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**LABOR MIGRATION IN A PRE-INDUSTRIAL SOCIETY:  
A Study Tracing the Life Histories of the Inhabitants of a Village\***

AKIRA HAYAMI

INTRODUCTION

For demographic studies on Tokugawa Japan the *shūmon-aratame-chō* (宗門改帳)<sup>1</sup> is the most fundamental document for use as evidence. These registers are the product of the strict ban on Christianity enforced by the Tokugawa Government, originating with the policy that family temples certify that all persons living in Japan were of the Buddhist faith. As this registration was conducted with regard to all residents, every year in policy, the resulting records are in the nature of a family register, which serves us as the basic data for research in historical demography. A large number of the *shūmon-aratame-chō* give the names, ages, and positions of individuals in their households and note in detail any changes in the households such as births, deaths, marriages, or moves. Occasionally, but only very rarely, the assessed amounts of land (valued in terms of rice) and the number of livestock are also recorded and this is considered the most important material for determining the status of the people at that time. If a long-run time series of these registers exists for a village or town, its value is especially high. Such materials can be used for a basic demographic analysis and also for more sophisticated research, such as family reconstitution. We can also use them for the analysis undertaken in this article.<sup>2</sup>

In a good time series of *shūmon-aratame-chō*, we can observe the entire process from entry to exit of all individuals registered and various behavior on their part recorded together with their familial environment. This information we can gather in sufficient quantity to classify and then test statistically. Family reconstitution is a type of tracing survey, and the demographic data drawn from this analysis are indeed abundant and high in factual reliability, but it concentrates on marriage and birth. Migration, another important aspect of demographic behavior, is scarcely touched upon by family reconstitution. If we trace an individual through every recorded experience in his lifetime from birth to death, however, migration is naturally placed within the sphere of observation.

\* The author is extremely indebted to Dr. Susan B. Hanley for revising his English manuscript.

<sup>1</sup> These may be literally translated "faith investigation registers". They are introduced in great detail in the following: Robert J. SMITH, "Small families, small households and residential instability: town and city in 'pre-modern' Japan", in *Household and Family in Past Time*, ed. by Peter LASLETT, Cambridge, 1972. pp. 431-436.

<sup>2</sup> In order to apply family reconstitution or a tracing study in the same manner as attempted in this article, it is necessary to use the document over a period of at least one hundred years without any great break.

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In this article we will examine migration in Nishijō Village, Ampachi County, in the Province of Mino. This will be combined with a conventional static demographic analysis of the village and family reconstitution. Our object is to show the significance of migration as found in this village. The population treated here is limited to this one village, and though this limitation may substantially restrict the conclusions to be drawn, the study of the years for which national statistics do not exist would be impossible without gathering individual

## 3

[illegible]

Nishijō Village is a farming village located on the Nōbi Plain in central Japan. During the latter period of the Tokugawa regime this village was ruled by the Ōgaki *han* (藩, domain) from the castle town of Ōgaki, located about 4 miles northwest of the village. This area is in the delta of three rivers, the Kiso, Nagara,

and Ibi, and is called *Wajū* (輪中, literally, "in the ring") from its unique topography of hamlets and fields encircled by high embankments. The soil here is fertile and in addition to rice, the chief crop, cotton, rapeseed, and other cash-crops were cultivated, but no data on output exist.

Fortunately for us, the *shūmon-aratame-chō* of this village are in a complete series of 97 years without any break whatever, between 1773 and 1869.<sup>3</sup> In addition, the contents of the registers are recorded in minute detail and with the greatest quantity of information we could possibly expect from historical material of this kind. Any change in residence, reasons for such, and destinations are all set down and even post-migration movements are described.

In using these historical materials which exist in long time-series, we have created a basic form for recording all of the facts known about one individual. This form we have called the Personal History Tracking (PHT) and a copy is included here. The items recorded on the PHT are each individual's code number, the reasons for his or her entry and exit from the documents, his name, the family he belongs to, any change in his position in the family, marriages and divorces, births and deaths in the family, adopted children, and any other information we have on his demographic behavior. Every item above is added with the year when change occurred and the age of the individual at the time. The back of the form is used mostly for organizing the information, and so that we might find at a glance the year and duration of an event which occurred in the life history. We used various colors, enabling us to make a visual classification. Gathering a large number of PHTs made in this way, we appropriately classify and statistically arrange them in order to observe and analyze the behavior of ordinary people living in a pre-modern society. This is what we, the Keio Group, have as our basic objective.

