Chapter 6

A Village Encircled by Dikes (*Wajū*): Basic Statistics

1. The Village and Sources

During the period discussed here, Nishijo-mura in Anpachi-gun, Mino province was a simple farming village located in the middle of the Nōbi plains, with land valued at over 704 *koku* owned by the Tokugawa government, with its administration entrusted to Ōgaki domain. The neighborhood was the *wajū* district, circled by dikes, at the intersection of the Kiso, Nagara, and Ibi rivers, a very fertile region that nevertheless risked complete submersion when the rivers flooded. Nishijo-mura faced the Nakamura river (currently dammed up with no water flowing), which links the Nagara and Ibi rivers, and was protected by a levee. However, during the data period under consideration, it appears that there was only one major disaster occurring in 1815. These circumstances require consideration of the characteristics specific to a dike-encircled village, but I wish to avoid going into such details here. Located approximately ten kilometers south of the castle town of Ōgaki, and included in the Fukuzuka *wajū*, the village currently belongs to Wanouchi-chō, Anpachi-gun, Gifu prefecture.[1]

The SACs compiled for this village in the latter half of the Tokugawa period are nearly intact for a period spanning ninety-seven years between 1773 and 1869 and the contents are very detailed.[2] As I have argued previously, when there are only a few or no missing years these documents have great value as sources for historical demography. One other important factor is that the entries in the SACs provide reliable information in abundant detail. Among SACs, it is clearly preferable if entries record the *de facto* (resident) population rather than the *de jure* (registered) population.[3]

Many SACs are compiled using the registered population, but in this case, so long as the people born in the region do not migrate elsewhere following official procedures,

1 Wanouchi-chō Shi Henshū Iinkai 1981. Moreover, Narimatsu 1989 illustrates the life of people in Nishijo village towards the end of the Tokugawa period through the headman's diary.

2 Stored in the Rikkyo University Archives. I express my heartfelt gratitude to the late Professor Hayashi Hideo and Ms. Asami Kei for permitting me to use the documents for my research.

3 To be accurate, it is necessary to place limits on this nomenclature. In particular, in the case of *de jure* population SACs, because servants who have entered the village from outside are listed, they are different from the "family register" (*koseki*) of today.

they are entered as having always lived in the village. There is comparatively little problem when they marry and move to another town or village because the village officials record these moves with "certificates of change of residence." Furthermore, so long as the official procedures were observed, villagers were added to or deleted from the SACs as appropriate when they moved permanently.

Temporary labor migration (*dekasegi*), however, poses a special problem. In this case, people who left to work away from home migrated on the premise that they would one day return. Even if in the end they did not return, they were treated differently from those who moved permanently. In these cases, "certificates for change of residence" do not appear in the registered population SACs. Consequently, people who left for labor migration and were in reality not present in the village were recorded in the sources indiscriminately alongside those who were indeed present. For demographic observations, this fact is clearly undesirable. If the people away for labor migration are numerous, there are potential biases when calculating the various demographic indices.

For example, the overall population will be excessive, and the age structure biased towards the elderly. In light of these factors, caution is required when using SACs compiled from the *de jure* population, and we must be aware of the limitations to any indices thus calculated.

The way to distinguish by which method an SAC was compiled is to look directly at how labor migration was recorded. If the source was not actually an SAC but a *Shūmon ninbetsu aratame-chō* (Register of religious faith and population), it is safe to assume that it was compiled using the resident population. The results of the simple population surveys called the *Ninbetsu aratame-chō* (NAC), which were conducted from the early Tokugawa period, and the religious surveys (SAC) were combined to become a single source, which thus displays this information clearly.

These cases are often seen in the territory under direct Tokugawa government control. As is usual for the Tokugawa period, there was no unified national system to compile such documents, and the major daimyo administered their own individual systems. Nor was there one single method of carrying out registration of religious faith.

Nishijo-mura SACs were compiled exclusively following the resident population principle, and their contents also record in detail immediately after the resident column as "notes" the reasons why outsiders joined the household, the natal families of these members, and the movements of people who migrated. When the natal household had died out, an entry at the end of the register listed them as "persons without household."[4]

4 "Those who have no home to which to return" are entered as follows: Within this village those who have no home to which to return. One person: now working in Kyoto. Name: Tomekichi. Age: 44 *sai*. One person: Same as above. Name: Tomekichi's sister Rume. Age: 29 *sai*. (Nishijo SAC, 1804).

Entries also described the reasons why individuals migrated, their destinations, their households of origin, and the month in which they migrated. For researchers, this provides invaluable information. Moreover, the SACs from this village have survived continuously without any missing years between 1773 and 1869, and thus are first-rate sources for historical demographic research into rural society in the latter half of the Tokugawa era.

Not only Nishijo-mura, but several villages around Ōgaki were originally Tokugawa government domains and came under the jurisdiction of the Mino territorial magistrate (Mino *gundai*), whose office was located in Kasamatsu, near Gifu, although from the middle of the Tokugawa period, the land came to be increasingly entrusted to the Ōgaki domain. Throughout Mino province, during the Bunka era (1804–1818), 113 villages, comprising land assessed at 69,000 *koku* of rice, were entrusted to the Ōgaki domain, equivalent to 36% of the 194,000 *koku* within the Tokugawa domain for Mino as a whole. It seems that a petition was also made from Lord Toda, head of the Ōgaki domain, a *fudai* daimyo close to the strategic stronghold of Sekigahara, who had pledged his allegiance to the Tokugawa government before 1600, to make this important base his headquarters. The Ōgaki domain was already worth 100,000 *koku*, so when the entrusted lands were added, it became wealthier.

As for the administration of the entrusted lands (*azukarichi*), extensive research has been conducted by Harafuji Hiroshi from the standpoint of legal history, but he did not touch particularly upon the Ōgaki domain SACs.[5] In this case, the methods of compilation for SACs before the land was entrusted, that is, while it was still under direct Tokugawa control, continued to be followed closely even after this occurred. If this were not the case, it would be impossible to explain the fact that SACs were compiled in the Ōgaki domain using the registered population, and in the territory entrusted to the Ōgaki domain using the resident population.

In either case, SACs from both Nishijo-mura and nearby Tokugawa directly administered villages are full and detailed in their entries, and inform us about the circumstances of the peasants actually resident there at the time. The demographic indices that can be obtained from these SACs, which have remained intact and unbroken across the ninety-seven-year period in question, have here been both calculated and entered in the figures and tables in as much detail as possible, so that they can be used by any researcher.

Nishijo-mura was developed in the early years of the Tokugawa period, and became semi-independent of its mother village, Niremata-mura in Anpachi-gun. To say "semi-

5 Harafuji 1981. However, Harafuji assumes that, from the cases of entrusted land administration in each region, generally administrative affairs were carried out at the same level as the Tokugawa representative. In the case of the Yonezawa domain, Dewa province, in response to the question of what to do with the NACs in places that had just become entrusted lands, the bakufu adhered to the old tradition as during the era of direct administration. Ibid., pp. 255–256.

independent" means that the administrative unit of Niremata-mura officially included Nishijo-mura to the very end. The heading for the SACs themselves was written as, "*Shūmon ninbetsu aratame-chō*: Nishijo, Niremata-mura, Anpachi-gun, Mino province," and the expression "Nishijo-mura" does not appear in any of the public record sources.

