1
The Transformation of Food Habits in Modern India

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1. Introduction

This paper aims to analyze the transformation of food habits in modern India from the perspectives of (1) the material basis for cooking, (2) food consumption patterns and regulations on eating, and (3) meal patterns (change in the composition of Uchishoku: home cooking, Gaishoku: eating out, and Nakashoku: home meal replacement (HMR)). The paper examines trends all over India and conducts a regional case study of Gujarat Vidyapith students.

2. Material Basis for Cooking (Kitchen and Chulha)

Besides food expenditure data, the India Human Development Survey (IHDS)[1] also compiles data on kitchens and furnaces, which are indispensable for cooking. These constitute the basic materials for cooking, and we find great differences in the type of these facilities between religious and social groups and between urban and rural areas.

(1) Kitchen

According to the IHDS, as shown in **Table 1**, only 55% of households surveyed had an independent kitchen. Around 20% of households cooked "outdoors," and the other 25% in the "living area". "Living area" refers to a residential space other than kitchen. In metropolitan areas, the proportion of households with an independent kitchen was high, while in rural areas, especially in less developed villages, households with independent

[1] The India Human Development Survey (IHDS) is a nationally representative, multi-topic survey of 41,554 households in 1503 villages and 971 urban neighborhoods across India. The first round of interviews was completed in 2004-5. A second round of IHDS re-interviewed most of these households in 2011-12 (N = 42,152). IHDS has been jointly organized by researchers from the University of Maryland and the National Council of Applied Economic Research (NCAER), New Delhi. Survey data are publicly available through ICPSR(From Homepage of IHDS, "Home," http://ihds.info/, accessed on 20/09/2016).

"kitchens" made up only 42%. By religion and social group, the proportion of households with an "independent kitchen" was high among "Three religions" (Sikhs, Jains, and Christians), "Brahman," and "Advanced Castes". while the corresponding percentage was small among "Adivasi" and "Dalit" households.

Table 1: Distribution of households by the location of kitchen, urban-rural divisions, and religious/social groups (2011/12; %)

Division	Sub-division	Cooking place			Total
		Outdoor	Independent kitchen	Living area in a house	
Urban/rural	Metropolitan area	5.9%	73.4%	20.7%	100.0%
	Other urban area	10.0%	70.8%	19.2%	100.0%
	Developed village	23.6%	53.7%	22.7%	100.0%
	Less developed village	26.3%	42.2%	31.5%	100.0%
	Total	20.0%	54.9%	25.1%	100.0%
Religious/social groups	Brahmin	10.3%	69.6%	20.1%	100.0%
	Advanced castes	13.0%	67.4%	19.5%	100.0%
	OBC	21.7%	53.9%	24.4%	100.0%
	Dalit	25.5%	46.2%	28.3%	100.0%
	Adivasi	14.7%	45.9%	39.4%	100.0%
	Islam	24.2%	51.3%	24.5%	100.0%
	The three religions	5.4%	88.6%	6.0%	100.0%
	Total	20.0%	54.9%	25.1%	100.0%

Source: Prepared by the author from the India Human Development Survey unit level data for 2011/12

(2) Furnaces

Next, let us examine the distribution of furnaces. As shown in **Table 2**, the type of furnace is divided into (1) outdoor ovens, (2) traditional furnaces (chulha), (3) improved furnaces (chulha with chimney), and (4) others (kerosene range, gas stove, etc.). A typical outdoor oven is made up of only three stones, one stone on the back and two stones on the side, with the fuel placed in the space between the stones; the smoke is dispersed in the air. A traditional furnace (chulha) is made of soil or clay produced by the user or craftworker in an independent kitchen or other living space in the house. The size varies from small ones with only one cooking oven to large ones with several cooking ovens. Normally, chulhas are fixed in place, but portable types are sometimes used.

In addition, a bucket-type oven (angithi) that can be easily carried is also used as a main or auxiliary furnace. Since traditional furnaces are not equipped with facilities to

manage smoke, it can fill the air when the furnace is used inside the house. Improved furnaces with chimneys can handle smoke to some extent. Since smoke is harmful not only to the cook but to all people living in the house, campaigns to promote improved furnaces are being conducted throughout India. Another type of furnace is a cooking range (stove or range) that uses fossil fuels such as kerosene and gas without using biomass fuel.

Table 2: Distribution of households by the type of furnace, urban-rural divisions, and religion/social groups (2011/12; %)

Division	Sub-division	Type of furnace				total
		Outdoor	Chulha	Chulha with chimney	Others (kerosene/gas)	
Urban/rural	Metropolitan area	1.9%	6.0%	1.1%	91.1%	100.0%
	Other urban area	9.8%	16.2%	4.4%	69.6%	100.0%
	Developed village	21.9%	44.3%	8.8%	25.0%	100.0%
	Less developed village	22.0%	60.3%	8.3%	9.4%	100.0%
	Total	17.5%	40.8%	6.9%	34.8%	100.0%
Religious/social groups	Brahmin	6.6%	37.1%	3.4%	52.9%	100.0%
	Advanced castes	11.9%	28.4%	5.7%	54.0%	100.0%
	OBC	18.5%	40.1%	7.6%	33.8%	100.0%
	Dalit	21.4%	47.6%	7.0%	24.1%	100.0%
	Adivasi	24.2%	53.2%	6.9%	15.7%	100.0%
	Islam	16.2%	44.3%	7.6%	31.9%	100.0%
	The three religions	7.7%	15.0%	8.7%	68.6%	100.0%
	Total	17.5%	40.8%	6.9%	34.7%	100.0%

