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Water Use and Caste Community in a South Indian Village
A Case Study of Chikkamaralli Village

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南インド農村における水利用とコミュニティー
チッカマラリ村を例として

南　埜　　猛*

Abstract

The purpose of this paper is to reveal the construction of a caste community in a South Indian village through the analysis of water use in the village. We also try to show the change of the community system and the life of people as comparised with the time that Fujiwara and his research team had surveyed in 1978, 25 years ago and previous sociological studies.

The sample village, Chikkamaralli, is a multi jati community village. In this paper, we divided the caste communities into three groups. The division was used as analysis units: the first group consists dominant caste community, the second group, service jatis comunity, and the third group, Schedule Caste and Schedule Tribe.

The results are as follows:

1) Water ficilities have been improved owing to the government support.
2) Canal water was important for the domestic water use.
3) The discrimination among the three groups reflects on their water use. Private open-wells were mostly owned by the first group. This shows that the first group was economically superior to the other groups in the village. In water use, especially for drinking water, there was not much difference between the first and the second group, but the third group used water facilities which the other groups

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did not use.

In future, water supply system (water-tank) should become the main water facility in the village. It may reduce the feeling of discrimination among the groups.

CONTENTS

I. Introduction

Water is the most essential requisites for human being. The way of water use is different from one region to another region depending upon natural conditions and socio-economic conditions. Analyzing water use may be one of the ways to find regional characteristics and uniqueness.

In this paper, we try to reveal the construction of a caste community in a South Indian village through the analysis of water use in the village. We also try to show the change of the community system and the life of the people in comparison with the time that Fujiwara and his research team had surveyed in 1978, 25 years ago.

The sample village, Chikkamaralli, is located at 12° 31.4' north latitude and 76° 42.5' east longitude in south India (see Fig.1). The village belongs to Mandya district, Karnataka state. Fujiwara identifies this village as a typical village in the commanded area of the Visvesvaraya (Krishna Raja Sagar) canal system(Fujiwara, 1980, p.49). It has the modern canal irrigation system which was constructed in earlier time than others in the southern part of the Deccan plateau.

The village was resurveyed from the 29th September to the 8th October in 1993.

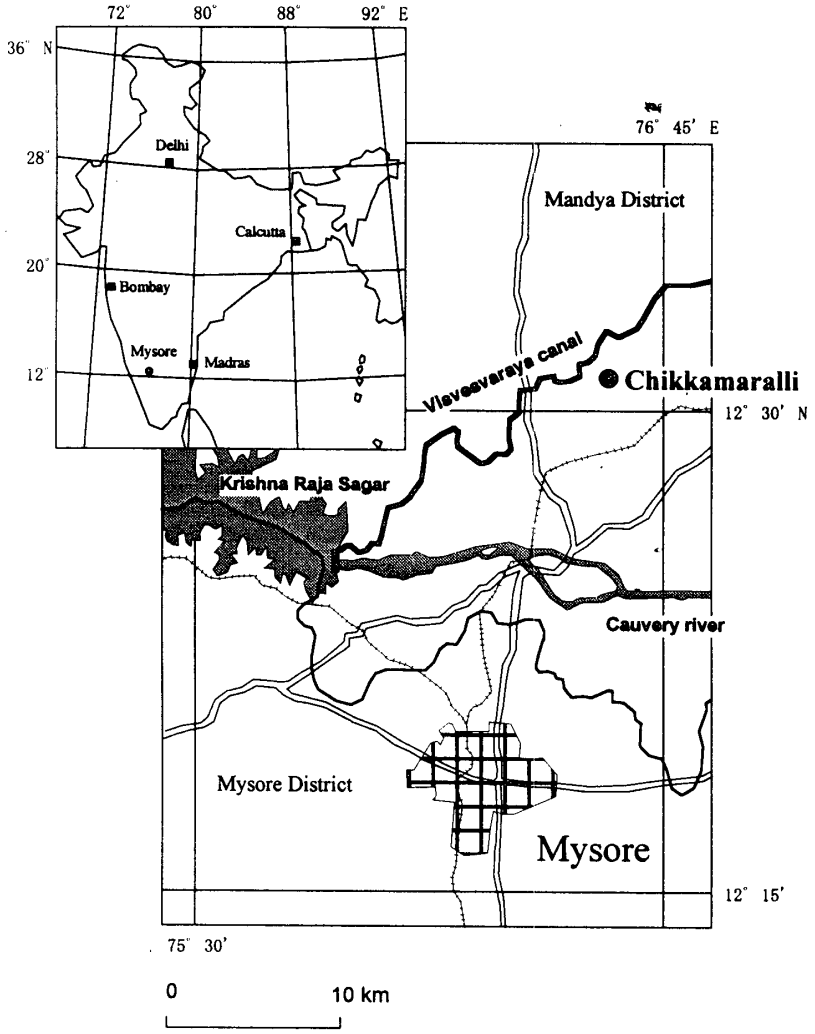

Fig. 1 Location map of Chikkamaralli

The purpose of the re-survey is "to make a geographical reappraisal of human resources in the context of regional development, focusing on the improvement of living standards and the growth of industries on a micro regional scale" (Murakami, 1996, pp.1-2). Two reports from the same survey have already been published (Nakayama, 1996; Doi, 1996).

