SS INTERNATIONAL RESEARCH NETWORK
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SS INTERNATIONAL JOURNAL OF ECONOMICS AND MANAGEMENT
(Internationally Indexed, Listed & Referred E-Journal)

Food Profile, Diversity and Calories - A comparison among Kerala and West Bengal

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Abstract

The post liberalized India has achieved a remarkable growth in per capita income and Monthly Per capita Consumption Expenditure (MPCE) on food. The study probes the extent of changes that has occurred in the diet pattern, food diversity and calorie intake among the urban people of Kerala and West Bengal (WB). A perusal of the National Sample Survey (NSS) data for the period 1993-4 and 2011-12 reveals a skewed expenditure pattern in favour of cereals for the people of WB compared to that of Kerala. However, there is a considerable fall in the concentration of expenditure on cereals among the different income strata of Kerala and WB during the period and in fact such a fall was more pronounced among the people of Kerala. With respect to Food Diversity (FD), Urban WB has lagged behind Kerala in both periods. Another aspect being –WB has registered a significant improvement in FD. Even then WB is lag far behind Kerala in FD. Both the States has registered an impressive growth in the intake of calorie during the period, but it also worth noting that poor income group of Kerala has registered a significant growth. Interestingly the calorie intake of middle and rich income group is falling in WB where as it is stagnant in Kerala.

Keywords. Diet pattern, Food Diversity, Calorie intake, Food consumption Inequality

Introduction

Food is the foremost requirement of all human beings and it is the primary item of family budget across all income strata. There are many factors that influence and shape the diet pattern of a society. Of the many factors, change in income, urbanization and resultant life style changes are being identified as key of factors for a shift in diet pattern. Diet pattern across the world shows that as income increases people tend to maximize their intake of nutrients by spending more on easily available staples (Minten, Thomas& Anneleen, 2009). A further increase in income and access to other food items induce people to diversify their diet by choosing better tasting and costly calories (Radhakrishna & Ravi, 1992, Banerjee & Duflo, 2011). A perusal of Consumer Expenditure Survey data of National Sample Survey Organisation (NSS) for the period 1993-94 to 2011-12 exhibits a noticeable

divide in the consumption pattern on Food, its diversity and calorific intake profile of various states of India (GOI, 1996&2014). To have diverse type of food stuffs is an internationally recommended protocol for a healthy diet. Studies on FD also reveal that diet quality improves with FD since no single food can contain all nutrients. As the number of food groups consumed increases the nutritional quality of the food increases and diverse diets are accompanied by positive health outcomes (Rashid, Lisa & Tauhidur, 2006**).** It is a fact that diet diversification is essential since cereals and other starchy food provides us more energy, while meat, fish and pulses enrich our food with proteins which is essential for both physical and cognitive health. Fruits and vegetables provide essential vitamins for our bodily functions. Thus a diet diversification makes our diet a balanced one and a balanced diet is essential for our overall wellbeing. On this background, Kennedy, Guy & Prakash (2009) argued that, a diet which is sufficiently diverse may reflect nutrient adequacy. Thus dietary diversity can be viewed as a proxy for food security (Ruel, 2002).

In the post liberalized regime, the Monthly Per capita Consumption Expenditure (MPCE) on food and non-food items has registered an impressive growth in absolute and real terms across different income strata of all most all States of Union of India (Baiju, 2002, Santhosh, 2013). Kerala ranks top among the major States of India in the urban MPCE on food in the post liberalized regime. However, West Bengal (WB) was lagging behind in the expenditure on food items compared to other major States of the Union and especially with Kerala. Yet, WB has also achieved remarkable progress in the MPCE on food in the post liberalized regime. Against this backdrop, this paper attempt to examine whether there is any improvement in FD, calorie intake and a change in diet pattern among different urban income strata of Kerala and WB in the post liberalized regime.

