

Environmental Caretaker – Who Wants the Job?

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ABSTRACT

In Europe the notion that farmers should act as ‘stewards’ of the natural landscape is becoming well established. In Japan it might be argued that farmers have always played this role, and that they will continue to do so. This study demonstrates how the position of ‘environmental caretaker’ in Japan will become increasingly hard to fill in future years. The demography of 51 village communities in a valley north of Kyoto is studied, and the fact that many are soon likely to become completely abandoned is highlighted. Life-cycle analysis reveals how extended life-expectancy in Japan has contributed to the loss of community attachment, and a loss of a sense of oneness with the natural environment.

INTRODUCTION

Japan is a country known for the close affinity which exists between man and the surrounding natural environment. The temples of Kyoto are famed for the architectural wonders carved from and within their leafy woodland settings, and for the ephemeral landscapes in which, for an everlasting series of fleeting moments, the natural world is made one with man’s intrusion. In the rural areas it seems that the centuries of deeper contemplation by priests seeking the ways of the Gods are reflected in the daily communion of farmers with their land. There is a respect evident not just in the way farmers nurture the landscape which envelops them and provides nourishment, but also in the very simplicity of the understanding between man and nature. This is a knowledge that has been passed from generation to generation, and is timeless. Or is it?

A visitor on business to Japan today may glean some of these images from a brochure in the hotel lobby. More fortunate visitors may have the opportunity to visit the countryside beyond the city and sprawling suburbs. They will be struck by the orderliness and neatness of the village and its environs. The only disorder is likely to be the disruption of roadworks as sections of highways here and there are widened as if to welcome the advance of the modern world. There are few people to be seen, but one can easily imagine that villagers, having finished the tasks of the day, are now inside their thatched homes, stoking their oven fires or setting a flame to light the evening bath fire. Gentle spirals of wood-smoke haze the forested backdrop – and all seems well.

The reality is that all is *not* well. The wood-smoke is more akin to a funeral pyre than any sign of life, and the kinship bonds that once ensured continuity of rural tradition are nigh-on broken. A deeper look into the Japanese countryside offers revealing clues. The boundary between rice field and forest is not as distinct as it once was. Strong, wide-meshed netting is stretched high around selected fields – saying ‘keep out!’ in a mute way. Ancestral gravestones are kept as clean as they always were, but new monuments have also been built, as if in anticipation of an untended death. There are no children returning home from school -

sharing the pains and pleasures of the hour-long journey back, through the fields and forest fringe which once imparted ‘that knowledge’. It seems that the stewards of the landscape - the environmental caretakers – are dying, and that there is no-one to take over. What then will become of Japan’s natural and environmental heritage?

Awareness of the potential problems caused by an outflow of rural population to the cities has been evident in government legislation since the late 1960s [1]. After then, an apparent slow-down in the rural exodus, coupled with suggestions of U-turn migration back to village areas, resulted in a gradual fall-off in the level of attention devoted to rural issues. Then, in 2004, an apparently unrelated event focused newspaper headlines once more on the natural environment. White-collared or Moon bears (*tsukino waguma* in Japanese) were appearing in ever increasing numbers from the forest fringe and, in consequence, the number of attacks on humans was on the rise. As a result, local hunters had to be called out to shoot the bears – an unsatisfactory, but necessary solution. Popular opinion recognized an apparent relationship with unseasonable weather patterns and, in particular, a record number of direct typhoon ‘hits’ on Japan that year. The reasoning was that adverse weather conditions had brought about a sudden decline in the natural food sources available to the bears (e.g. beech nuts and acorns), and that this had forced the bears into village areas to seek alternative supplements to their normal diet. Populist campaigns were launched by the media to organize collections of nuts which could be placed at strategic points deep within the forests. Though city-folk may have become physically fitter as a result – the bears continued to appear. The underlying reason for the increase in bear ‘attacks’ had deeper origins, associated with the shift away from traditional farming practices which had been occurring for the past forty years or so.

