

A STUDY ON CONSUMPTION PATTERN IN INDIA AND ITS IMPACT ON ENVIRONMENT

Dr. Sonika Gupta,

KES' Shroff College of Arts & Commerce,
Mumbai, India.

Prof. Kalpana Singh,

Amity School of Economics,
Amity University, Noida, UP, India.

ABSTRACT

GDP is one of the foremost benchmarks to measure the economic growth of the country. The major constituents of the GDP growth are (a) Consumption, (b) Government Spending, (c) Investments and (d) Net Exports. Out of all these factors responsible for GDP growth, consumption has been the dominant part contributing to more than half of GDP growth. Knowledge of changes in consumption pattern helps in both projecting demand and developmental policies.

The paper focuses on analysing the consumption pattern of food and non-food items across income groups in both urban and rural areas by using data from National Sample Survey Organisation (NSSO) 9th quinquennial survey, 2011-12. The proportion of income that households of varied income classes spend on food and non-food products is analysed by using Monthly Per Capita Consumption Expenditure (MPCE). Study also aims to examine the changes in consumption pattern (especially cooking and lighting) on environment by analyzing the percentage of households with primary source of energy used for cooking and lighting, covering the period 1993-94 to 2011-2012 in both urban and rural areas.

It was observed that among food items that form the basic food basket in India the MPCE drops with rise in income, among relatively more expensive food items witnessed that MPCE rises as income rises and then falls in the higher deciles. The most expensive food category displayed that as income rises the MPCE also rises. Similarly, among non-food essentials showed a declining MPCE with rising income classes and the semi-luxury and luxury category showed increasing MPCE with rising income. The study of the source of energy used for cooking and lighting reflected a shift towards cleaner and convenient fuel like LPG and electricity from comparatively hazardous biomass fuels like coal, dung cake, firewood and chips.

Keywords: Consumption, Monthly Per Capita Consumption Expenditure, Income groups, Food and Non-Food Consumption Expenditure, Sustainable development.

INTRODUCTION:

Consumption refers to the final purchase of goods and services by individuals or households. A study of consumption is important for two significant reasons. Firstly, consumption is a major constituent of aggregate demand and accounts for 58% (Database on Indian Economy, RBI, 2014-15) of the aggregate demand and thus it is important to understand what determines consumption. Secondly, income that is not consumed is saved and savings have a huge bearing on the growth of an economy.

Keynes in his book “The General Theory of Employment, Interest and Money,” 1936, postulated that aggregate consumption is a function of aggregate current disposable income. Other prominent economist have also gone on to study the consumption function and according to them consumption depends on wealth, demonstration effect, ratchet effect, present value of lifetime income, etc.

Among all theories income is a significant determinant or an underlined factor affecting consumption. In this paper we attempt to analyse the consumption pattern of food and non-food items across income groups.

OBJECTIVES OF THE PAPER:

- 1) To study and analyse the consumption pattern of food and non-food items across income groups in both urban and rural areas.
- 2) Study also aims to examine the effect of changes in consumption pattern (especially cooking and lighting) on environment.

REVIEW OF LITERATURE:

The work of Ji-Hyun Kim titled “Changes in consumption patterns and environmental degradation in Korea” explored that the generation of carbon dioxide (CO₂) and sulfur dioxide (SO₂) emissions is due to the changes in consumption patterns in Korea during 1985–1995. The study shows that the major contributors are households in producing these two emissions as they consume energy directly and use pollution intensive products. The study has also points out that with the help of technology, there is a possibility of suppressing environmental degradation side effects of economic growth. The technological change can albeit suppress the side effect of economic growth however given Korea's consumption pattern it may not have a substantial effect in bettering the environment.

The work of Leonardo Leiderman and Assaf Razin (1986) titled “Consumption and Government: Budget Finance in a High-Deficit Economy” studied the impact of budget variables viz., spending, taxes and deficits on private consumption in Israel during the period 1980-1985. Since there were significant variations in the pattern of consumption during the reference period which was marked by high levels of budget deficit, the study challenged the Ricardian assumption of infinite horizon and to counter it developed and analysed an intertemporal optimizing model of consumption choice by individuals for a finite period. The analysis showed that there exists other means by which the budget deficits affect consumption in the finite period model and thus rejects the Ricardian assumption of infinite horizon.

Savneet Sethia (2013) conducted a comparative study titled “India’s Changing Consumption Pattern” on aggregate national income and aggregate consumption expenditure between pre and post economic reform period indicates that there was a significant difference in the pre and post reform period. The findings of the study were, “the percentage of Private Final Consumption Expenditure (PFCE) on food items had declined from 53.7% to 48.4% and on non-food items showed fluctuating trend and has increased from 46.3% to 51.6% in the pre reform period (1970-1991). While in the post reform period (1991- 2004), the expenditure on food items had declined from 49.9% to 35.4%, whereas expenditure on non-food items showed a steady increased from 50.1% to 64.6%.”

In a study titled “Growth, Inequality and Diversification in Consumption Pattern in India - An Empirical Analysis” by Ratan Ghosal (2014) examined the nature of growth, inequality and the diversification in the consumption pattern in India using the National Sample Survey Organization’s quinquennial data covering the period from 1972-73 to 2009-10. The study was done on an individual basis for rural and urban areas. All the states are found to hold an increasing trend in the rates of growth of real per capita income and in real monthly per capita expenditure (MPCE). Further the study found a positive correlation between growth rates of Net State Domestic Product (NSDP) and real monthly per-capita consumption expenditure across states. And also found tremendous diversification in the consumption pattern favouring the non-cereal food and non-food components, both in rural and urban areas of the states.

A study by National Council of Applied Economic Research (2014), focuses on examining the changes in food consumption pattern in India over past two decades as a result of diet diversification resulting from changes in

income, globalization, increasing urbanization and life style changes of people. The study has also done a comparison in calorie consumption, protein consumption and fat Consumption trends in India with that in China and USA. The findings of the study indicates a modest rise in average per capita calorie and protein intake, in spite of having high economic growth in past decades. It also indicates towards changing source of protein and calorie intake shifting from cereals and pulse towards fruits/vegetables and animals based food. A higher growth in per capita fat consumption is a matter of concern.

A study by Willi Haas et.al. (2005), titled 'The Environmental Impacts of Consumption: Research Methods and Driving Forces', examines the direct and indirect impacts of Austrian household's consumption pattern on environment and for this the study aims at developing and applying an operational method together with social research methods. It evaluates the consumption pattern of households in two different settlements. The findings of the study indicate that if households might be ready to make a change in their life styles to a more sustainable one if they are made aware of the effects of their lifestyles and are suggested alternative consumption.

METHODOLOGY:

To study and analyse the consumption pattern of food and non-food items across income groups, Monthly Per Capita Consumption Expenditure (MPCE) as percentage of total expenditure has been analysed by using data of 9th quinquennial survey, NSSO 68th round, 2011-12. To examine the changes in consumption pattern (especially cooking and lighting) on environment, the study has analysed the percentage of households with primary source of energy used for cooking and lighting, covering the period 1993-94 to 2011-2012 in both urban and rural areas.