The main focus of this paper is on the water use and the social structure of the Chikkamaralli village. In the 1978 survey, it focused on the physical future of water facilities and the water quality(Naruse, 1980, pp.58-61), however, almost no attention was given to the water use of the village. However, Srinivas (1976) and Dumont (1986) have shown the relation between water use and the life of rural villagers of the same region in their reports. Therefore, this paper tries to show the change of the physical structure of water facilities in comparison with the 1978 report, and also the inner

structure of the village in comparison with the Srinivas and Dumont reports.

This paper is composed of three parts. The first part describes about the water facilities in the village, such as well, canal, water supply system and drainage. The second part discusses about the villagers' activities: drinking and cooking, washing, and bathing. The third part focuses on the relation between the caste community and the water facilities in the village, and discuss the distinction of the caste communities. We also try to discuss whether the classification of the caste communities is still significant or not.

In this paper, we excludes the discussion of irrigation system in the village, and limits it on domestic water use (drinking and cooking, washing and bathing).

In the 1978 report, Ohji(1980) divided the 14 jatis in the Chikkamaralli village into three groups in terms of political and socio-economic view. This unit was also used in this present survey for the convenience of the comparison and the analysis. The first group was composed of the dominant jatis such as *Vokkaliga* (agriculturist) and *Kuruba* (shepherd). The second one was an artisan and service group, including *Achari* (mason, carpenter, and blacksmith), *Kumbar* (potter), *Agasa* (washman), *Ganiga setty* (oil presser), *Banajiga setty* (tailors), *Malesakkere setty* (rope maker), *Uppaliga setty* (rope maker), *Parivar* (mat maker) and *Bhajantri* (barbers). The third one had Schedule Castes and Schedule Tribes, which were *Adi Karnataka, Adi Dravida* and *Jadmalli* (scavengers)[1].

The population of the village slightly increased as compared to the 1978 survey (see Table 1). The households and population were 197 and 1233 in number respectively. 14 jatis were found in the village again, but their components had been changed. Three jatis such as *Parivar, Banajiga setty* and *Adi Dravida,* have left the village and new three jatis, *Lambani* (service jati), *Nayaka* (Schedule Tribe) and *Boiegalu* (Schedule Caste) have joined. Among the newly joined three jatis, *Lambani* (service caste) was into the second group and *Nayaka and Boiegalu* (Schedule Castes and Schedule Tribes)were put into the third group. The composition of number of households by the group in 1993 was as follows; the first group occupies 48.7% (43.8% in 1978), the second group 42.1% (47.6%), the third group 9.1% (8.6%).

Table 1 Households and population by Jati, Chikkamaralli

Group	Name of Jati	Households				Population							
				(%)		Male		Female		Total		(%)	
		1978	1993	1978	1993	1978	1993	1978	1993	1978	1993	1978	1993
I	Vokkaliga	55	67	29.7	34.0	171	227	163	206	334	433	32.4	35.1
	Kuruba	26	29	14.1	14.7	93	117	86	93	179	210	17.3	17.0
	Sub-total	81	96	43.8	48.7	264	344	249	299	513	643	49.7	52.1
II	Achari	48	48	25.9	24.4	143	145	115	138	258	283	25.0	23.0
	Kumbar	10	10	5.4	5.1	28	35	24	29	52	64	5.0	5.2
	Ganiga setty	4	6	2.2	3.0	16	23	8	21	24	44	2.3	3.6
	Agasa	12	10	6.5	5.1	23	25	23	16	46	41	4.5	3.3
	Uppaliga setty	1	3	0.5	1.5	2	5	2	11	4	16	0.4	1.3
	Lambani		3		1.5		7		8		15		1.2
	Malesakkere setty	3	2	1.6	1.0	8	4	7	8	15	12	1.5	1.0
	Barber		1		0.5		4		2		6		0.5
	Bhajantri	1		0.5		3		4		7		0.7	
	Banajiga setty	1		0.5		4		2		6		0.6	
	Parivar	8		4.3		15		14		29		2.8	
	Sub-total	88	83	47.6	42.1	242	248	199	233	441	481	42.7	39.0
III	Adi Karnataka	14	15	7.6	7.6	37	57	27	42	64	99	6.2	8.0
	Boiegalu		1		0.5		2		4		6	0.0	0.5
	Jadmalli	1	1	0.5	0.5	5	2	3	1	8	3	0.8	0.2
	Nayaka		1		0.5		0		1		1		0.1
	Adi Dravida	1		0.5		4		2		6		0.6	
	Sub-total	16	18	8.6	9.1	46	61	32	48	78	109	7.6	8.8
	Total	185	197	100.0	100.0	552	653	480	580	1032	1233	100.0	100.0

Source: Ohji(1980), Table 6.3-1
Field survey in 1993

II. Water facility

We found three types of water facilities in the village, that were wells, canals and a water supply system (water-tank). Minamino(1995) has reported that a tank was used for irrigation as well as domestic water use in a West Indian village. Though, in general, tank irrigation was popular in south India, this village did not have any tanks.