Source: Prepared by the author from the India Human Development Survey unit level data for 2011/12

The difference in the distribution of furnace by type is very great between urban and rural areas. Biomass fuels are mainly used in rural areas, while fossil fuels constitute a main fuel source in urban areas. The type of furnace corresponds to the type of fuel. Thus, “other ovens” that depend on fossil fuels predominate in metropolitan areas (91% of households) and urban areas (70% of households), while biomass-fueled furnaces (three-stone, chulha, and improved chulha) make up an overwhelming proportion in rural areas. Notably, fossil fuels have begun to spread even in rural areas, particularly in developing villages, which are more sensitive to new movements such as urbanization, modernization, and globalization.

By religion and social group, the ratio of households using “other ovens” is as high as 69% among the Three Religions, followed by Advanced Caste and Brahmin in that order. Contrariwise, the ratio of households using “other ovens” is extremely small among the Adivasi because a majority of them reside in rural areas. The type of furnace is strongly correlated with their urbanization rate, household income, and asset levels. Accordingly, the socially and economically advanced groups tend to show higher urban population ratios and, accordingly, higher proportions of “other ovens”.

The type of furnace is also closely related to the posture of cooking and eating. In the case of outdoor ovens, traditional ovens, and improved furnaces, all cooking processes (adjustment of fire, preparation of ingredients, and cooking) are basically performed in a sitting posture. Under such circumstances, meals are also taken in a sitting posture. On the other hand, households with “other ovens” tend to prepare foods and cook in a standing position. Meals are often taken on a table with chairs. Thus, there is a large difference in cooking and eating postures between religious and social groups and between urban and rural areas.

3. Food Consumption Patterns and Regulations on Eating

(1) Foodstuff and Food Consumption

After Independence, the eradication of poverty was an urgent policy issue in India. Accordingly, the National Sample Survey Organization was established in 1950, and detailed data on consumer expenditures (including food consumption) have been collected continuously since the 1950s.

Primary foodstuffs and food consumption patterns have changed considerably in recent years. The per capita consumption of grains and pulses has declined sharply since the 1990s, and the calorie intake per adult has also shown a long-term decrease, reflecting the trend of a decreasing agricultural population ratio and reduced labor intensity. The economic liberalization of the 1990s has led to a rapid modernization and globalization of the economy. With these changes, a transformation of food habits was expected in the direction of greater consumption of high protein products and greater diversity of food consumption (a mixture of traditional cuisine and contemporary/

foreign food). What actually happened was rather interesting: The monthly per capita consumption of edible oil has increased, that of milk and dairy products has been stable, and eggs, meat, and fish have shown mixed trends (the monthly household consumption of the number of eggs has increased, while the monthly household consumption of meat and fish has decreased). Interestingly, per capita consumption of high protein foods including meat has not increased, even with significant rises in per capita income in India. Thus, the "food transformation" commonly observed in other developing countries has not occurred in India. This is a unique aspect of food habits in India, and Landy has attributed this aspect due to high "cultural density" (Landy 2009: 59–61).

(2) Globalization of Food

Globalization of food (e.g., burgers, pizzas, pasta, and ethnic food) began mainly in major cities since the 2000s when the economic liberalization began to take effect in India. In addition to the burger shops and pizza stores owned by foreign capital, the number of shops and supermarkets owned by Indian capital that deal in globalized foodstuffs has also increased.

Meanwhile, the gap between generations about the taste of food has expanded. To cope with the diverse tastes, what is called a family restaurant with a variety of menus (e.g., Panjabi, South Indian, Chinese, and burgers) and food courts with a variety of food corners have also increased in India. Previously, restaurants specializing in specific cuisines such as Panjabi dishes or South Indian cuisine were dominant.

In many restaurants, the menus and food items have been adjusted to cope with the demands of customers for a diversification of tastes and preference for individualized meals. The emergence of fast foods has played an important role in diffusing an individualized meal in India. The typical example of an individualized meal is a burger set, and instant noodles have also played an important role in promoting individual eating (mainly among children and young people) at home.

A rapid expansion of the seasoning market has also begun to change the food habits. In particular, in the food shops and food ingredients corner of the malls in urban areas, various seasonings in the form of powder and paste, condiments, spices, and soups are displayed. Formulated seasonings for various Indian cuisines such as chicken

masala and garam masala for finishing have long been used. This market has expanded rapidly since the 2000s, providing various new ingredients not only for food items of foreign origin such as pasta and Chinese noodles, but also for Indian cuisines such as South Indian and other regional cuisines. More households have started consuming processed ginger and garlic in paste, retort pouch foods, and frozen ingredients. New foodstuffs have been introduced to home cooking, and we observe that various ingredients have been used to pursue a restaurant-style taste. In this way, the gap in taste between home cooking and restaurant foods has been reduced among urban dwellers (particularly among metropolitan dwellers) with the use of various new ingredients and digital information on "how to cook" via Google, YouTube, and specialized TV cooking channels.