FINDINGS AND DISCUSSIONS:

Monthly Per Capita Consumer Expenditure (MPCE):

The National Sample Survey Organization (NSSO) set up by the Government of India in 1950, is responsible for conducting various surveys at regular intervals. These surveys provide vital information to policy makers for socio-economic planning.

Among other surveys, the NSS consumer expenditure survey also generates estimates of average household monthly per capita consumer expenditure (MPCE). The reports published are quite detailed and provide information from various aspects. They provide distribution of persons and households over the MPCE range, the break-up of average MPCE by commodity group, distinctly for urban and rural areas, for States and UTs, and for various socio-economic groups. These indicators are important indicators as they throw light upon the state of living and help policy makers to allocate nations resources and make decision that reduce poverty and disparity across states and regions. In other words, it can help realise the objective of "inclusive growth" (NSSO Report, 558, 2011-12, p. 2).

NSSO in each of its survey years categorises the population into 12 income classes or 12 fractiles, the first two and the last two classes are of 5% each while the other intermediate classes are of 10% each. Thus the 12 classes are 0-5%, 5-10%, 10-20%, 20-30%, 30-40%, 40-50%, 50-60%, 60-70%, 70-80%, 80-90%, 90-95%, and 95-100%. Thus a 0-5% fractile represents that 5% of the population falls in a particular income range. Against each of the classes survey publishes the proportion of per capita monthly income spent on that particular food or non-food item in the last 30 days.

For the sake of simplicity, in this study we have considered the MPCE divided into 10 income classes of 10% each i.e. into 10 deciles. In the following section have analysed the MPCE for the survey relating to year 2011-12 (68th round) for both urban and rural areas.

Consumption of Food Items Across Income Groups:

Consumption of Cereals across Income Groups:

The rural areas exhibited a higher consumption of cereals versus the urban areas across the MPCE deciles.

Table 1 and Figure 1 show that in both urban and rural areas as the MPCE level increases the share of cereals (including cereal substitutes) in total consumer expenditure decline steadily.

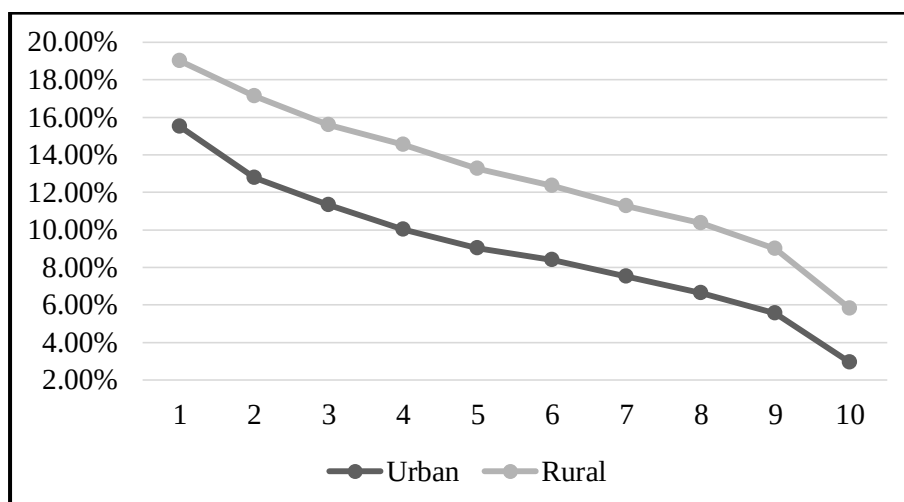
The share of cereals decline from 15.50% for the bottom decile class to 2.94% for the top decile class in urban areas and 19% for the bottom decile class to 5.81% for the top decile class in rural areas. Overall the cereals consumption show that as the income increases the proportion of income spent on cereals reduces.

Table 1: Percentage Share of Cereals in Consumer Expenditure

	(In Percentage)									
Decile	1	2	3	4	5	6	7	8	9	10
Urban	15.50	12.78	11.33	10.02	9.02	8.39	7.53	6.64	5.57	2.94
Rural	19.00	17.12	15.59	14.54	13.26	12.34	11.27	10.35	9.00	5.81

Source: Researcher's own calculation based on Table A-1.

Figure 1: Percentage Share of Cereals in Consumer Expenditure



Source: Researcher's own compilation based on Table 1.

Consumption of Pulses and Products across Income Groups:

MPCE for pulses has a declining trend implying that the proportion of income spent on pulses declines as income rises for urban and rural areas. Also in rural areas the MPCE is higher than urban areas for all deciles.

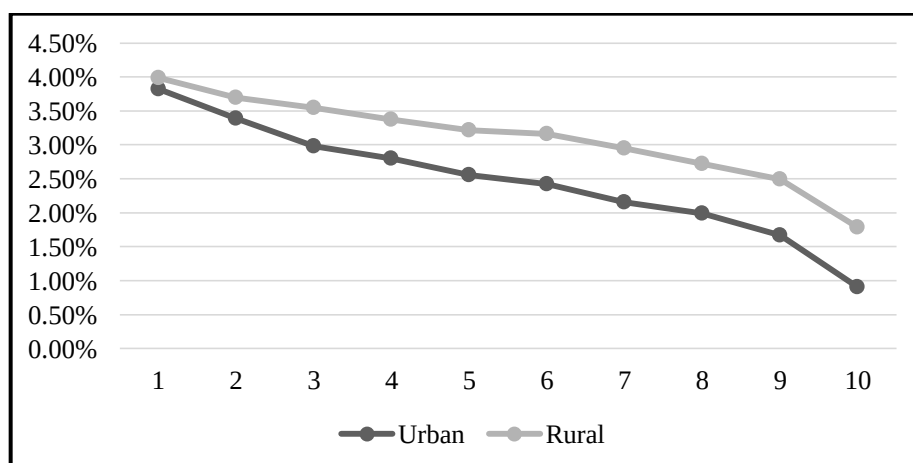
Table 2 and Figure 2 present that for both rural and urban areas the share of pulses is approximately 4% in the bottom decile class. As one move towards higher decile class the share falls to 0.91% and 1.78% in urban and rural areas respectively.

Table 2: Percentage Share of Pulses in Consumer Expenditure

	(In Percentage)									
Deciles	1	2	3	4	5	6	7	8	9	10
Urban	3.82	3.39	2.98	2.80	2.56	2.42	2.16	1.99	1.67	0.91
Rural	3.98	3.70	3.55	3.37	3.22	3.16	2.95	2.72	2.49	1.78

Source: Researcher's own calculation based on Table A-1.

Figure 2: Percentage Share of Pulses in Consumer Expenditure



Source: Researcher's own compilation based on Table 2.

