

Hot Springs and Forest Recreation Tourism

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Introduction

In Japan, tourism has recently become an important economic sector. In 1991, the estimated total number of people who participated in domestic sight-seeing was 214 million, indicating that each Japanese person traveled on average 1.73 times. The total expenditure for tourism was ¥9.97 trillion (¥80,500 per capita). Due to the increase of sight-seeing volume, in the last 10 years, investments in tourism and facilities for sight-seeing has increased, especially in rural area.

Hot springs recreation is a recent development tourism, and its public image has changed drastically during the past 10 years. Various inexpensive package tours including a visit to a hot spring are available at travel agencies throughout Japan, especially in urban areas. It is thought that the proportion of younger people participating is increasing. New hot springs have been discovered in many towns and villages throughout Japan.

As most hot springs are located in rural area, there is an apparent relationship between hot springs tourism and forest recreation. While the domain of forest resources was formerly considered to be restricted to forestry resources, it now encompasses public recreational use. A National Park may contain not only forests but also mountain villages and hot springs resources. Recently, forest resource recreation has expanded, this pattern is particularly marked in the case of hot springs recreation.

The relative importance of the tourism sector in the national economy and local economies has been increasing. There is also an effort to promote local economic development, and promotion of tourism is part of this effort. The efficient utilization of the hot spring resource, like that of forest resources, is therefore an important object. In the present discussion, it is argued that the efficient simultaneous utilization of both these important resources is fundamental to the development of mountain villages. This analysis is a preliminary effort to clarify the potential of the recreational economy in the mountain villages in Japan. In the present report, statistical data regarding hot springs compiled by the Environment Agency and those regarding tourism compiled by the Prime Minister's Office are analyzed to investigate recent changes in hot springs usage and their potential impact on forest resource management. The location, volume of tourism, and number of accommodations at hot springs and their relation to forest management are examined.

Statistical Data Regarding Hot Springs

1. Hot springs resources

The number of hot spring resources in Japan is shown in Table 1. At the end of the 1990 fiscal year, this number was 22,353, indicating that there was one hot spring per 16.9km². Although the distribution of hot springs is not uniform, Japan is clearly abundant in hot springs. Of 22,353 hot

springs, 68.5% are actively used; 22.5% are naturally boiling and 46.0% are powered. The remaining 7,036 hot springs are unused resources. Hot springs are frequently used as a heat source (Note 1).

Table 1. Hot spring resources

Fiscal Year*	Number of hot spring resources				Quantity of eruption (million tons/day)	Number of locations
	Total	Used		Unused		
		Naturally boiling	Powered			
1970	15,436	5,354	7,028	3,054	1.94	1,748
1975	17,491	5,181	8,297	4,013	2.11	1,939
1980	19,506	5,019	8,824	5,663	2.43	2,053
1985	20,396	5,005	9,384	6,007	2.70	2,145
1990	22,353	5,040	10,277	7,036	3.20	2,360

Source: Environment Agency, White paper on the environment.

* At the end of the fiscal year.

As shown in the table, 6,917 hot springs have been detected in the last 20 years, and the total number of hot spring has increased by 44.8%. However, the number of naturally boiling hot springs decreased by 6.3% between 1970 and 1980, and has since remained almost constant. In contrast, the number of powered hot springs has increased, and that of unused hot springs has increased 2.3-fold. Thus, the ratio of used resources to all resources has decreased from 80.2% to 68.5%. The numerous unused hot springs are potential targets of development. The total quantity of eruption has increased 1.6-fold in the past 20 years. In 1990, the total quantity was 1,168 million tons per year.

Hot springs can be classified by temperature. The number of hot springs less than 25°C was 2,434 in fiscal year 1980 and 3,105 in 1990, those 25 ≤ 42°C numbered 3,955 and 5,088, respectively, and those over 42°C 10,215 and 11,401, respectively. The rate of increase rate in the number hot springs less than 42°C was higher than that of those 42°C or more.

2. Hot spring location

The number of hot springs locations has increased by 35.0% in the last 20 years, and was 2,360 in 1990. There is one location per 160km². The average number of hot springs per location in 1990 was 9.5.

The number of hot springs and locations by region are shown in Table 2. The Tohoku Region has the largest number of hot springs (572). During the 10 years between 1980 and 1990, especially during the latter half, the numbers of both hot spring and locations have increased in all regions. The number of hot spring locations has increased by 307, of which 88 are in the Tohoku Region, followed by 38 in the Kinki Region, 29 in the Hokkaido Region, 28 in the Shikoku Region. Generally, the number of hot spring locations in the northern and eastern parts of Japan increased during this period.