TRADITION AND CHANGE IN THE RURAL LANDSCAPE

In addition to market garden villages on the urban fringe, and tight-knit nucleated settlements scattered around Japan’s limited area of alluvial plain, the most common type of rural settlement is found along the sinuous valleys which extend, tree-like, into the steep sided hilly landscape of Japan’s interior. The gently terraced valley floors are given over to rice cultivation, land being so precious that villages are squeezed along the foot of the hill slope. Since only one rice crop is grown each year, during the summer months, winter activity focused in the past on the forested hill-slopes behind the village. In some areas this may have centred on the cultivation of mulberry leaves for sericulture, a traditional mountain village activity until trade relations were resumed with China in the early 1970s and an alternative source of cheap, but high quality silk became available. Forests were also cleared for the cultivation of root vegetables, or for winter-fruited persimmon trees, but such produce was generally for local or self consumption only.

Perhaps more important to the local economy were the stands of managed deciduous forest, including Japanese oak, chestnut, and beech, which provided firewood and charcoal. Traditionally firewood was used to fuel the earthen ovens (*kamado*) found in rural kitchens, and also the fires to heat the evening bath. Charcoal was used for heating, in ceramic, or even wooden *hibachi*, or in the central fireplace (*iroriba*). In 1960 firewood and charcoal together made up 8 percent of Japan’s total energy requirement, and they were important local export items for villages with access to the forests. A typical and desirable trade commodity was salt, produced in coastal villages, and just as vital to everyday life. Production of both firewood and charcoal relied on coppicing deciduous woodland, allowing sufficient growth each year for sustainable management. Cutting and charcoal-burning were winter activities because

levels of tree sap were lowest then. Each village household maintained its own section of forest – invariably a narrow strip running vertically from valley floor to hill top – as well as its own, earthen charcoal kiln. Collectively the villagers conserved and maintained a section of mixed woodland, including a bamboo grove, usually situated immediately behind the village, for the provision of green manure and for building needs. At the heads of short tributary streams small areas of primary woodland were left intact around springs where ponds could form naturally. Such ponds proved vital for the storage of irrigation water (and often still do), and so were considered a sanctuary of the Gods. They are invariably known as *Benten no Ike* and are among the best places to find undisturbed natural environments in Japan today.

The forest lands surrounding each village were managed by the villagers themselves, therefore, at a low to medium degree of intensity. Such forest lands are known by the term *satoyama*, meaning ‘village forests’. The extensive areas of forests which are situated beyond these small individual holdings are known collectively as *okuyama*, meaning ‘deep’, or ‘far forests’. Generally they are owned and managed by national or local government, or by large forestry corporations. Relatively undisturbed they offer a natural habitat for a variety of fauna, including larger mammals such as deer, boars, and bears.

Apart from the decline of the domestic silk industry in the 1970s, other changes in the national economy and lifestyles brought about changes to the system of management of *satoyama* after 1960. Most importantly, the early 1960s witnessed an event referred to as the ‘energy revolution’. Essentially, firewood and charcoal were replaced as sources for domestic fuel by propane gas. Rural electrification also proceeded apace during this decade. In more recent times solar power has been harnessed in rural areas to heat water. Demand for deciduous timber declined dramatically in consequence, and villagers were forced to rethink how they should utilize their *satoyama* holdings. Rapid economic growth during this decade of ‘National Income Doubling’ was reflected in a surge in demand for new housing, particularly in the fast emerging suburbs surrounding the major cities, and so many farmers switched their forest holdings to the production of fast-growing conifers to provide timber for the construction industry. Then, in the early 1970s, a national rice surplus forced the government to initiate a rice reduction policy (*gentan seisaku*) whereby the least profitable rice paddy fields were encouraged to cease production entirely. Such fields were naturally located immediately adjacent to, or actually within areas of *satoyama*, and were characterized by steep banks of small, terraced rice paddies which had been carved into the hillsides. In many cases these fields also were replanted with conifers such as Japanese cedar or cypress.