Consumption of Milk and Milk Products across Income Groups:

Table 3 and Figure 3 show that urban areas witnessed an inverted u-shaped pattern, with the consumption initially increasing as we move ahead along the income classes and then falls later. However, the share of urban India was 6.20% for the lowest decile class and after that flattens around 8 - 8.35% for the middle MPCE class and then falls as MPCE level increases and reaches 4.92% for the highest decile class.

There was an upward trend in the share of rural consumption expenditure for milk and milk products till 9th decile from 4.16% to 9.55%. For the last decile the consumption falls to 8.10%.

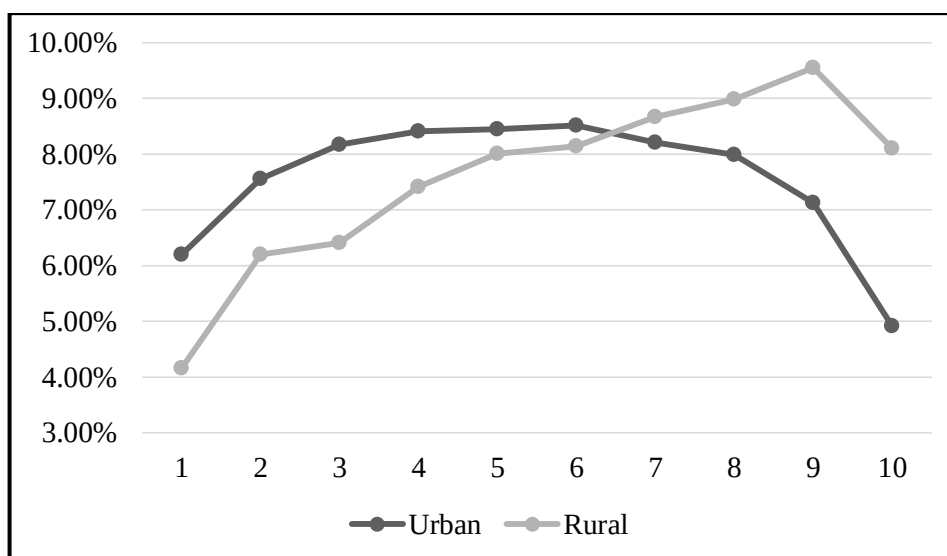
To sum, as the income rises the consumption of milk and milk products increases up to a level and then falls.

Table 3: Percentage Share of Milk and Milk Products in Consumer Expenditure

	(In Percentage)									
Decile	1	2	3	4	5	6	7	8	9	10
Urban	6.20	7.55	8.18	8.41	8.45	8.52	8.21	7.99	7.12	4.92
Rural	4.16	6.19	6.41	7.42	8.01	8.15	8.66	8.99	9.55	8.10

Source: Researcher's own calculation based on Table A-2.

Figure 3: Percentage Share of Milk and Milk Products in Consumer Expenditure



Source: Researcher's own calculation based on Table 3.

Consumption of Fruits and Nuts across Income Groups:

The share of fruits and nuts in total consumer expenditure rises with the rise in MPCE level in both urban and rural sectors.

The share in urban sector was 1.80% and rural 1.01% for the lowest decile class. But with the increase in MPCE level the share has also increased to 3.45% in urban India and 3.50% in rural India and the MPCE gap narrows at the end (Table 4 and Figure 4).

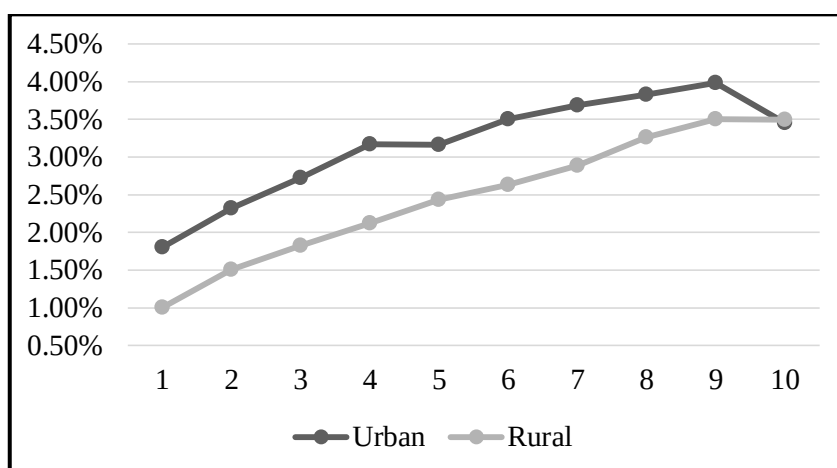
Fruits and Nuts largely represent high income effect i.e. as the income increases so does the consumption.

Table 4: Percentage Share of Fruits and Nuts in Consumer Expenditure

	(In Percentage)									
Deciles	1	2	3	4	5	6	7	8	9	10
Urban	1.80	2.32	2.72	3.17	3.16	3.50	3.68	3.83	3.99	3.45
Rural	1.01	1.51	1.83	2.12	2.43	2.63	2.89	3.26	3.50	3.50

Source: Researcher's own calculation based on Table A-2.

Figure 4: Percentage Share of Fruits and Nuts in Consumer Expenditure



Source: Researcher's own calculation based on Table 4.

Consumption of Edible Oil across Income Groups:

Edible oil consumption saw a declining trend as income rose both in urban as well as rural areas.

Table 5 and Figure 5 show that the share of edible oil in total consumer expenditure starts with roughly 5% for both urban and rural areas. In urban area the percentage share of edible oil was 4.95% and in rural area 5.02% for the bottom decile class.

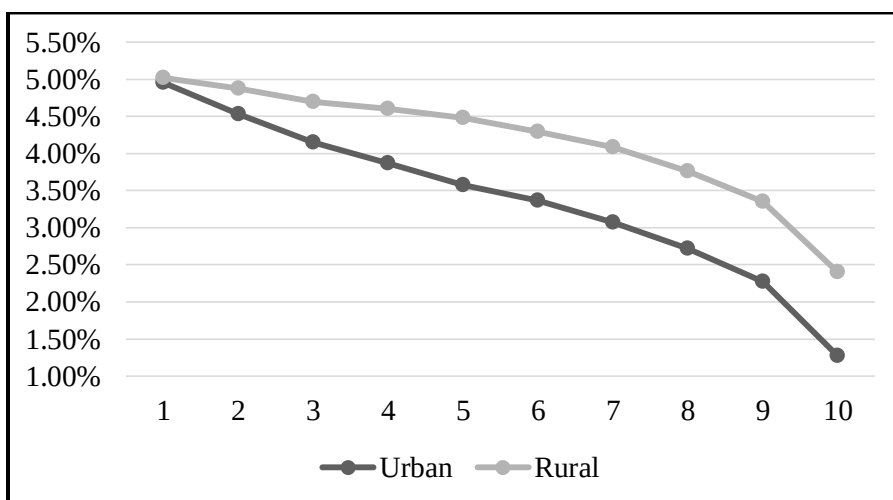
After that when one moves towards higher MPCE level, the share of this group begin to fall to 1.27% in urban area and 2.40% in rural area and the fall in urban areas was little steeper than that in rural areas.

