*Shoya*) in Takahama decided to quarantine all of the infected in mountain huts and to quarantine all members of their households in exclusion huts. With the inclusion of five additional residents who showed smallpox

symptoms by that time, a total of 80 infected residents were moved to the new mountain huts. A doctor, Keiniku Miyata, who visited the village by chance, was begged to care for the infected. Because the infected were mostly quite poor, the village decided to pay the cost of their medical treatment and food.

Of the 80 patients first diagnosed, 16 had died by December 23, which corresponds to January 20, 1808, on the Western calendar. Six of these 16 fatalities were due to the severity of their illness, and these 6 died before they could be moved to the mountain huts. The other 10 persons died in the huts. The record of persons who were moved to the huts shows only the death date for those who died before December 23. All of the others on the list were identified using *Shumon-cho*, and their death dates were confirmed. By the end of January 1808, 16 more persons had died. Of the 80 residents infected with smallpox, a total of 32 (40.0%) appear to have died as a result of the disease.

A total of 101 persons lived in the exclusion huts in the village. They were the household members of the 80 patients in the mountain huts. If they exhibited symptoms of smallpox, they were moved immediately to the mountain huts (Appendix 6; Appendix 3).

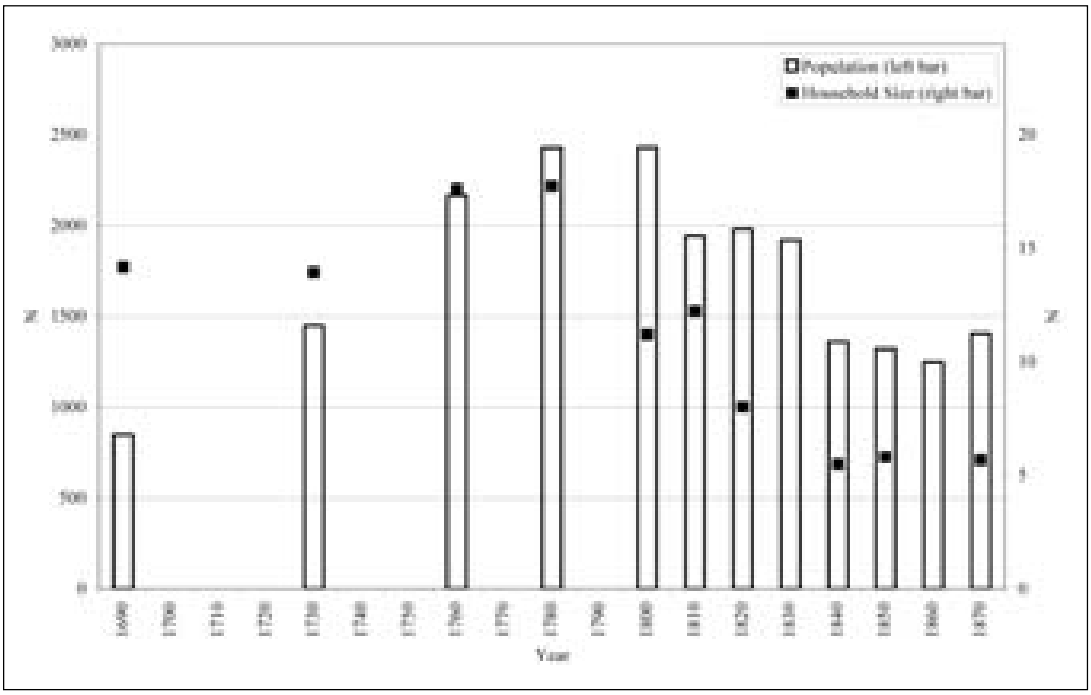
More than 80 of those who were quarantined in the exclusion huts contracted smallpox. Even if only one member of a household was recorded as a patient on the list, it is possible that by January 1808 all of the household members had died. A man named Fukuhei had 6 members in his household. All seven of them died between December 17 and January 28. Only his daughter, Iwa, who died on December 22, was listed as one of the 80 infected patients. However, before her death, Fukuhei's niece, Tama, who was 7 years old (*sai* in Japanese), had already died on December 17. This case shows that the list was not perfect, and that there were some village members who were not listed but who died in the early phase of the outbreak.