Through the usual methods of analyzing the *shūmon-aratame-chō*, we obtained the following information on Nishijō Village during the Tokugawa period. The total residential population in 1772 was 366 (181 men and 185 women); in 1869, it was 381 (200 men and 181 women). The number of households decreased from 93 to 78. Though there was no drastic change in population at either end of the series, (as seen in Fig. 1) a big decrease occurred at the end of the 1780s and again in the latter half of the 1830s. These two drops in the population correspond to the second and third of the three great natural disasters of Tokugawa Japan. The population decrease in the 1780s is called the Tenmei Famine which occurred when poor crops continued for several years. During the 5 years from 1785 to 1789, 51 persons died in Nishijō and the village population dropped from 361 to 299, a decrease of about 17%. A decrease in the 1830s, called the Tempō Famine, was due to a poor harvest and an epidemic in the years 1837-1838. It is recorded that 28 persons died in the village in 1837, with the crude death rate

<sup>3</sup> These documents are located in St. Paul's University Library, Tokyo. The author is very thankful to Professor Hideo HAYASHI for having kindly given him the opportunity of using them.

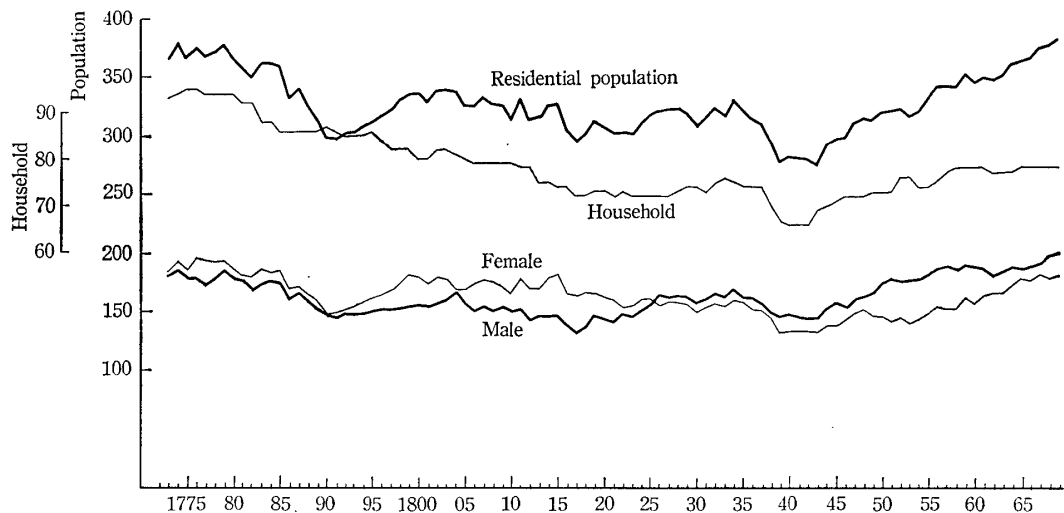


Fig. 1. Trends of Population and Household Size.

rising as high as 90‰. This is the highest rate for a single year in the period covered here.

Except for these two big drops, the movement of the population was rather slow. However, after the drop at the end of the 1830s, the population recovered at a high rate of increase with an annual average of 1.2%.

Despite the hardly discernible trends in the total population figures for the village, the birth rate was much higher than the death rate.<sup>4</sup> The total number of births during this period was 993, while there were only 722 deaths. This difference of 271 would be a natural increase. The average crude birth rate was 31.9‰, while the average death rate was 23.2‰. Despite a large natural increase, however, the total population of this village did not show any significant increase because much migration took place.

#### MIGRATION IN THE TOKUGAWA PERIOD

In the descriptive histories written to date, the peasants in the Tokugawa period are often reported to have been bound to their land and legally prohibited from migrating. Indeed, there were some institutional restrictions on their movement and the geographical scope of their lives must have been much smaller than that of the present. But this does not mean that peasants spent their lives in the village where they were born or even in the very limited neighborhood of their native village. On the contrary, the analysis of the basic historical material we are now

<sup>4</sup> Special attention must be given to the following points regarding the births and deaths obtained from the *shōmon-aratame-chō*: these records were compiled every year, the people living at the time being the subject of the investigation. In consequence, those who died before new documents were compiled are not included in the data. Therefore, the birth rate and the death rate used here are somewhat lower compared with the reality. It would be necessary to multiply them by 1.25.

undertaking shows that far more migration took place than would be expected. Though some institutional limitations existed, it is even doubtful how strong these were in reality. Moreover, peasants sometimes migrated without taking any of the required procedures, and once they entered into a big city, they seemed never to have been caught.