Table 5: Percentage Share of Edible Oil in Consumer Expenditure

(In Percentage)										
Deciles	1	2	3	4	5	6	7	8	9	10
Urban	4.95	4.53	4.15	3.87	3.57	3.36	3.07	2.72	2.27	1.27
Rural	5.02	4.87	4.70	4.60	4.48	4.29	4.09	3.76	3.35	2.40

Source: Researcher's own calculation based on Table A-3.

Figure 5: Percentage Share of Edible Oil in Consumer Expenditure



Source: Researcher's own compilation based on Table 5.

Consumption of Egg, Fish and Meat across Income Groups:

The MPCE pattern for egg, fish and meat is quite similar to that displayed by milk i.e. there is inverted u-shaped pattern depicting that as the income rises the consumption expenditure rises however after a point it begins to decline. Table 6 and Figure 6 show that for the urban sector the share of egg, fish and meat in total consumer expenditure initially increased till the 4th decile (3.99% to 4.97%) but after that it decreased (4.97% to 2.32%).

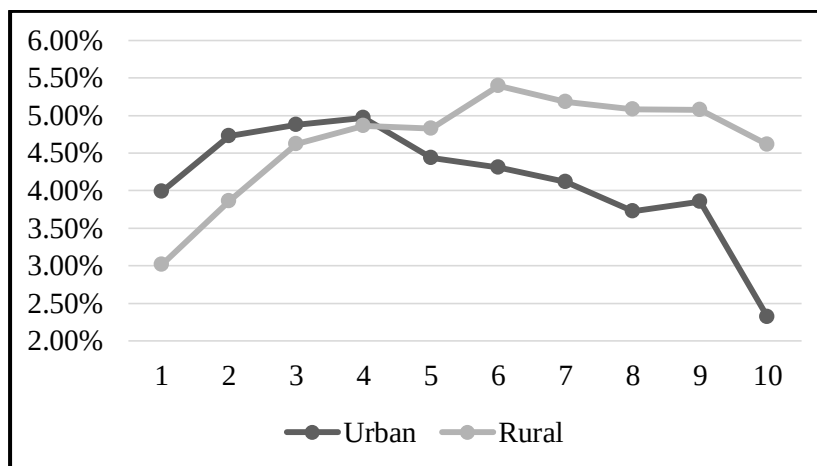
Whereas in the rural sector the share has increased by 1.60 percentage point (from 3.02% to 4.62%) from the bottom decile class to top decile class.

Table 6: Percentage Share of Egg, Fish and Meat in Consumer Expenditure

Deciles	1	2	3	4	5	6	7	8	9	10
Urban	3.99	4.73	4.88	4.97	4.43	4.31	4.12	3.72	3.85	2.32
Rural	3.02	3.86	4.62	4.86	4.83	5.40	5.18	5.09	5.08	4.62

Source: Researcher's own calculation based on Table A-3.

Figure 6: Percentage Share of Egg, Fish and Meat in Consumer Expenditure



Source: Researcher's own compilation based on Table 6.

Consumption of Vegetables across Income Groups:

The trend of this group is quite similar to that of cereals. As the graphs are downward sloping, they indicate a declining trend in both the urban and rural sectors.

Table 7 and Figure 7 depict that in the urban sector the share declined from 8.44% for the bottom decile class to 2.41% for the top decile class and in the rural sector 9.78% for the bottom decile class to 4.18% for the top decile class.

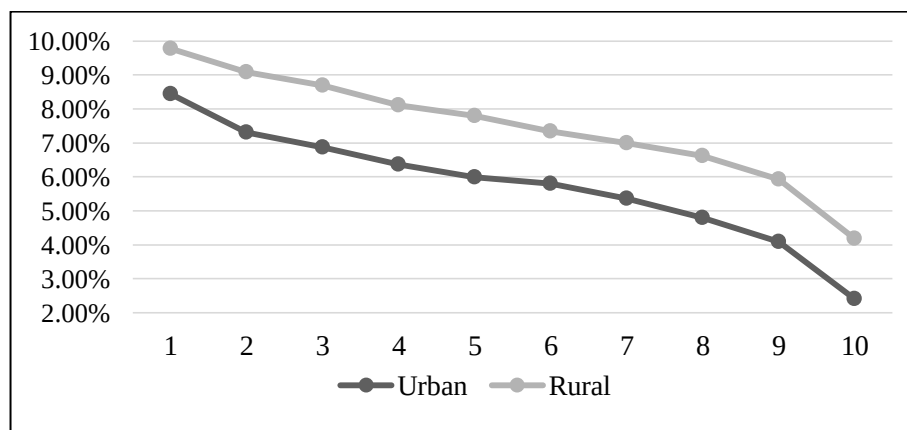
Both the curves run parallel to each other and rural remains above the urban all through.

Table 7: Percentage Share of Vegetables in Consumer Expenditure

Deciles	1	2	3	4	5	6	7	8	9	10
Urban	8.44	7.31	6.86	6.36	5.99	5.79	5.37	4.79	4.10	2.41
Rural	9.78	9.08	8.69	8.11	7.79	7.34	6.99	6.61	5.92	4.18

Source: Researcher's own calculation based on Table A-3.

Figure 7: Percentage Share of Vegetables in Consumer Expenditure



Source: Researcher's own compilation based on Table 7.

Consumption of Non-Food Items Across Income Groups:

Consumption of Durable Goods across Income Groups:

Table 8 and Figure 8 show that durable goods depicts a rising consumption trend with rise in income in both urban and rural areas.

In the urban sector the share rose from 1.54% for the bottom decile class to 10.29% for the top decile class and in the rural sector 1.82% for the bottom decile class to 10.31% for the top decile class.

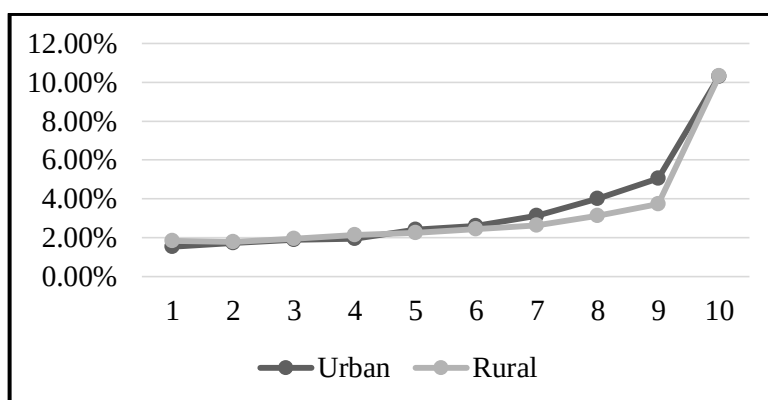
The consumption ranges from 2% to 5% up to the 9th decile for both urban and rural areas and then rises to around 10% in the highest decile. Till the 9th decile class, rural graph and urban graphs rise in a largely linear manner and then spike up in the last decile.

