

## HOUSEHOLD CONSUMPTION OF VARIOUS GOODS & SERVICES IN NAGALAND

# 68th ROUND (JULY 2011 - JUNE 2012)





GOVERNMENT OF NAGALAND DIRECTORATE OF ECONOMICS & STATISTICS

NAGALAND: KOHIMA



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## PREFACE

The Household Consumer Expenditure Surveys of National Sample Survey (NSS) are the primary source of data on various indicators of level of living of different segments of the population at National and State levels. These are used for planning, policy formulation, decision support and as an input for further statistical exercises by various Government Organizations, academicians, researchers and scholars. NSS surveys on Household Consumer Expenditure with large sample size of households have been conducted quinquennially from 27<sup>th</sup> Round (October 1972-September 1973) onwards. The NSS 68<sup>th</sup> round carried out during July 2011-June 2012 was the ninth quinquennial round in the series, covering subjects on (i) Household Consumer Expenditure and (ii) Employment and Unemployment.

This report covers the Household Consumer Expenditure in Nagaland based on the State Sample data of NSS 68<sup>th</sup> round surveyed during July 2011 –June 2012.

The Survey Design and Research Division (SDRD) of NSSO, New Delhi developed the survey methodology & survey instruments. The field work was carried out by the district field staff, while the data processing and tabulation was undertaken by Electronic Data Processing Division (EDPD), Directorate of Economics and Statistics, Kohima. The final report has been prepared by National Sample Survey section, Directorate of Economics and Statistics, Kohima.

I place on record my appreciation of efforts made by the officers and staff of the NSS section in the Directorate and District Statistical Officers & Staff.

Comments and suggestions for further improvement on the above mentioned Round in particular & NSS related subject in general are always welcome because they can be incorporated in the succeeding Rounds since NSS is an ongoing survey- related exercise that lays the foundation for a strong database that helps in propelling growth & development.

Kohima March 2019 Sd-(Y. SACHEO OVUNG) Director

## HIGHLIGHTS

The report is based on information collected during 2011-2012 from 84 villages in rural areas and 132 urban frame survey (UFS) blocks in urban areas in Nagaland. A total of 1727 households were surveyed in this 68th round.

#### CEREALS, PULSES, EDIBLE OIL AND OTHER FOODS

- Rice consumption per person per month was estimated at 10.21 kg in rural areas while in urban areas, the same was estimated at 9.76 kg during 2011-2012.
- Consumption of rice was reported by about 98 % of households in both rural and urban areas of Nagaland during 2011-12.
- 14.20 % of rural households reported consumption of rice from PDS as compared to 2.9 % of urban households in Nagaland.
- Masur constituted about 54 % and 49 % of total pulses consumption in rural and urban areas respectively.
- Mustard oil was the most commonly consumed edible oil in both rural and urban Nagaland with 67.8 % and 64.8% of households reporting its consumption respectively.
- In rural areas, a person consumed 670 gm of pork per month and in urban areas it was 859 gm per person in a month.
- Banana was the most commonly consumed fruit in both rural and urban areas. Out of the total monthly expenditure on fruits, about 27% Rural and 19% Urban of expenditure was incurred on banana alone.
- Monthly per capita expenditure on tea (cups + leaf) was □39.29 in rural areas and Rs.38.69 in urban areas during 2011-12.
- Consumption of Pan, tobacco and Intoxicants stood at Rs. 42.97 and Rs.62.20 in rural and urban areas respectively.
- Consumption of pan, tobacco and intoxicants were reported by 42.8% and 49.4% of rural and urban households respectively under Non-Food items.

#### FUEL, CLOTHING, BEDDING, EDUCATION, MEDICAL CARE & DURABLE GOODS

- In rural areas, the primary source of cooking was firewood and chips with Monthly per capita expenditure of Rs 77.80 while in the urban sector it was LPG with Monthly per capita expenditure of Rs 73.80
- Only 37.1% of rural households of Nagaland reported consumption of LPG while 83.7% of urban households reported it consumption.
- While 100% of urban households reported consumption of electricity only 99.2% of rural households reported its consumption.
- Expenditure on uniforms: boys & girls made up about 17% and 15% of total expenditure on clothing in rural and urban areas respectively.
- Monthly per capita expenditure on education was about 36% higher in urban areas than rural areas.
- Expenditure on institutional medical care was reported by 38.7% of rural and 32.9% of urban sample households during last 365 days.
- Institutional medical care expenditure was reported by 38.7% of rural and 32.9% of urban households in Nagaland.
- Non-institutional expenditure on medical care was reported by 61.0 % rural and 59.9% of urban households in Nagaland during 2011-12.
- 85.8% of rural households and 97.3% of urban households reported possession of mobile handset in Nagaland during 2011-12.