We might think that the limitations on migration would have been due to an underdeveloped system of transportation. There were no means of public transportation on land, and thus ordinary people had to walk. As a consequence, long distance migration took many days, much money, and was always very fatiguing. However, migration within a ten days scope of time was not infrequent, and if the migration was to a big city the scope was somewhat enlarged.

Here we will be discussing the migration of labor, not migration for marriage or adoption. Both kinds of labor migration to be dealt with below are expressed in the term *dekasegi* (出稼, literally, "leaving home to work"). This term covers both permanent and temporary migration for two reasons: first, the meaning of the word is not permanent but temporary migration and peasants were expected to return home in the future. One of the reasons why such an expression was adopted was due to the institutional limitation on making permanent moves to some other domain. The second reason is that Japanese labor has tended to work at certain places for a certain period and then return to their native places, a trend which has existed up to very recent years. All migration of labor was written as *dekasegi* or working temporarily at so and so's house as servants. In truth, however, there was a mixture of permanent and temporary migrants categorized under this one term, but without looking at the long-term records of individuals, we cannot distinguish permanent from temporary migration.

The causes of labor migration can be explained largely by economic reasons. First, most of the consuming expenditures of the Tokugawa Shogunate and the *daimyo* (大名) took place in the cities and towns and a large number of merchants and manual laborers gathered here. As the living conditions in cities and towns were, on the whole, bad, especially the ability to withstand epidemics and famine, urban populations could not maintain themselves without a constant inflow from the rural areas. Though the historical demography relating to cities is almost completely undeveloped, from the survey conducted by the Tokugawa Shogunate from 1843 to 1867 we know that 25% to 33% of the common people of Edo were born outside the city.<sup>5</sup> Consequently, cities by their very existence caused migration to increase, and if economic activities increased and the city population grew larger, this increase was drawn from rural areas.<sup>6</sup>

On the other hand, two phases can be discerned for inter-village mobility. The first is the type widely seen up to the eighteenth century, that of the *genin* (下人) or servant, who migrated to take up long-term employment—in some case lifelong

<sup>5</sup> MINAMI Kazuo, *Edo no shakai kōzō*, Tokyo, 1969. p. 196.

<sup>6</sup> Akira HAYAMI, "Demografia e economia no Japão pré-industrial", *Anais de História*, No. 4, 1972, Assis (Brasil).

service. The existence of this type of labor is thought to be traced back to ancient times, but early in the Tokugawa Period it gradually began to disappear. This was due to the change in the type of farm management, which could be seen on a nationwide scale.<sup>7</sup> This conversion to small-scale management which depended chiefly on the labor of the immediate family members was an important change which characterized the seventeenth century.

After the conversion to small scale management was completed, the second phase of migration set in. This change was due to the development of rural handicraft industries which needed a large labor force and to the cultivation of cash crops as side work which also induced migration. Labor was supplied by contract, the term of which was usually a year, but it could often be extended by several years by revising the contract. The Japanese term for these persons who worked under yearly (or term) contracts is *nenki-hōkōnin* (年季奉公人). In consequence, labor migration of this type continued *pari passu* with industrial development, and labor supply and labor demand areas were both created. Of course, in a well-to-do farmer's household, there were always men and women who were employed as domestic servants on long-term contracts, but because in one village there were no more than two or three of these households, in terms of numbers these were not important.

Migration for non-economic reasons included services in *samurai* (侍) families. This meant a demand for domestic servants, but such service was sometimes compulsory.

This article deals mainly with the *dekasegi* of men and women from this village, but this does not mean that no men and women came to work in this village. We will also treat this subject to the extent necessary.

#### THE TRACING OF LIFE HISTORIES

##### The *Dekasegi* rate

The percentage of persons who experienced going away from home to work from among all persons born and brought up in the village can be called the *dekasegi* rate. Obtaining this rate presents certain difficulties. In order to prove that a villager died without ever leaving his village to work, we must be able to trace his activities from birth to death. The period which the documents cover is only 97 years and thus there are only a few cohorts whom we can trace to their deaths. However, as very few people left home to work in their old age, the cohort group born between 1773 and 1825 can be used for our examination as the villagers born in 1825 would be 45 years old in the last document.<sup>8</sup>

<sup>7</sup> For observations concerning Suwa County of Shinano Province, see Chap. 2 of HAYAMI, *Kinsei nōson no rekishi jinkōgakuteki kenkyū*, Tokyo, 1973.

<sup>8</sup> Due to the Japanese traditional method of counting ages, a person becomes one year at his birth. When the new year arrives the child will have another year added, irrespective of the age of the child counted by the Western way. In this article age counting follows the traditional Japanese method.