Data Source and Methodology

The study is based on secondary data only. The vital data source is the Consumer Expenditure Survey (CES) reports provided by the NSSO for two quinquennial rounds (NSS 50^{th} (1993-94), and 68^{th} (2011-12)). For an in-depth analysis and to portray the contrast and similarities in the level and pattern of food consumption among different income strata the technique of fractile group analysis is used (As reported in NSS data). F1 is called bottom fractile (lowest 5 % percent of the population) and F12 (the top 5 percent population) is termed as top fractile. The bottom 4 fractile were collectively termed as Bottom Groups or the lowest 30 per cent of the population, next four fractile were termed as Middle Group or the middle 40 per cent of the population. The

top 4 fractile were termed as Top Group or the top 30 per cent of the population. For the sake simplicity, these groups were loosely called as the poor, middle and the rich respectively.

Food diversity is the average number of food items consumed by a household out of the total number of food items in a reference period of one month. In the study, food variety/FD is estimated by using Simpson Diversity Index (SDI). Simpson Diversity Index *(SDI) =1-* $\sum w^2i$, where $\sum w^2i$ is the sum of squares of the expenditure share or calorie share of food group 'i'. The SDI value ranges from zero to one. Higher the value of SDI, higher will be the FD and vice versa (Nguyen & Winters, 2011). Expenditure on food items in the study has been sub-divided into 12 broad groups. For the comparative study Per Capita Per Consumer Intake of Calorie (PCUI) is taken into consideration. Period of study is from 1993-94 to 2011-12.

Results and Discussion

This section is partitioned into three. The first sub-section analyses the inter-class and intra-class inequality in the expenditure on food, the dietary shift among different urban income strata of Kerala and WB during the study period. Next part examines the disparity in FD and changes on it. Finally, inter- and intra-class disparity in calorie intake is analyzed.

Dietary Shift and Inter- class and Intra-Class Disparity in the Expenditure on Food

A perusal of NSS data for the period from 1993-94 to 2011-12 reveals that there occurred considerable changes in the diet pattern of different urban income strata of both Kerala and WB since there is a change in the allocation of expenditure on different food items (Table 1& 2). It is also evident that there exists considerable disparity in the percentage allocation of expenditure on different food items across different income strata of WB (Table 1). In the urban WB, the largest item of expenditure is cereals among the bottom and middle income group and beverages for the top during the entire period of analysis. In 1993-94, the second item of expenditure for the poor was vegetables and for the rich was beverages and processed food. In the case of bottom and top fractile, the third item of expenditure is egg, fish and meat. It is also fascinating to note that as income increases expenditure on processed food and beverages is ascending at an increasing pace. Unlike other north Indian states consumption of milk is less in West Bengal. During the period 1993-94 in urban WB, the bottom group allocates more than 50 percent of their expenditure on cereals where as for the top it is roughly 20 percent and the overall level is roughly 30 percent (Table 1). The literature on diet pattern of expenditure reflects that roughly 50 percent or more are