Table 8: Percentage Share of Durable Goods in Consumer Expenditure

Deciles	1	2	3	4	5	6	7	8	9	10
Urban	1.54	1.71	1.90	1.93	2.42	2.60	3.11	4.00	5.06	10.29
Rural	1.82	1.78	1.93	2.13	2.24	2.43	2.62	3.12	3.72	10.31

Source: Researcher's own calculation based on Table A-4.

Figure 8: Percentage Share of Durable Goods in Consumer Expenditure



Source: Researcher's own compilation based on Table 3.27

Consumption of Fuel and Light across Income Groups:

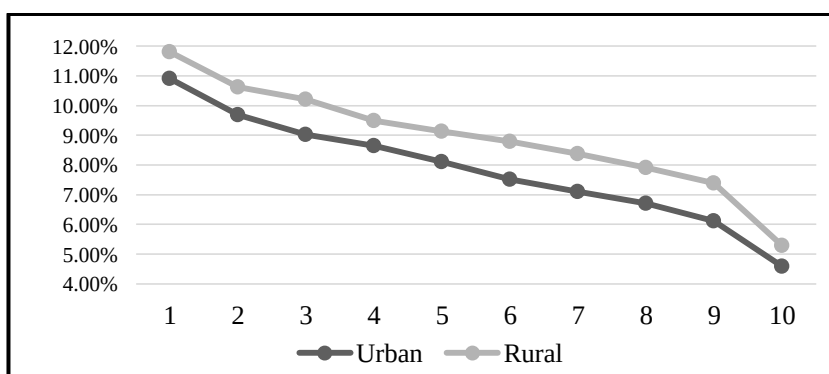
There was a declining trend in the percentage share of this group in both urban and rural India, the rural share little above the urban share all through.

Table 9: Percentage Share of Fuel and Light in Consumer Expenditure

Decile	1	2	3	4	5	6	7	8	9	10
Urban	10.91	9.68	9.02	8.64	8.11	7.52	7.09	6.71	6.11	4.58
Rural	11.80	10.62	10.21	9.49	9.13	8.79	8.38	7.90	7.38	5.29

Source: Researcher's own calculation based on Table A-4.

Figure 9: Percentage Share of Fuel and Light in Consumer Expenditure



Source: Researcher's own compilation based on Table 9.

The share in the total expenditure falls at a steady rate from 10.91% in urban area and 11.8% in rural area with the increase in the MPCE level and as it reaches the highest decile class, it falls at a steeper rate to 4.58% in urban areas and 5.29% in rural areas (Table 3.28 and Figure 3.31).

Consumption of Pan, Tobacco and Intoxicants across Income Groups:

The MPCE for intoxicants showed a declining trend for urban areas and a near rising trend for rural areas.

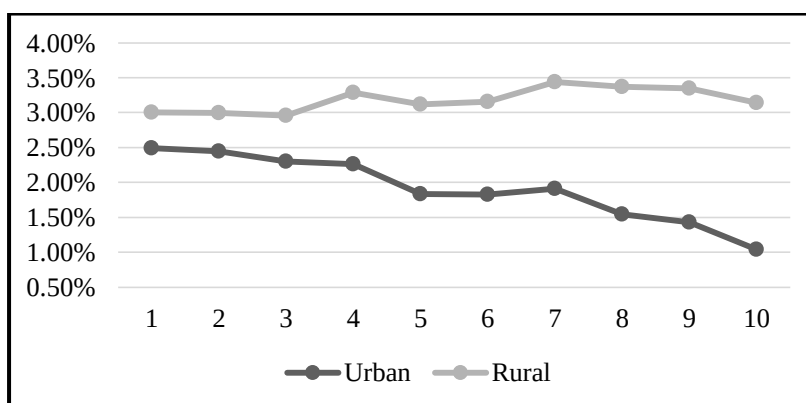
Table 10: Percentage Share of Pan, Tobacco and Intoxicants in Consumer Expenditure

(In Percentage)

Decile	1	2	3	4	5	6	7	8	9	10
Urban	2.49	2.45	2.30	2.26	1.84	1.82	1.91	1.54	1.43	1.04
Rural	3.01	3.00	2.96	3.29	3.12	3.16	3.44	3.37	3.35	3.14

Source: Researcher's own calculation based on Table A-5.

Figure 10: Percentage Share of Pan, Tobacco and Intoxicants in Consumer Expenditure



Source: Researcher's own compilation based on Table 10.

Table 10 and Figure 10 show that for the lowest decile the consumption was at 2.49% for urban areas and at 3.01% for rural areas. At the highest decile the MPCE was 1.04% for urban areas and 3.14% for rural areas. At all levels the MPCE at rural areas exceeded that of urban areas.

Consumption of Clothing and Footwear across Income Groups:

The share of clothing and footwear in total consumption expenditure falls moderately in both urban and rural sectors as MPCE rises with the share of rural sector is little higher than that of urban.

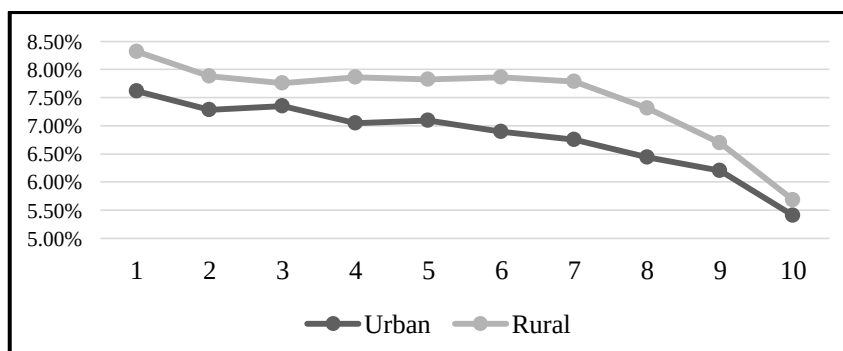
Table 11: Percentage Share of Clothing and Footwear in Consumer Expenditure

(In Percentage)

Decile	1	2	3	4	5	6	7	8	9	10
Urban	7.62	7.28	7.35	7.05	7.09	6.89	6.75	6.43	6.20	5.41
Rural	8.32	7.88	7.76	7.86	7.82	7.86	7.78	7.32	6.70	5.68

Source: Researcher's own calculation based on Table A-5.

Figure 11: Percentage Share of Clothing and Footwear in Consumer Expenditure



Source: Researcher's own compilation based on Table 11.

Table 11 and Figure 11 depict that the share of this category in the bottom decile class was 7.62% in urban sector and 8.32% in rural sector which declined to 5.41% in urban sector and 5.68% in rural sector for the top decile class.