### CONTENTS

Description	Page	
HIGHLIGHTS	1	
INDEX OF DETAILED TABLES	2	
CHAPTER ONE:	3	
INTRODUCTION	4	
<b>CHAPTER TWO:</b> Concepts and Definitions	5	
<b>CHAPTER THREE:</b> Summary of Survey Findings	6	
APPENDIX A-1, A-2, A-3: Detailed Tables	7	
<b>APPENDIX C:</b> Sample Design & Estimation Procedure	8	
<b>APPENDIX D:</b> Facsimile of Schedule 1.0 Type 1 & Type 2	9	

## Index of Detailed Tables

TABLE	DESCRIPTION	PAGE
Table 1	Absolute break-up of MPCE <sub>MMRP</sub> by item group in 2011-12: Rural, Urban and All: Nagaland	
Table 2	Pattern of Monthly Per Capita Expenditure on Food and Non-Food items: Nagaland, 2011-12	
Table 3	Monthly Per Capita Consumption of selected major Cereals in 2011-12: Rural and Urban	
Table 4	Monthly Per Capita Consumption of selected major Pulses in 2011-12: Rural and Urban	
Table 5	Monthly Per Capita Consumption of selected Edible Oil in 2011-12: Rural and Urban	
Table 6	Monthly Per Capita Consumption of Eggs, Fish, and Meat in 2011-12: Rural and Urban	
Table 7	Monthly Per Capita Consumption of selected Vegetables in 2011-12: Rural and Urban	
Table 8	Monthly Per Capita Consumption of selected Fruits in 2011-12: Rural and Urban	
Table 9	Monthly Per Capita Consumption of selected Beverages and Processed Food in 2011-12: Rural and Urban	
Table 10	Monthly Per Capita consumption of selected Energy items, Nagaland: 2011-12	
Table 11	Monthly Per Capita of consumption of selected Clothing Nagaland: 2011-12	
Table 12	Monthly Per Capita of consumption on Educational Items, Nagaland: 2011-12	
Table 13	Monthly Per Capita of consumption on Medical Care, Nagaland: 2011-12	
Table 14	Percentage of sample households reporting Possession: Rural & Urban, 2011-12	

#### INTRODUCTION

#### BACKGROUND

The National Sample Survey Office *(NSSO)* conducts nation-wide household consumer expenditure surveys at regular intervals as part of its "rounds"; each round is normally of a year's duration. The NSS surveys are conducted through interviews of a random sample of households selected through a scientific design and cover practically the entire geographical area of the Country.

The household consumer expenditure survey is generally conducted along with the employmentunemployment survey of the NSS at quinquennial intervals. Thus "quinquennial" surveys on consumer expenditure and employment-unemployment were conducted in the 27<sup>th</sup>, 32<sup>nd</sup>, 38<sup>th</sup>, 43<sup>rd</sup>, 50<sup>th</sup>, 55<sup>th</sup>, 61<sup>st</sup> and 66<sup>th</sup> rounds of NSS, at roughly year intervals.

In its 32<sup>nd</sup> Meeting held on 23-24 April 2010, the National Statistical Commission *(NSC)* considered the use of the 2009-2010 NSSO, quinquennial survey as the base year for both the price indices as well as revision of the national income estimates. The NSC felt that 2009-2010, being a non-normal year, may pose problems; hence, it was desirable to repeat the survey once again in respect of consumer expenditure as well as employment-unemployment issues. In its 33rd Meeting held on 19-21 May 2010, the NSC decided that the 68th Round of NSS would be devoted to repeating the quinquennial survey on consumer expenditure and employment-unemployment.

Accordingly, the 66th round survey on consumer expenditure and employment-unemployment was repeated in the 68th round conducted in 2011-12. For the reason mentioned in the above paragraph, readers of this report is cautioned against making direct comparisons of the estimates of the 68th round with those of 66th.

The household consumer expenditure survey *(CES)* is generally covered as one of the main subjects of the NSS survey. The key indicators on household consumption in Nagaland during 2011-12 based on data collected through the 68th round of NSS are presented here.

#### **OBJECTIVE OF THE SURVEY**

The NSS consumer expenditure survey aims at generating estimates of household monthly per capita consumer expenditure *(MPCE)* and its distribution separately for the rural and urban sectors of the State. These indicators are amongst the most important measures of the level of living of the respective domains of the population. The distribution of MPCE highlights the differences in level of living of the different segments of the population and is an effective tool to study the prevalence of poverty and inequality. These numbers enable the apex planning and decision-making process to

allocate the State's resources among sectors, regions, and socio-economic groups, and assess the "inclusiveness" of economic growth.