Table 2. Number of hot springs and locations

Region	(Number)								
	Number of locations* ①			Number of hot springs* ②			②/①		
	1980	1985	1990	1980	1985	1990	1980	1985	1990
Hokkaido	183	192	212	1,440	1,583	1,827	7.9	8.2	8.6
Tohoku	484	533	572	2,568	2,829	3,252	5.3	5.3	5.7
Kanto	224	227	249	1,528	1,553	1,747	6.8	6.8	7.0
Hokuriku	226	227	257	627	658	812	2.8	2.9	3.2
Chubu	349	362	387	3,926	3,601	3,927	11.2	9.9	10.1
Kinki	127	148	165	812	878	1,002	6.4	5.9	6.1
Chugoku	164	155	175	934	970	1,113	5.7	6.3	6.4
Shikoku	62	68	90	205	240	316	3.3	3.5	3.5
Kyushu	234	233	253	7,466	8,084	8,357	31.9	34.7	33.0
Total	2,053	2,145	2,360	19,506	20,396	22,353	9.5	9.5	9.5

Source: Environment Agency.

* At the end of the fiscal year. Includes the unused resources.

The Kyushu Region contains 37.4% of the hot springs in Japan, the Chubu Region 17.6%, and the Tohoku Region 14.5% (total, 69.5%). Prefectures with numerous hot springs include Oita Prefecture (4,249), Kagoshima Prefecture (2,554), Shizuoka Prefecture (2,183), and Hokkaido Prefecture (1,827) (total, 48.4%). The total number of hot springs increased by 2,847 during the period between 1980 and 1990.

As the numbers of both hot springs and locations have increased at almost the same rate, the number of hot springs per location remained almost constant at 9.5 resources during this period. This ratio is highest in the Kyushu Region, which includes Oita and Kagoshima Prefectures.

3. Hot springs facilities

As shown in Table 3, at the end of 1990, the number of hot spring facilities was 15,119, and almost the same as that 10 years previously. The regions with the greatest number of facilities, i.e., the Chubu, Tohoku, Kanto, and Kyushu Regions, contained 74.7% of all facilities. Shizuoka (2,375), Nagano (1,107) and Oita (1,035) Prefectures contain numerous facilities. Although the total number of facilities has not changed, that in the Tohoku, Hokuriku, Chubu, Kanto, and Kinki Regions has increased while that in other regions has decreased. This pattern seems to be related to the traffic network, since all of the regions showing an increase are accessible from large cities such as Tokyo and Osaka.

Table 3. Hot spring facilities and usage rate

Region	Facility									(1,000 Persons/day)		
	Number* ¹			Capacity* ²			Usage* ^{2,*3}			Public bath* ¹		
	1980	1985	1990	1980	1985	1990	1980	1985	1990	1980	1985	1990
Hokkaido	865	831	799	83	89	99	23	24	34	110	177	203
Tohoku	2,195	2,194	2,324	171	179	200	41	43	56	320	418	566
Kanto	2,290	2,277	2,321	180	193	207	46	52	64	198	228	295
Hokuriku	1,084	1,120	1,145	85	94	109	27	30	40	90	124	170
Chubu	4,292	4,420	4,348	254	255	281	73	81	86	385	463	547
Kinki	938	914	950	68	72	80	22	20	28	82	87	117
Chugoku	769	719	706	58	55	57	16	15	17	198	220	338
Shikoku	268	196	224	23	17	24	4	4	10	58	63	129
Kyushu	2,411	2,331	2,302	141	141	146	41	42	49	714	814	918
Total* ⁴	15,112	15,002	15,119	1,063	1,096	1,202	293	312	384	2,155	2,594	3,283

Source: Environment Agency.

*1 At the end of the fiscal year.

*2 Fiscal year.

*3 Total usage per fiscal year/365 days.

*4 Figures are rounded to the nearest whole number.

The total capacity of hot spring facilities was 1.2 million persons per day in 1990, which is approximately equivalent to 1% of the total population of Japan. Thus, viewed only from the perspective of capacity, each Japanese person can use a facility 3.65 days each year. The facilities in the Chubu, Kanto, Tohoku, and Kyushu Regions have large capacities, and these regions together account for 69.4% of total capacity, which itself has increased by 13.1% during this period. Since the total number of facilities has remained almost constant, the scale of individual facilities has increased since 1980, particularly in the regions near Tokyo and Osaka, e.g., Tohoku, Kanto, Chubu, and Hokuriku Regions.