on cereals which indicates the poor quality of diet and it is highly skewed towards cereals in WB during 1993-94 period especially for the poor. In 2011-12 periods, urban WB witnessed a significant shift in its diet pattern. There is a considerable fall in the allocation of expenditure on cereals among all income strata. For instance, the bottom 5percent population (F1) expended nearly 58 percent of their expenditure on cereals in 1993-94 and it falls to 38 percent in 2011-12. In the case of top (F12) fractile it fell from 16 percent to 13 percent and overall it fell from 30 to 21 percent. In 2011-12, for the Bottom Group, the second important item of expenditure is egg, fish and meat pulling down vegetables into third position where as for the top group beverages is in first position followed by egg, fish and meat and dragging down cereals into third position. However, expenditure on beverages and processed food is spiraling for the poor. It can be inferred from the data that as income increases expenditure on cereals is falling and of the broad group of food items like egg, fish, meat and beverages shows an increasing trend. Among the poor, percentage allocation of expenditure on milk is going up, where as it falling for the rich. Consumption of edible oil is increasing among the poor and middle income group and decreasing among the rich, where as the poor has registered an impressive growth. An interesting thing to note is that there is a near doubling of expenditure on beverages and refreshments among the poor and it is moving up at an increasing rate among the middle and rich income group during the period. It signals the next generation shift in the consumption pattern in favour of processed food, packaged and ready to eat food among the urban people of WB. In the case of urban Kerala, during the period 1993-94, the largest item of expenditure for the poor and the middle was cereals, second position was occupied by egg, fish and meat and in the third it was beverages and processed food (Table 2). For the top group, beverages and processed food is the first item of family budget allocation for the rich followed by cereals and egg, fish and meat in the second and third position respectively. In 2011-12 for the bottom group percentage allocation of expenditure on cereals fell drastically from 37 percent to roughly 20 percent. For the top group, it fell from 20 percent to roughly 13 percent and for the whole class it falls from 24 percent to 15 percent. It is interesting to note there is a convergence in the expenditure on cereals in percentage terms among the rich and poor. However, the poor income group retains cereals as the first item of family budget allocation on food but expenditure on beverages and egg ,fish and meat are inching fast to surpass cereals. For the top group beverages are in the forefront of expenditure on food followed by egg, fish and meat and cereals occupies only the third position of

expenditure. Like, WB expenditure on milk was much lower compared to Kerala. Interestingly, in 2011-12, with few exceptions, expenditure on egg, fish and meat surpassed the expenditure on cereals. This signals a sharp change in the diet pattern of urban Kerala. For every fall in the expenditure on cereals there is an up shift in the expenditure on all other items including pulses, milk, vegetables, fruits etc. Consumption of edible oil is falling among the rich and increasing among the poor and the middle class. It reflects a somewhat healthy and advanced diet pattern of the society. With respect to gram and pulses, the poor has registered a significant growth compared to the middle class and the poor. It validates the general pattern that as income increases cereals attain a saturation level of expenditure and people tend to increase their expenditure on pulses first and then to other food items (Santhosh, 2013). The percentage allocation of total expenditure on food for milk products is also increasing appreciably among the poor and middle while among the rich it is falling. Albeit a concentration of expenditure on processed food and beverages is worrisome. It signals a next generation consumption boom in the Kerala economy and can be justified on the ground that the State is the largest urban continuum in the country. It can also be inferred that as income increases people may shift their diet pattern from cereals to other diverse food items.

Trends in Food Diversity in Kerala and West Bengal

FD is an index of diet quality as it shows the variety of different food items consumed. Variety in food makes the diet a balanced one which is essential for both physical and cognitive health of human beings. FD shows the percentages allocation of expenditure on different food items and changes over it. FD is estimated on NSS data for the period 1993-94 and 2011-12. Estimated data shows that FD is less in WB in 1993-94 compared to Kerala (Table 3). The reason that can be attributed for a lower FD for WB during the period is the highly skewed expenditure pattern in favour of cereals and less on other items. In the case of urban Kerala for the period 1993-94, the FD for the bottom and middle fractile is much higher than their WB counterpart. With respect to the top fractile both the states have somewhat equal FD in 1993-94 periods. Kerala has got a higher FD for the poor, middle and the rich classes compared to WB due to the least skewed pattern of expenditure on cereals and a much dispersed expenditure on other food items.

WB has registered a remarkable improvement in their FD during the period 2011-12(Figure 1). Overall, FD has improved from 0.8357 to 0.8516during this period (Table 3).Significant improvement too has been registered for the bottom groups

during the period. A fall in the concentration of expenditure on cereals and an increase in the expenditure on other food items can be attributed as a cause for a significant uptrend in the FD.