Besides measuring the household consumption level and its pattern, the CES has another important use. To work out Consumer Price Indices *(CPIs)* which measure the general rise in consumer prices, one needs to know not only the price rise for each commodity group but also the budget shares of different commodity groups (used as weights). The budget shares as revealed by the NSS CES are being used to prepare the weighing diagram for official of CPIs. More extensive use of NSS CES data is planned to have a weighing diagram that uses a finer commodity classification, to prepare CPIs separately for rural and urban.

Apart from these major uses of the CES, the food (quantity) consumption data are used to study the level of nutrition of different regions and disparities therein, and in studying demand and supply of commodities. The budget share of a commodity at different MPCE levels facilitates the compilation of consumption elasticity or responsiveness of demand.

### FEATURES OF THE CONSUMER EXPENDITURE SURVEY

#### SCHEDULES OF ENQUIRY

The household consumer expenditure schedule *("Schedule 1.0")* was used for the survey collected information on quantity and value of household consumption. To minimize recall errors, a very detailed item classification was adopted to collect information, including 142 items of food, 15 items of energy (fuel, light and household appliances), 28 items of clothing, bedding and footwear, 19 items of educational and medical expenses, 51 items of durable goods, and 89 other items. The schedule also collected some other particulars of each household member, such as age, sex and educational level.

The schedules of enquiry used were of two types. The two types had the same item break-up but differed in reference periods used for collection of consumption data. For certain categories of relatively infrequently purchased items, including clothing and consumer durables, it collected information on consumption during the last 30 days and the last 365 days. For other categories, including all food and fuel and consumer services, it used a 30-days reference period. Schedule Type 2 used 'last 365 days' *(only)* for the infrequently purchased categories, 'last 7 days' for some categories of food items, as well as pan, tobacco and intoxicants, and 'last 30 days' for other food items, fuel, and the rest. The differences (in reference period) between Schedule Types 1 and 2 are shown in Table T1.

Schedule Type 1 and Schedule Type 2 were canvassed in two independent samples of matching size drawn from each stratum/sub-stratum.

#### TABLE T1

Reference periods used for collection of consumption data in Schedule 1.0, Type 1 and Type 2

CATEGORY		REFERENCE PERIOD FOR			
	ITEM GROUPS	Schedule Type 1	Schedule Type 2		
I	Clothing, bedding, footwear, education, medical (institutional), durable goods	'Last 30 days' and 'Last 365 days'	Last 365 days		
II	Edible oil; egg, fish & meat; vegetables, fruits, spices, beverages and processed foods; pan, tobacco & intoxicants	Last 30 days	Last 7 days		
Ш	All other food, fuel and light, miscellaneous goods and services including non-institutional medical; rents and taxes	Last 30 days	Last 30 days		

#### SCOPE AND COVERAGE

*Geographical Coverage* : The survey covered the whole of Nagaland except interior villages situated beyond five kilometers of the bus route.

**Population Coverage** : The following rules were followed:

- 1) Floating population, *i.e.*, persons without any normal residence, was excluded. But persons residing in open space, roadside shelter, under a bridge, etc., more or less regularly in the same place were covered.
- 2) Persons residing in barracks of military and paramilitary forces *(like police, BSF etc.)* were kept outside the survey coverage. However, the civilian population residing in their neighborhood, including the family quarters of service personnel, was covered.
- 3) Orphanages, rescue homes, ashrams and vagrant houses were outside the survey coverage. However, the persons staying in old age homes, the students staying in ashram/hostels and the residential staff (other than monks/nuns) of these ashrams were covered. Although orphans living in orphanages were excluded, the persons looking after them and staying there were covered. Convicted prisoners undergoing sentence were outside the coverage of the survey.

**Sample Size** : In this survey, a total of 216 first stage units **(FSUs)** were surveyed; 84 villages in rural areas and 132 urban frame survey **(UFS)** blocks in urban areas.

**Second-stage Units** : For the consumer expenditure survey, from each sample village and urban block, two samples of 8 households each were selected for canvassing Schedule Type 1 and Schedule Type 2. The total number of sample households in which schedule 1.0 was canvassed was 671 in rural Nagaland and 1056 in urban Nagaland.

While selecting the households in each selected first-stage unit, the second-stage stratification of households is in-built in the sample design. The features of the sample design are given in Appendix C.