The total facilities usage (persons per day) was 384,000 in 1990. The annual usage rate of 140 million indicates that each Japanese person spends on average 1.1 nights per year at a hot springs facility. This total usage increased during the 10-year period, especially during the latter half, when the mean rate of increase was 14,400 persons per day (5.3 million persons per year). This rate of increase is clearly greater than that of either the number of facilities or that of capacity. Thus, the demand for hot springs tourism increased during this period. Increase in usage is observed in all regions, especially on the eastern side of Japan. Usage was 31.9% of capacity in 1990 and 27.6% in 1980.

Next, let's calculate the ratio of these three figures listed in Table 3 in contrast to the number of used resources of hot spring. Of course, the hot spring is not always used for accommodations, this ratio is used only for reference. First, the ratio of the accommodation to the number of used resources was 0.99 in the fiscal year 1990. This figure was 1.09 in fiscal year 1980. One accommodation has one resource of hot spring on the average. This ratio is 0.34 in the Kyushu Region and 0.64 in the Hokkaido Region. Next, the ratio of the capacity to the number of used resource was 78 in 1990. It has been almost constant during the period 1980-1990. It was 23 in the Kyushu Region in 1990, and it was over the average of the other region. Last, the ratio of the users to the number of used resource was 25 in 1990. It was 21 in 1980, so it has been increased during the period 1980-1990, especially in the latter half. However, this figure seems to be too small. Among the

regions, the ratio in the Kyushu Region was only 8. The area with the highest ratio was the Hokuriku Region, and the ratio was 69. Although the scale is full of varieties in the respective cases, the scale of each region has become larger.

The number of public bath facilities at hot springs has rapidly increased. The number of public bath facilities increased by 293 between 1989 and 1990. It is interesting that while the number of public baths utilizing hot springs has increased the total number of public baths in Japan has decreased.

Hot Springs Policy

1. Administration under the Hot Spring Law

The purpose of the Hot Spring Law passed in 1948 was the protection of hot springs and the promotion of their rational utilization. When development of a hot spring is planned, permission must first be obtained from the Prefectural Governor. Table 4 shows the total number of permits granted since 1970.

Table 4. Number of permits granted under the Hot Spring Law

Year	New development	Expansion	Settlement of power	Utilization*
1970	913	134	702	1,522
1975	699	109	497	1,650
1980	657	73	398	1,776
1985	651	55	456	1,784
1990	1,312	78	619	1,980

Source: Environment Agency, White paper on the environment.

* For public bath or drinking.

The number of permits granted for new exploitation had increased during the period 1955-1964, reaching its peak in 1964, when it was 1,415. After it decreased between 1965 and 1970, it then increased, cresting at 1,205 in 1973. Following another decrease, the number of permits increased beginning in 1985, and was over 1,000 in 1988, and was 1,312 in 1990. This is approximately double of that of 1985. Thus, the number of permits for new development shows fluctuation, and the current increase is apparently related to the regional hot springs development.

The number of permits for expansion has not shown a similar increase, and recent development projects are thus confined mainly to areas formerly without hot spring facilities.

2. The National Hot Spring Health Resort Program

A National Hot Spring Health Resort is a hot spring designated by the Environment Agency under the Hot Spring Law which is suitable for use as a health resort. At the end of the 1971 fiscal year, there were 52 designated hot springs locations, with a total area of 6,717ha. By the end of January, 1992, there were 80 such locations, with total area of 12,042ha. The number of locations increased gradually, and the area increased by 1.8-fold, during this period.

As part of the Facilities Improvement Project of the National Hot Spring Health Resort Program, which has been in operation since 1981, facilities for therapeutic consumption and usage of hot springs water are constructed at these hot springs (Note 2).

3. Subsidy of hot springs investment

Subsidy of hot springs development is authorized only when the main objective is regional development. A ¥100 million subsidy fund known as “Furusato-Sosei”, literally, “Old Home Place Revival”, is representative of the several kinds of subsidies available, and has recently been taken advantage of by not a few local self-governing agencies for hot springs development.

According to a survey conducted by the Regional Activates Center (Chiiki Kasseika Center), in only 6 of Japan’s 47 prefectures, Chiba, Kanagawa, Osaka, Nara, Kagawa, and Osaka, is no autonomous body using this subsidy fund for hot spring development. Of the 252 of autonomous bodies which have used this subsidy for this purpose, 93% have successfully detected new hot spring resources¹⁰⁰. However, these self-governing bodies are not always prepared to plan for the use of the newly developed hot springs.