It is fascinating to note that the bottom fractile of Kerala has achieved a significant improvement in FD for the bottom and middle income group during the period (Figure 2). Again a fall in the concentration of expenditure on cereals and an increase in the expenditure on other food items can attributed as a reason for the improvement. However there is a fall in the FD of rich income group during this period. The reason being though there is a fall in the concentration of expenditure on cereals there is an explicit concentration of expenditure on the broad food groups like beverages and processed foods and also in egg, fish and meat. It has impacted the FD of the top group. Even as the overall urban FD of Kerala is much ahead of WB.

Trend in the per capita intake of calorie

Any real increase in the expenditure on food and change in the allocation of expenditure on various broad groups of food items has its impact on the intake of calorie among different income strata. Over the years there is an absolute as well real increase in the expenditure on food for both the states. Kerala has registered an impressive growth in the MPCE on food in the post liberalized regime (Baiju, 2002, Santhosh, 2013). In addition to that a shift away from cereals to other food group too has impacted the intake of calories, as cereals are the cheapest and richest source of energy (Deaton & Dreze, 2009).

In the post reform period the calorie intake of the poor income group of both Kerala and WB have increased significantly (Table 4). With respect to the Middle Income group there is a fall in WB and a moderate growth in Kerala. It can also been that there is a significant fall in the intake of calorie among the top income group of WB. This is because of a shift in the consumption pattern from cereals (richest and cheapest source of energy) to other food groups. A much expected fall in the intake of calorie due to a shift away from cereals among the urban income strata of Kerala might have averted due to a significant growth in the expenditure on food. There is also a mismatch in the growth of MPCE on food and growth in calorie intake of the rich. It is due to the diversification of diet among the rich in favour of food other than cereals. The poor income group has registered a visible in growth in the intake of calorie because they have not yet reached the saturation level in the intake of cereals..

With respect to urban WB, the poor income group has registered a marginal increase in their intake of calorie. However, for the top group, there is a fall during the period. A shift away from cereals might have affected

their intake of calorie. However, a diversification of diet ensures a balanced diet and a fall in the excess intake of calorie during the period can be considered as a positive spill over. It is expected that the rich income group might have a sedentary way of life and an average intake 3606 kcal per day may leads to the occurrence of life style diseases. In the entire period of analysis, the poor income group of WB is ahead of Kerala in the intake of calorie where as the rich income group of Kerala is ahead of WB. If the rich income group of Kerala is having a sedentary life style, the excess calorie intake may have its dent on their health outfit.

Conclusion

Even as food being a basic requirement, there exist a wide disparity in the expenditure on food, food diversity and calorie intake among different strata of people in various states. A perusal of NSS data for the period 1993-94 to 2011-12 reveals that in the urban WB there is a high concentration of expenditure on cereals in 1993-94 and there is a considerable fall in it during the period of 2011-12. With a fall in the expenditure on cereals, expenditure on broad group of food items like beverages and refreshments, egg, fish and meat is increasing. The percentage allocation of expenditure on cereals has registered significant fall during the same period. With respect to FD, urban WB was lagged behind Kerala in both the periods. This is because of the high concentration of expenditure on cereals among the people of WB. However, WB has registered a significant improvement in FD during the period with a drastic reduction in the expenditure on cereals and a lift up in the allocation of expenditure on other food items. Even then Kerala is ahead of WB in FD. In urban Kerala, the overall trend being a compositional shift in the diet pattern with the proportion of expenditure on cereals falling at the same time there is an increase in high value foods like gram pulses, vegetables, meat, egg and fish. Another interesting thing is that expenditure on beverages which includes processed food, ready to eat food and eating-out is increasing across all sections. It also implies the extent of diversification of diet in the urban food basket of Kerala and WB during the study period. With respect to FD it is increasing with income and it has increased for sections during the post liberalized era. FD of the poor has increased significantly and, marginally for the middle class. Another striking thing is that FD has declined marginally for the rich since their expenditure is now concentrated more towards non alcoholic beverages and on egg, fish and meat. Poor income group of both the states has registered an impressive growth in the intake of calorie during the period. However, Kerala is ahead of its counterpart in the growth pattern. Interestingly in both the periods, poor income group of WB is ahead of Kerala in the intake of calorie. Care

should be taken to ensure that the required intake of calorie among the poor income strata is ensured by strengthening the public distribution system since they are involved in more physical and manual work profiles. It is also imperative to create awareness among the poor and middle class about importance of diversification and the positive effects of diversification is enjoyable only by ensuring a baseline intake of calorie from cereals.