However, since the SACs were compiled independently and the Nishijo village officials administered them, we can say that in reality, the village was independent. Nevertheless, there was clearly a close relationship between the people of both villages, which are separated by no more than a mere two kilometers, both through everyday contact and through marriage alliances. The village headmen were occasionally linked by marriage,[6] and sometimes a single individual performed official duties for both villages.

Here, however, I have decided to treat Nishijo-mura as an independent village. The registers for this village were initially organized by household, regardless of the religious denomination of the household members. After 1778, however, the registers were organized by religious denomination in three volumes, one each for the Zen, Nishi Honganji, and Higashi Honganji Buddhist sects. Thereafter, even members of the same household were entered in separate registers if they belonged to different denominations. This was in accordance with a Tokugawa government edict, but it is unclear as to why such an order was given during this period. One reason may have been that when each individual received a stamp from the seal of a temple, it was easier to compile sources by putting them in separate volumes.

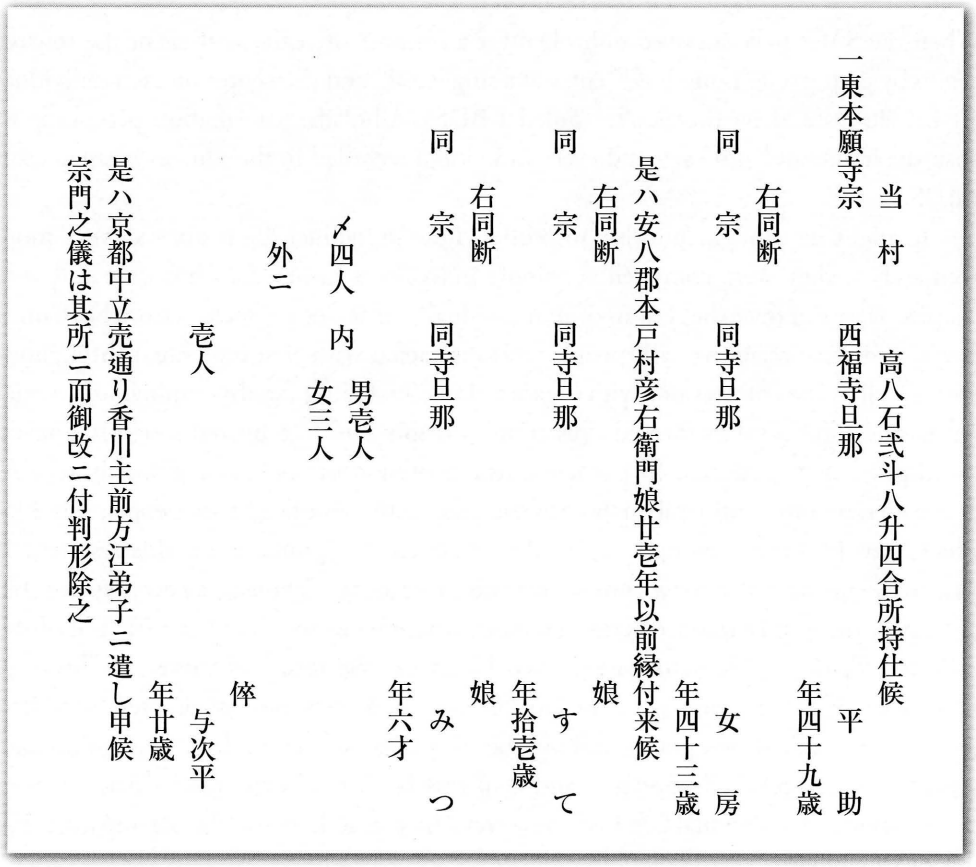
For present research purposes, it is easier if the entries for one family are compiled in one location so we do not need to carry out a "family reconstitution." When the SACs for a given denomination have not survived, we are left unable to determine the total composition of the family in question. Fortunately this situation has not arisen in Nishijo-mura, despite the separation by denomination. Moreover, Nishijo-mura SACs were compiled on the first day of third month of every year. For this reason, only an extremely small number of infants aged one were ever entered (those born in the first two months of the current year). The children listed as two *sai* represent the children born during the entire previous year after the first two months.

Figure 6-1 is a page from a village SAC dating from 1774. For the sake of convenience, cases here have been chosen in which all the members of an entire family can be displayed in a single figure; that is, all the members of the family belong to the same religious denomination. As can be understood at a glance, the SAC entries not only cite the denomination and the Buddhist temple to which each actual member of the family belonged, but also the individual's position within the household and age as well as the value of land and the number of livestock the household possessed.

Even more significantly, alterations to the entries have been clearly marked. Further,

6 See Narimatsu 2000, pp.184–186 for details regarding the ceremonies of the Nishimatsu family, the village officers of Nishijo.

Fig. 6-1 An Example of a SAC from Nishijo from 1772



当　村　高八石弐斗八升四合所持仕候
一東本願寺宗　西福寺旦那　平　助　年四十九歳
右同断
同　宗　同寺旦那　女　房　年四十三歳
是ハ安八郡本戸村彦右衛門娘廿壱年以前縁付来候
右同断　娘　す　て　年拾壱歳
同　宗　同寺旦那　娘　み　つ　年六才
右同断
同　宗　同寺旦那
〆四人　内　男壱人　女三人
外ニ
壱人　倅　与次平　年廿歳
是ハ京都中立売通り香川主前方江弟子ニ遣し申候
宗門之儀は其所ニ而御改ニ付判形除之

as an "addendum," members of the family who have gone elsewhere for labor migration purposes have their destination entered, and if they marry or die in that location, that is also faithfully recorded.

In actuality, there are doubts still remaining as to just how much information was obtainable by village officials concerning the actions of people who had migrated to distant cities, but it appeared that they made entries giving as much information as they knew. For example, there are many people for whom an entry of "whereabouts unknown" appears following several years of records indicating a labor migration destination. This presumably indicates that their actions could not be determined. It is likely that village officials obtained information about people away for labor migration from family members remaining in the village.

2. ITS (Individual Tracing Sheet)

When the SACs have survived unbroken for a number of years, analysis of the sources begins by taking one "household" entry as a single unit, and then entering each individual on a Basic Data Sheet (hereinafter called a BDS). All of the information pertaining to both the household and each and every individual recorded in the sources is entered on a BDS.

It might be thought possible to render these individual life history surveys more accurately if they were compiled for single individuals rather than husband and wife couples. If we can trace the actions of an individual, the nucleus of society, from birth until death, and trace relations with people who interacted with that individual throughout life, as well as the connections with organizations (including family, employment, social status, and locality) thus formed, this could possibly lead to a breakthrough in already existing historical research. In particular, the provision of copious and highly reliable data which permits statistical analysis of everyday activities of ordinary people, activities which thus far have been opaque, would be extremely significant for this research. If the entries in the SACs for a continuous run of years are detailed, it becomes possible to surpass the family reconstruction method, which seeks to make scientific use of the imperfect demographic material provided by parish registers, and survey life histories at the level of the individuals themselves. By pursuing such individual cases, a method should be possible which puts to full use the advantages of the excellent population data provided by the SACs. Chapters 7 and 8 of this book report the results derived from examinations of individual life history surveys in premodern society, attempted using this methodology.