A total of 166 patients were moved to the mountain huts. The last 15 of these patients were quarantined after the doctor, Keniku Miyata, had left the village at the end of January 1809. Of these 15 patients, only 3 recovered, and 12 (80.0%) died. On the other hand, when the doctor was caring for the patients before that time, 61 out of 151 patients (40.4%) died due to smallpox. The reason for this difference is unclear.

After the beginning of April 1808, those newly identified as infected were not quarantined in the mountain huts but rather were transported out of the region by ship, while their household members lived for some time on an exclusion ship. A total of 17 patients were shipped in this way. Of these 17 patients, only 5 (29.4%) died. The total number of infected from December 1807 to the end of April 1808 was 183, of whom 78 (42.5%) died. This rate was not as high as that of Sakitsu in 1834. The quarantine policy in Takahama could be judged to be quite effective at preventing a greater spread of the disease.

In the case of Takahama, the quarantine policy was effective for preventing a demographic crisis, but the case of Sakitsu was different. There, three smallpox epi-

Fig. 4. *Smallpox epidemics and population decrease in Sakitsu*



Sources: See Tab. 2.

demics resulted in a fundamental population decrease (Fig. 4). The decline in the average household size, from 12.2 in 1815 to 5.5 in 1842, also shows a dramatic economic decline. Sakitsu lost its role as a commercial town (Fig. 3; Tab. 4).

Precise demographic data on the influence of smallpox epidemics are available for the period from February 1801 to February 1802, because all of the persons who died due to smallpox were recorded in *Fumie-cho*: 178 people died in this period, of whom 131 (73.6%) were smallpox patients. The death rate in the case of Takahama was 2.4%, while in the second district of Sakitsu, of the total population of 1282 at the beginning of February 1801, 131 (10.2%) died due to smallpox. The population never recovered from its decrease by around 150, because epidemics recurred in 1801, 1813, and 1834.

5. Conclusion. Quarantining infected persons and their household members was an effective way of preventing an even greater spread of smallpox in Takahama. The town of Takahama was able to avoid a dramatic population decrease. The fatality rate was not as high as in other villages. However, smallpox seems not to have been the only cause of death in those infected with it. Often, in areas other than Takahama, infected people were abandoned and ignored. The dramatic decrease in the population in Sakitsu (ASS; Higashi 2008) was due in part to its status as a seaside fishing village, which exposed its inhabitants to the introduction of smallpox from the outside world. However, other seaside fishing villages did not suffer as much as did Sakitsu.

The dramatic decrease of the population in Sakitsu was caused by repeated smallpox epidemics in a period of 35 years. The economy of Sakitsu was originally based solely on fishing, but it developed into a commercial town. The town imported agricultural products from surrounding areas, which established a regional economic unit and drove regional cooperation. However, the isolation compelled by the smallpox epidemics caused the town to lose its commercial function. The natural harbour benefited the town, but further local development was limited in the pre-modern world.

The quarantine policy using population registers to identify infected persons was an effective way to prevent epidemics in the Amakusa Islands, where smallpox was not endemic. The people feared smallpox so much that they tried to control its spread. The population loss of Sakitsu was caused not only by influences of the epidemics but also by the economic isolation of the village, which had been able to survive because of its natural port and the associated commerce.