Tourism and Hot Springs

1. The hot springs as a sight-seeing goal

In this chapter, statistical data regarding recent changes in tourism behavior and its relation to hot springs will be presented. Table 5 shows data regarding sight-seeing objectives. As may be seen, the two most frequent objectives are Hot springs and Nature and scenery. The next most frequent objectives, Shopping, eating and drinking and Driving, are clearly far less important objectives than either hot springs or scenery. It is also clear that the purpose of travel are many. If a sight-seeing destination formerly devoid of a hot spring acquires one, it will offer greater appeal. It is for this reason that many self-governing bodies are anxious to acquire new hot spring resources.

Table 5. Sight-seeing objectives

Ranking	Action ^{*1}	Percentage ^{*2} (%)
1	Hot springs	57.6
2	Nature and scenery	57.0
3	Shopping, eating and drinking	32.8
4	Driving	24.8
5	Cultural remains and assets	23.9
6	Shrines and temples	23.2
7	Amusement parks facilities and leisure facilities	20.8
8	Swimming facilities	19.9
9	Zoos, botanical gardens, museums, etc.	19.7

Source: Prime Minister’s Office, Actual conditions on tourism and recreation^{*3}, 7th Edition, p.242-244, 1992.

*1 Only trips with at least one overnight stay are included. Responses are not mutually exclusive.

*2 Only categories with response rates above 19.5 are shown.

*3 Published about every 5 years since 1960. The data compiled in the 7th Edition were acquired in September, 1990 and August, 1991 through interviews with 3,250 households at 170 locations throughout Japan.

The importance of the hot springs in sight-seeing has clearly been increasing. Yamamura (1990, p.53-56) explained changes in the objectives of tourism and recreation during the period

between 1964 and 1986 in Japan. In 1986, these objectives included participating in organized tours promoted by companies and communities ("ian-ryoko"; 31.8%), nature, watching sports activities, and picnics (20.0%), engaging in sports (15.6%), and hot springs (12.7%). Yamamura pointed out the recent increase in the frequency of the latter two categories and concluded that sight-seeing behavior has become more active.

2. Demographics of hot springs tourism

(1) Tourist age and sex

Statistical data regarding the use of hot springs according to age and sex classes are shown in Table 6. There was no difference between males and females in the rate of hot springs use. The lowest rate of usage was that in those at the aged 16 to 21 years (30.4% of males and 36.2% of females). Among those over 30 years of age, the rate is about 60% and over. Thus, hot spring recreation is selected as a tourism objective by tourists in all age groups.

Table 6. Incidence of hot springs tourism by age and sex*

Age group (years)	Staying one or more nights		Day-trip			
			January-February		July-August	
	Male	Female	Male	Female	Male	Female
0-6	48.0	50.8	4.0	2.6	1.0	0.9
7-15	40.6	43.2	1.8	5.8	1.3	4.4
16-21	30.4	36.2	1.6	2.5	0.9	2.2
22-29	40.3	48.0	2.2	3.3	2.2	1.3
30-39	61.8	54.5	2.8	3.8	1.6	1.4
40-49	61.1	62.0	3.3	7.2	2.6	5.7
50-59	74.2	78.5	8.1	15.4	4.1	10.6
60-69	79.1	75.3	12.2	18.0	8.9	23.0
70-	76.7	74.0	22.2	12.5	21.1	28.3
Total	57.3	57.8	4.2	6.8	2.7	5.0

Source: Prime Minister's Office, Actual condition on tourism and recreation, p.242, 380, 383, 1992.

* As a percent of all tourists.

Among those under 30 years of age, females are slightly more likely than males to have visited a hot springs. Consumption by young women is now a considerable economic factor, and the presence of women at hot spring has clearly changed the image of hot springs from that of an amusement center used only by men to that of a modern health facility for both sexes.

The rate of hot springs tourism was compared with that for other travel objectives. The lowest rate for nature and scenery as a travel objective was in those aged 16 to 21 years; the rate was 46.4% in males and 45.4% in females. The highest rate was observed in those 50 to 59 years; (67.0% in males and 67.1% in females). The range of values for nature and scenery as a travel objective is greater than that of hot springs. When it is taken into consideration that the average age of the Japanese is increasing, it seems clear that the popularity of hot springs is increasing to be rising more than that of nature.