1) Well

There were two types of wells in this village: open-well and tube-well with a hand pump. There were 22 open-wells and three tube-wells (see Fig. 2). Of the 22 open wells, 21 were private and only one belonged to the local government. However, all the tube-wells were government ones. The first government open-well was introduced in 1960, but it was no longer used due to dry up. To provide drinking water for the poor villagers, the government had installed tube-wells in the village. There increased five tube-wells in the village since the former survey. Among the five, two had already

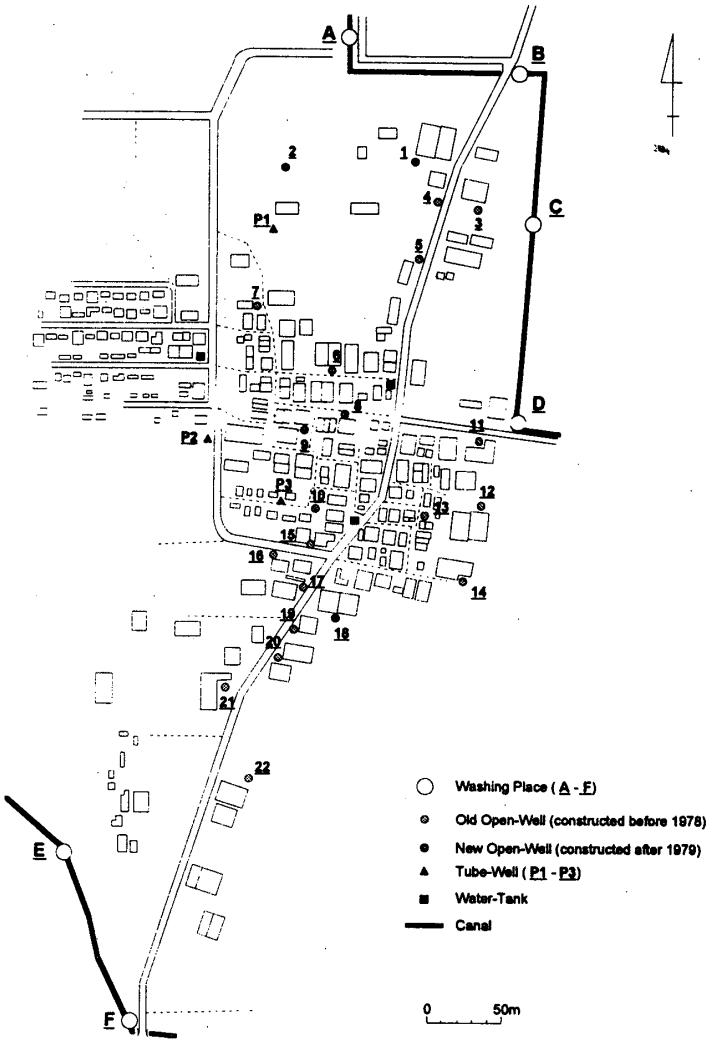

Fig. 2 Allocation of water facility in Chikkamaralli
(Number is related with Table 2)
Source: Field survey in 1993

dried up and three were still working. Now, the government stopped constructing tube-wells. Because they changed their strategy for water supply. They started to introduce water supply system (water-tank) instead of tube-well.

In private open-wells, the first one was dug in 1901(see Table 2). Only three were made before the 1950's. Most open-wells presently used were dug after the 1960s. The main reason for this was pointed out as "the government loan" and "the Green Revolution and sugar-cane cultivation" (Fujiwara, *et al.*, 1980).

The government loan was given to the villagers to construct wells particularly for drinking purpose since 1960. Some of the rich families constructed a new open-well near their own house by getting government loan.

Table 2 HList of open-wells in Chikkamaralli

Location*1	Year of Construction	Depth*2 (m)	G.W.L*2 (m)	Purpose*3	Jati of Owner
8	1901	3.15	11.45	D,B	Vokkaliga
13	1918				Achari
9	1935	7.50	9.20	D,B	Vokkaliga
6	1960	2.95	7.45	D,B	Kuruba
10	1960			not use	Government
17	1963				Vokkaliga
19	1966				Vokkaliga
14	1968	3.20	6.30	D,B	Vokkaliga
7	1970			not-use	?
11	1970				Vokkaliga
21	1970	4.05	7.65	D,B	Vokkaliga
12	1971	2.65	6.95	D,B	Vokkaliga
4	1974				Vokkaliga
5	1975	1.00	7.90	D,B	Vokkaliga
3	1977				Vokkaliga
15	1977	4.20	7.30	D,B	Vokkaliga
16	1977				Vokkaliga
20	1978				Kuruba
22	1978	3.80	5.65	D,B	Kuruba
18	1982	4.10	6.70	D,B	Vokkaliga
1	1985	0.90	7.80	D,B	Vokkaliga
2	1988	1.50	5.25	not use	?