Although ‘fast-growing’, it requires 45-50 years for cedar and cypress to reach maturity, and a sufficient size to justify harvesting. Trees planted in 1960, therefore, have only just now reached that stage. The problem is that trade liberalization has meant that better quality and cheaper timber for both construction and wood pulp production can be obtained from overseas, notably Canada. Moreover the number of workers engaged in forestry is both declining and ageing rapidly. The result is that large areas of *satoyama* now resemble *okuyama* in the sense that they have become dense, dark stands of monocultural species which have become abandoned to the will of nature. Whereas *satoyama* had previously acted as a kind of buffer zone between human settlement and the natural environment, with regular if only low or medium intensity management, human presence in these areas has now all but disappeared. This is the real reason why the natural domain of wild animals has now reached the very doorstep of farmers. As Yamamoto Shigeyuki recently noted:

'Around the nation, satoyama are being eroded, causing unwanted changes in animal behaviour.Amid the bears' state of confusion, we can hear nature's cry of despair.'[2]

POPULATION CHANGE

One solution proffered for 'the bear problem' is to revitalize *satoyama* woodlands by, in particular, re-introducing local production of charcoal. In fact, demand for charcoal has been on the rise in recent years, as barbeque picnics gain popularity with younger generations and urban restaurants return to traditional styles of cooking. Whilst it is true that traditional charcoal kilns can still be found here and there in the forested uplands the reality is that past ways of life associated with rural areas are fast disappearing. The reason is not due solely to economic change but also to the simple fact of declining population. Even if there is a will to revitalize old traditions in some districts the loss of people as well as knowledge and skills will mean that viability cannot be sustained.

To illustrate this, a study has been undertaken of village populations along the Kanbayashi River in Ayabe-shi, Kyoto Prefecture. Although officially an urban municipality the fifty or so village communities located within this part of Ayabe are typical of those found throughout the Tamba Uplands in central Honshu. The Kanbayashi valley is Y-shaped, stretching about 35 kilometres from the tips of the 'prongs' to the confluence of this river with the wider Yura River. Twenty minutes by car from the confluence is the town of Ayabe, where the city hall is located and all other major central functions. Situated about one hour by express train from the city of Kyoto, Ayabe is best known as the home of Gunze K.K., a well known firm which had its origins in silk spinning and the production of silk stockings. Many of the villages along the Kanbayashi valley were formerly reliant on the cultivation of silk worms to supply Gunze with its raw material. All of the villages have access to forest land, and all but a handful are engaged in rice cultivation.

The 'rural exodus' of the late 1950s and the 1960s is well documented and led to the Japanese Government adopting a series of measures to help alleviate the difficulties faced by those opting to stay in village communities [3]. The actual scale and extent of this exodus is difficult to determine because then, as now, the merger of different municipalities meant continuity of published data was not maintained and comparisons of local level population data over time was made extremely difficult. Although the exodus is known to have been dominated by school-leavers, and the flow was overwhelmingly rural to urban in nature, it has also been demonstrated that the initial move from home villages often included whole families, and that moves were often 'staged' in the sense that migrants 'hopped' to different destinations up the settlement hierarchy. Data published at the level of the municipality tended to obscure the impact of the exodus on individual village communities, therefore, and the full extent of demographic decline in rural areas has only rarely been appreciated [4]. Access to information contained in Residential Registers is difficult to obtain now, because of restrictions relating to individual privacy, but in 1979 this author did have access to the Registers for one of the village communities in the Kanbayashi valley and could extrapolate population data back to 1961. The village is called Kusakabe, and total population fell from 155 in 1961 to 106 by 1979, a decline of about one-third [5]. The village is typical of the entire valley, and there is every reason to believe that most other communities suffered population losses of this order during the years of the exodus.

In post-war Japan there was, for a long time, difficulty finding an appropriate term to describe in official documents the morphological entity that in English is called a ‘village’ or ‘hamlet’. The reasons for this are somewhat complex, and are tied up with the difficulty of obtaining consistent population data. Neither the quinquennial Population Census nor the Agricultural Settlement Census provide adequate information. Municipal year-books may help, but cannot be relied upon for sequences starting before the 1980s in most cases. Since then, the recognition of Community Associations (*Jijikai*) in local government and the computerization of local Registers have helped provide consistency. In Ayabe-shi, for example, monthly population data for *Jijikai*, based on information contained in the Residential Registers (*Juminhyo*), have been made available since 1987. Fortunately, in rural areas, the households belonging to a particular *Jijikai* usually do belong to the same village settlement and, in turn, the *Jijikai* represents all the households in that settlement. This study reviews population data collected for the fifty-one *Jijikai* in the Kanbayashi valley since 1987.