Health consciousness has arisen mainly among urban middle classes. India has one of the world's highest rates of diabetes mellitus, and those worried about obesity and high-calorie diets are beginning to respond with diet regulation and exercise. Typical examples in diet regulation are ghee, high calorie foods, and fried foods, whose per capita consumptions have been decreasing in recent years. Also, consumption of soups has increased mainly among the urban middle class, constituting a recent trend. However, it is not easy to obtain scientific and systematic guidance on diet reform, which remains a major problem to be tackled.

(3) Regulations on Eating

The proportion of vegetarians and non-vegetarians has always been a hot topic of Indian food culture. According to a survey of the Registrar General of India, Indian non-vegetarians (defined as those who eat meat, fish, eggs) made up 75% of the population in 2004, which had slightly declined to 71.6% in 2014.

The IHDS also included questions regarding non-vegetarians in their households: "Do you have non-vegetarian members in the household?" and "Where do they eat non-vegetarian foods?"

As shown in **Table 3,** 77% of the sampled households had non-vegetarian members in 2011/12. Thus, the findings of the IHDS show results similar to those of the survey of the Registrar General of India regarding the non-vegetarian proportion of the

population. The ratio of the respondents who answered "Yes" (non-vegetarian) to the question differed greatly by religion / social group. The ratio was 99% for Muslims, 92% for Adivasi, and 87% for Dalit. These three religions / social groups formed the core of the non-vegetarian population in India, with an aggregated population ratio of about 40%. Furthermore, the percentage of non-vegetarian households was also high among the "OBCs" (Other Backward Classes), accounting for about 34% of the population in India. The smallest ratio of respondents who answered "Yes" was Brahmin, who still accounted for 34%. Brahmins in North and West India are largely vegetarian, but in East and South India there were many non-vegetarian Brahmins. Even among the Advanced Caste households, the share of non-vegetarians was 68%, an overwhelming majority.

Table 3: Distribution of households with non-vegetarians and places for eating non-vegetarian foods by religion/social group (2011/12; %)

Question	Answer	2011/12							Total
		Brahmin	Advanced castes	OBC	Dalit	Adivasi	Islam	Three religions	
Are there non-vegetarians at home?	No	65.9%	32.4%	30.5%	13.4%	8.1%	1.0%	28.2%	23.5%
	Yes	34.1%	67.6%	69.5%	86.6%	91.9%	99.0%	71.8%	76.5%
	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Where do they eat non-vegetarian foods?	Home	58.0%	62.3%	71.7%	70.6%	65.6%	63.2%	72.8%	68.0%
	Outside	8.1%	5.3%	4.1%	2.8%	2.1%	0.9%	4.3%	3.4%
	Both	33.9%	32.4%	24.1%	26.6%	32.2%	36.0%	22.9%	28.6%
	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: Prepared by the author from the India Human Development Survey unit level data for 2011/12

To the question "Where do they eat non-vegetarian food?", 68% of the respondents answered "at home". Overall, the ratio responding "at home" is high because "home cooking" is still dominant in India. In either case, a vegetarian or non-vegetarian diet, the basic meal pattern is to cook and eat at home in India.

The differences in the ratio of answers "at home" by religion and social group were relatively small. The response ratio of Brahmin was the smallest at 58%, followed by Advanced Caste and Muslim in that order. Contrariwise, members of the Three Religions responded with the largest ratio of 73%, followed by OBCs and Dalit at the 70% level. The response ratio of "eating out" was 3.4% overall, but with major

differences among religious and social groups. This response ratio was particularly large among the two groups, Brahmin and Advanced Caste, positioned at the top of the Hindu caste system. This can be explained as their preference to avoid any trouble and risk derived from cooking meat at home. On the other hand, the response ratio of "eating out" was very small among Muslims, who were most familiar with meat dishes among religion and social groups.

Thus, the majority of India's population follows non-vegetarianism. Notably, the proportion of non-vegetarians has slightly declined even though per capita income has increased during the period. This is a unique aspect of food habits in India.

(4) From a Case Study of Gujarat Vidyapith Students

Here the author analyses the food habits and identity among the post-graduate (PG) students of Gujarat Vidyapith (GV). The school was founded by M. K. Gandhi (1869–1948) in 1920. In recent years, most of the students belong to the Backward Classes from all over Gujarat. The author conducted a survey and group interviews from 2012–14 to reveal changes in food habits and identity, with a special focus on the influence of modernization, globalization, and Sanskritization.

In the survey, 83 persons out of 100 sampled respondents answered that there was a change in their food habits. The most frequently reported change was "more consumption". with 42 responses. Items such as "development of a market" and "more availability in a general store" are also associated with "more consumption". The high number of these responses can be understood as a reflection of expanding consumerism backed by economic development and an increase in income (Shinoda 2017: 8)

The second-ranked response, with 11, was "substitution of foods". Among them, six respondents reported "substitution of cooking oil" and five reported "substitution of grain". Cooking oil is a very important food item, as it determines the flavor of a meal and is indispensable for Indian cooking. Since there are large price differences among the varieties of cooking oils, poverty greatly affects the type of cooking oil selected (Shinoda 2017: 14). The students who reported "substitution of grain" indicated a change from miscellaneous cereals to wheat.