## CHAPTER **TWO**

#### **CONCEPTS AND DEFINITIONS**

#### **CONCEPTUAL FRAMEWORK**

Reference period: The consumption of any good or service by a household or person occurs in the form of a flow over time. The survey may need to record the volume of consumption over a short period such as a day, or a long period such as a year. The time period for which consumption is recorded is called the reference period. It may vary from item to item. Because the respondents are asked to recall and report the volume of consumption, the reference period is also called the recall period.

#### HOUSEHOLD CONSUMER EXPENDITURE

The expenditure incurred by a household on domestic consumption during the reference period is the household's consumer expenditure. Expenditure incurred towards productive enterprises of households is excluded from household consumer expenditure. Also excluded are expenditure on purchase and construction of residential land and building, interest payments, insurance premium payments, payments of fines and penalties, and expenditure on gambling including lottery tickets. Money given as remittance, charity, gift, etc. is not consumer expenditure. However, self-consumed produce of own farm or other household enterprise is valued and included in household consumer expenditure. So are goods and services received as payment in kind or free from employer, such as accommodation and medical care, and travelling allowance excluding allowance for business trips.

For articles of food (including pan, tobacco and intoxicants) and fuel, household consumption is measured by the quantity of the article actually used by the household during the reference period, irrespective of the expenditure incurred on it. For articles of clothing and footwear, consumption by a household is considered to occur at the moment when the article is brought into its maiden or first use by any household member. The consumption may be out of (a)purchases made in cash or credit during the reference period or earlier; (b) home-grown stock;(c) receipts in exchange of goods and services; (d) any other receipt like gift, charity, borrowing and (e) free collection. Home produce is evaluated at the ex farm or ex factory rate.

For evaluating household consumption of all other items, a different approach is followed: the expenditure made by the household during the reference period for the purchase or acquisition of goods and services, regardless of when the goods and services are used and by whom, is considered as household consumption. However, for a few items of expenditure such as rent, telephone charges, consumer taxes and railway season tickets, expenditure during the month is recorded as the amount that was last paid divided by the number of months to which the payment related.

It is pertinent to mention here that the consumer expenditure of a household on food items relates to the actual consumption by the members of the household and also by the guests during ceremonies or otherwise. Normally, transfers of food, fuel, clothing and footwear made by a household as charity, loan advance, etc. are not considered as consumption of that household, since consumption out of all transfer receipts of these items have to be included. However, meals prepared in a household and served to non-household members are an exception to this rule. Meals prepared in the household kitchen and provided to the employees and/or others would automatically get included in domestic consumption of employer (payer) household. There is a practical difficulty of estimating the quantities and values of individual items used for preparing the meals served to employees or others. Thus, to avoid double counting, cooked meals received as perquisites from employer household or as gift or charity are not recorded in the recipient household. As a general principle, cooked meals purchased from the market for consumption of the members and for guests are also recorded in the purchaser household. This procedure of recording cooked meals served to others in the expenditure of the serving households leads to bias-free estimates of average per capita consumption as well as total consumer expenditure.

All goods and services received as payment in kind or perquisites are included in the consumption of the recipient household as goods and services received in exchange of services, except for meals received from other households' kitchens.

To simplify data collection, consumption of food processed in the home from one "item" into another, such as milk converted into curd or butter, vegetables converted into pickles, and rice converted into liquor are recorded in the survey against the primary or ingredient item(s), such as milk, instead of the item in which form it is consumed (e.g. curd). For some item groups such as intoxicants, this procedure leads to an underestimation of consumption with a corresponding overestimation of the item groups of the major ingredients, such as cereals.

#### VALUE OF CONSUMPTION

For items of food, pan, tobacco, intoxicants, fuel, clothing and footwear, this term is not synonymous with expenditure incurred by the household on the item, and the following rules of valuation are specified. Consumption out of purchase is evaluated at the purchase price. Consumption out of home produce is evaluated at ex farm or ex factory rate.

Value of consumption out of gifts, loans, free collections, and goods received in exchange of goods and services is imputed at the rate of average local retail prices prevailing during the reference period.

#### MONTHLY PER CAPITA EXPENDITURE (MPCE)

Normally, the concept of per capita income - or per capita (overall) expenditure, if income data

are not available – is used for comparison of average living standards between countries, between regions, and between social or occupational groups. For studies of poverty and inequality within populations, however, average income or average expenditure is not enough. One needs to assign a value that indicates level of living to each individual, or at least to each household, in a population in order to know the level of inequality in living standards of the population, or the proportion living in poverty.