This research began for two reasons. First, individual life history surveys were derived as a convenient way of statistically analyzing SACs in traditional family research. When one is processing data for a mean annual population comprising several thousand people, without a computer, the task of extracting indices is fraught with difficulty and mistakes. In order to solve these problems, one approach is to record the individual entries on a card, note any fluctuations that occur, and adjust for them accordingly. This is useful in obtaining rates for such vital events as birth, death, marriage, and migration. I originally devised and employed this method of processing, which effectively produced individual life histories, for this limited objective. By utilizing this method, adjustment and statistical compilation are easier than before, even when calculating by hand, and without a doubt can be performed by anyone.

Secondly, historical demographic research hitherto, including family reconstitution, finds that its strengths lie exclusively in unearthing demographic indices relating to marriage and fertility, but hardly begins to delve into observations pertaining to migration. Even with such sources as parish registers, migration is almost impossible

to determine. However, when population is to be considered in relation to social and economic conditions, migration is of great importance. I therefore decided to select sources with an abundance of information pertaining to migration, and began by observing changes therein. The target of these inquiries is Nishijo-mura. It struck me that in the same sense that family reconstitution manifests its strengths perfectly in determining such demographic indices as nuptiality and fertility rates, life history surveys based upon the individual would be the most effective method for ascertaining such population movements as entry into service and working away from home. The direct reason for choosing individual life history surveys was that it provided an indispensable method for extracting indices pertaining to migration.

A prototype individual life history survey was launched with these two concrete aims, but, on further consideration, such a survey proved to be more than simply a convenient way of adjusting and tabulating statistics, or of determining indices pertaining to population migration. If this data processing method is used even more thoroughly, it is possible to trace all the activities of individuals, the most basic components of society, from birth to death, or from their appearance in the sources until their disappearance. This led me to design a new processing card and to devise a new method of tabulation. In this book, observations and results are limited exclusively to servants and people absent for labor migration because this was our initial objective.

Figure 6-2 shows an ITS (Individual Tracing Sheet) designed with the above objectives in mind. This sheet compilation was done using a survey from a BDS. A single sheet was designed so that all events and surrounding circumstances could be recorded for a single individual, from the time of his or her appearance in the sources to the time of disappearance. Furthermore, where it is possible to use a computer, the entries on this sheet can be instantly transferred to a mark sheet. As entries are very detailed and the volume involved varies considerably depending on the individual, there are often times when it is profitable to rewrite the entries once again in a computer-readable format. In either case, this work requires considerable cost. Although it also depends on the scale of the population, with around 2,000 ITS, even calculation by hand is not particularly difficult.

Table 6-1 shows for a total 1,886 ITSs, the reasons the people entered or departed from the village. We find that people in the category of "Unknown," for both entries and departures, are very few. Only 0.002% of entries and 0.007% of departures belong to this "unknown" category. This means the reliability of statistical observations using ITSs is very high.

A basic data sheet (BDS) is compiled for each household, which is then assigned a unique number. The ITS is also given an individual number according to the individual's appearance in the sources in chronological order. A figure which combines the source geographical number, household number, and individual number is the

Fig. 6-2 An Example of an ITS (Individual Tracing Sheet)

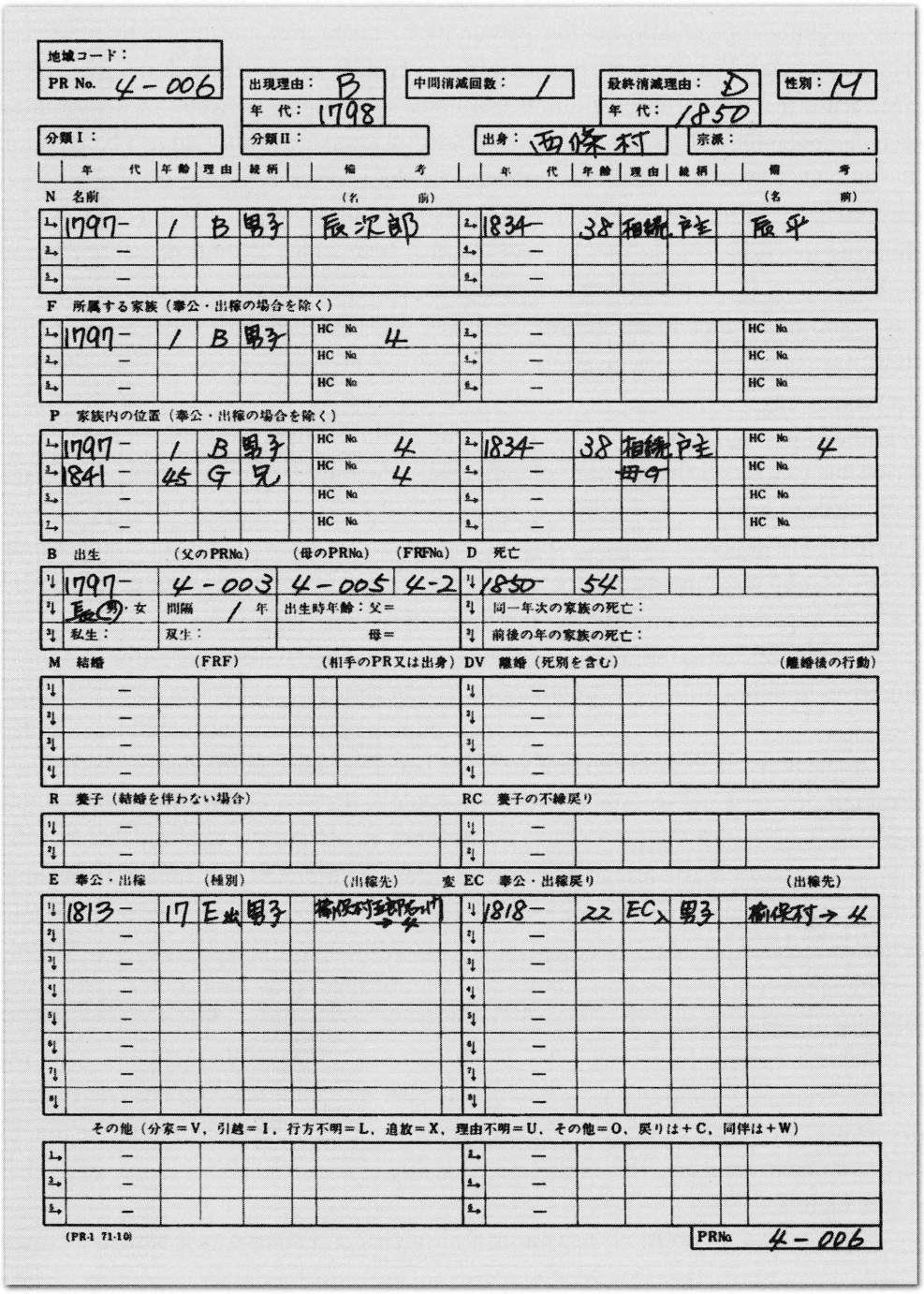


Table 6-1 Entries and Departures

Entries	Male	Female	Total	Departures	Male	Female	Total
Existed on 1773 data	181	185	366				
Births	503	490	993	Deaths	356	366	722
Marriages	15	177	192	Marriages	2	79	81
Adoptions	11	1	12	Adoptions	12	4	16
Returned after divorce		2	2	Left due to divorce	4	20	24
Returned after adoption				Left due to adoption	3		3
Moved in	2	3	5	Moved out	6	6	12
Returned from servant work	12	5	17	Left after doing servant work	148	129	277
Came for servant work	147	128	275	Left for servant work	116	185	301
				Left to work as temple servant	14	3	17
				Dropped out	8	10	18
				Survived on 1869 data	200	181	381
Other	9	11	20	Other	9	12	21
Unknown	2	2	4	Unknown	4	9	13
Total	882	1004	1886	Total	882	1004	1886

unique individual identifying code. The year and the reasons for the emergence and disappearance of a person in the village SACs are written in the topmost column.