More females than males reported that they had engaged in a day trip to a hot springs. The average rate during the winter season (the research months were January and February) was greater than during the summer season (July and August), and the rate in all age groups over 50

years was greater than that in any other age group. The rate for females over 50 years old in the summer was particularly high. As with vacations with lodging, participation by the elderly in one-day vacations is also expected to increase as their relative proportion of the population increase.

(2) Number of vacation days

The number of days for vacations including overnight lodging is shown in Table 7. Two- and 3-day vacations represented 82.2% of all vacations, and the average vacation was 2.71 days. Several reasons for the brevity of vacations in Japan have been presented elsewhere, and this seems to be one of the most important reasons that the long-term vacation is generally not easy for us to take, in Japan.

Table 7. Number of vacation days

Number of vacation days	Total	Main object of interest (%)				
		Hot spring	Nature & scenery	Cultural remains & assets	Shrines & temples	Events & festivals
2	58.4	70.2	53.1	49.1	50.2	60.8
3	23.8	19.6	24.2	30.8	22.9	28.0
4	7.8	4.1	9.6	12.4	12.6	9.1
5	3.3	1.7	5.3	3.4	4.8	-
6	1.6	0.5	3.9	-	3.0	-
7-8	1.3	0.5	1.4	2.1	3.0	0.7
9-10	0.1	0.1	0.3	-	-	-
11	0.4	0.3	0.3	1.3	-	-
Unknown	3.3	3.1	1.9	0.9	3.5	1.4
Average	2.71	2.42	2.92	2.92	2.95	2.50
S.D.	1.36	0.97	1.64	1.52	1.35	0.76

Source: Prime Minister's Office, Actual conditions of tourism and recreation, p.259, 1992.

When the main objective of travel is a hot springs, 2- and 3-day trips comprise 89.8% of all trips, and the average duration is shorter than that for all trips. The proportion of 2-day trips when a hot springs is the travel objective is higher than that for any other travel objective. The hot springs vacation is thus mainly short-term. Other travel objectives for which 2-day trip represent over 70% of all trips include golf (75.3%), fruit picking (73.7%), and fishing and other aquatic activities (72.3%). The brevity of travel when a hot springs is visited indicates that in most cases the purpose of travel is not health or recuperation.

(3) Means of transportation

As shown in Table 8, the most common means of transportation for all travel is the private automobile (44.8%), followed by trains (26.5%) and chartered buses (19.0%); at least one of these three means of transportation was used in 90.3% of all leisure trips in Japan, and they clearly play an important role in leisure travel. Their frequent contrasts with the infrequent use of airplanes (only 6.2%), and suggests that most vacations are taken relatively close to the place of residence.

Table 8. Means of transportation

Type of transportation*	(%)		
	All travels ①	Hot springs travel ②	Difference ②-①
Railway	26.5	27.1	0.6
Public bus	7.6	9.3	1.7
Chartered bus	19.0	23.1	4.1
Private automobile	44.8	42.4	-2.4
Private bus	1.5	1.9	0.4
Taxi and hired car	4.4	5.3	0.9
Rental car	3.5	4.9	1.4
Ship	3.1	1.8	-1.3
Airplane	6.2	3.2	-3.0
Motorcycle	0.1	0.1	0.0
Others	1.0	1.2	0.2
Unknown	4.4	1.3	-3.1

Source: Prime Minister's Office, Actual condition on tourism and recreation, p.314, 1992.

* Responses are not mutually exclusive.

The results for hot spring travel are very similar to those for all travel, and private automobiles, trains, and chartered buses are again the 3 most important means of transportation. However, the use of the chartered and public bus and rental car is greater and that of the private automobile and that of the airplane lesser.

The Hot Spring as a Forest Recreation Resource

Public interest in forest recreation has recently increased. The total area of National Forests which has been made available for recreation was 554,000ha as of April 1, 1992 (Forestry Agency, 1993, p.180). The estimated usage of these forests in the 1986 and 1991 fiscal years was 152 million and 187 million persons, respectively (Forestry Agency, 1990, p.139); usage increased by 35 million persons during this 5-year period, and 28 million of them engaged in any sports activity. The usage of National Parks was 998 million persons in 1990, and was increased by about 200 million persons compared with that in 1980 (Prime Minister's Office, 1992, p.120). The estimated usage of the long-distance nature trails maintained by the Environment Agency, the total length of which was 12,999km in 1990, was 30 million persons in 1990 (Environment Agency, 1992, p.221), and 18 million persons in 1985.