The NSS concept of MPCE, therefore, is defined first at the household level (household monthly consumer expenditure ÷ household size). This measure serves as the indicator of the household's level of living.

Next, each individual's MPCE is defined as the MPCE of the household to which the person (man, woman or child) belongs. This assigns to each person a number representing his or her level of living. The distribution of persons by their MPCE (i.e., their household MPCE) can then be built up, giving a picture of the population classified by economic level.

#### **CONSUMPTION FROM PDS**

For four consumption goods – rice, wheat, sugar and kerosene consumption from "PDS purchase" and consumption from "other sources" were recorded against separate items in the schedule. Here PDS stands for Public Distribution System, which means the distribution of some essential commodities by the government at subsidized rates through ration shops, fair price shops and control shops. These shops may be owned by the government, local government, a government undertaking, the proprietor of a firm, co-operatives or private persons (individually or jointly) or other bodies like club, trust, etc. The following procedure was followed while classifying a purchase as "PDS" or otherwise.

"Super Bazaars" and co-operative stores were not generally included under Public Distribution System. However, when these also sold rationed commodities at controlled prices against ration cards, they were taken as ration shops for particular commodities.

For kerosene, "PDS" also included kerosene depots selling kerosene at controlled prices.

Distribution of some controlled price commodities such as kerosene may in some areas be made without a system of presentation of ration card. Except in such situations, a purchase which was not made against a ration card was not considered as a PDS purchase.

A purchase was considered as "PDS" irrespective of whether the household had used its own ration card or that of some other household.

Purchase from PDS shops at prices higher than the PDS prices was also considered as purchase from PDS as long as the price paid was perceptibly lower than the market price.

#### **OTHER CONCEPTS AND DEFINITIONS**

#### HOUSEHOLD

A group of person normally living together and taking food from a common kitchen constitutes a household. The word "normally" means that temporary visitors are excluded but temporary stay-away are included. Thus, a son or daughter residing in a hostel for studies is excluded from the household of his/her parents, but a resident employee or resident domestic servant or paying guest (but not just a tenant in the house) is included in the employer/host's household. "Living together" is usually given more importance than "sharing food from a common kitchen" in drawing the boundaries of a household in case the two criteria are in conflict; however, in the special case of a person taking food with his family but sleeping elsewhere (say, in a shop or a different house) due to space shortage, the household formed by such a person's family members is taken to include that person also. Each inmate of a mess, hotel, boarding and lodging house, hostel, etc., is considered as a single-member household except that a family living in a hotel (say) is considered as one household only; the same applies to residential staff of such establishments. Under-trial prisoners in jails and indoor patients of hospitals, nursing homes, etc., are considered as members of the households to which they last belonged. Household size: The size of a household is the total number of persons in the household.

#### DECILES AND DECILE CLASSES OF MPCE

The first decile of the distribution of MPCE over the population of any region or domain is the level of MPCE below which 10% of the population lie, the second decile, the level below which 20% of the population lie, and so on. Thus the population can be divided into 10 "decile classes of MPCE" as follows: those with MPCE below the 1st decile of the MPCE distribution (the bottom 10% of the population ranked by MPCE), from the 1st decile to the 2nd decile (the next 10%), from the 2nd decile to the 3rd decile (the next 10%), and so on. Averages of other variables of interest, computed separately for the 10 decile classes, help to portray the variation of such variables with variation in MPCE. In line with usual NSS practice, decile classes of MPCE are formed separately for the rural and the urban sector.

#### UNIFORM REFERENCE PERIOD MPCE (or MPCEURP)

This is the measure of MPCE obtained by the NSS consumer expenditure survey (CES) when household consumer expenditure on each item is recorded for a reference period of "last 30 days" (preceding the date of survey).

#### MIXED REFERENCE PERIOD MPCE (or MPCEMRP)

This is the measure of MPCE obtained by the CES when household consumer expenditure on items of clothing and bedding, footwear, education, institutional medical care, and durable goods is recorded for a reference period of "last 365 days", and expenditure on all other items is recorded with a reference period of "last 30 days".

#### MODIFIED MIXED REFERENCE PERIOD MPCE (or MPCEMMRP)

This is the measure of MPCE obtained by the CES when household consumer expenditure on edible oil, egg, fish and meat, vegetables, fruits, spices, beverages, refreshments, processed food, pan, tobacco and intoxicants is recorded for a reference period of "last 7 days", and for all other items, the reference periods used are the same as in case of Mixed Reference Period MPCE (MPCEMRP). These, in fact, are the reference periods that were used in Schedule Type 2 of the 68th round, from which the tables of this report have been generated.