Source: Field survey in 1993

*1: Number is related with Fig. 2

*2: Surveyed on 7. 10. 1993

*3: D: Drinking and cooking, B: Bathing

Most of old open-wells dug before the 1960s were located at the center of the settlement. The new open-wells dug after the 1970s were located outside of the central settlement (see Fig. 2 and Fig 3). The center of the settlement was the original settlement of this village. Fujiwara *et al.* (1980) pointed out the relationship between new houses and new open-wells(Fujiwara, *et al,* 1980, p.92). The 'Green Revolution' started in the end of the 1960s, and the sugar-cane cultivation brought big profit and cash income for the villagers. Due to the cash income, many villagers built new houses. Many of them were constructed outside of the original settlement. They built an open-well near their new houses.

The physical features of the open-wells in the village were almost the same. Each open-well was surrounded by rock fences, which was about 70cm height in the case of No.3 open-well. There attached a wooden pulley without rope. The average depth of 12 open-wells was 7.47m, and the most shallow one was 5.25m in depth, and the deepest 11.45m (see Table2).

The quality of water from the well was good. It was used for drinking, cooking, washing utensils and bathing. But they did not wash cloth with this water.

2) Canal

There were three canals flowing in the village. These canals were a part of the Krishna Raja Sagar irrigation system. The Krishna Raja Sagar Dam was constructed in 1931, and has irrigated almost over 80,000 ha of its command area since 1932. One of the main canals was the Visvesvaraya canal (see Fig. 1). The three canals, named as the 20th distributary, the 21st distributary and the 22nd distributary, were parts of the Visvesvaraya canal.

Two irrigation periods were decided by the Irrigation Department. From July to December, the water was provided fully and continuously. Between January and June, the rotational water supply called' off and on system' was repeated. During the off and on system, the Irrigation Department provided water in the first 15 days, and they stopped it in next 10 days. However even during the off period, little water flowed in the canals. The 21st and the 22nd distributary flowed near the settlement (see Fig 2). The water of the canals was mainly utilized for irrigation, but the villagers also used it for domestic purposes like drinking water, washing water and bathing water.

3) Water supply system

There are three water-tanks in the settlement, which supply drinking and cooking water and bathing water(see Fig. 2). These water-tanks were a part of the water supply system in the village primarily introduced in 1993.

In general, the State government is responsible for the supply of drinking water in India. However, since the mid-1980, the Central government started the Accelerated Rural Water Supply Program (=ARWSP)(GOI, 1996, pp.446-448) and they provided financial supports to the State government through the program. The State Government of Karnataka launched several programs to improve water supply system in its rural area, two of them were named as 'Mini Water Supply Scheme' and 'National Rural Water Supply Program'.

The village *Panchayat* of Chikkamaralli introduced the mini water supply system under the Mini Water Supply Scheme. The facilities of this system were one tube-well,

pipe-line and three water-tanks. The tube-well having the capacity of 3.2 tons per hour, was located near the distributary of the Lokapavani river which flowed the edge of south-east of the village. The tube-well and three water-tanks were connected with pipe-lines. Each water-tank was 130cm across in diameter and 245cm in height and the capacity was about 4 tons. The total investment of this scheme was 1 lakh Rs[2].

The water was pumped up from the tube-wells and provided water through three water-tanks for villagers twice a day, morning and evening. The government took care of it including electricity charge. This water supply system was introduced in August 1993, but for some reason, the pipe-line has broken. During our research(i.e. in September 1993), this system was still out of order. The villagers were asking the government to repair it as soon as possible.

In addition to the mini water supply system, another system called the extensional water supply system was planed under the National Rural Water Supply Scheme by the village *Panchayat*. The facilities of the system were one overhead water-tank set near the highest place close to the settlement, one tube-well near overhead water-tank, eight new water-tanks in the settlement and three already existed water-tanks. During our research, the tube-well was already constructed, but other facilities were still under construction. There was no plan to supply water for the individual households.

4) Drainage

There was a paved open drainage system in the settlement. In the central part of the village, there was a granite inselberg(Naruse, 1980, pp.51-52). Some villagers, having a skill to process stones, engaged in stones cutting. Beside their work, those villagers were trying to improve the drainage system by using the material and their skill. The government was providing subsidy to the village since 1990.

III. Water use

In this section, we focus on the activities of the villagers in connection with water use: (1) drinking and cooking, (2)washing, and (3)bathing.

1) Drinking and cooking

Most of the villagers collected drinking and cooking water from open-wells and tube-wells. But some villagers used canal water.

Srinivas mentioned about collecting water as follow. "It was the wife's duty to fetch water from the canal or well depending upon the season"(Srinivas, 1976, p.138). "... and there was always a queue of users for it (well), especially in the mornings. The users of the well usually were women, and each women carried her own rope along with her brass vessel. There was a reluctance to share a rope and fear that it would be stolen if left unguarded" (Srinivas, 1976, p.15).

During our research, the work to collect water was still woman's duty. They brought vessels and a rope, when they collected water. Three type of vessels were used by them, which were brass, unglazed one and plastic. Although brass vessels were popular in the past, but plastic one has become more popular than brass one, because plastic one is lighter and more convenient than others. Still there was no rope for pulley for all because it would be stolen, as Srinivas observed. Therefore each of them brought a rope which was made of hemp and was heavy. This seemed to be a big burden for women.

Women in the village went to the well as they came to need water. According to our sample survey, each household went to the well 4.2 times a day in average. Each vessel had capacity of five liters, and they brought four vessels in one time. As a result, they collected 84 liters of water per day which included bathing water.