In Kusakabe the population in September, 1987 was 87. In 2004 it had fallen to 56. If all intervening population totals are plotted on a graph a ‘line of best fit’ can be calculated so that average annual change (%) rates can be worked out. In Kusakabe, along with the majority of other settlements in the valley, the rate of annual change has remained remarkably consistent and so this seems a reasonable technique to adopt for small-community demographic analysis. In this case the average annual rate of population change is calculated to be -1.85%. The rates for all village communities in the Kanbayashi valley, sequenced in the order they appear in the tally published by the local government, are illustrated in Figure 1. In general, villages furthest away from the city office are represented on the left-hand side of the graph.

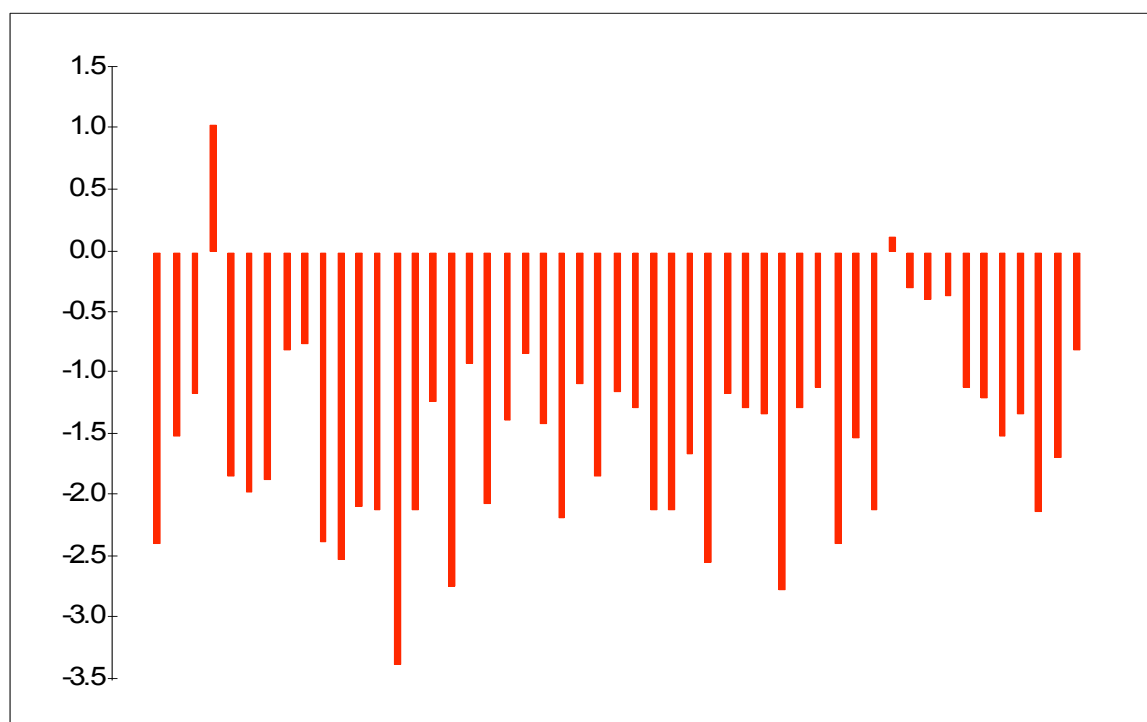


Figure 1. Average annual population change rates in 51 villages of the Kanbayashi Valley, Kyoto; 1987-2004

According to the Emergency Measures Law for Countermeasures for Areas of Severe Rural Depopulation, enacted in 1970, municipalities suffering decline averaging 2% or more each year qualified for special support [6]. Although we are looking at village communities in this case the parallel is obvious. 16 of the 51 villages of Kanbayashi (31%) can be said to be experiencing severe depopulation, even though the years of ‘rural exodus’ are supposed to have come to an end long ago. In addition, 25 villages experience depopulation averaging between -1.0% and -1.99% each year. Though not as severe, these rates can hardly be said to be compatible with any notion of sustainability. Particularly worrying is the unrelenting consistency of population decline. The graph for Tsukudacho (average -1.51%) is typical, although this village is slightly larger than most (Figure 2).