The other important change in food culture was a shift from non-vegetarian to vegetarian. There were a total of 62 vegetarians in 2002, with that number increasing to 78 in 2012, showing that out of 38 non-vegetarian people, 16 (42%) changed their food habits to vegetarian between 2002 and 2012. Notably, this change has taken place among all social groups and religions. The number of non-vegetarians among Others and OBCs were already small, while the majority of SCs and STs were non-vegetarians in 2002 (Shinoda 2017: 30–31). The shift to vegetarianism is particularly remarkable among STs and SCs. In a group interview with students, I noticed that there were two major factors fostering the change in food habits from non-vegetarian to vegetarian. One reason was the Sanskritization movement, in which lower social groups tried to imitate the customs of Brahmin and mercantile castes to raise their social status. Food habits were one of the most visible customs targeted for Sanskritization. The other reason was the impact of Hindutva, which had swept over the whole of Gujarat since the 1990s. Among the Backward Classes, OBCs responded most significantly to the Sanskritization movement and Hindutva, followed by STs and SCs.

Fasting is widely observed, though the manner, reason, and explanation of fasting might vary by religions in India. Interpretations also differ among those who observe fasting. The share of fasting practitioners was very high among the Jain and Islam respondents. Within Hinduism, the share of fasting practitioners was highest among the OBC respondents, followed by Others and STs at more than 50% (Shinoda 2017: 36–37). Nowadays, many respondents from the Backward Classes observe fasting. Vegetarians are more inclined to fast than non-vegetarians among Hindus. Interestingly, the warden noticed a change in the manner of fasting over time. He reported that previous students observed fasting silently without informing others, but nowadays students tend to demonstrate and declare their fasting openly to others. We also observe influences of political and religious movements and Sanskritization on fasting.

4. Meal Patterns

(1) The Case of India

Changes in the composition of meal patterns are influenced by various factors such as the size of household (family), the composition of age group, the level of per capita income, the working ratio of female members, the development of individual eating, and the development of food service industry.

1) Dominance of Uchishoku (Home Cooking)

Uchishoku (home cooking) is still dominant in India. People can be relieved from the worry of pollution transmitted through cooked dishes and utensils, and it also helps to secure sanitary safety and is economical as well. The example of the lunch box (Bento: dabba) delivery system in Mumbai can be understood as the extended pattern of Uchishoku. Also, it is still common for strict vegetarians and Jains to carry homemade or locally procured "portable meals" (like khakhra) with them to survive for a few days when traveling to domestic and overseas where familiar foods will not be easily available.

2) Development of Gaishoku (Eating Out)

Gaishoku (eating out) is increasingly common in urban areas, but its importance in food habits and meal patterns has not been adequately grasped due to a lack of relevant data. As shown in **Table 4**, only 28% of the sampled households had eaten out during the one month before the date of the survey for both 2004/05 and 2011/12.

By religion / social group, the proportion of households that ate out during the reference period was high among the advanced groups, and the corresponding ratio was low among the backward classes. However, Brahmins constituted an exception, economically better off than other religious and social groups and with a higher urban population ratio, but the ratio of households that had eaten out was the smallest among the advanced group. The Brahmin group seems to have placed importance on the risk of impurities associated with eating out.

The average expenditure for eating out was also relatively small, Rs.87, which was almost equal to the household monthly expenditure for confectionaries in 2011/12. This amount was so small that one or two persons could eat once at a budget restaurant.

There was a difference in the average household monthly expenditure for eating out among religion / social groups, with the Three Religions at Rs.188, Advanced Caste at Rs.135, Brahmin at Rs.108, and Adivasi the lowest at Rs.57. Notably, this rank corresponded to the data of the urban rural residential pattern of each religion / social group. The advanced group reported both higher urban population ratios and higher household monthly expenditures for eating out.

Table 4: Distribution of households with Gaishoku and monthly expenditure for Gaishoku by urban-rural divisions and religion/social group (2011/12; %)

Urban-rural divisions	item	2011/12							total
		Brahmin	Advanced castes	OBC	Dalit	Adivasi	Islam	Three religions	
Metropolitan area	Households with Gaishoku (%)	44.3%	53.7%	42.7%	41.5%	38.2%	35.4%	49.5%	45.0%
	Monthly expenditure for Gaishoku (Rs)	267	304	290	209	138	168	349	262
Other urban area	Households with Gaishoku (%)	39.0%	37.1%	34.5%	30.8%	35.7%	31.1%	37.3%	33.6%
	Monthly expenditure for Gaishoku (Rs)	147	165	113	94	196	102	205	126
Developed village	Households with Gaishoku (%)	16.6%	29.6%	29.0%	23.5%	28.4%	30.9%	25.9%	27.3%
	Monthly expenditure for Gaishoku (Rs)	54	103	68	58	52	71	148	72
Less developed village	Households with Gaishoku (%)	12.5%	23.6%	19.8%	19.9%	22.2%	22.9%	22.6%	20.7%
	Monthly expenditure for Gaishoku (Rs)	49	53	36	35	37	53	46	41
Total	Households with Gaishoku (%)	23.2%	33.2%	28.0%	25.2%	25.9%	28.6%	31.9%	28.0%
	Monthly expenditure for Gaishoku (Rs)	108	135	79	66	57	82	188	87