Furthermore, each temporary disappearance is entered depending on whether the person was working away from home, and so on, according to the SACs for that village. Place of origin is entered as the place of birth in this case. The following columns record the name, household to which the individual belongs, position in the household, birth, death, marriage, divorce, adoption, service, labor migration, and any other information, along with the era in which the event occurred, the age of the individual, and his or her relationship within the household at the time of each event.

The year in which each event occurred is the year prior to its appearance in the records, or the final year before an individual disappears. For example, a servant who appears in the SAC for the first time in 1798 is regarded as having joined the household in the preceding year. If a person who has existed in the sources until the preceding year is suddenly no longer present in 1811, he or she is taken to have left in 1810.

In this way, it is possible to standardize the processing of entries added to the sources later or pasted over them. To be scrupulous, however, this method assumes that the SACs were compiled at the beginning of the year, whereas, if a SAC was compiled in the latter half of the year, a gap of at least half a year is generated between the calendar year and the actual event. However, even this is not a problem if we consider the twelve months from the point at which a SAC was compiled in a given year to the point in time the next SAC was compiled as being an investigatory year of twelve months.

When compiling an ITS from a BDS, one must take special care with the processing of erroneous entries in the source data. Among Tokugawa-period sources, SACs may

have relatively few erroneous entries, but from time to time one encounters entries which are clearly mistakes. It is easy to compensate for errors of age, since everyone ages one year with the passage of a year (such errors are particularly easy to recognize with the SACs, in which age is entered in the Japanese manner, counting the number of calendar years in which a person was alive). There are, however, two kinds of erroneous entry for age. Correction is simple if, for example, the age is incorrect for just a given year. Also, if the year of a person's date of birth is verifiable, it is possible to unify correctly all ages, taking the birth date as the standard. On occasion, however, it is not possible to make corrections. There is nothing to be done about people who were born in other villages, or whose year of birth cannot be verified. Nevertheless, judging from experience, such uncorrectable erroneous entries are few in number. We have chosen to record them simply as they are in the sources.

In the ninety-seven years of SACs from Nishijo-mura, the opportunities for encountering an age that can be calculated as correct or erroneous, that is, the number of times an individual has been entered in the sources for two consecutive years, totals 29,456. Of these, 268, or 0.9%, are erroneous entries. This is surprisingly low for numerical data of this period. Moreover, nearly all of the erroneous entries, or 82.5%, are mistakes of plus or minus one year of age, and 64.2% are cases in which the same age ended up being entered from the previous year. There are eight cases where the error in age is ten years, but this is probably where a figure has been entered in the tens column by mistake. At any rate, the erroneous entries for age fall within the negligible range, and can be adjudged as offering no impediment to the compilation of statistics.

When there is an erroneous entry for age, it is entered in the column on the reverse side of the ITS. This is because the extent and distribution of the erroneous entries can be used as an index for the reliability of the sources and an index of the abilities of the SAC compiler.

The entry "Estimate" in the columns at both borders is a check column when the facts cannot be observed directly from the sources and have been assumed, so for example, the birth of people already entered in the very first source are all estimates of their age calculated by working backwards. "PTO" is an information column when the writing space on the first side has run out and the entries continue on the back. For other, more detailed elements, the FRF numbers in the birth and marriage columns were compiled separately.

The fact that servants and those absent for labor migration have been excluded from the column showing the family to which they belong and their position within the family is because servants and people absent for labor migration have migrated temporarily, and are thus not included in the composition of the family to which they belong. Changes in the family to which they belong are, in the event of a branch family, marriage, adoption, or permanent removal, etc. Entries on the back of the sheet can be

made freely in accordance with situations and objectives. The topmost column can be used for a wide variety of purposes.

For example, service and labor migration may be entered, as well as births, marriages, and deaths. As for changes in the destination of labor migration, the column on the front page is compiled on the assumption that a person returned temporarily to their family from the destination they had been working at and then left again for another labor migration, but, in reality, the sources show that cases in which a person changed the location of their labor migration again and again were extremely common. In this case, a reference mark can be made in the column for changes in service and labor migration on the front page, and such details may be entered in the appropriate column on the reverse side.

Furthermore, information relating to landholdings and so on can be readily included if the blank spaces are used. As is shown later, when analyzing the actions of peasants, there are times when, depending on the circumstances, it is necessary to divide people into various classes. It is likely that the actions of the landowning class and those of the tenant farmer class are different. However, one troublesome matter is that landholdings were the property of the family and not of the individual. In addition, there are also many changes in landholding. Here, it is necessary to establish multiple columns for births, deaths, marriages, departure to enter into servitude, return home, and for specific ages.

The ITS is completed with attention paid to the above points. In the case of this village, the sources are in extremely good order, so that at least with regard to migration within the village, it is clear from the original documents who migrated from which house to which. If the person handling the SACs is skilled and experienced, it takes approximately three minutes on average to complete one sheet. When handling a population of one thousand people in total, it therefore takes fifty hours to transcribe entries from the original sources (BDS). Assuming that these entries will never be mechanized, this work will most likely occupy the major proportion of the hours required for this kind of research.

3. Trends in Population and Household

Of all the population statistics, the most basic thing to determine is the total population in the region in question, and what sort of fluctuations happen across time; that is, the population trends. Sex ratios and the number of households are also basic. Where SACs still survive, it appears easy to determine these values at a glance. We can line up the total figures recorded at the end of the source, or simply count each and every house or each and every individual. Nevertheless, as has been stated already, there is the issue of compilation either by the *de facto* population or by the *de jure* population, either of

which may appear in the SACs, and the nature of the population recorded may thereby differ. Before compiling the statistics, it is essential to determine for certain by which principle the SAC was compiled.

Fortunately, the Nishijo-mura SACs were compiled using the resident population, with people who left temporarily for labor migration also entered in the margins. By using this information, it is possible simultaneously to reconstitute the resident population. Nevertheless, the population referred to as registered in this book is not the same definition as in the modern family register. That is to say, the majority of the SACs contain entries for servants who entered the village to work from outside, and these have been added to the *de jure* population. In other words, the population entering the village as servants temporarily has been added to what would today be considered the resident population, if ignoring the people who are absent for temporary migration. However, no matter what the situation, it is clearly evident that there is a difference both quantitatively and qualitatively between the SAC population compiled using the *de jure* population and the SAC population compiled using the *de facto* population.

In particular, in regions where population migration and the numbers absent due to labor migration are especially high, it is extremely dangerous to compile population statistics ignoring this difference. The population absent due to labor migration was probably largest among those of productive age, and because the majority of such migrant workers are entered in the records as unmarried, errors are generated in calculations of the proportion of people married and their age at marriage. Although there are statistics which are unaffected even when they are compiled from the *de jure* population, it is essential to avoid the attendant risks with statistics in which the resident population figures matter. There are those of us, included the author, who regret having ignored this point more than a few times when compiling population statistics for the Tokugawa period from SACs on previous occasions.