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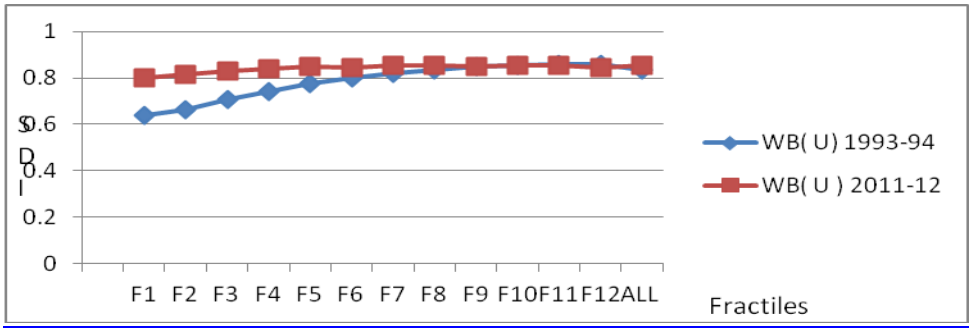
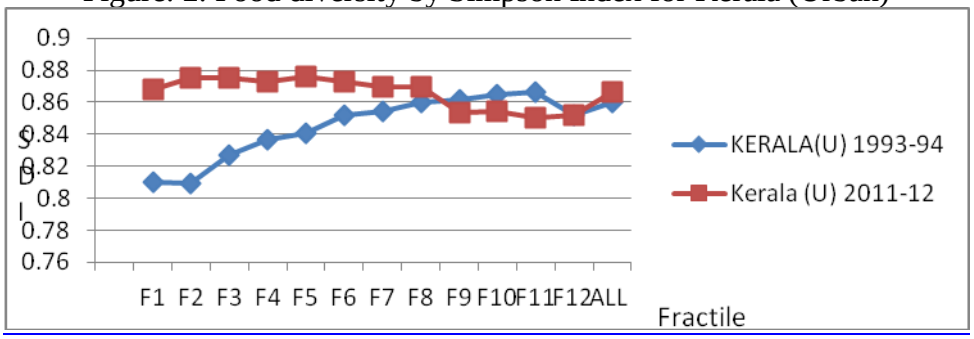
Figure: 1. Food Diversity by Simpson Index for West Bengal (Urban)



Source: Prepared from NSS data for 50th and 68th round reports

Figure: 2. Food diversity by Simpson Index for Kerala (Urban)



Source: Prepared from NSS data for 50th and 68th round reports

Table 1: Percentage allocation of expenditure (0.00%) on each broad group food item 1993-94 to 2011-12

West Bengal (Urban)