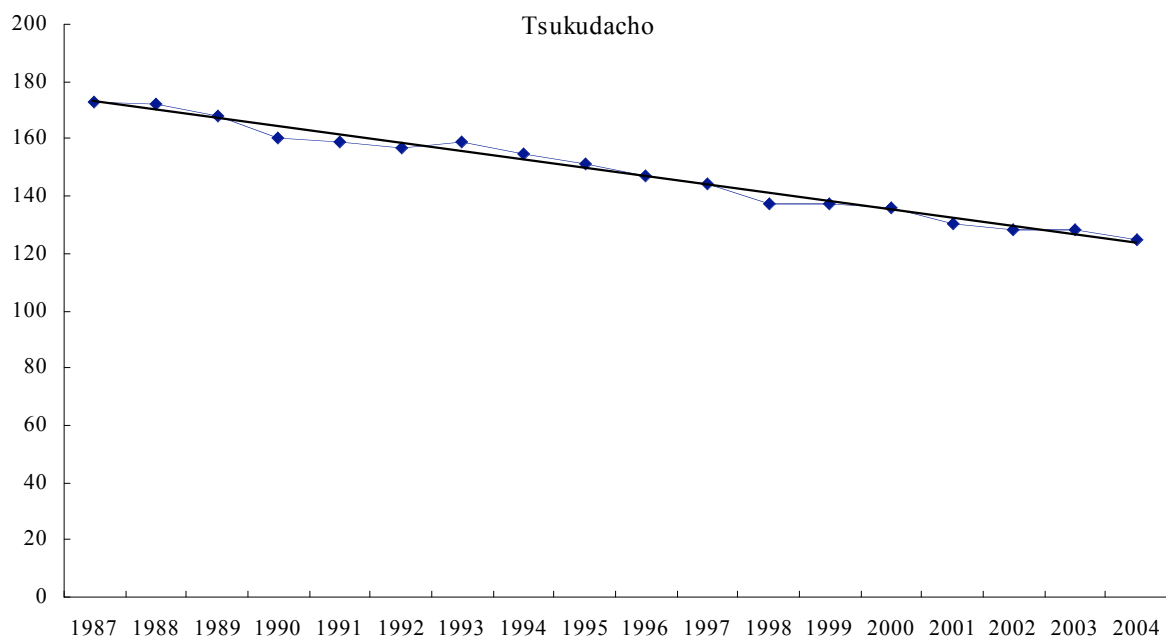


Figure 2. Population Change in Tsukudacho, 1987-2004

There are, of course, two villages where population has increased since 1987. One of these, where the rate of increase is only small (0.10%), is actually part of the largest settlement in the valley where the post office and agricultural co-operative offices are located as well as a junior school and kindergarten and a few newly opened small restaurants. The village as a whole, called Tokura, shows a relatively stable population. The other village, Torigaki, has experienced a remarkably consistent increase averaging 1.03% a year since 1987. It is a close neighbour to Kusakabe and begs the obvious question ‘why the difference?’ The answer is not easy to determine, especially now that access to Residential Registers is denied. It seems, however, that in several households young people who migrated to the city have subsequently returned and started their own families. There is also a ‘second home’ in the village. Set into a narrow steep sided valley Torigaki is an attractive place, but perhaps the greatest attraction is its proximity to a hot spring and hotel which provides some employment opportunity. It is clear, however, that other villages equally close to the spa do not share the luxury of population increase, or even stability. This is particularly evident if population change in Kusakabe since 1961 is considered (Figure 3). The experience of the ‘exodus’ in the 1960s was shared by all villages, including Torigaki. In most, depopulation continues at a pace that seems destined to bring about total village abandonment within the space of just a few years.