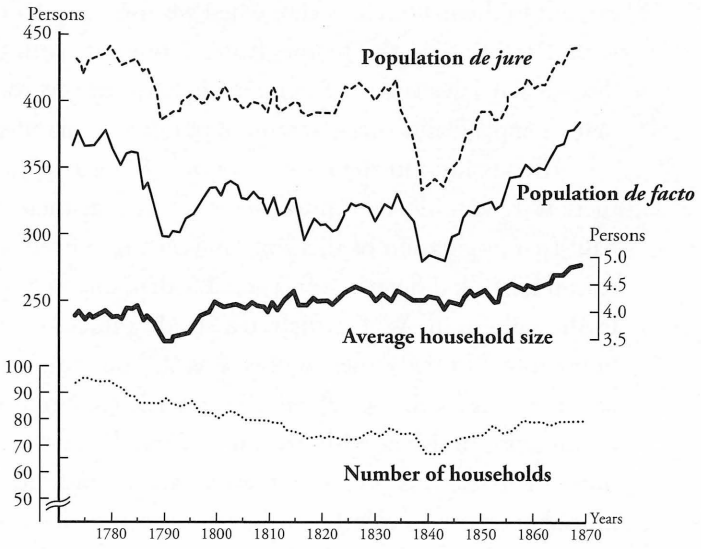
Figure 6-3 shows the trends for the resident population, registered population, and number of households, the (resident) population broken down by sex, and the average household size, calculated by dividing the resident population by the number of households for Nishijo-mura during the period under consideration. Although the registered village population runs almost parallel to, while exceeding, the resident population, the difference narrows considerably in both the initial and final periods, and widens in the middle.

The difference is at its widest at two points, 1791 to 1792 and in 1825; the difference in the former period reaching ninety people, and in the latter, ninety-four people. This is 30% of the resident population. As will be seen later, the difference between the resident and the registered populations shows exclusively the number of people who have left the village for labor migration. Moreover, because this is composed of members of the population of productive age, the actual significance in the difference between the two is

even greater than it appears.

The *de facto* population was 366 (181 men, 185 women) for the beginning of the period under consideration (1773). Thereafter, it fell rapidly to 297 people in 1791, a reduction of 19% in eighteen years. This coincides perfectly with the era of the Tenmei Famine (1783–1786). The Tenmei Famine, along with the Tenpo Crisis (1837–1838) and Kyōho Famine (1733–1734), is known as one of the three great crises of the Tokugawa period, which had a massive impact on eastern and northern Japan. It is hard, however, to consider a similar effect on the villages of the Mino plains. It is therefore essential to consider the nature of this population reduction.

Fig. 6-3 Trends in Population and Households



The population thereafter recovered slightly and reached 336 people in 1800. Subsequently, there was a small decrease to 327 people in 1815, after a period of almost complete stagnation. What must be noted in this instance is the flood that occurred in the region in 1815.[7] Whether because of this or not, the population in 1817 fell to 296.

However, it grew slowly thereafter, and reached 330 people in 1834, then fell rapidly once again in the ten years following to reach its lowest point of 277 people in 1843. This is the period of the so-called "Tenpo Crisis." However, the population trend subsequently recovered, and grew rapidly again, reaching 381 people in 1869, the final year under consideration, constituting a growth of 38% in twenty-six years, at a rate of increase of 1.1% per annum. In this way, the underlying trend is one of considerable growth, but with a see-saw pattern of fluctuation repeated in years of disaster, in which rapid population fall is evident. However, each temporary fall resulting from a disaster was always followed by immediate recovery, no matter what the circumstances, and particularly in the final twenty-five years, the continued high rate of increase is noteworthy.

While the resident population experienced such trends, the outstanding characteristic of the registered population is its major fall during the Tenpo Crisis. From the fact that population reduction occurred in mostly urbanized areas, we can deduce that the Tenpo

7 Takasu *wajū* was submersed by the floods of the seventh month in 1815, and many people were killed. See Nakano 1970, concluding almanac.

Crisis was probably not caused by a simple famine. Population reduction was most evident in the major cities and, when we also consider that recovery was rapid compared with that following the Tenmei Famine, there are strong reasons to suspect that epidemic disease may have been the cause. In fact, in the records for one town, it is reported that many people died from a "temporal pestilence" manifested as diarrhea and fever.[8]

The sex ratio in the resident population shows that, in the first half of the period, there were considerably more women, but that men overtook the women in the latter half. In a population of this size, however, it is not thought that there is any particular reason for such differences. It is possible that, once a disparity appears, it simply continues in the same vein. Where the most striking fluctuation is revealed is in the number of households. Initially the number was 93, but this gradually decreased to 66 in 1840 to 1842, a reduction of 29%. Thereafter it recovered somewhat, and the period under examination finished with 78 households. There was a clear reduction in the number of households. This primarily was due to the eradication of the large number of solitary households with an elderly inhabitant, as seen in the sources for the initial period. During the initial period, in 1773, there were 12 solitary households with the inhabitant aged sixty *sai* or more, 13% of the total. Among these, there were even some people who reached eighty-nine *sai*. One cannot help doubting whether that household in reality was truly independent and the inhabitant able to earn a living.

However, these households almost completely die out in the next twenty years, and by 1800, there were only two such cases remaining. The total number of households continued to fall also, reaching 72 in 1818, and thereafter remained stable, with the exception of a temporary decline during the 1830s, before increasing considerably towards the end of Tokugawa era (1868). The reduction is mostly due to the extinction of houses within the landless class, as is shown in Chapter 9. As a result of such fluctuations in both the population and the number of households, the mean household size increased somewhat. However, because small families were already universal from the very beginning, such changes cannot be said to reveal changes in family composition.

Table 6-2 tabulates both the resident and registered populations, the number of people absent for labor migration, and the number of households for each year. It is evident that the resident population was regulated almost entirely by the number of people away for temporary labor migration. However, the increase in the population at the end of the Tokugawa period cannot be explained by this group.