In their house, they keep the water in tanks. The tanks were made of concrete or brass. A sample concrete tank was 72 by 43 by 46cm and its capacity was 142.4 liters. The ground water was good quality. The people drank it without boiling.

2) Washing

The villagers washed eating utensils and clothes with canal water. This was also woman's duty. When they went to the canal, they put a basket on their head and hold another basket in their arms. There were six washing places found by the canals (see fig. 2). These places were made convenient for washing by crossing a wooden board on the canal. Sometimes they sat on it as they wash clothes and sometimes they hit their clothes on the board. They went to canal to wash eating utensils twice (around 7

a.m. and 6 p.m.)or three times (around 7 a.m., 2 p.m. and 6 p.m.)a day, and their clothes, twice to three times a week. They used solid soap for washing clothes, but they used only sand for washing eating utensils.

There were four households which were engaged in laundry work (=*dobi* in local language). Srinivas mentioned; "Clothes were taken to the Washerman only rarely, at the approach of a festival or wedding, or on the eve of an important journey. The richer households, however, had a regular Washerman who was paid a stipulated quantity of grain after harvest"(Srinivas, 1976, p.139). This situation has not been changed at present. Only rich families took their clothes to the Washerman. The Washerman no longer undertake the work in exchange with grain but with cash now.

3)Bathing

Srinivas described about bathing in Indian rural villages as following: "Like most other houses in the village, the Bullock House did not have a separate bathroom. Excepting the richest villagers....." "Only a small number had a daily bath while the others were content with a weekly bath, ..." "Man bathers wore at least a loin cloth while bathing, while women usually kept on their saries through not blouses. The use of soap was becoming popular, ..."(Srinivas, 1976, p.16-17). And Dumont also mentioned;" people bathe with their clothes on and dry them on their bodies. As others, they are able to wash and dry their clothes while they are on their bodies, freeing different parts of the garment successively, but remaining basically dressed all the time."(Dumont, 1986, p.85)

According to our present census survey, 40.6% of the total households had a bathroom in their houses. The remained villagers bathed at canal. The way of bathing was not so changed. They took bath with their clothes. Most of the villagers used soap. They took a bath 2.2 times a week on average. Of 55 samples, only two villagers who belonged Vokkaliga had daily bath.

IV. Water Use and Caste Community

1) Expansion of settlement

Fujiwara pointed out that there was a pattern of the jati segregations in the

village (Fujiwara, *et al,* 1980, pp.90-93). The original settlement occupies the central area of the present settlement. Among the first group, *Vokkaliga* occupied the left area of the main road, and *Kuruba* did the north of *Vokkaliga* area that was on the left side of main road, *Achari* of the second group occupied on the right side of the main road, and others of the second group on the right side of *Vokkaliga* and *Kuruba* area. *Adi Karnataka,* one of the third group, occupied in the south of *Vokkaliga* area (see Fig 3).

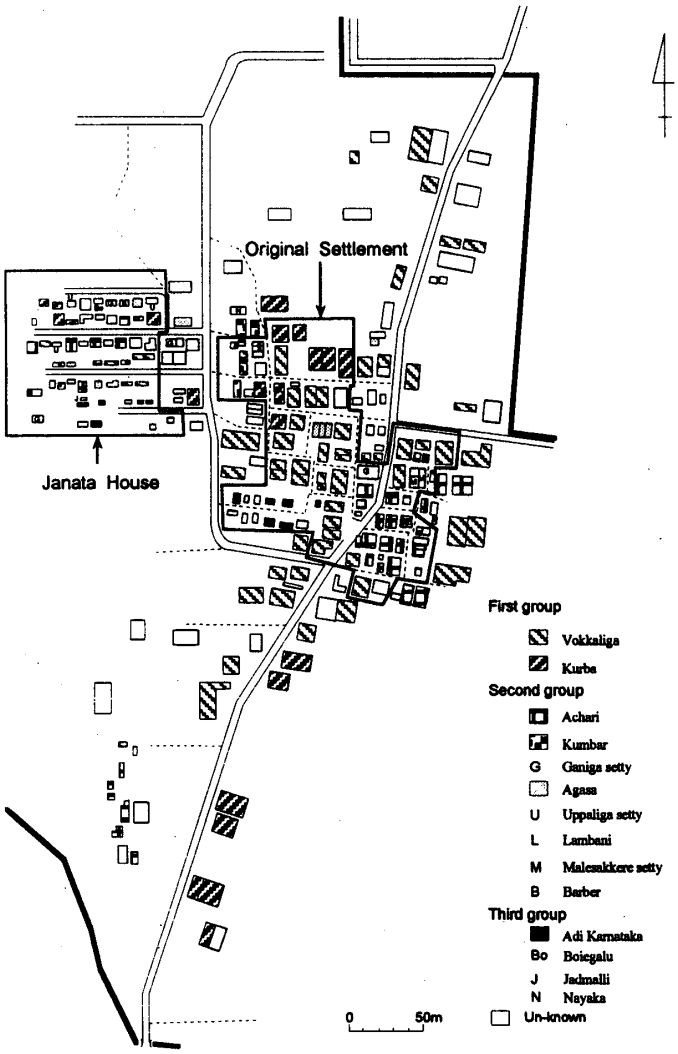

Fig. 3 Residental patterns by jati in Chikkamaralli
Source: Field survey in 1993

The settlement became expanded. During the process of its expansion, a kind of segregation was made: Some *Vokkaligas* constructed their new houses in the north area along the main road as well as the left side of the main road in the south area. Some *Kurubas* settled on the right side of the main road in the south area. Some *Acharis* newly settled in the south-west parts. Since 1976, the government started the