Consumption of Miscellaneous Goods and Services across Income Groups:

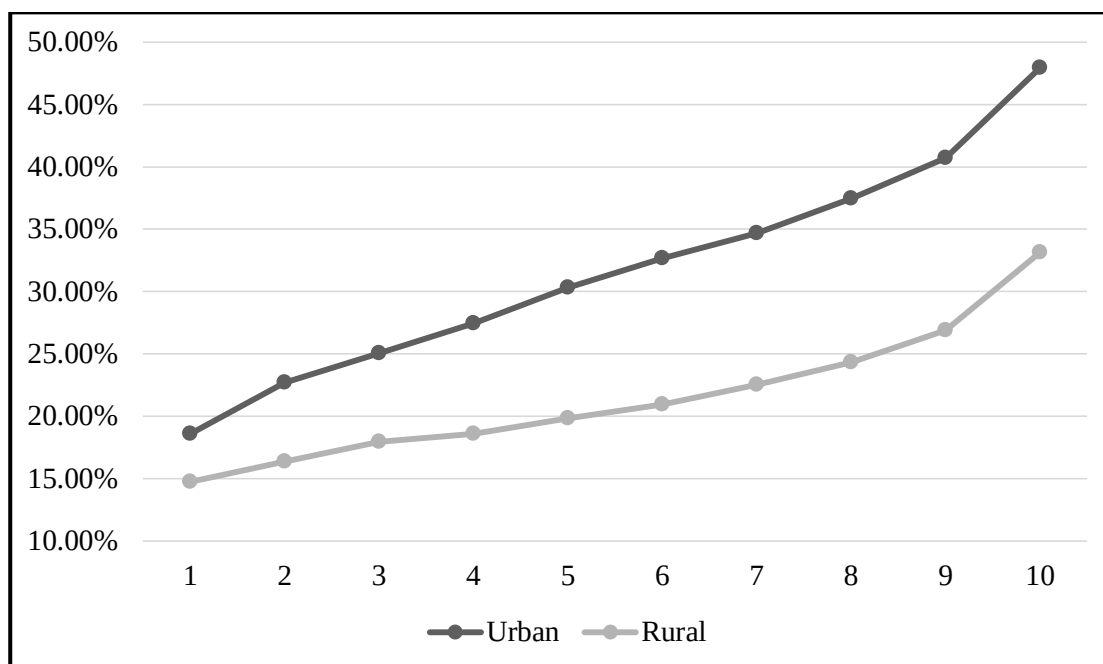
Table 12 and Figure 12 present that the share of miscellaneous goods and services like education, medical, conveyance, consumer services, entertainment, rent, taxes and cesses in total consumer expenditure rises steadily with rise in MPCE class from 18.59% to 47.95% in urban India and 14.72% to 33.14% in rural India. The proportion of income spent in urban areas exceeds that in rural areas across all deciles.

Table 12: Percentage Share of Miscellaneous Goods and Services in Consumer Expenditure

(In Percentage)										
Decile	1	2	3	4	5	6	7	8	9	10
Urban	18.59	22.70	25.06	27.46	30.31	32.66	34.70	37.48	40.70	47.95
Rural	14.72	16.37	17.93	18.59	19.82	20.94	22.51	24.33	26.91	33.14

Source: Researcher's own calculation based on Table A-6.

Figure 12: Percentage Share of Miscellaneous Goods and Services in Consumer Expenditure



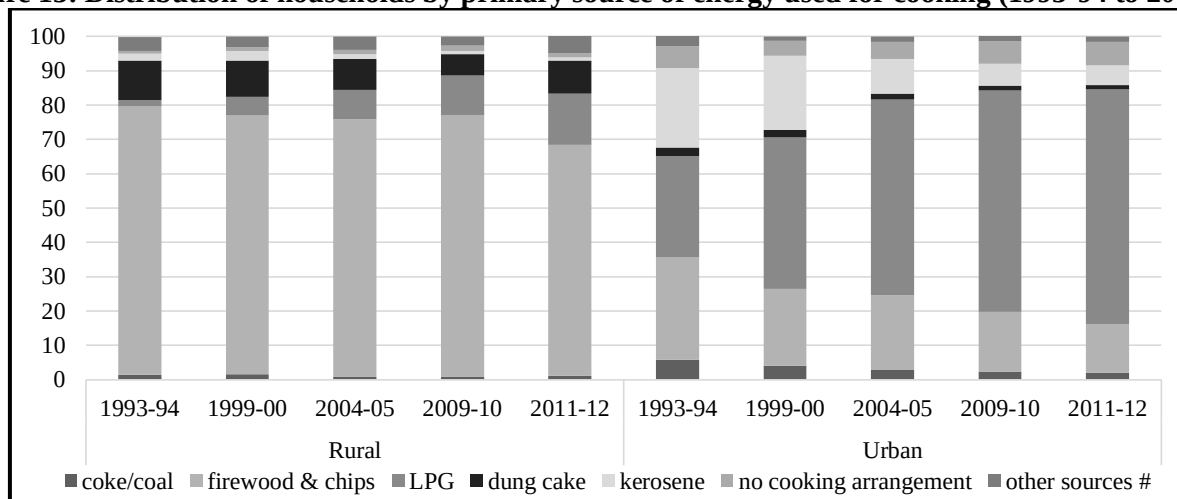
Source: Researcher's own compilation based on Table 12.

Energy Sources of Indian Households for Cooking and Lighting:

While the study of consumption is important from an economic perspective, it's also important to look at the environmental impact that consumption has. In the following section we will look at the pattern of consumption with respect to the sources of energy for cooking and lighting in the context of move towards a sustainable sources of energy.

In terms of cooking fuel, there exists a distinct dichotomy in the choice of fuel between rural and urban India. The primary source of energy used for cooking in rural India is biomass such as crop residue, cow dung or firewood. The high use of these is explained by the fact that fuels are available at almost no out of pocket cost, even though resources like cow dung and firewood are difficult to obtain and use. Price seems to be the major and users tend to ignore the health hazards associated with their use. Other factors that influence the choice of fuel are health, education and government policies, etc. On the other hand, urban India has most of the households used LPG as primary source of energy for cooking, followed by firewood and chips.

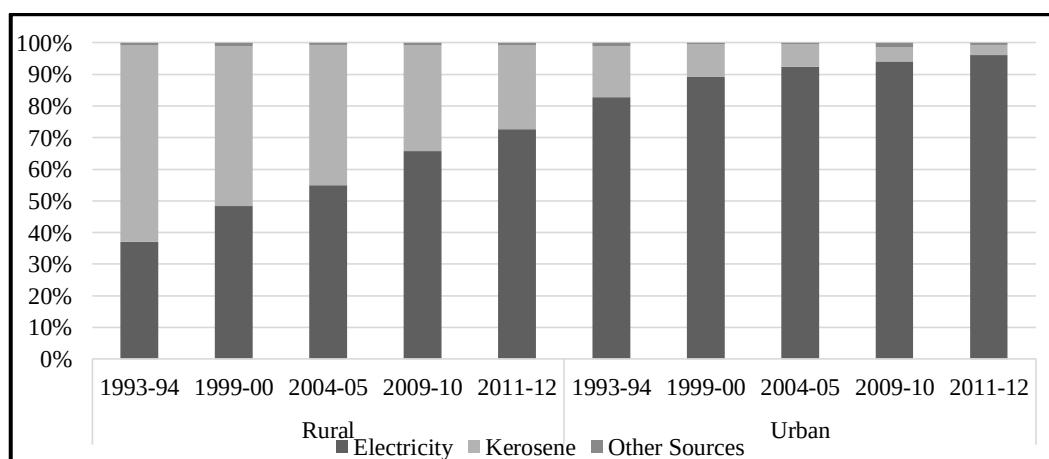
Figure 13: Distribution of households by primary source of energy used for cooking (1993-94 to 2011-12)



Source: Researcher's own calculation based on Table A-7.