8 For example, the case of Owase-Kumano, Kii province. Hayami 1969.

Table 6-2 Population and Households

Years	Population *de facto*	Male	Female	Population *de jure*	Difference	Households	Average size
1773	366	181	185	429	63	93	3.94
1774	379	186	193	432	53	94	4.03
1775	367	180	187	420	53	95	3.86
1776	375	179	196	432	57	95	3.95
1777	368	174	194	433	65	94	3.91
1778	372	179	193	434	62	94	3.96
1779	379	186	193	438	59	94	4.03
1780	368	180	188	440	72	94	3.91
1781	359	177	182	434	75	92	3.90
1782	351	170	181	428	77	92	3.82
1783	361	174	187	429	68	88	4.10
1784	361	177	184	432	71	88	4.10
1785	360	175	185	432	72	86	4.19
1786	333	162	171	423	90	86	3.87
1787	340	168	172	424	84	86	3.95
1788	326	160	166	413	87	86	3.79
1789	314	153	161	401	87	86	3.65
1790	299	148	151	386	87	87	3.44
1791	297	146	151	387	90	86	3.45
1792	302	149	153	392	90	85	3.55
1793	303	148	155	391	88	85	3.56
1794	308	149	159	401	93	85	3.62
1795	312	150	162	406	94	86	3.63
1796	316	151	165	403	87	84	3.76
1797	322	151	171	399	77	82	3.93
1798	329	153	176	400	71	82	4.01
1799	335	154	181	410	75	82	4.09
1800	336	156	180	399	63	80	4.20
1801	329	155	174	402	73	80	4.11
1802	338	158	180	410	72	82	4.12
1803	339	161	178	399	60	82	4.13
1804	337	167	170	403	66	81	4.16
1805	326	157	169	394	68	80	4.08
1806	325	151	174	394	69	79	4.11
1807	332	155	177	401	69	79	4.20
1808	327	152	175	398	71	79	4.14
1809	325	154	171	397	72	79	4.11
1810	314	149	165	388	74	79	3.97
1811	330	152	178	412	82	78	4.23
1812	314	144	170	393	79	78	4.03
1813	316	147	169	393	77	75	4.21
1814	325	146	179	396	71	75	4.33
1815	327	146	181	399	72	74	4.42
1816	306	139	167	398	92	74	4.14
1817	296	132	164	390	94	72	4.11
1818	302	136	166	388	86	72	4.19
1819	312	147	165	393	81	73	4.27
1820	307	144	163	391	84	73	4.21

Years	Population *de facto*	Male	Female	Population *de jure*	Difference	Households	Average size
1821	303	142	161	391	88	72	4.21
1822	302	148	154	390	88	73	4.14
1823	301	146	155	390	89	72	4.18
1824	310	150	160	399	89	72	4.31
1825	317	156	161	411	94	72	4.40
1826	321	165	156	409	88	72	4.46
1827	322	163	159	413	91	72	4.47
1828	322	164	158	410	88	73	4.41
1829	319	163	156	405	86	74	4.31
1830	309	158	151	398	89	74	4.18
1831	316	161	155	402	86	73	4.33
1832	323	166	157	411	88	75	4.31
1833	317	163	154	406	89	76	4.17
1834	330	169	161	417	87	75	4.40
1835	321	163	158	392	71	74	4.34
1836	314	162	152	383	69	74	4.24
1837	309	158	151	375	66	74	4.18
1838	294	149	145	354	60	70	4.20
1839	279	146	133	331	52	67	4.16
1840	283	148	135	335	52	66	4.29
1841	281	146	135	340	59	66	4.26
1842	280	145	135	337	57	66	4.24
1843	277	144	133	333	56	69	4.01
1844	293	154	139	345	52	70	4.19
1845	297	158	139	349	52	71	4.18
1846	299	155	144	353	54	72	4.15
1847	311	161	150	366	55	72	4.32
1848	316	164	152	375	59	72	4.39
1849	314	166	148	375	61	73	4.30
1850	320	174	146	386	66	73	4.38
1851	321	178	143	390	69	73	4.40
1852	322	176	146	393	71	76	4.24
1853	317	176	141	383	66	76	4.17
1854	321	177	144	386	65	74	4.34
1855	331	182	149	393	62	74	4.47
1856	342	187	155	403	61	75	4.56
1857	342	189	153	405	63	77	4.44
1858	342	186	156	408	66	78	4.38
1859	352	190	162	414	62	78	4.51
1860	346	188	158	407	61	78	4.44
1861	349	185	164	410	61	78	4.47
1862	347	181	166	409	62	77	4.51
1863	350	184	166	411	61	77	4.55
1864	360	187	173	420	60	77	4.68
1865	364	186	178	426	62	78	4.67
1866	365	188	177	427	62	78	4.68
1867	375	193	182	436	61	78	4.81
1868	377	198	179	438	61	78	4.83
1869	381	200	181	437	56	78	4.88

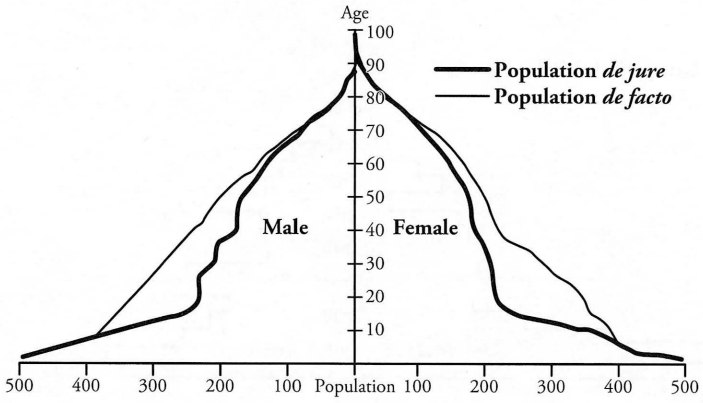
4. Age Structure

Next, let us look at the age structure of the inhabitants of Nishijo-mura. First of all, because there is considerable variation in the population size when calculated annually, Figure 6-4 shows the total population for the ninety-seven years, comparing the resident and registered populations for each age. It is evident that the age structure shows the expected wedge shape, a feature of premodern society. There is strong evidence of a high infant mortality rate.

At the same time, there is a considerable difference in the age structure of the registered and resident populations, which reveals just how pronounced was the labor migration of the productive age segment of the population. If we take the twenty *sai* bracket, for example, the ratio between the registered and resident populations for both men and women is approximately 3: 2, whereas, if no people were absent for labor migration, the registered population of this age would be 1.5 times that of the resident population.

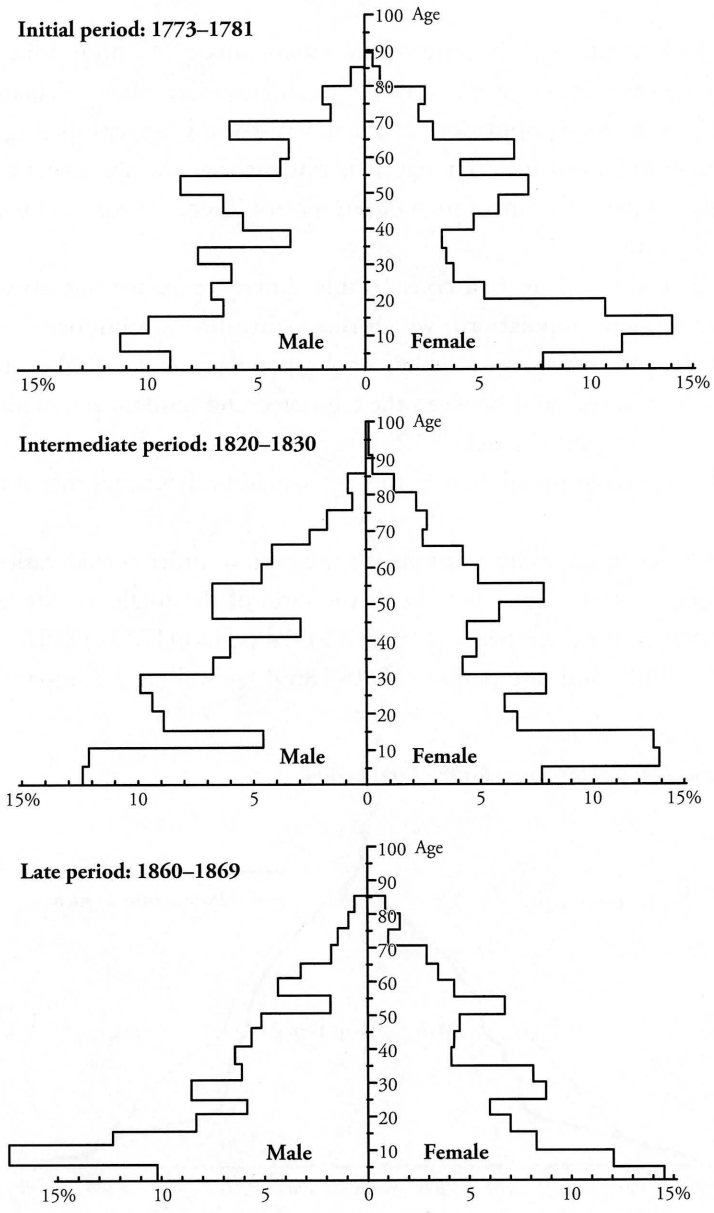
Next, in order to reveal fluctuations for the period under consideration which are concealed in Figure 6-4, Figure 6-5 shows the ratio of the totals for the age structure in ten-year intervals for three periods, labeled initial period (1773–1781), intermediate period (1820–1830), and late period (1860–1869), as well as a comparison between them.