Food items	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	ALL
Cereals	38.18 (57.66)	34.53 (55.33)	31.61 (50.40)	28.92 (46.58)	26.75 (41.95)	26.40 (37.86)	23.04 (34.09)	21.71 (31.20)	18.73 (25.35)	17.40 (21.69)	15.63 (19.71)	13.06 (16.16)	21.20 (30.52)
Gram	0.01 (0.00)	0.13 (0.36)	0.06 (0.14)	0.13 (0.10)	0.09 (0.13)	0.11 (0.14)	0.08 (0.35)	0.24 (0.27)	0.10 (0.21)	0.08 (0.16)	0.04 (0.20)	0.15 (0.12)	0.11 (0.18)
Cereal Substitutes	0.00 (0.06)	0.00 (0.01)	0.00 (0.03)	0.00 (0.03)	0.00 (0.05)	0.00 (0.02)	0.00 (0.03)	0.00 (0.03)	0.00 (0.01)	0.00 (0.02)	0.00 (0.00)	0.00 (0.01)	0.00 (0.02)
Pulses	5.43 (3.28)	4.66 (3.46)	4.69 (3.74)	4.55 (4.05)	4.52 (3.96)	4.42 (3.88)	4.20 (3.85)	3.94 (3.68)	3.25 (3.34)	3.13 (3.08)	3.29 (3.15)	2.81 (2.47)	3.67 (3.41)
Milk & Products	3.38 (2.05)	3.35 (3.63)	5.41 (4.33)	6.24 (5.93)	7.34 (7.90)	7.46 (8.80)	8.81 (9.50)	9.28 (10.67)	8.78 (11.80)	11.08 (13.05)	12.14 (13.66)	10.47 (14.80)	8.41 (10.60)

Sugar& Products	2.94 (2.79)	2.58 (2.53)	2.60 (2.52)	2.40 (2.79)	2.63 (2.81)	2.62 (2.82)	2.21 (2.95)	2.22 (2.95)	2.06 (2.65)	1.97 (2.57)	1.84 (2.78)	1.69 (2.53)	2.12 (2.72)
Salt	0.55 (0.50)	0.49 (0.46)	0.45 (0.40)	0.45 (0.39)	0.40 (0.38)	0.38 (0.37)	0.37 (0.36)	0.32 (0.34)	0.30 (0.32)	0.26 (0.29)	0.25 (0.27)	0.22 (0.22)	0.32 (0.32)
Edible oil	9.63 (6.53)	9.87 (6.43)	9.04 (6.72)	8.62 (6.96)	8.67 (6.98)	8.30 (7.07)	8.03 (7.15)	7.28 (6.70)	7.12 (6.79)	6.60 (6.43)	6.34 (6.63)	5.48 (6.38)	7.20 (6.72)
Egg fish & Meat	10.57 (5.33)	13.95 (6.97)	15.86 (8.82)	17.57 (9.60)	18.72 (10.76)	19.76 (12.00)	17.39 (12.17)	18.33 (13.46)	21.09 (14.93)	21.45 (14.88)	20.55 (14.72)	25.63 (17.09)	18.80 (13.24)
Vegetable	13.81 (12.44)	13.77 (11.83)	12.94 (12.71)	12.88 (13.01)	12.65 (12.16)	11.93 (13.53)	11.45 (13.29)	10.71 (11.36)	9.13 (10.69)	9.28 (10.23)	9.18 (10.37)	8.36 (9.49)	10.29 (11.38)
Fruits(Fresh)	1.35 (0.92)	1.18 (0.92)	1.83 (1.29)	2.50 (1.39)	2.71 (1.69)	3.13 (1.99)	3.50 (2.46)	3.63 (2.63)	3.98 (3.17)	5.19 (4.14)	5.71 (4.60)	7.36 (5.35)	3.84 (3.11)
Fruits(Dry)	0.02 (0.00)	0.02 (0.02)	0.08 (0.03)	0.04 (0.01)	0.10 (0.06)	0.15 (0.06)	0.20 (0.05)	0.24 (0.04)	0.36 (0.13)	0.53 (0.19)	0.82 (0.61)	0.82 (0.68)	0.33 (0.20)
Spices	4.41 (3.15)	4.80 (3.11)	4.58 (3.01)	4.09 (3.23)	4.31 (3.28)	4.03 (3.22)	3.85 (3.15)	3.57 (2.93)	3.56 (2.80)	3.16 (2.93)	3.10 (3.17)	3.07 (2.84)	3.54 (3.02)
Beverages &Processed foods	9.72 (5.28)	10.66 (4.94)	10.84 (5.86)	11.62 (5.93)	11.09 (7.89)	11.31 (8.24)	16.88 (10.61)	18.49 (13.73)	21.53 (17.79)	19.87 (20.34)	22.12 (20.14)	24.28 (21.87)	2016 (14.53)
All	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100