#### NOTES ON COVERAGE OF DIFFERENT CONSUMPTION ITEMS

#### **Other Rice Products:**

Foods which are obtained from rice by splitting, frying, powdering, or parching of the grain. Rice used for home preparation of sweets, etc., is shown against "rice" and not against this item.

#### **Other Wheat Products:**

Does not include wheat preparations like biscuits, cakes, etc., which are shown separately in "beverages, etc." Maize products: This includes cornflakes, popcorn, etc., made of maize. Barley products: This includes sattu prepared by frying and powdering of barley.

#### Cereals:

Note that household consumption of cereals does not include consumption of cereals by livestock belonging to the household. Such expenditure, being part of farm expenditure, is excluded from household consumer expenditure altogether. Note also that the estimate of cereal consumption does not include the cereal content of food that is received by the household from outside in the form of meals obtained free or by purchase, or as cereal preparations or snacks (e.g. in purchased burgers, samosas, etc). Such food is accounted in "beverages, refreshments and processed food". To the extent that such food forms part of the household's consumption, its cereal consumption is understated in the estimate of cereals provided.

#### Cereal Substitutes:

This item includes tapioca, when consumed as a substitute for cereals, as is common in some parts of the country. Jackfruit seed, mahua, etc., when consumed as substitute for cereals, will also be included here. Potato or sweet potato consumed as substitutes for cereals are, however, not shown here but included in "vegetables".

#### Gram Products:

This includes gram products such as sattu obtained by frying and powdering of gram (whole grain). Besan made out of gram is, however, a separate item (151). Other pulse products: Includes soyabean meal and soya flour.

#### Milk ; Liquid:

This covers milk as directly obtained from cow, buffalo, goat or any other livestock. Milk sold in bottle or poly pack, as well as readily drinkable flavored and bottled milk, is included. Milk transformed at home into curd, casein, ghee, butter, etc. for the purpose of household consumption is also included. Milk used in home preparation of sweetmeats, etc., is also accounted here. This category also includes those baby foods of which the principal constituent is milk. Further, milk (liquid) includes ice-cream of which the major component is milk.

#### Baby Food:

This covers only those baby foods of which the principal constituent is milk.

#### Ice-Cream:

This category covers only ice-cream of which the major component is milk. Ice with syrup but without milk sold under the name of ice-cream is not included.

#### Edible Oil:

Excludes edible oils used for toilet purpose by the household.

#### **Other Fresh Fruits:**

This includes sugarcane consumed like fruits.

#### Fruit Juice and Shake:

Excludes fruit juice obtained at home by crushing the fruit.

#### **Biscuits:**

This includes not only all kinds of biscuits but confectionery such as chocolate, toffee, lozenge, etc., and sugar substitutes like saccharine.

#### **Prepared Sweets:**

Excludes sweets prepared at home; consumption of such sweets is accounted against the ingredients.

#### Cooked Meals received as Assistance or Payment:

Meals received directly as full or partial payment in kind are included here, as well as (number and imputed value of) meals received free of charge from office or factory canteens. Further, (number and imputed value of)all meals received as assistance from Government, NGOs and charitable organizations, including meals received by schoolchildren as part of the Midday Meal scheme, are covered by this item.

#### Cooked Meals Purchased:

This refers to cooked meals purchased from the market (e.g., from hotels and restaurants), as well as from office and factory canteens on payment. Valuation is at the purchase price (subsidized or otherwise).

#### Pickles, Sauce, Jam, Jelly, etc.:

Excludes pickles, jam, etc. prepared at home; these are accounted against the ingredients (flour, sugar, vegetables, oil, etc.).

#### **Other Processed Food:**

Includes items like purchased snacks, food packets, chowmein (cooked), soup powder, etc.

#### Beverages, etc.:

This stands for "beverages, refreshments and processed food". It includes tea, coffee, mineral water, soft drinks, fruit juice (not prepared at home),soda water, other beverages such as cocoa, biscuits, cakes, pastries, pickles, sauce, jam, jelly, and other salted refreshments and sweets not prepared at home. Refreshments prepared at home are not included here. Instead, the ingredients of the refreshments (such as flour, sugar, milk, etc.) are accounted under "cereals", "sugar", etc. Food purchased in the form of cooked meals is also included in "processed food".

#### Ingredients for Pan:

Includes supari, lime, katha, etc., but excludes tobacco, zarda, surti,kimam, etc. even if consumed with pan, as these are accounted in the tobacco group.