Fig. 6-4 Age Structure for the Total Period



As far as can be seen from these figures, there is some degree of disparity in the age structure across the three periods. The fact that, in the intermediate period, the reproductive age population between the ages of fifteen and forty-five is relatively low, indicates, as has been said before, that this period witnessed the highest numbers of people leaving for labor migration. In the latter period, the explosion in the population under fifteen *sai* is due either to an increase in the number of births or a fall in the infant

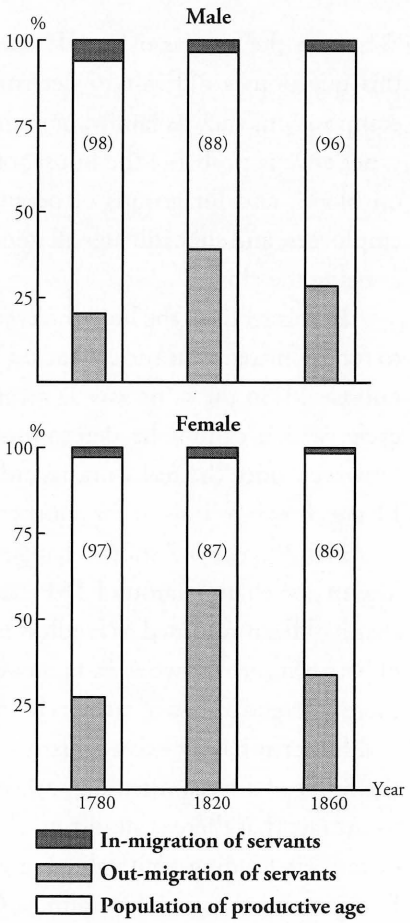
Fig. 6-5 Age Structure across Three Periods



mortality rate, a topic that will be examined in the next chapter. In this way, even what may appear at first glance to be a stable population can be seen on further inspection to undergo considerable change, reflecting the characteristics of each period.

When the ratios of both the in- and out-migration for the productive age population (sixteen to sixty *sai*) in these three periods are determined, the results are as shown in Figure 6-6. This figure shows the productive age population born and resident in the village, to which the servants (of productive age) who have immigrated from other villages are added, expressed as percentages. The figures in parentheses are the actual population figures. Attention should be paid to the fact that, although the productive age population decreased during the intermediate period, most people, both men and women, were away for labor migration and the number of absent women in particular reached almost 60%.

Fig. 6-6 Migration of Servants



Among the *de facto* population, dependents are divided into two groups, children aged ten or under, and the elderly, aged sixty-one or over. When the dependent and non-dependent populations are compared, there are fluctuations in the individual periods, but no particularly conspicuous change can be found across the periods. Compared to the structure of the dependent population in modern society, the proportion of the elderly is lower, but the proportion of children is higher, so that they counterbalance each other. Effectively there is no major difference in the proportion of the dependent population.

Looking at individual cases, the eldest person appearing in the sources is "Tahei" among the men, who died at age ninety-five in 1840 (birth name: "Iyohachi," born into the family of the village headman Gonbei, and who established a branch household in 1773), and among the women is the "wife of Yaemon," who lived until she was 101 *sai*, in 1818 (and who came to the village as a bride in 1720 from Jutchōno-mura, Nakashima-gun). Because the sources start such a long time after either of these people was born, it is essential to consider the possibility that their ages as entered may be erroneous. However, even among the people of the time, it is true that there were more than a few men and women who lived beyond the age of eighty. As will be seen in the next chapter, once they had survived childhood, nearly all people lived to around sixty *sai*, so that long-lived people in the farming villages of the time was not uncommon.

5. Household Structure

What are the groups of people entered as units in the SACs? In truth, the answer to this question is difficult to determine. When considering various terms for different compositions such as family, household, and so on, if pushed, the closest to the Japanese experience is probably the household. The word "family" presumes a connection based on blood, and for groups of people that include blood relatives, non-blood relatives, employees, and subordinates all under one roof, the word "household" can be considered as being the closest.

In this section, the household is classified in several different ways, but mainly I wish to focus on trends in the composition ratio. It is possible to trace historical timelines for households in the same way as for individuals, permitting various analyses of the family cycle, which cannot be determined by cross-sectional analysis in an individual year. However, since the real work regarding the issue of the family has yet to be undertaken, I have chosen to leave it for another occasion.

First, Figure 6-7 shows changes in the composition ratio according to landholding. The major changes around 1811 are either because approximately half the households that had been recorded as landless until this year were suddenly recorded as landholders of between zero to two *koku* (a measure of rice—see Appendix) the following year, or else there emerged a class of farmers holding land valued at between two and five *koku*, which had hitherto hardly existed because the landholdings were so small. This was probably the result of a reexamination and verification of landholdings. Attention should be paid to the fact that there is almost no change in the total number of the landless and the class of farmers holding land valued at zero-to-two *koku*. This class is clearly that of tenant farmers, and accounted for almost 60% of all landholders in the village throughout the entire period, passing through a gentle dip only once.

If this figure is compared with the fluctuations in the total number of households shown in Figure 6-3, the trend is clearly parallel with the reduction in the number of households in the first half of the period. In other words, before 1840, the number of landholders worth two or more *koku* was firmly fixed, and the total number of households fluctuated exclusively as a consequence of changes in the number of households in the tenant farmer class. The number of households worth two or more *koku* prior to this year was almost fixed at between 24 and 29, but became 20 to 23 thereafter.