TABLE I. DIFFERENTIAL *Dekasegi* RATES BY LANDHOLDING STATUS OF HOUSEHOLD

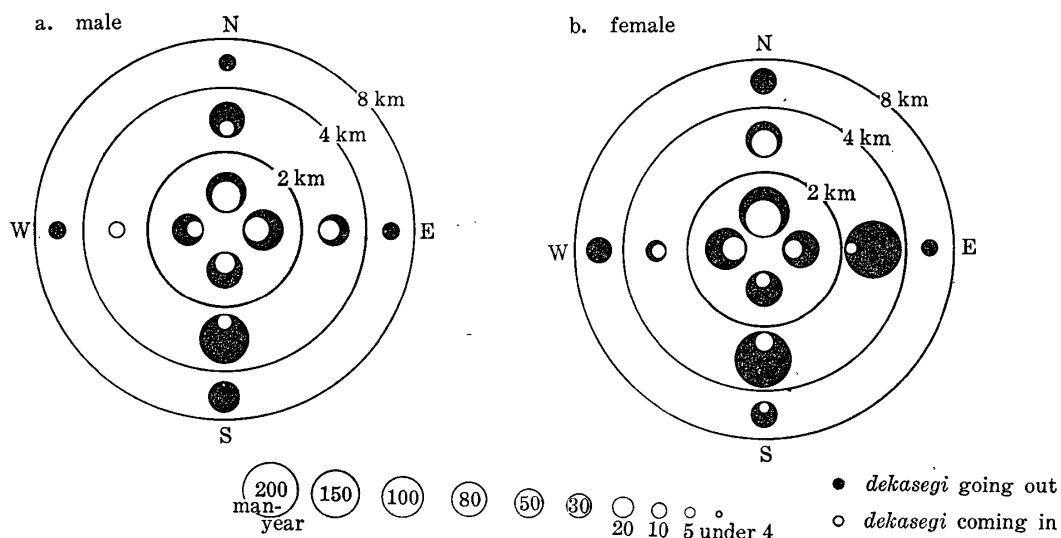
Status	Male, %	Female, %
Landowner	39.4	32.5
Owner cultivator	29.6	59.1
Owner-tenant cultivator	27.8	64.7
Tenant	63.1	74.0

TABLE II. PERCENTAGE OF HOUSEHOLDS WHOSE MEMBERS WENT OUT ON *Dekasegi*

Status	1780, %	1820, %	1860, %	Total, %
Landowner	33	33	60	39
Owner cultivator	30	29	40	32
Owner tenant cultivator	50	50	45	48
Tenant	46	63	56	54

TABLE III. AGE AT THE FIRST *Dekasegi* BY DESTINATION

Destination	Tenant		Non-tenant	
	Urban	Rural	Urban	Rural
1) Male				
Range (age)	8-47	6-29	8-33	13-18
Mean	15.9	13.6	16.4	15.8
Mode	11	11	—	—
Sample size	48	46	20	4
2) Female				
Range (age)	6-24	7-25	9-21	10-18
Mean	14.7	13.4	14.7	14.8
Mode	14	13	—	—
Sample size	42	73	36	5

Fig. 2. Rural *Dekasegi* by Direction and Distance.

The population included in this cohort group consists of 244 men and 250 women, of whom 62 boys and 60 girls died before reaching age ten. If these deaths are subtracted, 182 men and 190 women remain. Of these, 87 men, or 48% of the 182 men, and 117 women, or 62% of the 190 women, left on *dekasegi*. Though there is some difference between the figures for men and women, the *dekasegi* rate can be said to have been far higher than we expected, and we are ignoring here people who went to work within the village.

Among the reasons why so many villagers went out of the village to work were the facts that this village had many cities in the surrounding areas, the rural handicraft industry had developed near here, and the village was located on a plain so that it was comparatively easy for villagers to move. Also, the village happened to have a high birth rate.

When we examine the households by class, how do the *dekasegi* rates vary? Fortunately, the land held by every household is recorded in the *shūmon-aratame-chō* of this village in terms of the assessed rice output. However, because we do not know how much land households held outside their own village, landholding by household cannot be accurately classified. But if we use the information we have, households can be classified into (a) landowners, (b) owner cultivators, (c) owner-tenant cultivators, and (d) tenants.<sup>9</sup> Using this classification for each individual at birth, the *dekasegi* rate of each class can be shown as in Table I. For the men, the *dekasegi* rate in the tenant group is far higher than in any other class, but among the other three classes there exist no significant differences. For women, the rate is highest for the tenant group, and the rate gradually decreases with each group, with the lowest for the landowner class. The rate among the tenants is 63% for men and 74% for women, and thus we know that the principal source of *dekasegi* labor was this class. Table II shows the proportion of households in each classification which have members who went out on *dekasegi* at three points in time: 1780, 1820, and 1860. This table also shows that the highest *dekasegi* rate is found in the tenant households.