constructing of *Janata* House[3] in the village. In the *Janata* House, the people from the three groups were found, and most of them lived together without segregations except one group. *Adi Karnataka* occupied most houses of the last south lane in the *Janata* House.

2) Location of wells and ownership of private open-well

Most open-wells in the village were privately owned. The owners of 19 open-wells out of 21 were identified in our survey. The owners of two wells (No.2 and No.7) were not found. 18 open-wells belonged to the first group (*Vokkaliga* 15, *Kuruba* 3), one to the second group (*Achari* 1), and no well to the third group.

There were only three open wells before the 1950s. Their owners were *Vokkaliga* (2) and *Achari* (3), and were located in the central part of each jati areas in the original settlement. At the time, each wells was commonly used by the members of each jati: *Vokkaliga* used No.8 and No.9 open-wells and *Achari* mainly used No.13 open -well. *Kuruba* and the second group except *Achari* used the nearest open-wells which belonged to *Vokkaliga*. *Adi Karnataka* used the canal water which was introduced in 1932, though before it, they used river water, 1 km away from the settlement.

After the 1960s, all the private open-wells were owned by the first group (*Vokkaliga* (11), *Kuruba* (3)). The government provided an open-well for *Adi Karnataka* in their area. And the government also introduced tube-wells near the *Janata* House.

3) Caste community and people's behavior in terms of water use

a) Drinking and cooking water

All the first group got drinking and cooking water from the open-wells which belonged to them, but those open-wells were used in two different ways. No.5, 9 and 11 open-wells were used by many households, but each of No.16, 18, 20 and 21 open wells was used personally by certain households. The latter ones were constructed for the new houses located outside of the original settlement. The first group did not use the open-well (No.13)which was owned by the second group, even if it could be very close to their houses. The first group strictly used the open-wells which were owned by the same jati.

In the case of the second group, those who lived in the original settlement used No.13 open-well which was owned by the second group. As the Fig.4 shows, they also

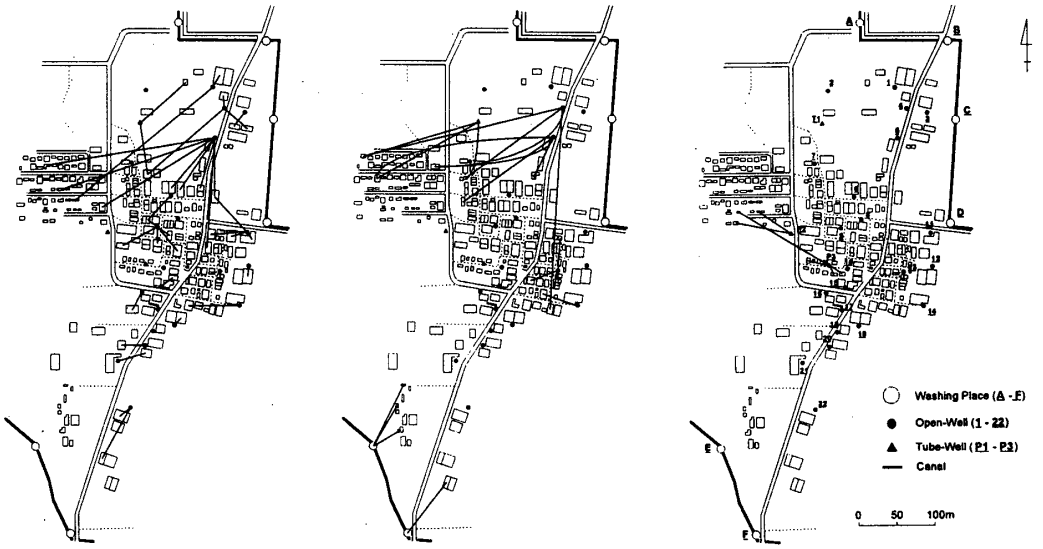

Fig. 4 Relation between household and water source
(Drinking and cooking Water)
Source: Field survey in 1993

used the open-wells which were owned by the first group. Those who lived in the new settlement in the south-west parts of the original settlement used canal water.

The third group used the tube-wells constructed by the governments. They did not use any other open-wells.