Source: Prepared by the author from the India Human Development Survey unit level data for 2011/12

If we examine the household expenditure for eating out in 2004/05, we find (**Table 5**) that 72% of households surveyed answered that there was no eating out in the previous 30 days. It is important to note that there was no change in the distribution of households that reported eating out for the reference period between the two surveys, though modernization and globalization have influenced food culture during the period.

The average monthly household expenditure for eating out was Rs43 in 2004/05. The increase in the rate of monthly consumption of eating out between the two surveys was smaller than the growth rate of other ingredients, confirming that eating out has not developed much between 2004/05 and 2011/12. The average monthly household expenditure for eating out among the upper group was larger than that of the lower group. Thus, the surveys showed that home cooking was still dominant, while the development of eating out has been much restricted in India as a whole.

Table 5: Distribution of households with Gaishoku and monthly expenditure for Gaishoku by urban-rural divisions, and religion/social group (2004/05; %)

Urban-rural divisions	Item	2004/05					Total
		Brahmin	OBC	SC	ST	Others	
Urban	Households with Gaishoku (%)	35.1%	34.1%	29.4%	36.2%	36.4%	34.2%
	Monthly expenditure for Gaishoku (Rs)	109	62	47	69	92	74
Rural	Households with Gaishoku (%)	22.7%	27.4%	22.0%	26.0%	26.6%	25.6%
	Monthly expenditure for Gaishoku (Rs)	41	33	22	20	36	30
Total	Households with Gaishoku (%)	28.4%	29.2%	23.6%	27.0%	30.5%	28.1%
	Monthly expenditure for Gaishoku (Rs)	72	41	27	25	58	43

Source: Prepared by the author from the India Human Development Survey unit level data for 2004/05

However, we note the advantage of India's growing working population ratio and a major generation gap in the preference for eating out. The globalization of food habits after economic liberalization gained momentum particularly in metropolitan areas. Emerging family restaurants and the spread of menus for eating individual meals are typical symptoms of food globalization.

3) Nakashoku (HMR) Yet to Catch on

Nakashoku (HMR) has yet to catch on in India. The government restricts the entry of foreign-owned retail businesses, including supermarkets and convenience stores, the potential suppliers of Nakashoku, in order to protect kirana (a traditional style of small retail shop). Though we find some convenience stores with local capital (Twenty Four Seven, etc.) in the metropolitan areas, the number of stores is extremely small, as if in a trial stage.

(2) Comparison with the Transformation of Food Habits in Japan

We analyze the transformation of food habits after World War II in Japan. There are four important factors that have shaped the form of transformation of food habits in Japan: 1) the material basis of cooking and dining environments such as kamado (a Japanese-style chulha) and chabudai (seated dining table), 2) demographic trends, 3) the impact of technological development and globalization, and 4) meal patterns.

1) The Material Basis of Cooking and Dining Environments

Wood and charcoal were the basic fuel for the then dominant kamado (Japanese style of chulha) till the end of the 1950s. From the 1960s through the 1970s, there was a drastic shift of fuels for cooking from wood and charcoal to liquefied petroleum gas (LPG) and urban gas. The consumption of electricity has also increased with the expanded use of rice cookers and other electric equipment. Accordingly, the kamado has been replaced by the gas range. This period observed a rapid economic growth that attracted many workers from rural areas to urban centers. A new type of housing complex called the danchi (modern type of apartments for office workers) emerged within and in the vicinity of urban centers to provide accommodation for emerging urban labor classes. The danchi was designed to have gas ranges and a dining table in the kitchen, and has had an influence of the new life patterns in rural areas as well.

The hakozen,[2] which was commonly used till the 1910s, has been largely replaced by the chabudai (a dining table for sitting) since the 1920s. Chabudai were generally round in shape (occasionally square) with four legs that could be folded. Due to the limitation of the number of rooms, people used their living rooms for several purposes, for example, as a living or dining as well as sleeping room. The folding type of chabudai was very convenient. However, over time the chabudai were replaced with dining tables in the emerging new life styles during the 1950s–1970s. Importantly, the kamado and chabudai were interrelated, and both disappeared simultaneously.

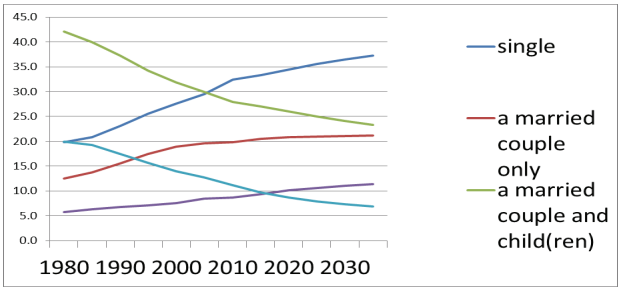
[2] Hakozen was a small dining box that could contain a set of plates and chopsticks. Each user cleaned the plates with tea or water after dining and dried them for some time before storing them in the box space. It was considered unhygienic, but was suitable for busy families like farmers who had to dine individually when they had free time during busy work schedules.