#### The Age of Leaving on *Dekasegi*

At what age did the villagers start going on *dekasegi*? In order to observe the conditions on the labor supply side and on the labor demand side, we shall divide all the households into tenants and non-tenants. Then, we shall divide the initial *dekasegi* destinations into cities (including towns) and villages. The ages at first *dekasegi* are shown in this classification in Table III. Generally speaking, the mean age in tenant households was rather low; some left home for work as young as age six. Slightly fewer went to rural areas than to cities. The lowest age at first *dekasegi* is found among tenants who went to rural areas, while the highest was for non-tenants who went to the cities.

<sup>9</sup> Households of the landowner class comprised 5-15% of the total number of households, the owner cultivator 5-20%, the owner tenant-cultivator 0-20%, and the tenants 60-70%. The fluctuations were due to institutional changes in the evaluation in 1810.

### *Dekasegi* Destinations

If the initial destinations for *dekasegi* are divided into cities and rural areas, we can see in Table III that about an equal number of men went to each, but a larger number of women went to rural areas than to cities. The villagers from the non-tenant classes went primarily to big cities.

In order to ensure accurate figures on *dekasegi* destinations, in Table IV we measured their compositions in man-years. We divided the years between 1773 and 1868 into four periods and *dekasegi* destinations into three classifications:<sup>10</sup>



Fig. 3a. *Dekasegi* by Sex.



Fig. 3b. *Dekasegi* by Destination.

<sup>10</sup> This classification is for the sake of convenience and is only nominal. Cities here have populations above 10,000, while towns have the suffix (*-machi* and *-shuku*) and a population below 10,000.

TABLE IV. DISTRIBUTION OF *Dekasegi* BY DESTINATION

	Destination (man-years)				Distribution (per cent)		
	Rural	Town	City	Total	Rural	Town	City
(1) Male							
1773-1800	309	25	540	874	35.4	2.9	61.8
1801-1825	325	87	501	913	35.6	9.5	54.9
1826-1850	170	115	496	781	21.8	14.7	63.5
1851-1868	138	112	354	604	22.9	18.5	58.6
Total	942	339	1891	3172	29.7	10.7	59.6
(2) Female							
1773-1800	405	69	427	901	45.0	7.7	47.4
1801-1825	382	86	577	1045	36.6	8.2	55.2
1826-1850	377	125	445	947	39.8	13.2	47.0
1851-1868	151	228	203	582	26.0	39.2	34.9
Total	1315	508	1652	3475	37.8	14.6	47.5

cities, towns, and rural areas. The total amount of *dekasegi* reached 6,647 man-years, with an annual average of 68. However, we can see that *dekasegi* destinations changed a good deal over time. Fewer men and women went to rural areas on *dekasegi*, as increasingly people began to go to cities and towns. It is significant that the women going on *dekasegi* to towns had the highest rate toward the end of the period. It is quite clear from their destinations that they were employed in the area of the developing textile industry which spread over 5 to 7 mile area to the east of this village.<sup>11</sup>

We showed the amount of *dekasegi* for each year in Fig. 3. If we compare men with women, we find the swing for women is much larger than for men. For women, the ratio of the peak exodus and minimum exodus was 58: 19, i.e., nearly 3: 1. This ratio was 47: 18 in the case of men. There were two clear peaks of *dekasegi* for women, in 1781-1795 and 1815-1826, while for men there was no clear peak, only a leveling off of *dekasegi*. It is clear that the second peak for women was due to the increase of *dekasegi* to cities and towns. This change cannot be explained by population changes within the village. The total population, as seen in Fig. 1, was low and showed a stagnant trend in the middle of the period. If we look at the sex ratio and age composition, we can see no conspicuous change, and after 1840 when *dekasegi* was at its minimum, we see an increase in the population aged 16-50. Given this, the swing in *dekasegi* for women can be thought to have resulted from conditions of employers or the difference in income obtainable in this village and the *dekasegi* destinations.

The trend for *dekasegi* to rural areas was declining, but if we combine *dekasegi* to this village with *dekasegi* from it, we see labor migration among villages as characteristic of this period. On the whole, the number of people coming on

<sup>11</sup> Takehana of the Province of Mino, and Ichinomiya and Okoshi of the Province of Owari are its centers. HAYASHI Hideo, *Kinsei nōson kōgyō no kiso katei*, Tokyo, 1960.