While hot springs are located all over Japan, including such cities as Kagoshima and Beppu, they are frequently located in rural areas including forests. We have seen that hot springs and nature and scenery are the two most important travel objectives in Japan, and that the two are frequently the twin goals of travel. We have also seen that the increase in the number of hot springs facilities apparently reflects the more general increase in forest recreation usage. However, the relationship between hot springs tourism and forest recreation in Japan has generally not been examined, even though some forest recreation maintenance facilities are located at hot spring.

There are several examples of hot springs which are located in forest recreation area. Since 1987, Miyazaki Prefecture has been promoting a policy known as "Forestpia Miyazaki". The term "Forestpia" was coined by combining "Forest" and "Utopia", and the main purpose of this

program is to improve utilization of forests in mountain village areas. The town of Takachiho, which is located in north-west Miyazaki Prefecture, formerly lacked a hot spring. After a hot spring was discovered, construction of facilities for its utilization was begun. This hot spring is regarded as one of the main facilities in this area of the "Forestpia" Program, which links hot spring and forest recreation. Mt. Kaimon, famous for its beauty and isolation, is located in the town of Kaimon in Kagoshima Prefecture. Under a program promulgated by the Kaimon Municipal Office to promote the tourism industry spawned by Mt. Kaimon, several facilities, including a grass skiing course, a small golf course, cottages, parks, and a pool, have been constructed. A nearby hot spring was also renewed recently using the ¥100 million subsidy fund. Most sight-seeing buses which stop at Mt. Kaimon also stop at Ibusuki, a city famous for its hot spring.

However, as previously shown, the duration of travel of when the main objective is a hot spring is generally brief, and is too brief to conclude that the intention of travel in most cases is the derivation of health benefits. On the other hand, hot springs tourism has generally been regarded as somewhat health-oriented. "Health tourism" is defined by IUOTO (the predecessor of World Tourism Organization) as "the provision of health facilities utilizing the natural resources of the country, in particular mineral water and climate" (Hall, 1992, p.151). However, as is argued, the main cause of the current increase in hot spring resources in Japan is regional economic development policy.

Discussion

1. National and local economic development policies and hot springs

Regional economic development policy and increased public awareness of health issues have contributed to the increase in hot spring resources. Generally, public policy regarding tourism is often related to regional economic development (Note 3).

Economic factors in Japan include continuous economic growth and increase in income since the end of World War II, with resulting increase in disposable income and leisure consumption. Leisure consumption represented approximately 24% of the total expenditure per household during the period between 1987 and 1991. In 1991, the total leisure expenditure was ¥3.9 million and that per household was ¥951,000. The expenditure for tourism in 1991 was ¥142,000 per household, and showed an increase of 35.7% compared to that in 1987, and of 2.7-fold compared to that in 1963. As disposable income increase, public attitudes changed. The annual surveys of public opinion regarding life-style published by the Prime Minister's Office for the last 20 years highlight these changes in public attitudes. When queried around 1975 about their concern regarding their future, the Japanese cited housing first, followed by eating and leisure. The relative importance of leisure gradually increased, and exceeded that of eating by 1978, and that of housing by 1983. In the most recent survey, the relative weight of leisure is 37.1% (housing, 23.1% and eating, 11.0%). The increased value attached to leisure is a fundamental reason for the increase in hot spring resources.

After a period of decrease in the economic growth-rate following the 1973 oil crisis, business activity accelerated between 1987 and 1990. Several factors related to this high economic growth-rate have been identified, and it has been attributed mainly to the higher value of the yen, lower oil prices, and lower interest rates. As disposable income increased, so too did personal consumption, including expenditure for tourism. These economic circumstances were conducive to investment in the tourism industry. Beginning in 1987, implementation of a new law regarding resort

areas brought about a high rate of growth in investment in leisure facilities throughout Japan. In the same year, a new policy regarding the recreational utilization of national forests, known as the "Human Green Plan", was announced. Recreation was regarded as an important aspect of the utilization of national forests in this new policy, the purposes of which included enhancement of the national welfare, promotion of forest-related and forestry activities, and promotion of local economy. These policies were clearly conducive to the subsequent investment in tourism.