2) Demographic Trends

Demographic trends have a close association with the availability of labor and economic development. The population of Japan began declining from 2014, and the current percentage of elderly population (65 years old and above) is around 27%, the largest in the world, and is predicted to increase by 40% by 2055.

Thus, Japan is now known as the most aging society, but it enjoyed the benefit of the demographic bonus or dividend from the 1960s to 1980s. The demographic bonus refers to a stage in which economic growth is boosted by a labor force growth rate greater than the population growth rate. This is a state in which demographic dynamics exert a positive influence on economic growth.[3] Contrariwise, when the productive age population decreases as the elderly population rapidly increases is called the "demographic onus," which may negatively affect economic growth. Japan has entered into this stage from the 1990s.

Figure 1: Trends in the distribution of households by type (1980–2030)



Source:http://www.maff.go.jp/j/syokuiku/pdf/siryo2-2.pdf, accessed on 20 November 2016

The demographic transition has brought about a drastic change in the composition of household patterns in Japan. As shown in **Figure 1**, the share of single households has increased rapidly, reaching a level of 33% in 2015, and is projected to reach 37% by

[3] Generally, countries in the demographic bonus period have the potential to realize a high economic growth rate due to the expansion of the domestic market and greater labor force, the progress of urbanization, industrialization, and increase in per capita income and consumption. Also, while the burden of social welfare such as education, medical care, and pensions is small, tax income increases, the fiscal burden is lighter, and it is easier to invest funds for infrastructure development and tax incentives, and as a result, the international competitiveness of industry becomes stronger. The Japanese economy was able to enjoy the benefit of demographic dividend as the productive age population peaked during the 1960s and 1980s.

2035. The core of this group consists of males 20–30 years of age and elderly females 65 years and above. The proportion of households with a married couple and children, which were dominant in the 1980s, have declined steeply to 27% in 2015 in the course of population aging, while the households of a married couple only and of one parent and children have increased to 20% and 8%, respectively. The share of "Others," consisting of joint families, declined sharply to 21% in 2015.

3) The Impact of Technological Development and Globalization

Immediately after the war, Japan was so devastated that it took nearly ten years to reach the pre-war level of consumption. Since the latter half of the 1950s, Japan's economy has started growing, resulting in rapid changes in the life pattern, including food habits. According to the Cabinet Office's Consumer Confidence Survey, the electric cooker was introduced in the latter half of the 1950s, and the household ownership ratio of cookers reached 90% by 1970. The TV set (black & white), washing machine, and refrigerator, called the "three sacred imperial treasures" in the late 1950s, took only 10–15 years to spread to almost all the households in Japan (Government of Japan: Cabinet Office's Consumer Confidence Survey 2016). Among kitchen electrical appliances, the microwave oven held particular importance with the refrigerator because it had a high positive correlation with the development of frozen processed foodstuffs due to its thawing and multi-function cooking. During this period, LPG/gas ranges have replaced the chulha to a considerable extent. Thus, the spread of electrical appliances, replacement of energy sources, and diffusion of the danchi style of life pattern have changed the kitchens and food habits of the Japanese. These changes have resulted in reducing women's household workload, including cooking, and promoted their social advancement.

With the demographic transition, economic development, and increase in per capita income, Japanese food habits have been strongly westernized, which manifests in the form of greater consumption of milk and milk products, meats, and edible oil, and less consumption of rice, the traditional staple food.

Japanese food culture has been gripped by globalization since the 1970s. The vanguard of globalization was multi-national fast food chain such as Macdonald and

KFC. Family restaurants such as Skylark and Royal have also emerged to capture the more individualized and diversified demands for food.

4) Meal Patterns

Uchishoku was dominant until the 1960s. The transformation of food habits from the late 1950s to 1960s was manifested in the changes in kitchen facilities and appliances centered on Uchishoku.

Gaishoku started emerging in the 1970s, and its growth accelerated until the latter half of the 1990s. During this period, the traditional type of dining where the family members dined together eating the same food items has been largely replaced by individualized and diversified dining both at home and in restaurants. Dependence on processed foods has proceeded to the extent that it constitutes the main expenditure for food. Gaishoku has prevailed particularly among productive age workers who used to have lunch at a restaurant near their workplace/office. However, as the demographic bonus came to an end and per capita income has stagnated, the market for Gaishoku started declining from the 2000s.

The striking feature of this period was the emergence of Nakashoku. Major factors for this were increases in the share of single and two-person households, increases in the elderly population, the further development of women's social advancement, long-term economic stagnation, and the deployment of Nakashoku suppliers such as convenience stores, supermarkets, department stores, and specialized Nakashoku shops. For example, the number of the convenience stores increased from 6000 in 1983 to 53000 in 2015. The merits of Nakashoku were savings of time and labor for cooking, a rich variety of available food items, many choices for quantity, and reasonable prices. Thus, Nakashoku has further promoted the individualization of dining. The share of Nakashoku in the household food expenditure has particularly increased among single and two-person households and the elderly population. Nakasyoku was beneficial for busy women to save time, for young people to ease individualized dining, and for elderly single people to have easy access to ready-made food at reasonable prices.