*dekasegi* to this village is far smaller than that of people going out from this village, with a ratio in terms of man-year of 447: 2030. If we examine migration in terms of direction, we observe the interesting characteristics seen in Fig. 3. As previously mentioned, a larger number of women than men went out on *dekasegi*. Men mostly went south for *dekasegi* and next in terms of frequency to the north, east, and west, while *dekasegi* to this village was from north, east, south, and west. For women, *dekasegi* from the village was to the south, east, north, and west, in that order, while *dekasegi* to this village from the north, west, south, and east. Women most frequently migrated in from north but migrated out for the south and east. Thus there seems to have been a directional trend for labor migration involving this village.

To the southeast of this village lay the city of Nagoya, and in the area between Nagoya and the village the textile industry was well developed. Characteristic of labor migration in a pre-modern society, labor migration here was not to a distant place in a single journey, but occurred gradually through a series of short moves, first to places nearby. Here it is clear that 80% of the migration among villages took place within a 2.5 mile radius and flowed in a definite direction.

The statistics on the *dekasegi* destination by city calculated in man-years for each periods is shown in Table V. Except for the very few who went to Edo, people mostly went to Nagoya, 15 miles to the southeast of Nishijō, to Ōsaka, 75 miles to the southwest, or to the area between these two major cities. Before 1800, the largest number of both sexes went to Kyōto for *dekasegi*. In the follow-

TABLE V. THE DESTINATION OF *Dekasegi* TO URBAN AREAS (man-years)

	1773-1800	1801-1825	1826-1850	1851-1868	Total	per cent
(1) Male						
Edo	45	19			64	3.4
Nagoya	134	75	199	182	590	31.2
Kuwana				18	18	1.0
Tsu		9	17	2	28	1.5
Ōgaki	13	33	48	19	113	6.0
Hikone		10		17	27	1.4
Kyōto	340	230	34	27	631	33.4
Ōsaka	8	87	148	71	314	16.6
Sakai		38	50	18	106	5.6
Total	540	501	496	354	1891	100.1
(2) Female						
Nagoya	117	229	290	91	727	44.2
Kuwana	12				12	0.7
Tsu	16	39	5		60	3.6
Ōgaki	22	95	17	43	177	10.8
Hikone	9	1	1		11	0.7
Kyōto	223	170	44	18	455	27.7
Ōsaka	27	38	87	51	203	12.3
Total	426	572	444	203	1645	100.0

ing quarter of a century, men continued to go mainly to Kyōto, but women went mostly to Nagoya. After 1826, men mostly went to Nagoya, too. In addition to these three cities, other important *dekasegi* destinations were Ōgaki (both men and women), Sakai (men), and Tsu (women).

In terms of *dekasegi* to towns, the destinations are listed in descending order of importance: for men, Yokkaichi and Hamada in the Province of Ise (100 man-years); Kasamatsu (81), Takehana (65), and Imao (39) all in the Province of Mino; and for women, Takehana (173); Noma in the Province of Owari (108); Kurigasa in the Province of Mino (43); Hamada (42); Hagiwara in the Province of Owari (37); and Kasamatsu (31). These were small cities or towns located on the Nōbi Plain and the surrounding area and which formed the administrative, transporting, and industrial center of the locality.

#### Duration of *Dekasegi*

There are only a few persons for whom the length of time they stayed on *dekasegi* can be accurately measured. In the 1773–1825 cohort group 43 men and 92 women ended their *dekasegi* for reasons other than death. The average duration of *dekasegi* for these men and women analyzed by classes and destinations is as follows: for men, 13.3 years for tenants and 8.6 years for non-tenants; 8.7 years for those who went to cities and towns and 12.3 years for rural areas only; and for women, 14.0 years for tenants and 15.2 years for non-tenants; 13.7 years for those who went to cities and towns, and 12.5 years for rural areas only. As far as we can tell from these figures, the pattern of distribution for men and women is in sharp contrast.

For people who went on *dekasegi* to cities and towns, the records contain only the names of the places and it is not possible to estimate how long these people continued to work under the same employers. But for people who went to rural areas, their employers, names are recorded and so we can measure the length of *dekasegi* contracts. According to this, we know that from the standpoint of distribution the largest number of people had one-year contracts. In a sample of 261 men, 115, or 45%, had one-year contracts, while 70 women from a sample of 219, or 32%, had the same. The longer the contract, the smaller is the percentage of the people who held them. Ninety per cent of the men and 68% of the women had contracts of less than five years in the length. The total average employment period was 2.9 years for men and 5.2 years for women. The reason why women served longer than men is that many of them served as domestic servants. Also, we find that the later the time during the period studied, the longer was the contract. It seems that employment for a year or two as a farmhand decreased, while the proportion of domestic service increased.