Households in rural India continues to witness high dependence on firewood & chips as source of cooking fuel at 67.3% in 2011-12 (Figure 13), while this has declined from 78.2% in 1993-94 however still is quite high. This decline has been because LPG, which over the same period has increased from 1.9% to 15.0%. In the context of urban India over 1993-94 to 2011-12, the households depending upon firewood & chips and kerosene both have dropped and the correspondingly the share of those using LPG has increased. Households relying on firewood & chips for cooking fell from 29.9% to 14.0% (Figure 13) and those using kerosene registered a decline from 23.2% to 5.7%. Against these declines, LPG using households rose from 49.6% to 68.4%. With respect to energy for lighting, in rural areas most of the households use electricity however there were still a significant proportion using kerosene. Comparatively, almost all the households use electricity for lighting.

Figure 14: Percentage of households using different sources of energy for lighting, 1993-94 to 2011-2012



Source: Researcher's own calculation based on Table A-8.

As seen in Figure 14, in the year 1993-94, in rural India 62.1% households were using kerosene as primary source of energy for lighting, which in 2011-12 reduced to 26.5% households. Consequently, as primary source of energy for lighting the share of electricity has increased from 37.1% to 72.7% households over the same period. Figure 14, shows the primary source of energy for lighting for urban areas since 1993-94. The share of kerosene has dropped from 16.1% households in 1993-94 to 3.2% in 2011-2012. Like rural areas here too there was rapid substitution of kerosene by electricity for lighting and thereafter the share of electricity has been higher than 90% of the households.

CONCLUSION:

The MPCE gives a good picture of the proportion of income that households of varied income classes spend on food and non-food products. Among food items that form the basic food basket in India like cereals, pulses, edible

oil and vegetables exhibited that as income rises the MPCE drops, relatively more expensive food items like milk and milk products and eggs, fish and meat witnessed that MPCE rises as income rises and then falls in the higher deciles. The most expensive category that is fruits and nuts displayed that as income rises the MPCE also rises. Similarly, among non-food essentials like fuel and lighting and clothing and footwear showed a declining MPCE with rising income classes. The semi-luxury and luxury category like durable goods and miscellaneous goods and services showed increasing MPCE with rising income. The study of the sources of energy used for cooking and lighting reflected a shift towards cleaner and convenient fuel like LPG and electricity from comparatively hazardous biomass fuels like coal, dung cake, firewood and chips.

REFERENCE:

- [1] Ghosal, R. (2014). Growth, Inequality and Diversification in Consumption Pattern in India - An Empirical Analysis. IARIW 33rd General Conference, Retrieved from <http://www.iariw.org/papers/2014/GhosalPaper.pdf>. Rotterdam.
- [2] Kim, Ji-Hyun. (2002, March). Changes in consumption patterns and environmental degradation in Korea. Structural Change and Economic Dynamics, 13(1). Retrieved from [https://doi.org/10.1016/S0954-349X\(01\)00030-3](https://doi.org/10.1016/S0954-349X(01)00030-3)
- [3] Leiderman, L., and Razin, A. (1986, September). Consumption and Government-Budget Finance in a High-Deficit Economy. National Bureau of Economic Research (Working Paper No. 2032). Retrieved from <http://www.nber.org/papers/w2032.pdf>
- [4] Ministry of Statistics and Programme Implementation GOI. (2014). Household Consumption of Various Goods and Services in India, 2011-12 NSSO 68th Round. Report No. 558. Retrieved from http://mospi.nic.in/mospi_new/upload/Report_no558_rou68_30_june14.pdf
- [5] Ministry of Statistics and Programme Implementation, GOI. (2014). Level and Pattern of Consumer Expenditure in India, NSSO 68th Round (2011-12). Report No. 555. Retrieved from http://mospi.nic.in/mospi_new/upload/nss_rep_555.pdf
- [6] Ministry of Statistics and Programme Implementation, GOI. (2014). Energy Sources of Indian Households for Cooking and Lighting, 2011-12. NSSO Report No. 567. Retrieved from http://mospi.nic.in/sites/default/files/publication_reports/nss_report_567.pdf
- [7] National Council of Applied Economic Research (2014). An Analysis of Changing Food Consumption Pattern in India. A research paper prepared under the project 'Agricultural Outlook and Situation Analysis Reports'. Retrieved from [nfsm.gov.in/.../1%20An%20analysis%20of%20changing%20food%20consumption%](http://nfsm.gov.in/.../1%20An%20analysis%20of%20changing%20food%20consumption%20).
- [8] RBI. (2015). Handbook of Statistics on Indian Economy 2014-15. Reserve Bank of India. Retrieved from <https://www.rbi.org.in/>
- [9] Sethia, S. (2013, June). India's Changing Consumption Pattern. GYANPRATHA-ACCMAN Journal of Management, 5(2). Retrieved from <http://accman.in/images/june13/5.pdf>
- [10] Willi Haas et.al. (2005). 'The Environmental Impacts of Consumption: Research Methods and Driving Forces'. Working Papers no.3/2005. Norwegian University of Science and Technology (NTNU) Industrial Ecology Programme. Retrieved from https://brage.bibsys.no/xmlui/bitstream/handle/11250/.../121812_FULLTEXT01.pdf

APPENDIX:

Table A-1: Monthly Per Capita Expenditure (MPCE): Food Items

(Rs.)

Decile	Cereals		Pulses		Total Expenditure	
	Urban	Rural	Urban	Rural	Urban	Rural
1	249.45	225.54	61.47	47.3	1609.4	1187.3
2	142.88	134.06	37.89	28.96	1118.1	783.24
3	154.39	141.04	40.6	32.09	1362.7	904.57
4	162.74	147.96	45.46	34.32	1624.9	1017.8
5	170.25	150.61	48.27	36.55	1887.7	1136
6	182.88	156.23	52.74	39.99	2180.5	1266.1
7	191.87	160.86	54.94	42.07	2547.9	1426.8
8	203.44	170.26	61.04	44.74	3062.9	1645.4

	Cereals		Pulses		Total Expenditure	
Decile	Urban	Rural	Urban	Rural	Urban	Rural
9	216.71	180.66	64.87	49.98	3892.6	2007.5
10	459.26	408.88	142.16	125.61	15632	7037.5

Source: NSSO Report No. 555, Level and Pattern of Consumer Expenditure, 2011-12 [6].

Table A-2: Monthly Per Capita Expenditure (MPCE): Food Items

(Rs.)