Appendix 1. *Modern medical and traditional understandings of smallpox*

Modern medical understanding					Traditional understanding in Japan in the 18th century		
Day	Duration	Phase name	State of contagiousness	Condition of illness	Duration	Phase name	State of contagiousness
	7 to 10 days	Incubation period	None	Exposure to the virus is followed by an incubation period, during which people do not have any symptoms and may feel fine.	Unknown?		
1st to 4th	2 to 4 days	Initial symptom	Sometimes	High fever, malaise, head and body aches, and sometimes vomiting.	2 to 3 days	*Jyonetsu*	Unknown
					1 or 2 days	*Kenten*	Unknown
5th to 8th	about 4 days	Early rash	Most contagious: Rash distribution	A rash emerges first as small red spots on the tongue and in the mouth. These spots develop into sores that break open and spread large amounts of the virus into the mouth and throat.	1 or 2 days	*Syussei*	Unknown
					1 or 2 days	*Kicho*	Unknown
					1 or 2 days	*usho*	Unknown
9th to 13th	about 5 days	Pustular rash	Yes	The bumps become pustules-sharply raised, usually round and firm to the touch as if there is a small round object under the skin.	1 to 2 days	*Kuwan-nou*	Unknown
					1 to 2 days	*Siuen*	Unknown
14th to 18th	about 5 days	Pustules and scabs	Yes	The pustules begin to form a crust and then scab. By the end of the second week after the rash appears, most of the sores have scabbed over.	1 to 2 days	*Rakuka*	Unknown
19th to 24th	about 6 days	Resolving scabs	Yes	The scabs begin to fall off, leaving marks on the skin that eventually become pitted scars. Most scabs fall off three weeks after the rash appears.	At the 15th day: End of Smallpox		
		Scabs resolved		Scabs have fallen off. Person is no longer contagious.			

Source: www.cdc.gov/smallpox; Rotermund 1995, 15-17.

Appendix 2. *A pictorial map of Takahama, measured in 1808 (Bunka 5) and drawn in 1823 (Bunsei 6)*

Source: ASH-1.

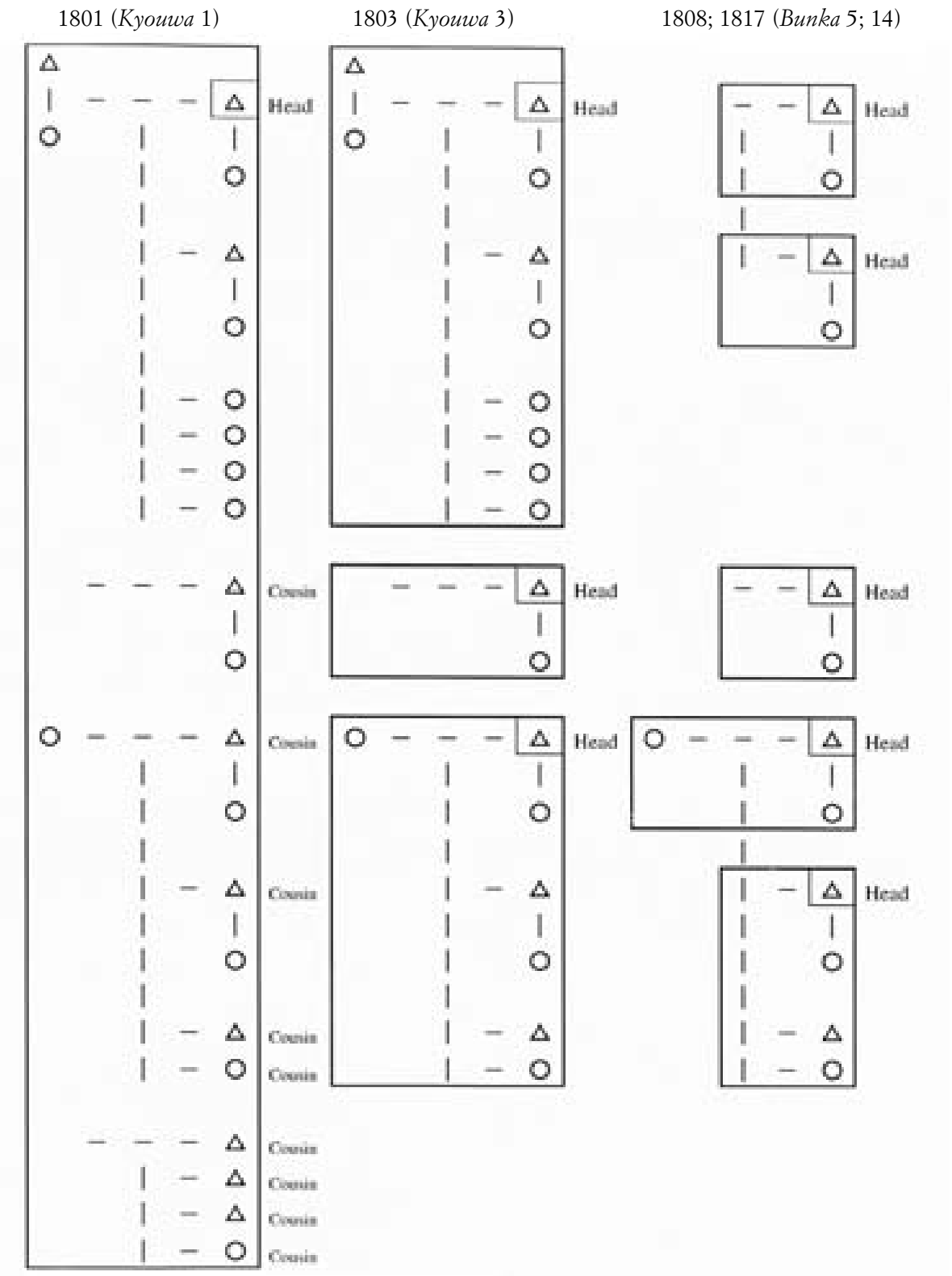
Appendix 3. *Shoya and four mountain huts in Takahama*