#### Termination of *Dekasegi*

Table VI contains the statistics on various reasons why *dekasegi* came to an end. "Continued" indicates that in the final year of the documents the *dekasegi* was

still continuing. With the exception of these people, among 329 men and women, 126 (38%) died on *dekasegi*, 113 left *dekasegi* for marriage and other reasons but did not return to their village, and only 87, or 27%, ever returned home. Though their employment is called "*dekasegi*," the percentage who returned home is very low, especially for women. However, moves to other villages for marriage can be balanced by moves to Nishijo from other villages. Specifically, 34% of the men returned home while only 15% of the women did. For men, the *dekasegi* rate was 48%, and 32% of those who survived to eleven years of age eventually went away to another area as part of that labor force. Twenty-five percent of the women left the village. The average age for the termination of *dekasegi* was 30.3 years for men and 27.8 years for women.

#### THE RELATIONSHIP OF MIGRATION DATA TO OTHER DEMOGRAPHIC INDICES

In the indices relating to *dekasegi*, differences were seen among the villagers' classes. In outline, the *dekasegi* rates were higher and the starting age for *dekasegi*

TABLE VI. REASONS FOR TERMINATING *Dekasegi*  
(Persons)

Reason	Male	Female
Continued	34	31
Death	62	64
Returned home	48	18
Marriage	5	103
Adoption	8	
Miscellaneous	16	2
Unknown	3	
Total	176	218

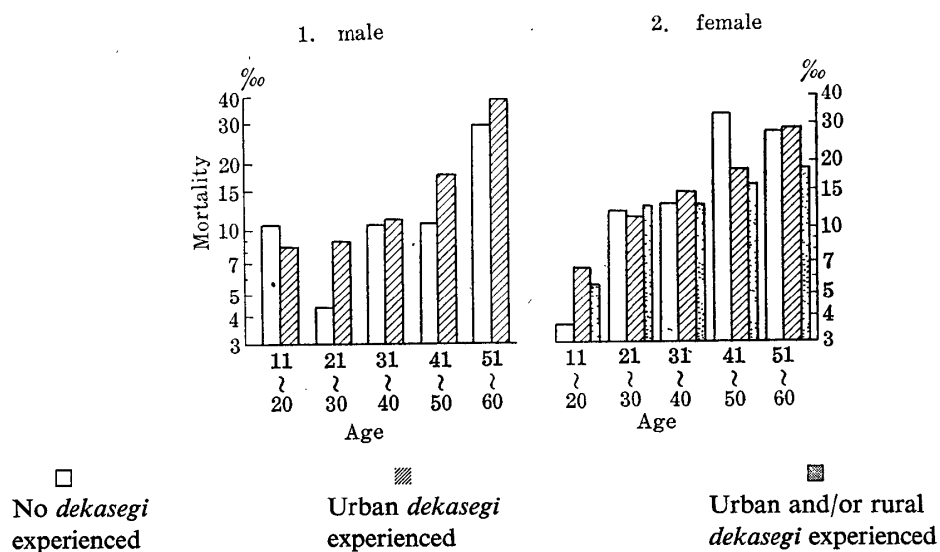


Fig. 4. Age Specific Mortality by *Dekasegi* Experience.

were younger for the lower classes. Consequently, we see an increased risk of death in the cities, delay in the age at marriage, and differences in the reproduction rate among different classes, all caused by *dekasegi*. However, more research is required to confirm these observations.

First, it is necessary to determine if there are differences in death-rates by age groups due to *dekasegi*. Figure 4 shows the differences in the death-rate in several age groups by those who had been on *dekasegi* in cities and those who had not. We must take into consideration that those who had no *dekasegi* experience in cities included men and women who were too weak or physically handicapped to go on *dekasegi*, but at least as far as men are concerned, those in almost all age groups who experienced *dekasegi* in cities had a higher death-rate. For women, there is evidence of a reverse relationship. As seen in the following, women in the village got married at an earlier age and a large number of them died from pregnancy and childbirth.