Source: Estimated from NSS CES for 50 th and 68 th round reports. Figures in the parenthesis are 1993-94 figures

Table 1: Percentage expenditure on each food item 1993-4 2011-12 Kerala Urban

Food items	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	ALL
Cereals	21.19 (37.32)	19.33 (37.55)	19.23 (33.99)	17.82 (32.54)	15.71 (29.97)	15.72 (28.19)	16.11 (27.78)	15.45 (25.27)	14.42 (23.21)	12.78 (19.57)	12.38 (16.27)	12.30 (13.81)	15.06 (24.09)
Gram	1.19 (0.53)	0.95 (0.59)	1.09 (0.59)	1.02 (0.53)	0.84 (0.51)	0.82 (0.54)	0.90 (0.57)	0.85 (0.56)	0.67 (0.49)	0.57 (0.68)	0.62 (0.62)	0.64 (0.58)	0.78 (0.58)
Cereal Substitutes	0.47 (1.71)	0.37 (1.42)	0.38 (1.58)	0.41 (1.24)	0.47 (0.70)	0.61 (1.02)	0.54 (0.78)	0.43 (0.73)	0.52 (0.55)	0.40 (0.45)	0.48 (0.47)	0.21 (0.27)	0.44 (0.70)
Pulses	4.74 (1.57)	4.70 (2.24)	4.51 (2.33)	4.50 (2.87)	4.21 (2.75)	4.05 (3.11)	3.87 (3.04)	4.14 (3.24)	3.27 (3.32)	3.58 (3.19)	3.30 (3.00)	3.10 (2.99)	3.82 (3.03)
Milk & Products	7.48 (4.44)	9.50 (4.24)	9.12 (6.78)	10.10 (7.32	10.47 (6.34	11.71 (8.75	11.00 (9.41	12.09 (10.5	13.10 (11.1	12.24 (11.8	12.46 (13.9	13.02 (14.1	11.60 (10.3

				)	)	)	)	9)	6)	9)	3)	1)	9)
Sugar	3.54 (5.59)	3.45 (4.83)	3.56 (4.83)	3.26 (4.71)	3.32 (4.59)	2.84 (4.32)	2.77 (4.26)	2.55 (4.03)	2.17 (3.93)	1.84 (3.88)	2.13 (3.68)	1.68 (3.13)	2.53 (4.06)
Salt	0.37 (0.34)	0.34 (0.28)	0.31 (0.27)	0.30 (0.25)	0.28 (0.23)	0.28 (0.21)	0.25 (0.19)	0.23 (0.18)	0.19 (0.22)	0.17 (0.16)	0.15 (0.15)	0.15 (0.14)	0.23 (0.20)
Edible oil	6.13 (5.21)	6.69 (5.24)	6.36 (5.59)	5.69 (5.19)	5.61 (5.30)	5.36 (4.86)	5.32 (4.79)	4.94 (4.82)	4.02 (4.96)	3.80 (4.75)	3.35 (4.21)	2.99 (4.08)	4.65 (4.78)
Egg fish & Meat	19.93 (12.20)	17.86 (13.02)	17.57 (15.13)	18.99 (13.18)	19.25 (13.45)	19.19 (13.44)	20.22 (14.75)	19.27 (15.99)	17.11 (15.32)	17.50 (16.12)	17.68 (16.25)	19.58 (14.95)	18.58 (15.04)
Vegetable	7.08 (5.20)	6.67 (7.11)	7.28 (5.48)	6.66 (6.50)	7.10 (5.94)	6.77 (6.27)	6.36 (6.27)	6.71 (6.67)	5.58 (6.38)	6.03 (6.37)	6.18 (6.80)	6.05 (6.37)	6.40 (6.35)
Fruits(Fresh)	8.09 (9.28)	9.07 (7.88)	8.55 (8.47)	9.14 (9.38)	10.09 (9.22)	9.06 (9.33)	8.82 (9.98)	9.94 (10.18)	9.03 (10.03)	10.36 (10.23)	9.96 (11.36)	10.66 (10.11)	9.60 (9.93)
Fruits(Dry)	0.04 (0.00)	0.16 (0.00)	0.34 (0.05)	0.28 (0.04)	0.50 (0.07)	0.51 (0.18)	0.70 (0.24)	0.54 (0.30)	0.64 (0.13)	1.20 (0.35)	1.13 (0.59)	1.95 (0.72)	0.81 (0.29)
Spices	5.57 (5.15)	5.81 (4.69)	6.01 (4.42)	5.49 (4.75)	5.75 (4.32)	5.51 (4.36)	5.25 (4.28)	4.68 (3.86)	4.24 (3.64)	4.11 (3.33)	3.82 (2.89)	3.38 (2.55)	4.73 (3.94)
Beverages & Processed food	14.18 (11.47)	15.11 (10.90)	15.69 (10.79)	16.35 (11.48)	16.40 (16.60)	17.57 (14.94)	17.89 (13.66)	18.18 (13.48)	25.05 (15.65)	25.41 (19.02)	26.36 (19.78)	24.28 (26.18)	20.77 (16.81)
All	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: Estimated from NSS CES for 50th and 68th round reports. Figures in the parenthesis are 1993-94 data