The total net labor time per worker has been decreasing since the 1960 fiscal year when it was 2,426 hours. Since 1975, when it was 2,077 hours, it has shown slight decrease, and was 2,044 hours in 1990. Labor time has decreased by 382 hours, or 47.8 8-hour work days, in the last 30 years. In 1990, a 5-day work week was enjoyed by 39.2% of all workers, and 67.4% of those employed at enterprises with more than 1,000 employees. The decline in labor time has of course increased the time available for leisure, but labor time in Japan clearly remains longer than that in other developed countries. Recently, various kinds of trade problem have occurred between Japan and the other developed countries. The excess of labor time has been often pointed out as one of the reasons of maintaining the priority of Japanese companies, and was required to be improved. In terms of both the national welfare and improved international trade relations, shortening of labor time is an important political issue in Japan, and it is anticipated that labor time will continue to decrease. This social pattern is another basic consideration in the high level of investment in the tourism industry.

The rural economy in Japan has been described as sluggish and encumbered by problems related to agriculture and forestry, which constitute its basic sectors. Generally, Japan's agricultural and timber-based industries are free from competitions. In addition, cost competition has been minimized due to the recent appreciation of the yen. Furthermore, the average age of farmers is increasing, and are not always replaced. Under such conditions, many local governments have focused on tourism, especially that involving lodging.

This pattern is particularly noticeable in mountain villages. The decline in the self-supplying-rate of timbers in Japan, from 67.4% in 1966 to 45.3%, 34.9%, 34.4%, 33.5%, and 25.0% in 1971, 1976, 1981, 1986, and 1991, respectively, reflects the numerous problems of the domestic forestry sector. Generally, the total forest area owned by any one person is small and scattered. Most man-made forests (mainly needle-leaved) are not yet at the final cutting age. Pulp logging is decreasing because of increased pulp importation. Therefore, recreational forest use has come to receive attention, and several forest facilities are under construction (Note 4).

Analysis of demographic changes in the rural population has revealed a decrease in population suggestive of depopulation, and legislation to prevent village depopulation was promulgated in 1970 (amended, 1980 and 1990). Furthermore, the relative proportion of the national population which is aged is increasing, while the total population is decreasing. We found that the demand for hot springs usage is generally high among the elderly. Local governments are increasingly focusing on the social welfare of and recreational activities for the elderly, and hot spring investment is considered compatible with this policy. Finally, the regional development subsidies play an important role in the hot springs policy of local governments.

2. Problems related to hot spring resources

The numerous newly opened hot springs facilities are anticipated to contribute to the local economy, tourism and social welfare, and these goals may be achieved to a certain degree. However, several problems related to hot spring resources have been identified.

One fundamental problem is the potential for over exploitation of hot spring, and one of the purposes of the Hot Springs Law is the protection of hot spring resources. Excessive exploitation can cause a decrease in the water temperature and quantity. As hot springs are an important natural resource, their efficient use is necessary.

There are also considerations of supply and demand, economic forces, and increase in competition which may affect the management of the newly opened facilities. The local governments which have been attempting to develop hot spring resources have met with some success, but their great number has altered market conditions and generated excessive competition. In addition, general business conditions are declining, and the rate of increase in hot spring usage is not high. As was shown herein, the increase in expenditure for tourism is a short-term phenomenon which may not reflect the long-term. Many of the numerous extensive projects related to tourism which were planned since the latter half of the 1980's have not been realized and many be abandoned. On the other hand, a hot spring is easily developed because the initial planning costs are not as great as those in the case of a large-scale resort and, moreover, a subsidy is available. These factors will also contribute to the excessive number of facilities and attendant managerial problems.

Public management is not without various forms of inefficiency, which is often apparent even at the planning stage as a failure to conduct a survey of market and demand conditions, the enumeration of short-terms goals, use of uniform designs, and failure to perform managerial calculations, and interface with other facilities. In many cases facilities which could not be constructed in the private sector are constructed by local governments using public subsidies, and their interest inefficiency is often not noted until after they are already built.

The anticipated volume of usage of a new hot spring facility must be carefully evaluated. Generally, while the public sector is skilled in the construction facilities, it shows less experience in efficient facilities management. If the volume of usage of a hot spring facility is low, the hot spring resource will be wasted. The two types of hot spring users are tourists and local inhabitants, and many local governments have anticipated that the majority will be tourists, even though expectation is generally not realized. Thus, even though, the local inhabitants are important in hot springs usage, are in most cases not consulted regarding hot spring facilities.