#### Leaf Tobacco:

Includes all leaf tobacco consumed in any form, and also tobacco leaf burnt and powdered for brushing teeth.

#### Ganja:

Includes ganja consumed in the form of cigarettes.

#### **Country Liquor:**

Note that country liquor prepared at home from its ingredients and consumed is accounted against the ingredients.

#### Other Intoxicants:

Includes drugs used for intoxication but excludes drugs used for medicinal purposes.

#### Electricity:

Includes meter rent and surcharge for electricity. If electricity is generated at home using a diesel or petrol generator, consumption is not accounted against this item but against diesel or petrol.

#### Gobar Gas:

The value of gobar gas is imputed on the basis of value of inputs used for manufacturing gobar gas.

#### Clothing:

Excludes raincoats. Expenditure on tailor-made clothing excludes tailoring charges, which are shown against "tailor" under "consumer services". Imported ready-made garments, even if purchased second-hand, are shown as first-hand purchase. Livery supplied by the employer is taken into account in household consumption of clothing even if used during duty hours only.

#### **Bedding:**

Apart from bedding proper such as bed sheets, pillows and mosquito nets, this includes rugs, curtains, towels, mats, cloth for upholstery, etc.

#### Footwear:

This includes charges paid to a cobbler for getting a pair of shoes or other footwear made. It excludes the cost of straps purchased separately.

#### Books, Journals:

Apart from books purchased for educational purposes, these items include novels and other fiction.

#### Newspapers, Periodicals:

Excludes newspapers and periodicals purchased second-hand, which, along with second-hand books, etc., are accounted against item 401.

#### Photocopying Charges:

Excludes photocopying charges incurred for non-educational purposes, which are accounted in item 491: miscellaneous expenses.

#### Other Educational Expenses:

This includes expenditure on computer training, internet(exclusive of telephone charges); fees for music, dancing, swimming schools, etc; schools for typing, shorthand, etc; and training in physio-therapy, nursing, etc.

#### Education:

This includes expenditure on books and journals, newspapers, paper, pen, pencil, etc., magazines, novels and other fiction, tuition fees, expenses on training in computer, typing, shorthand, music, nursing, etc., and expenditure on Internet other than telephone charges. All compulsory payments collected by educational institutions at the time of admission or along with the regular fees are regarded as part of the expenditure for education and included in "education", even if termed "donations" by the institution collecting them. True donations to the school made voluntarily as charity are, however, excluded from consumer expenditure.

#### Medical Expenses:

This includes expenditure on medicine of different types and on medical goods; also, payments made to doctor, nurse, etc., as professional fees and those made to hospital, nursing home, etc. for medical treatment, and expenditure incurred for clinical tests, including X-rays, ECG, pathological tests, etc. Expenditure on all family planning devices is included.

#### Medical:

institutional and non-institutional expenditure: The distinction between institutional and non-institutional medical expenses lies in whether the expenses were incurred on medical treatment as an in-patient of a medical institution (institutional), or otherwise (non institutional).

Medical institution here covers private as well as Government institutions such as hospitals and nursing homes.

#### Other Washing Requisites:

This includes brushes, Scotch Brite and other utensil cleaners, steel wool, toilet cleaners, Phenol and other floor cleaners, etc.

#### Domestic Servant/ Cook:

This includes the value of both cash and kind payment. Imputed value of meals prepared in the home and consumed by a domestic servant/ cook is included here.

#### Attendant:

This item records expenditure incurred on persons engaged by the household to look after an ailing member, or a child, or an aged person in the household. It excludes payment for medical services rendered by a nurse, even if performed within the household; such payment is accounted against item 424: other medical expenses.

#### Miscellaneous Expenses:

This includes expenses such as application fees for employment, etc., subscriptions to societies and similar Organisations, e-mail charges, fax charges, photocopying charges (other than for education), cost of water purchased through tanker, porter, etc., but not insurance premium payments, which are not included in consumer expenditure.

#### Pet Animals:

Pet animals include cats, dogs, rabbits, monkeys, mongoose, birds, fish, etc., but not farm animals or poultry. Expenses include cost of feed, treatment expenses, etc.

#### Other Consumer Services Excluding Conveyance:

Includes services of driver, coachman, cleaner, cobbler, blacksmith, unskilled labourers, etc., commission paid to the broker for purchase or sale of second-hand car/scooter etc., reconnection charge for electric/telephone line, and all other consumer services excluding conveyance.

#### Other Conveyance Expenses:

Includes animal feed for animal-drawn carriage or vehicle. Does not include driver's or cleaner's salary, or garage rent.