The share of Uchishoku, Gaishoku, and Nakashoku varied considerably by the type of meal (breakfast, lunch, and dinner) and sex. For example, as shown in **Table 6**, the

Gaishoku frequency among the male age group (20–59) by meal type was around 3% for breakfast, 45% for lunch, and 9% for dinner in 2010. The corresponding figure for women aged 20–59 was 2% for breakfast, 26% for lunch, and 5% for dinner. Thus, the productive age group of both sexes, the core of labor and food consumption, shows a high percentage of Gaishoku for lunch, whereas they previously carried a home-made bento (dabha) for lunch to their working place until the 1970s, which has been gradually replaced by Gaishoku and Naishoku. The age group of 60 and above has different food habits. The percentage share of Uchisyoku, particularly among females, is much higher, while the share of Gaishuku for lunch is much lower than that of 20–59-year-olds. There was not much difference in the percentage share of Nakashoku by sex or meal type.

Table 6: Distribution of frequency of meals by sex, meal pattern, and meal type (2010)

Sex	Meal Pattern	Meal Type		
		Breakfast	Lunch	Dinner
Male	Uchishoku	68%	45%	87%
(20–59)	Gaishoku	3%	43%	8%
	Nakashoku	8%	7%	4%
	Skip	21%	5%	1%
Male	Uchishoku	87%	73%	91%
(60 & above)	Gaishoku	2%	17%	3%
	Nakashoku	4%	8%	6%
	Skip	7%	2%	0%
Female	Uchishoku	75%	60%	90%
(20-59)	Gaishoku	2%	25%	4%
	Nakashoku	8%	10%	5%
	Skip	15%	5%	1%
Female	Uchishoku	90%	78%	93%
(60 & above)	Gaishoku	1%	10%	4%
	Nakashoku	5%	9%	3%
	Skip	4%	3%	0%

Source: http://www.maff.go.jp/j/syokuiku/pdf/siryo2-2.pdf, accessed on 20 November 2016.

According to the household expenditure survey, the index of Nakashoku has increased by 70 points, while Gaishoku has stayed almost the same and Uchishoke has

declined by 20 points from 1985 (base year = 100) to 2015.[4] Thus, their trends show a strong contrast.

5. Conclusion

The transformation of the material basis of food habits, such as the kitchen and kamado (chulhas) has been a pre-condition of the transformation of food habits themselves in Japan. Likewise, the distribution pattern of kitchens and chulhas has a decisive influence on kitchen technological development and meal patterns in India. Empirically, the life pattern of chulhas is closely associated with such factors as Uchishoku, biomass fuels, rural areas, and backward classes, while gas/LPG ranges are more associated with Gaishoku, fossil fuels, urban areas, and advanced classes. We note a gap between the two life patterns in Japan, but it had shrunk considerably over the 30 years until the 1970s due to the rapid diffusion of the urbanized life pattern to rural areas, while in India, the linkage between rural-urban and backward-advanced groups seems to be more stratified, so India may need more time for diffusion on a similar scale.

The demographic transition has been a driving force among many factors in transforming food habits in Japan, which has experienced both the demographic bonus and the demographic onus during 60 years between the 1960s and 2010s. India just entered the period of demographic bonus in the early 2010s. The per capita income has already started to rise from the 2000s, just doubling in the past ten years in real terms, resulting in vigorous consumption of food and other items in metropolitan areas.

From the late 1990s, McDonald's and other fast food giants of foreign capital have accelerated their investment in India, followed by desi fast food franchise chains. These have changed the concept of eating out to modern and cool among the younger generations, promoting the consumption of individualized food. Simultaneously, family restaurants with a variety of menus have emerged to capture the diversified demand of foods among customers. Though quite restricted to metropolitan areas, Gaishoku has begun to grow steadily, but mainly among the middle and upper classes. Gaishoku restaurants, with high rents and severe competition for survival, were all set to adjust to

[4] http://e-kosugi.com/wp/wp-content/uploads/2016/05/2350a.gif, accessed on 18/09/2016.

the changing demands of customers, promoting the diversification of menus even among small-sized restaurants. Also, a free delivery system has been gradually adopted by many restaurants for survival.

Thus, the food and restaurant industries are all set to develop. The current situation of the restaurant industries in India, with the development of fast food chains and family restaurants, has a similarity to the situation of the restaurant industries of Japan in the 1970s, but with one exception. In Japan, the Gaishoku could develop rapidly with the steadily backing of the growing demand among the productive age workers for lunch. However, in India, as seen in the dabbawala system of delivery in Mumbai, lunch has remained an extension of Uchishoku. This is a symbolic example, but it shows a very strong inclination of the people including office workers for Uchishoku, which may operate as one of the primary factors restricting the full-scale development of the restaurant industry even in metropolitan areas.