Hot spring facilities are sometimes associated with another tourist destination; for instance, some are located near a forest pass. It has been assumed that, because hot springs use is related to health considerations, it would be reasonable to combine their use with forest recreation. However, most hot springs visitors apparently use only the hot spring, and one-day tour or one-night staying tour is preferred. The actual behavior at a hot spring may be almost the same as that at a public bath. The use of hot springs as a health resort will be studied in the future. Many mountain villages now face difficult economic conditions and are searching for means of developing the local economy. It is necessary to plan not only for hot spring facilities but also for the recreational use of forests.

Conclusions

In this report, statistical data regarding hot spring resources and trends in their usage were analyzed. The conclusions drawn from this analysis are presented in the form of policy recommendations for the rational development of recreational hot spring and forests facilities (Note 5).

1. While Japan has abundant hot spring resources, it must be kept in mind that these resources are limited. Even if new hot springs are discovered, not all mountain villages can become tourist

destinations, especially staying resorts, even if new resources of hot spring are founded out. Prefectural governments should permit hot spring resource development with utmost caution, and planning for its effective use should precede development. The competition of the many already well-established tourist towns with hot springs in Japan should be taken into consideration in the development of new hot springs facilities. In this regard, use by the local inhabitants should be further considered in their planning.

2. In Japan, the subsidy system has generally facilitated facility construction, but not necessarily its efficient use. While it has formerly been assumed that the purpose of a visit to a hot spring is the recover of health, it has been shown that the average period of stay is too short for this goal, and that the main function of a hot spring accommodations is almost the same as that of a public bath. These factors should be considered in hot spring planning, development, and use.

3. The hot springs may come to be used for medical purposes, but there are many difficulties to promote them. The hot spring is not considered to be a medical facility, and there is no social health insurance program for its use. The brevity of the average stay at a hot springs indicates that it is not medical. The Ministry of Public Welfare prohibits the application of social health insurance monies for hot spring use, and, furthermore, long-term holidays are not common in Japan (Minami-Nihon Newspaper¹¹⁾).

4. In the definition of forest recreation, Shinohara (1987, p.52) includes the National Hot Spring Health Resorts specified by the Environment Agency. In mountain villages, the combination of hot springs with forest recreation is effective for the rural resource management. In this regard, it is important not only to construct facilities including such forest resources as museum, trails, and camp-sites, but also to provide for their utilization. The firsthand experience of forestry is an attractive mountain village activities. The combination of various forestry activities with hot spring recreations is considered to be worth promotion.

5. The combination of hot spring with forest recreation is an example of "active" tourism (Note 6), which is also known as "special interest tourism" (Weiler & Hall, 1992). Consideration of this new pattern of tourism together with the opinions of the local inhabitants and the local governments at which have successfully developed new hot spring resources may enhance the effective management of hot spring resources.

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Notes

- 1) Hot spring are often used in Japan as a heat source, for instance, for public facilities such as public buildings and public housing. Agricultural use, for example, as heating systems for cattle sheds, is also wide spread. Hot springs are also employed in road snow removal in cold area.
- 2) Results regarding an administrative survey of public works improvement projects at tourist and recreation facilities were published by the Management and Coordination Agency in 1987. Some of the difficulties encountered in improvement projects at National Hot Spring Health Resorts described in the report (1987, p.45-46) included difficulty in obtaining a site for the

building and insufficient coordination with local organizations. The project was concluded to have had little effect.

- 3) Williams & Shaw (1991, p.264) delineated the following 7 principal issues in an analysis of the tourism policies of 6 European countries during the period between 1972 and 1982. Regional development was the single most important considerations, followed by seasonality, consumer protection, balance of payment, social tourism, rural/green tourism, and environmental protection.
- 4) Facilities related to forests and forestry include 329 forests for forestry experience, 426 structures for study and training related to forests and forestry, 2,268 camp-sites, 784 ski grounds, 418 courses for orienteering and 2,452 forest paths (Ministry of Agriculture, Forestry and Fisheries, 1991).
- 5) An article in the Minami-Nihon Newspaper¹¹⁾ recommended training of specialists, application of social health insurance programs, expansion of medical research and industrial development organizations, creation of health resorts and utilization of local development, and the necessity for an administration department for hot springs.
- 6) Hall & Weiler (1992, p.3) pointed out the following as special interest activities: Urban: museums, art galleries, heritage, arts & community festivals, performing arts, cultural (ethnic) travel and sports tourism; Rural: cultural (ethnic) travel, arts & community festivals, heritage, adventure travel, health tourism, sports tourism, and farm & ranch tourism; and Natural: nature-based tourism and adventure travel.

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