Next let us look at the effect on age at marriage. In the cohort group born between 1773 and 1825, the average age at marriage for men who had been on *dekasegi* was 29.2, while for those who had no *dekasegi* experience, the average was 28.2. The average ages at marriage for women were 26.3 and 20.7 respectively. For both men and women, those who had *dekasegi* experience had higher ages at marriage. For women especially, the difference can be said to be fairly large. Age specific fertility (Table VII) obtained through family reconstitution gives a decrease of two in the number of children born due to this delay in age at marriage.

The effect of *dekasegi* on the demographic indices is thus seen in the death rate for men and in the decrease of births for women. *Dekasegi* can be said to have had a negative effect on Nishijō's population.

But the effect of *dekasegi* on the demographic indices differed according to class. We can see this most clearly with regard to fertility. The number of children in completed families analyzed by the age at marriage of women is shown in Table VIII. These figures show no great differences by class. But if all women who had the experience of *dekasegi* married at age 26.3 while those with no experience of *dekasegi* married at age 20.7, as was shown in the previous section, and if the differential *dekasegi* rates, presented in Table I, apply to them, we would see differential reproduction rates by class. If we calculate the number of births in

TABLE VII. AGE SPECIFIC FERTILITY

Age group	Number of births	Fertility
16-20	56	0.257
21-25	201	0.319
26-30	225	0.285
31-35	203	0.252
36-40	147	0.201
41-45	65	0.097
46-50	15	0.026



TABLE VIII. AVERAGE NUMBER OF BIRTHS IN COMPLETED FAMILIES  
BY AGE AT MARRIAGE\*

Age at marriage	Number of births
16	7.19
17	6.93
18	6.67
19	6.41
20	6.16
21	5.90
22	5.58
23	5.26
24	4.94
25	4.62
26	4.31
27	4.02
28	3.74
29	3.45
30	3.17

\* calculated from Table VII.

completed families<sup>12</sup> the results would be as follows: the average number of births would be 5.4 among land owners, 4.9 among owner cultivators, 4.8 among owner tenant-cultivators, and 4.7 among tenants. These are all figures for completed families, but actually married life must have ended earlier in many cases. Furthermore, we have found that a gross reproduction rate of 2.2 was the minimum level for maintaining population in a Tokugawa rural society.<sup>13</sup> The reproduction rate in Nishijō, with the exception of the landowners, was, therefore, very close to this line in completed families. The rate must have been below this line for the tenants who had been on *dekasegi*. If so, the tenants would have found it impossible to maintain their population and the number of tenant households would have decreased without interclass moves. In fact, there were many tenant households which became extinct due to the lack of heirs or which had to adopt sons from others.

We obtain the facts seen in Table IX when we classify changes of household head. During the period studied 66 households became extinct, of which 60 were in the tenant class. This represents about 32% of all changes of household heads in the tenant class, and is very high compared with 6% in the owner classes.

In a balance sheet of the numbers between newly established branch households and extinct households, the landowners and the owner cultivators would receive a plus account, while the tenants would receive a minus account. However, the proportion of each class in this village changed scarcely at all during the period studied, thus providing evidence that an interclass movement of households from

<sup>12</sup> The families where wives were continually married to age 50 and beyond.

<sup>13</sup> HAYAMI, *op. cit.*, p. 163.

TABLE IX. THE PRESENCE OF HEIRS BY CLASS

Class	Inherited	No Heirs
Landowner	34	0
Owner cultivator & owner-tenant cultivator	61	6
Tenant	183	60
Total	278	66

upper to lower took place. When a branch household was established, it was usually of a lower class than the main household. It is a phenomenon worthy of close attention that moves among classes had a downward trend in this labor supplying village.

#### CONCLUSION

The population of Japan during the period 1721–1846, generally speaking showed decreases in the northeastern area, stayed level in the central area, and increased in the southwestern area.<sup>14</sup> The decrease in the northern area is thought to be attributable primarily to deteriorating natural conditions (climate growing colder). In the eastern and central part of Japan where the economic development was greatest and the proportion of urban population was highest, nobody has ever spoken of any reason for stagnation of the local populations. What has been observed in this article is that if economic development raises the proportion of the urban population, much migration of labor to the city from rural areas will take place. It is thought that the higher death rate in cities and the flourishing *dekasegi* resulted in lowering the population in the labor supplying areas. According to the thesis which Dr. E. A. Wrigley advanced, this is the “negative feedback” which is observed between population and economic development in pre-industrial societies.<sup>15</sup>

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<sup>14</sup> Akira HAYAMI, “Mouvements de longue durée et structures japonaises de la population à l’époque de Tokugawa”, *Annales de démographie historique*, 1971. pp. 247–263.

<sup>15</sup> E. A. WRIGLEY, *Population and History*, London, 1969. Chaps. 3 and 4.