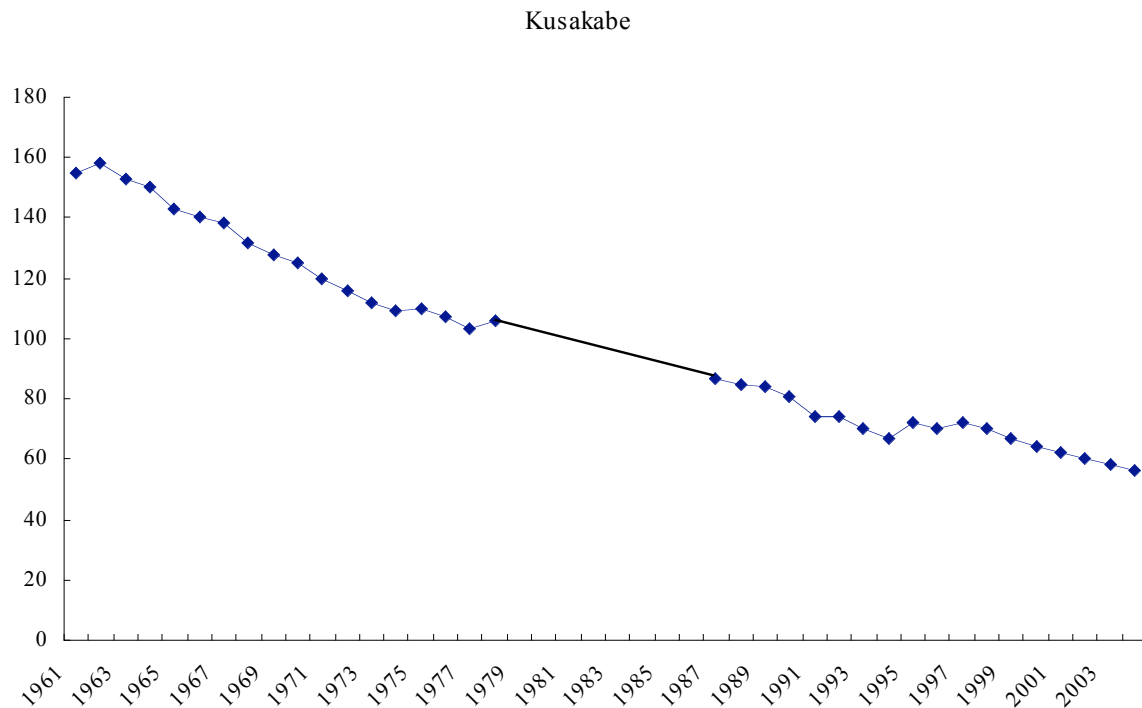


Figure 3. Population change in Kusakabe, 1961-2004
(population data not available for 1979-1987)

The crash-dive towards total village abandonment can only be accepted if the mechanism by which depopulation is occurring can be fully understood. It is fine to say that during the rural exodus whole generations of school-leavers left the villages, but what accounts for decline, at a similar pace, since then. Is it possible, for instance, that population increase in Torigaki represents the start of a trend that could witness future vitality and the restoration of an appropriate balance between man and the natural environment? One way to look at this is to consider the actual life-cycles of residents in the villages, based on known traditions; known events; actual records of birth, death, marriage, and migration derived from Residential Registers when they were available for scrutiny; and from subsequent interviews with villagers themselves.

Figure 4 is an attempt to illustrate the life history of any one of the households of any one of the villages found in the Kanbayashi valley during the last hundred years or so. Crucial to this is the knowledge that farm succession in Japan is continued through unitary inheritance by the eldest son (or son-in-law, or adopted son). The ‘successor’ (*atotsugi*) inherits the household (*ie*) and it is his long-held duty to ensure the household is passed on undiminished and unblemished in due course to his own successor. In the past, at least, this responsibility required an understanding of the ways of nature and the means by which the household was best protected by virtue of this knowledge and by mutual co-operation with other households in the village. This illustration is based around an eldest son, born in the year 1925. For simplicity, all other individuals represented are also eldest sons, and their family name is Honda. Honda-san is now 80 years old.