Source: ASH-1. Higashi identified the places of the houses and huts from historical records.

Appendix 4. *A pictorial map of Sakitsu, measured in 1808 (Bunka 5) and drawn in 1823 (Bunsei 6)*

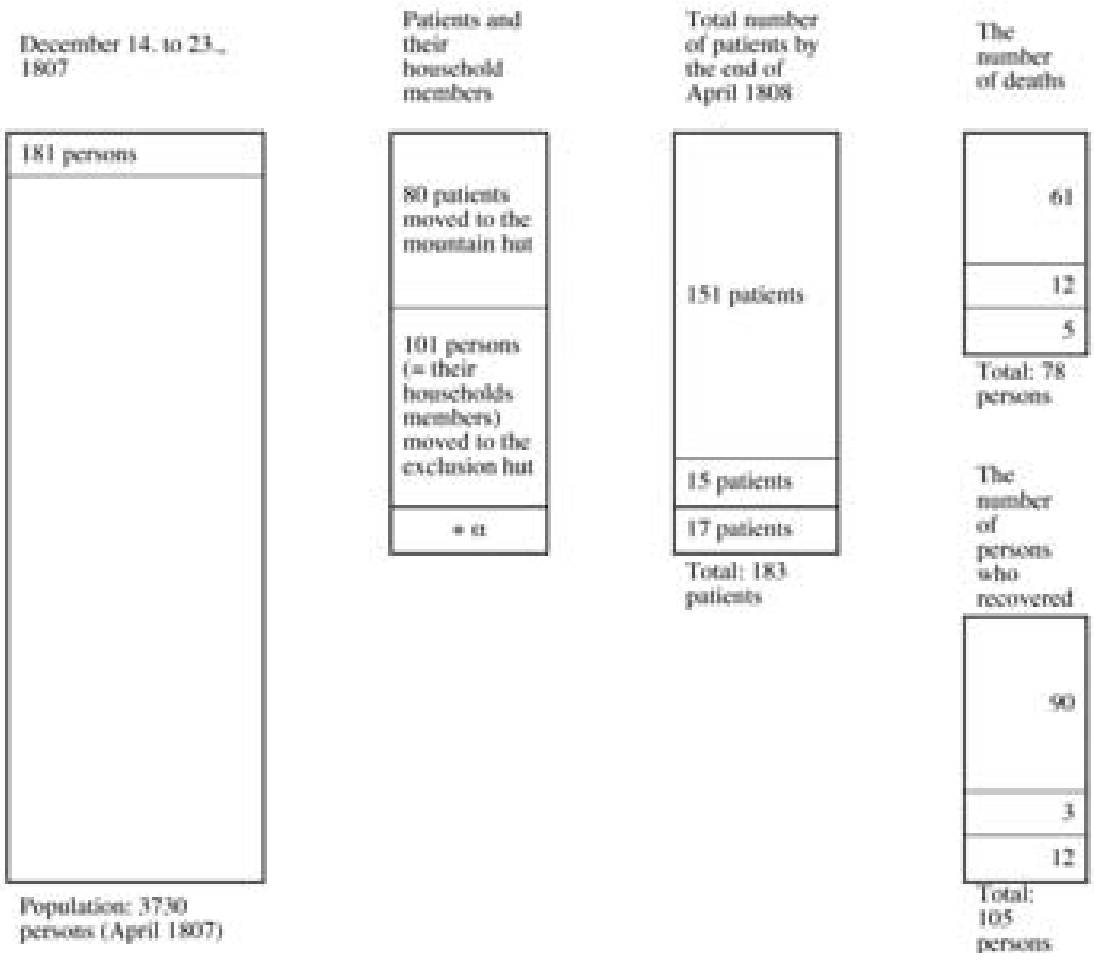
Source: ASH-2.