Table: 3. Food Diversity of Kerala and WB (Urban) 1993-94- 2011-12

50th Round (1993-94)			68th Round (2011-12)	
SIMPSON DIVERSITY INDEX (SDI) VALUES				
Fractile	WB(U)	KERALA(U)	WB(U)	Kerala (U)
(1)	(2)	(3)	(4)	(5)
F1	0.6387	0.8103	0.7981	0.8676
F2	0.6641	0.8091	0.8148	0.8748
F3	0.7091	0.8273	0.8300	0.8755
F4	0.7414	0.8370	0.8391	0.8730
F5	0.7766	0.8408	0.8468	0.8758
F6	0.8006	0.8515	0.8465	0.8726
F7	0.8219	0.8545	0.8559	0.8692
F8	0.8331	0.8598	0.8550	0.8698

F9	0.8482	0.8618	0.8486	0.8537
F10	0.8536	0.8649	0.8538	0.8542
F11	0.8602	0.8661	0.8558	0.8503
F12	0.8569	0.8515	0.8452	0.8519
ALL	0.8357	0.8601	0.8516	0.8662

Source: Estimated from NSS data for 50th and 68th round

Table 4: Per capita Per Consumer Unit per Diem intake of Calorie by fractile WB and Kerala (Urban)

MPCE class as Fractile	NSS Rounds				Percentage growth (0.00percent) in the intake of calorie	
	50th Round (1993-94)		68th Round (2011-12)			
	Intake of calorie		Intake of calorie			
	In kcal		In kcal			
	WB	KERALA	WB	KERALA	WB	Kerala
(1)	(2)	(3)	(4)	(5)		
F1	1673	1251	1867	1808	10.39	30.81
F2	1998	1619	2141	2037	6.68	20.52
F3	2161	1734	2121	2033	-1.89	14.71
F4	2224	1940	2167	2230	-2.63	13.00
F5	2386	2134	2276	2321	-4.83	8.06
F6	2481	2225	2515	2421	-1.35	8.10
F7	2580	2375	2543	2616	-1.45	9.21
F8	2724	2574	2673	2684	-1.91	4.10
F9	2747	2686	2649	2852	-3.70	5.82
F10	2950	2950	2835	3129	-4.06	5.72
F11	3301	3476	3040	3511	-8.59	1.00
F12	3496	3813	3401	3606	-2.79	-5.74
All	2587	2445	2498	2577	-3.56	5.12

Source: NSS reports for 50th and 68th round