Honda-san was raised during the pre-War years, when school discipline ensured strict adherence to the military code. As eldest son he would have been reminded constantly of his

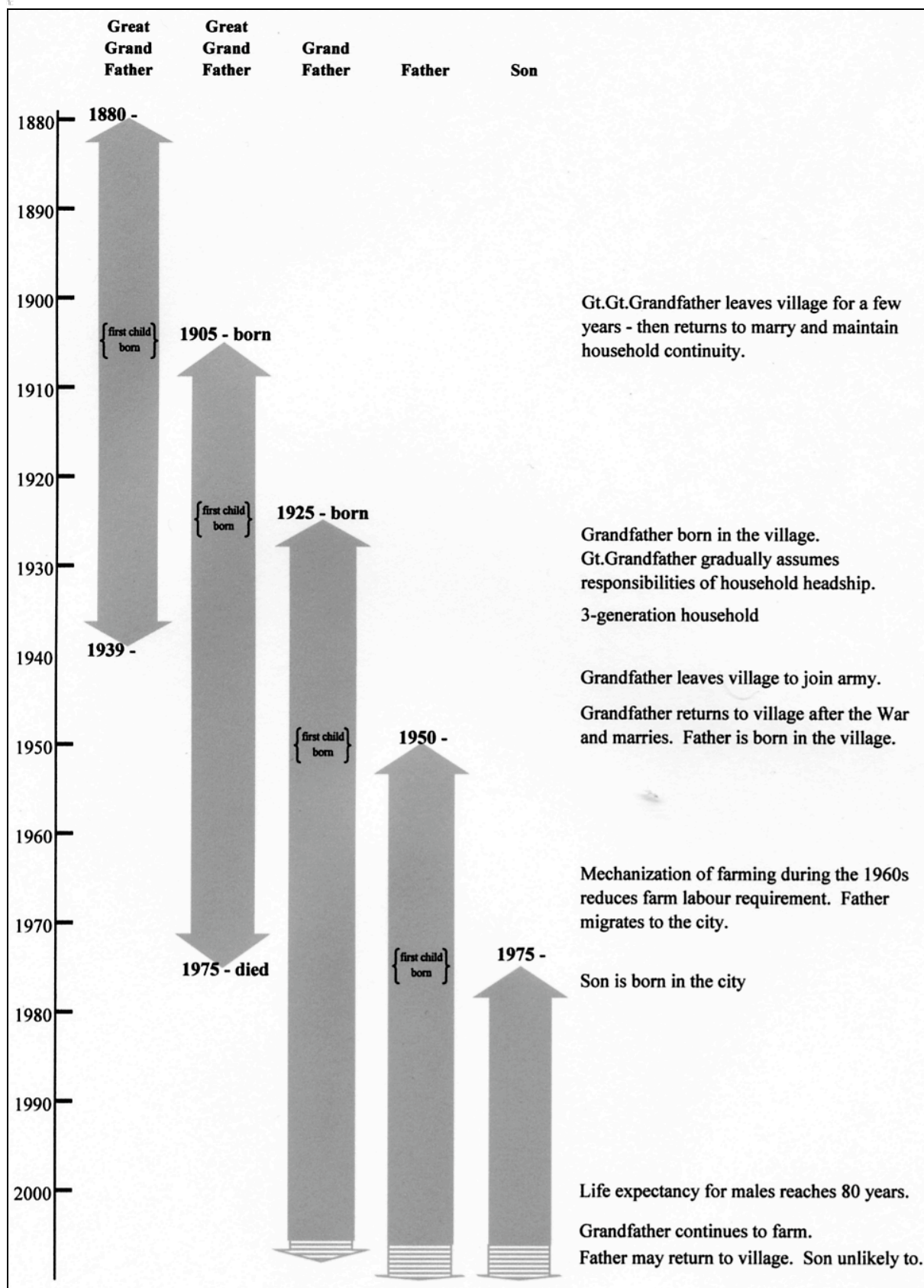


Figure 4. Typical life-cycle for 5-generation rural household succession (conjectural).

future duties as household head, for the Meiji Constitution which governed their lives modelled the role and responsibilities of the household head on no less a figure than the Emperor himself. After leaving school he may only have enjoyed a few weeks at home before being drafted into military service in the Pacific War. The idea of leaving home for a while when still a teenager was not at all unusual, and his own father had spent a while in the city in the early 1920s as a construction worker before returning home to marry. The marriage had been 'arranged', though not formally registered until Honda-san had been conceived. Honda's father was aged 21 at the time of his birth, and within just five years had inherited the headship from his own father, shortly before the old patriarch died.