Appendix 5. *The family and the change in population registers*



Sources: Ass-2, Ass-3, Ass-4, Ass-5, Ass-6.

Appendix 6. *Quarantine policy in Takahama*



Sources: ASU-3, ASU-4, ASU-5.

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Summary

Seashore villages in Amakusa: Takahama and Sakitsu. A comparative study of population registers and disaster management in 19th century Kyushu, Japan

There were two patterns of smallpox outbreak in traditional Japan: endemic and epidemic. We analyze the epidemic pattern of outbreak in a remote area, the Amakusa Islands, in the 19th century. The western shore of Amakusa had few good harbours. In the Tokugawa period, only Sakitsu had a valuable fishing port in this region, and the village also had certain official privileges for port transportation. The inhabitants of Sakitsu had frequent contact with many other regions within and outside of Amakusa, and because of this were exposed to dangers such as the introduction of smallpox, of which there were three epidemics in Sakitsu. In 1808, Sakitsu had its largest recorded population, 2466 (*Bunka 5*), but by 1864 the population had decreased to only 1346 (*Bunkyu 4*). In Takahama, a neighboring village of Sakitsu and also in the Amakusa Islands, 183 people contracted smallpox from 1807 to 1808, and 78 of them died. In comparison with Sakitsu, Takahama succeeded in controlling the spread of the epidemic. In this study we investigate the differences between the two villages using demographic data, and we attempt to characterize the seaside fishing village of Sakitsu.

Riassunto

Villaggi litoranei nelle Amakusa: Takahama and Sakitsu. Uno studio comparativo con l'uso dei registri di popolazione e la gestione delle calamità nella regione di Kyushu, Giappone

Nel Giappone tradizionale il vaiolo poteva manifestarsi secondo due differenti modalità: endemica o epidemica. Questo saggio analizza un'epidemia sviluppatasi in un'area remota, l'arcipelago di Amakusa, nell'Ottocento. Le coste occidentali di Amakusa avevano pochi buoni porti. Durante l'era Tokugawa, Sakitsu possedeva l'unico buon porto di pesca della regione, e il villaggio godeva anche di alcuni privilegi relativi al transito delle merci attraverso il porto. Gli abitanti di Sakitsu avevano contatti frequenti con molte altre regioni entro e fuori Amakusa, e per questa ragione erano esposti a rischi quali l'infezione da vaiolo, malattia che causò tre epidemie nel villaggio. Nel 1808, Sakitsu aveva la più grande popolazione mai registrata, 2466 persone (*Bunka 5*), ma entro il 1864 la popolazione era scesa ad appena 1346 unità (*Bunkyu 4*). A Takahama, un villaggio vicino a Sakitsu ubicato anch'esso nell'arcipelago di Amakusa, tra 1807 e 1808, 183 persone si ammalarono di vaiolo e 78 di loro perirono. A confronto di Sakitsu, Takahama riuscì a controllare la diffusione dell'epidemia. In questo studio investighiamo le differenze tra i due villaggi usando dati demografici, e tentiamo di identificare le caratteristiche salienti del villaggio costiero di Sakitsu.