Next, Figure 6-8 shows the changes in the composition ratio of the households based on the number of married couples per household. As expected, the greatest share of these households are occupied by only one married couple, and, excluding the fall during the two crisis periods, the trend is relatively level between 55 to 70% with a slight concavity. By contrast, households with no married couples rise during the two crisis periods, and show a slight concavity over the long term. Extended families with two or

Fig. 6-7 Household Composition by Landholdings

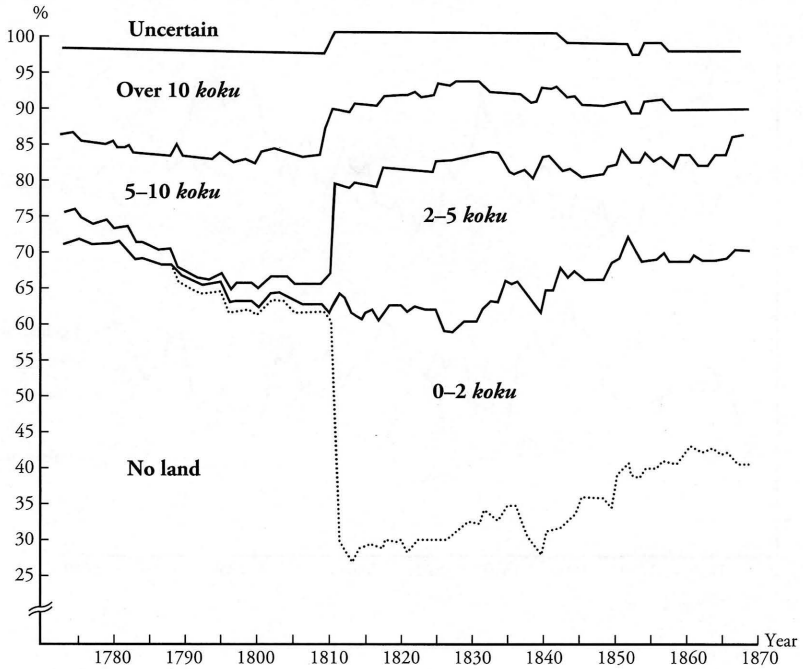


Fig. 6-8 Ratio of Married Couples to Overall Household Composition

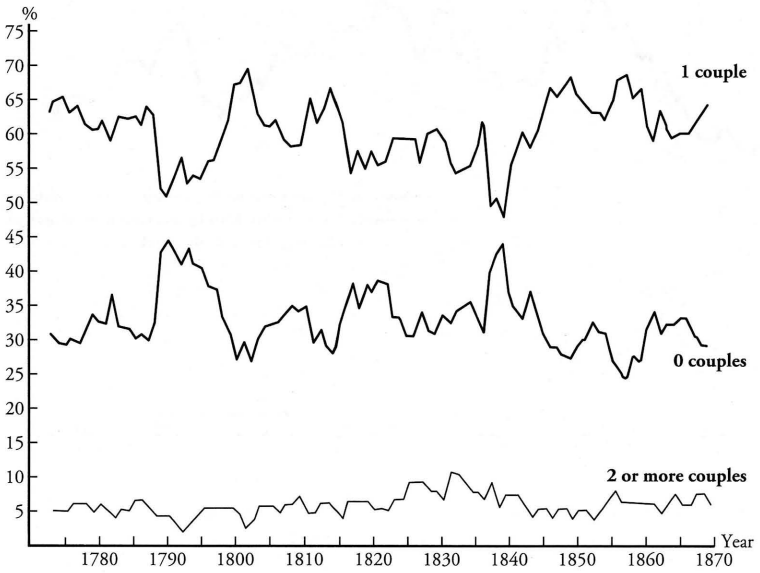
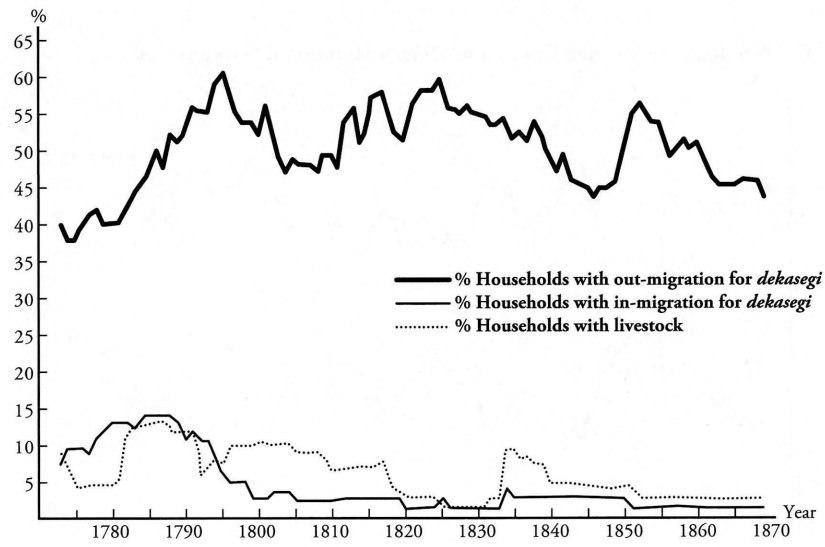


Fig. 6-9 Number of Generations Resident in Household

Fig. 6-10 Trends in In- and Out-migration of Servants and Livestock Holdings



more married couples do not exceed more than 11% during 1831 to 1832, the period of their highest proportion, and on average remained between 5 and 8%. As expected, overall there appears to be a strong tendency towards families of one married couple only. This fact also appears in the distribution of the number of generations per household. Figure 6-9 classifies the number of generations in a stem family per household and shows the trends in the composition ratio for each.

The proportion of two-generation households is the highest throughout the entire period, remaining around 50 to 60% throughout, excluding the two peaks, one in the 1810s and the other in the 1840s and 1850s. Fluctuations in three-generation households contrast directly with this, but the proportion remains approximately 20 to 30%, while single-generation households tend to fall in number over the long term, from 20–30% to 10–20%.

According to the results observed in these figures, the single-couple family was already well established during this period and, excluding fluctuations during both crises and short-term fluctuations thought to be the result of the reproductive female population being small, the various indices relating to family composition are fairly stable. These small households are thought probably to have become the standard pattern for Tokugawa period farming villages. Figures 6-8 and 6-9 show the mean composition ratio for those years excluding periods of abnormal fluctuations, and the standard deviation (δ) thereof as follows:

Number of married couples 0, mean composition ratio 32.2%, δ=3.17, one couple 61.4%, δ=4.56, two or more married couples 6.4%, δ=1.48. The mean single generation household composition ratio is 19.2%, δ=4.45, two generation households 53.8%, δ=3.71, households with three or more generations 27.0%, δ=4.04. The fact that the standard deviations are low tells us that the values for each index are concentrated within a narrow range.

Figure 6-10 shows the trends in out-migration, in-migration, and livestock holdings. Whereas the proportion of households sending out people for labor migration is between 50 and 55%, the proportion of households taking in servants immigrating from outside the village is 15% or less, and particularly after the beginning of the nineteenth century, this proportion becomes a negligible 5% or under. The proportion of households owning livestock (horses) is equally low, and, once the 1820s have passed, this also falls to 5% or less.[9] Households with servants and livestock can be viewed as landowners farming their own land. Although we still find a few survivors of this kind in the village during the eighteenth century, it is clear that thereafter, they disappear almost completely.

Finally, the following figure shows the average period of continued residence per number of couples per household, derived from the household history surveys.

9 Tallies with results observed in Chapter 2 of this book.

Whereas a so-called single-couple household lasts for an average of 14 years, households with multiple couples last for 5.2 years, and those with no couples for 7.2 years, so that, as expected, a household comprising a single couple can be described as the most stable unit.

The above observation results are, of course, no more than those obtained from the SACs belonging to a single village. The application of family reconstitution and other advanced techniques is also possible, and analysis concerning the interrelationships between the various indices is also essential. The objective of this chapter has been to lay the foundations for such analysis, which will be undertaken in the following chapters.