By the time Honda-san reached the age of 21 the war had come to an end. When he was finally repatriated he went home to a farm which was being remodelled under terms of the Land Reform. The land he would eventually inherit was only one-seventh of a hectare of rice paddy and a strip of forested hillside. It was sufficient to hold him to the land, but of insufficient size to guarantee him a reasonable income [7]. Nevertheless, he never questioned his role and bent his back to learn the family trades. By 1950 he had married and his own son was born, and within just three more years he had inherited the household headship. With his surviving siblings already in the city he was master of his own realm, with his mother, wife, and two children to support. This was the household it was his duty to nurture, despite post-war changes to the Constitution which promised equal rights to inheritance. The manner in which this inheritance issue could be sorted varied according to individual families, but it is important to note that the War years acted as a great equalizer as far as succession was concerned. That is, anyone born within ten years of Honda-san was likely to have inherited the farm in the early 1950s, provided they had survived of course, whereas later generations joined the subsequent exodus.

In 1964 Japan hosted the Tokyo Olympic Games. This was a proud moment for the nation and marked the first pinnacle reached along the long climb to modernity. The 'energy revolution', together with rural electrification brought dramatic changes to traditional rural lifestyles. By 1966 Honda-san's son was itching to join others who had joined the rural exodus to the cities. He had just left school and the pull of the city, amplified by TV coverage of far-away events, was irresistible. From the parental point of view there was no reason to resist his departure since both father and grandfather had followed the same road before.

Trends in the city now allowed young migrants the opportunity to find full-time salaried employment rather than work as casual labourers. In rural areas the trend was for farm mechanization with the introduction of, successively, power tillers, harvesters, and rice transplanters. Labour requirement for rice production was virtually halved during the 1960s, and there was no need any longer for time to be spent in *satoyama* during the winter months. In fact Honda-san may well have engaged in temporary migration to the city in this slack season, perhaps to work in the *sake* breweries in Kyoto and Kobe. If his son did choose to return home there was no obvious work for him to do. Honda-san and his wife could manage perfectly well by themselves. Thus it was that his son brought back a young bride-to-be in 1975. The marriage one year later took place in the village shrine, but then it was waves of farewell as the young couple departed back to their lives in the city. This was a significant break of tradition, but no-one seemed to think too much of at the time. In any case, they would still return during major festivals and could always be relied upon for help if times got bad. Indeed the young wife returned to her family home during her confinement, just as tradition dictated, before returning with her son to rejoin her husband in the city. The year was 1977.

The young child, Honda's grandson, was to grow up without any real awareness of changing styles of life in the rural area. Visits to his grandparents are performed more out of a sense of obligation than for any desire to get back to rural roots. Quite the opposite, he hankers to get back to the attractions of the city. He has a girlfriend there and they plan to marry some day. They do not intend to be burdened with their own children any time soon though. His father, now aged 55, is facing retirement within the next ten years. In turn, his own father, Honda-san, is still farming, but is already close to the average age of life expectancy. He cannot leave his job just yet, but knows his duty is to return to the village to look after his aging parents. His wife, though, has no desire at all to give up her friends and live in a village where, she feels, she hardly knows anyone. Perhaps they should invite Honda-san to come and live with them and cut ties with the village altogether – or almost. They will still have to go back from time to time to sweep the ancestral grave – if it can still be found amidst the encroaching scrub and woodland.

CONCLUSION

Although the above story is conjectural, it does have a solid basis on events described in interviews over the last 25 years conducted in villages of the Tamba Uplands in Kyoto Prefecture. There is huge concern and uncertainty now about the future of rural settlements throughout Japan, but the sad reality is that many will become abandoned within the next few years. The steady decline of rural populations now is due to the death, or departure of elderly folk. Sons or daughters with salaried jobs in the city are not yet in any position to return, or 'retire'. Honda's grandson, and his own children, will need a tremendous amount of persuasion to 'come back' to the village to re-learn rural traditions. In all likelihood the notion that they may act as stewards of the countryside, or as environmental caretakers, is unsustainable.

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