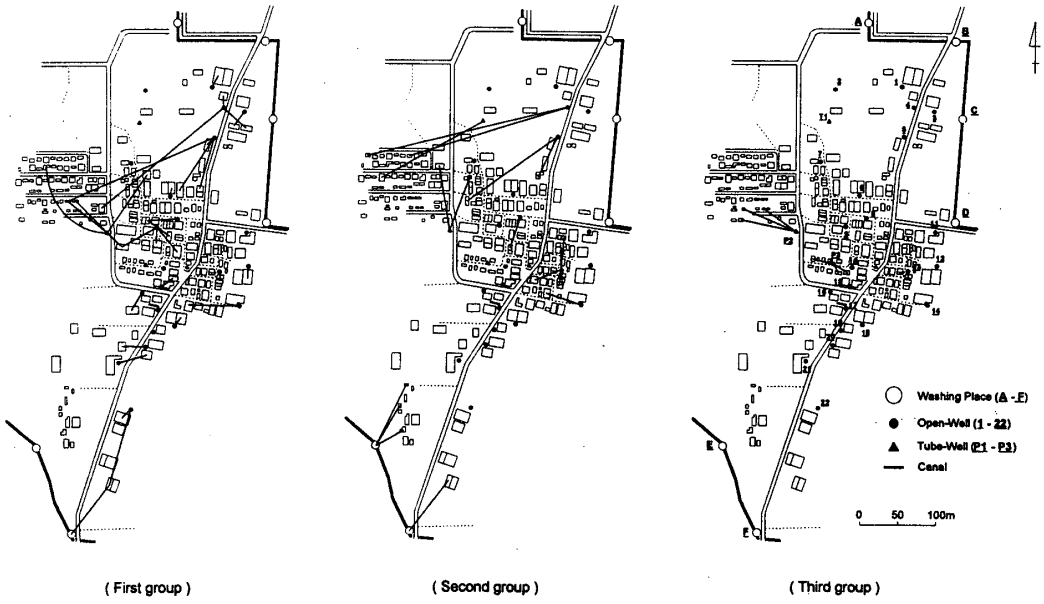

Fig. 5 Relation between household and water source
(bathing Water)
Source: Field survey in 1993

b) Bathing water

As Fig. 5 shows, the third group got bathing water from the same source as their drinking and cooking water. But the first group and the second group used the nearest source for their bathing water, and some of them used the tube-well (P2) for bathing water, though they did not use it for drinking and cooking water.

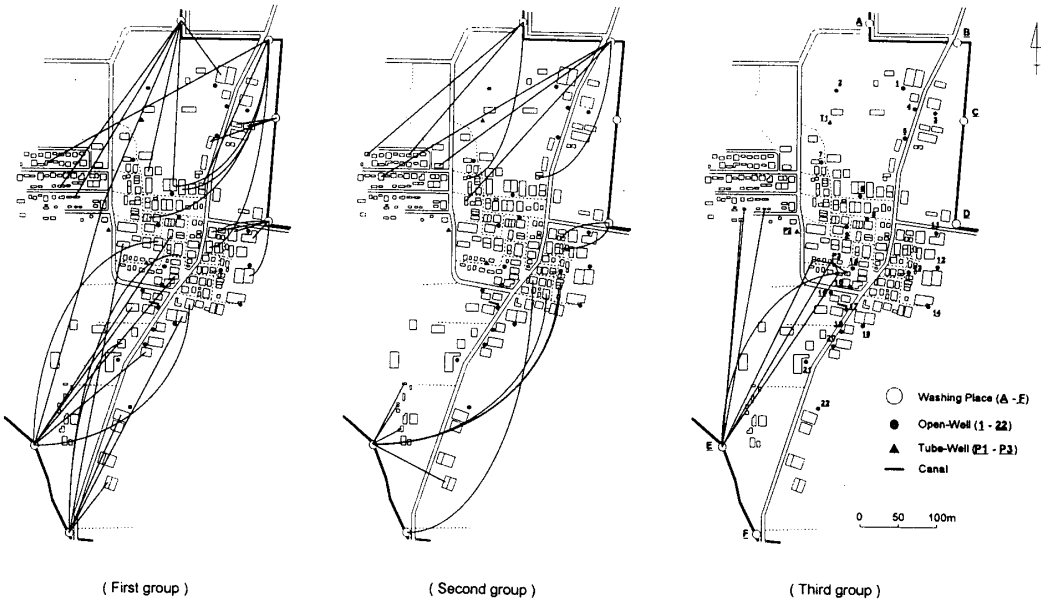

Fig. 6 Relation between household and water source (washing Water)
Source: Field survey in 1993

c) Washing water

Most of the villagers washed their clothes and eating utensils at the washing place by the canals. Some villagers used tube-well and open-well as supplement. Like the case of bathing water, they used the nearest water source for washing. The people lived in the north of the settlement used washing place A, B, C and D, and the people in the south used washing place E and F (see Fig. 6). The washing place E was used by all groups.

d) Discussion

The open-wells were mostly owned by the first group. It shows the economic superiority of the first group in the village.

In terms of water use, there seemed to be a certain grouping for drinking water.

The first and second formed one group, and the third was independent. The second group used open-well which was owned by the first group, but the third group never did. When we asked the owners of the open-wells whether they would allow the third group to use open-wells, they said they would accept the third group though they feel reluctant. For drinking and cooking water, the first group and the second group shared the tube-well (P1). The tube-wells (P2 and P3) were used only by the third group. There seemed to be a tacit agreement among the three groups that the third group does not share drinking water with the first and the second groups.