	Milk and Milk Products		Fruits and Nuts		Total Expenditure	
Decile	Urban	Rural	Urban	Rural	Urban	Rural
1	99.79	49.36	29.01	11.94	1609.4	1187.3
2	84.46	48.52	25.91	11.8	1118.1	783.24
3	111.41	57.97	37.12	16.52	1362.7	904.57
4	136.71	75.47	51.5	21.62	1624.9	1017.8
5	159.55	90.94	59.73	27.64	1887.7	1136
6	185.76	103.13	76.33	33.32	2180.5	1266.1
7	209.15	123.62	93.88	41.21	2547.9	1426.8
8	244.58	147.91	117.22	53.66	3062.9	1645.4
9	277.26	191.66	155.18	70.35	3892.6	2007.5
10	768.67	570.21	539.91	246.2	15632	7037.5

Source: NSSO Report No. 555, Level and Pattern of Consumer Expenditure, 2011-12.

Table A-3: Monthly Per Capita Expenditure (MPCE): Food Items

(Rs.)

	Edible Oil		Egg, Fish and Meat		Vegetables		Total Expenditure	
Decile	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
1	79.67	59.56	64.15	35.81	135.82	116.09	1609.42	1187.28
2	50.67	38.16	52.84	30.24	81.78	71.11	1118.09	783.24
3	56.57	42.48	66.48	41.8	93.54	78.62	1362.69	904.57
4	62.86	46.81	80.74	49.46	103.41	82.54	1624.86	1017.8
5	67.41	50.91	83.7	54.83	113.09	88.49	1887.65	1135.97
6	73.31	54.37	93.95	68.34	126.35	92.91	2180.52	1266.08
7	78.19	58.3	104.96	73.93	136.77	99.74	2547.94	1426.76
8	83.25	61.85	114.03	83.68	146.7	108.82	3062.85	1645.36
9	88.53	67.31	150.04	101.95	159.44	118.91	3892.6	2007.46
10	199.27	168.89	362.23	324.87	376.15	294.05	15631.9	7037.51

Source: NSSO Report No. 555, Level and Pattern of Consumer Expenditure, 2011-12.

Table A-4: Monthly Per Capita Expenditure (MPCE): Non-Food Items

(Rs.)

	Durables		Fuel and Light		Total Expenditure	
Decile	Urban	Rural	Urban	Rural	Urban	Rural
1	24.76	21.6	175.62	140.14	1609.42	1187.28
2	19.11	13.97	108.24	83.19	1118.09	783.24
3	25.88	17.45	122.85	92.4	1362.69	904.57
4	31.44	21.7	140.46	96.57	1624.86	1017.8
5	45.64	25.46	153.1	103.74	1887.65	1135.97
6	56.64	30.81	163.95	111.33	2180.52	1266.08
7	79.32	37.43	180.7	119.56	2547.94	1426.76
8	122.55	51.27	205.58	130	3062.85	1645.36
9	196.84	74.63	237.89	148.21	3892.6	2007.46
10	1608.01	725.74	716.15	372.16	15631.9	7037.51

Source: NSSO Report No. 555, Level and Pattern of Consumer Expenditure, 2011-12.

Table A-5: Monthly Per Capita Expenditure (MPCE): Non-Food Items

(Rs.)

Decile	Pan, Tobacco and Intoxicants		Clothing and Footwear		Total Expenditure	
	Urban	Rural	Urban	Rural	Urban	Rural
1	40.14	35.69	122.59	98.74	1609.42	1187.28
2	27.36	23.46	81.4	61.71	1118.09	783.24
3	31.31	26.76	100.11	70.19	1362.69	904.57
4	36.75	33.44	114.55	79.96	1624.86	1017.8
5	34.69	35.45	133.8	88.85	1887.65	1135.97
6	39.77	39.99	150.32	99.46	2180.52	1266.08
7	48.77	49.1	172	111.04	2547.94	1426.76
8	47.18	55.48	197.08	120.36	3062.85	1645.36
9	55.6	67.19	241.31	134.43	3892.6	2007.46
10	163.03	221.2	844.99	399.57	15631.9	7037.51

Source: NSSO Report No. 555, Level and Pattern of Consumer Expenditure, 2011-12.

Table A-6: Monthly Per Capita Expenditure (MPCE): Non-Food Items

(Rs.)

Decile	Misc. goods and services		Total Expenditure	
	Urban	Rural	Urban	Rural
1	299.18	174.76	1609.42	1187.28
2	253.82	128.19	1118.09	783.24
3	341.49	162.23	1362.69	904.57
4	446.19	189.19	1624.86	1017.8
5	572.09	225.2	1887.65	1135.97
6	712.05	265.13	2180.52	1266.08
7	884.1	321.19	2547.94	1426.76
8	1147.84	400.39	3062.85	1645.36
9	1584.38	540.11	3892.6	2007.46
10	7494.91	2331.94	15631.9	7037.51

Source: NSSO Report No. 555, Level and Pattern of Consumer Expenditure, 2011-12.

Table A-7: Percentage distribution of households by primary source of energy used for Cooking: Rural and Urban India, 1993-94 to 2011-12

Sources of Cooking	Rural					Urban				
	1993-94	1999-00	2004-05	2009-10	2011-12	1993-94	1999-00	2004-05	2009-10	2011-12
coke/coal	1.4	1.5	0.8	0.8	1.1	5.7	4.1	2.8	2.3	2.1
firewood & chips	78.2	75.5	75	76.3	67.3	29.9	22.3	21.7	17.5	14
LPG	1.9	5.4	8.6	11.5	15	29.6	44.2	57.1	64.5	68.4
dung cake	11.5	10.6	9.1	6.3	9.6	2.4	2.1	1.7	1.3	1.3
kerosene	2	2.7	1.3	0.8	0.9	23.2	21.7	10.2	6.5	5.7
no cooking arrangement	0.7	1.1	1.3	1.6	1.3	6.3	4.3	4.9	6.5	6.9
other sources #	4.1	3.1	3.8	2.7	4.9	3	1.3	1.6	1.5	1.5

includes gobar gas, charcoal, electricity, others

Source: NSSO Report No. 567, Energy Sources of Indian Households for Cooking and Lighting, 2011-12.

Table A-8: Percentage distribution of households by primary source of energy used for Lightning: Rural and Urban India, 1993-94 to 2011-12

	Rural					Urban				
Sources of Lightning	1993-94	1999-00	2004-05	2009-10	2011-12	1993-94	1999-00	2004-05	2009-10	2011-12
Electricity	37.1	48.4	54.9	65.7	72.7	82.8	89.1	92.3	94	96.1
Kerosene	62.1	50.6	44.4	33.4	26.5	16.1	10.3	7.1	4.7	3.2
Other Sources	0.8	1	0.7	0.9	0.8	1.1	0.6	0.6	1.3	0.7

Source: NSSO Report No. 567, Energy Sources of Indian Households for Cooking and Lighting, 2011-12.