Main suppliers of Nakashoku are supermarkets, convenience stores, specialized stores for bento and catering, and restaurants. Of these, supermarkets and convenience stores are particularly important in Japan. Since Nakashoku is closely related to women's social advancement, aging, and the individualization of dining, demand for Nakashoku will increase if these conditions are met. In India, the government restricts the entry of foreign-owned retail businesses, including convenience stores, in order to protect kirana (traditional-style small retail shop). Though we find some convenience stores of local capital (Twenty Four Seven, etc.) in the metropolitan areas, the number of stores is as yet extremely small.

Taking all these into consideration, we may state that the most important change in the transformation of food habits was the development of Gaishoku and Nakashoku in post-war Japan, while changes in the taste and repertoire of Uchishoku will be the most visible and important change in the initial stage of the demographic bonus in India.

Rapid expansion of the seasoning, condiments, spices, soup, and processed food market has changed the taste and repertory of Uchishoku. Among urban middle classes, health orientation has been a strong motivation to change the traditional repertoire of the Uchishoku. The concept of "healthy food with soup and salad" is shared by many consumers nowadays. Also, it is now common to pursue the restaurant style of taste at

home with the use of a rich variety of seasoning and condiments. Thus, the menu and taste of Uchishoku has also changed. This change is accompanied by the increasing use of processed foodstuffs, which can serve as a powerful factor of changes in diet across urban-rural barriers, given the diffusion of kitchens and ranges with fossil fuels in rural areas. Digital and TV information on cooking has already prevailed across urban-rural areas, replacing printed cookbooks to a considerable extent.

The other aspect of the transformation of food habits, i.e., change in food and identity, has been examined in this paper based on the case study of Gujarat Vidyapith students in Ahmedabad, Gujarat.

The arena of the change in food culture is closely related to the reorganization of identities in terms of region, social group, and economic class. In recent years, the regional variation in food culture has been decreasing due to the reorganization of production and the development of the distribution network. Moreover, the deployment of sales networks and outlets has made it possible for consumers, even in remote villages, to buy fast food and soft drinks. Through the development of infrastructure and information technology, modernization and globalization have an enhanced influence on consumers, resulting in the unification of food cultures across regions and the removal of rural-urban barriers.

Apart from modernization and globalization, economic disparity also has a decisive influence on the selection of food items by the rich and the poor. A prime example is cooking oil, a special item that influences the taste and flavor of cooking. People tend to stick to their favorite cooking oil if they can afford it. However, in reality, the type of cooking oil consumed is greatly influenced by one's economic status.

The diversity of food items and food culture among the social groups has tended to decrease over the past 10 years. The GV survey results reveal the massive shift from non-vegetarian consumption to vegetarianism among the Backward Classes. Sanskritization has been promoted and enhanced by the Hindutva movement and religious movements like Swaminarayan and Swadhyaya in Gujarat.

Overall, the changes in food culture have been closely related to the reorganization of identities in terms of region, social group, and economic class. This reorganization of

food culture identities has been strongly affected by globalization, Sanskritization, and various political and religious movements.

Photographs

Photo 1: Group Interview

Photo 2: Edible Oils

Notes:
Photo1. Students reply in a group interview.
Source: Gujarat Vidyapith Survey, Ahmedabad, August 2012
Photo2. 15 Ltr Can of Cottonseed oil and Peanut Oil. Olive Oil and Rice Bran Oil are also available in this Supermarket.
Source: Gujarat Vidyapith Survey, Ahmedabad, August 2012

Photo 3: Pictorial Menu in a Family Restaurant

Photo 4: Instant Noodle Corner

Notes:
Photo3. Remarkable Increase in the Number of Family Restaurants with Multi Varieties such as South, Punjabi, Chinese, Pizza and Burgers.
Source: Family Restaurant, Mumbai, March 2015
Photo4. Instant Noodles have much to do with the globalization and individualisation of food habits in India.
Source: Instant Noodle Corner, Ahmedabad, 2012

Photo 5: Growing Macdonald's in India

Photo 6: The Flying Bhakhri

Notes:
Photo5. Macdonald's has promoted the globalization of food culture in India.
Source: Macdonald's Shop, Delhi Airport, October 2016
Photo6. A vacuum-packed Bhakhri for International Travelers. Many Gujarati businessmen survive with Bhakhri, Khakhra, Thepla abroad.
Source: A packed Bhakhri, Ahmedabad Airport, September 2016

Glossary

Adivasi: tribal people, same as administrative term "Scheduled Tribes"

Angithi: a bucket-type oven in India

Bento: a lunch box, either homemade or bought in the supermarkets or convenience stores in Japan

Chabudai: sitting dining table in Japan (Japanese)

Chulha: traditional furnace in India

Dalit: untouchables, same as administrative term "Scheduled Castes"

Danchi: modern type of apartments for office workers in Japan (Japanese)

Gaishoku: eating out (Japanese)

Hakozen: a small dining box which could contain a set of plates and chopsticks inside the box space (Japanese)

Kamado: Japanese-style furnace (chulha) (Japanese)

Kirana: traditional-style small retail shop in India

Nakashoku: home meal replacement (HMR) (Japanese)

Uchishoku: home cooking (Japanese)

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