In the case of bathing water, the above agreement was slightly loose. Even the first and the second group used open-wells, and some of them used the tube-well (P2) which was used by the third group. For washing, all the three groups used the same place together without discrimination.

The belief of impurity of the lowest class in Hindu society may be the reason for the discrimination of the third group.

After the introduction of the new water supply system by the governments and village *Panchayat,* the burden of heavy work of women may possibly be relieved. There would be no need to carry heavy rope and to draw water from well. Also it may reduce the feeling of discrimination among the jatis, and subsequently every household may be able to use water of the nearest source (water-tank) without going to distant one.

V. Conclusion

There are few important findings regarding the relation between water and people in Chikkamaralli, a south Indian village.

1) The water facilities in the village have been improved. The government supported villagers in various ways. They provided a loan to dig an open-well for rich families. They made an open-well and tube-wells for poor families like Schedule Castes and Schedule Tribes. Recently, they introduced a water supply system for all the villagers.
2) The life style of the villagers in connection with the water use have not changed since the former reports.

3) Though the main purpose of the canal was irrigation, the water of canal was utilized for domestic use as drinking and cooking water, bathing water and washing water. Canal water is essential for the life of villagers.

4) The works concerning to water are still women's role. Collecting water from open-well is a heavy work, because they have to carry a rope every time and pull up the vessel with about five liters of water from the bottom of well.

5) The distinction of the three groups in connection with water use still existed. Private open-wells were mostly owned by the first group. This shows that the first group was economically superior to the other groups in the village. In water use, especially for drinking water, there was not much difference between the first and the second group, but the third group used water facilities which other groups did not use.

6) In future, water supply system (water-tank)should become the main water facility in the village. It frees women from the heavy work. They need not to carry a heavy rope and pull up vessels. And it could reduce the feeling of discrimination among the groups. Open-well and tube-well would become supplementary.

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Notes

1) Ohji (1980), p.66. Some jati has different name and different expression. For example, *Achari* is called *Vishwakarma*. In this paper, we follow the expression which is used in previous survey report for the convenience of easy comparison.

2) Block Development Office, Mandya, Karnataka.

3) The government set up "*Janata* house" program which was directed towards ameliorating the conditions of the backward sections of the society. In this program, the people was provided house-site and some materials for building their houses. This program started from 1976 in Chikkamaralli.

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南インド農村における水利用とコミュニティー
ーチッカマラリ村を例としてー

南　埜　　猛

水は人間にとって，必要不可欠な存在である。水を得るために人々は，様々な水利施設・道具を作り出してきた。使用される水利施設・道具や水の使用の仕方は，個々の地域性と深くかかわっており，また水利用のあり方にはそれぞれの社会が反映されている。本研究は，水利用の分析を通して，今日のインド農村を明らかにすることを目的とする。

調査村のチッカマラリ村は，1978年に広島大学を中心とする調査隊によって調査された村である。また同村の周辺の村は社会学の研究においても，詳細な調査がなされている。本研究では，これらの先行研究を踏まえながら，水利施設や水の使用の仕方の変化に着目する。またチッカマラリ村は14のジャーティからなるマルチ・ジャーティ村である。それらを，社会・経済的観点から，３つのグループ（第１グループ：ドミナントカースト，第２グループ：サービスカースト，第３グループ：指定カースト・指定部族）に分けて，それぞれの水利用のあり方を分析した。

分析の結果，以下の点が明らかとなった。

１）村内の水利施設の改善には，政府の大きな寄与が指摘される。その方法は，経済的に豊かな階層には，個人井戸 (open-well) の設置に対して政府ローンを貸し付ける形で，そして貧しい階層には井戸 (open-well または tube-well) そのものを設置している。さらに近年では，水道施設 (water supply system) の整備が進められている。

２）用水路の水の主目的は灌漑であるが，飲み水，フロ水，洗濯用水などに利用されており，日常生活においても重要な役割を果たしている。

３）飲食，フロ，洗濯などの水の使用の仕方には，ほとんど変化はみられなかった。

４）水に係わる労働は，以前と同様，主として女性の役割であった。特に井戸水の汲み上げやその運搬は，彼女たちに重労働を強いている

５）個人井戸の所有は，ほとんどが第１グループであった。

６）飲み水の水源をグループごとにみてみると，第１グループは自身の個人井戸を利用し，第２グループも第１グループが所有する井戸を利用しているのに対して，第３グループは政府の井戸を利用し，たとえ近くにあっても，個人井戸の利用はみられなかった。また第１と第２グループによって，第３グループが利用している政府の井戸の利用はなかった。このように村内において，第３グループの独立した水利用

の成立していることが指摘される。

7）しかし，フロ水の水源については，第3グループが利用する井戸が第1と第2グループによっても利用されており，洗濯については，すべてのグループが利用している場所が存在している。このような，水の利用目的の違いによる水源の違いは，必要水量の違いはもちろんのこと，ヒンドゥ社会における階層性が反映しているものと考えられる。

8）現在，進められている水道施設の整備は，女性が抱えている重労働を軽減するものであり，飲み水の水源の例でみられた水利用における3つのグループの社会的区別の解消につながると思われる。