#### Conveyance:

Excludes expenditure on journeys undertaken on official or business tours, but includes journeys to commute to and from place of work. The expenditure incurred on journeys undertaken under Leave Travel Concession, etc., even if reimbursed, is included. In case of owned conveyance, the cost of fuel (petrol, mobile oil, diesel, etc.) for power-driven transport and animal feed for animal-drawn carriage is considered.

#### House Rent, Rarage Rent (actual):

In case of quarters provided by the employer (including government accommodation), the portion of monthly emoluments forfeited on account of occupation of quarters is included in monthly house rent expenditure. Salami/pugree is not included in "rent".

#### Hotel Lodging Charges:

Excludes expenditure on hotel stay during business tours and official tours covered by travelling allowance paid by the employer.

#### Other Consumer Rent:

This item covers hiring charges for consumer goods like furniture, electric fans, crockery, utensils and charges for decoration on ceremonial occasions.

#### House Rent, Garage Rent (imputed):

For a household that resides in a house (or uses a garage) which it either owns or otherwise occupies without paying any rent, the value of this is imputed on the basis of prevailing rate of rent for similar houses in the locality or surrounding areas. This information is obtained for urban households only. "Imputed rent" is defined as zero for households which occupy hired accommodation. Estimate of per capita imputed rent (for non-hired accommodation) is, however, computed taking both non-zero and zero figures in the calculation. Note also that imputed rent is not included in the computation of household consumer expenditure and MPCE.

#### Water Charges:

This item covers water charges paid to the municipality or other local bodies. It does not include the cost of water purchased through tanker, etc.

#### Other Consumer Taxes and Cesses:

This category includes road cess, chowkidari tax, municipal rates, other taxes and cess paid by the household as a domestic consumer, and consumer license fees such as fees paid for possession of firearms, vehicles, etc. It does not include income tax or sales taxes.

#### **Durable Goods:**

Items included here all have a lifetime of one year or more. However, some petty durables such as spectacles, torches, locks, umbrellas, etc., are excluded. Note that glassware, earthenware and plastic goods such as buckets are excluded from durable goods and included in

"other household consumables". Consumption expenditure on durable goods includes both expenditure on purchase and expenditure on repair and construction of household durables. For land and residential building, only expenditure on repair and construction is included.

#### **SUMMARY OF FINDINGS**

#### The survey estimates presented in this report are of three kinds:

- 1) Estimates of Per Capita Consumption (quantity and value) of detailed items.
- 2) Estimates of proportions of households incurring consumer expenditure on different items during a 7-day, 30-day or 365 day period.
- 3) Estimates of proportions of households possessing specific durable goods on the date of survey. The present report makes use of detailed item classification adopted in the schedule of enquiry to study consumer expenditure patterns in detail. Estimates are presented separately for rural and urban areas of the state.

#### ESTIMATES OF QUANTITY AND ESTIMATES OF VALUE

For detailed items, estimates of consumption in quantity terms are available from the 68th Round survey for most of items of food, bedding ad fuel, but not for most durables and large number of minor "miscellaneous" articles of any kind (including educational and medical services). Estimates of value of consumption in rupees per person per month are, however, available for every kind of item, and have been presented for every item, for rural and urban sectors of Nagaland.

## ESTIMATES OF PROPORTION OF HOUSEHOLDS CONSUMING AN ITEM WITHIN A PERIOD

For each detailed item, estimates of the proportion (per 1000) of households in state that consumed the item during the reference period are given alongside the estimates of per capita consumption. The reference period was "last 365 days" for clothing, footwear, education, institutional medical care, and durables (categories of infrequently purchased items). The reference period was "last 7 days" for edible oil, vegetables, meat/fish/eggs, fruits, salt and spices, beverages, refreshments and processed foods, pan, tobacco and intoxicants. For the remaining items of food and non-food, including cereals, pulses, milk and milk products, sugar, fuel, education, medical care, transport, all consumer service, and rent, the reference period was: last 30 days" these estimates provide an alternative way of studying patterns of consumption by indicating the spread of consumption of an item among the population, or the shrinking of the segment of population consuming the item.

The estimates of the items whose consumption was reported by very few sample households, though presented for the sake of completeness, should obviously be used with more caution than estimates reported by substantial number of households.

SN	ltom	MPCE (Rs.)				
511	Item	RURAL	URBAN	ALL		
1	Cereal and Cereal Substitutes	238.32	233.50	236.50		
2	Pulses and their Products*	19.18	22.15	20.30		
3	Milk & Milk Products	123.27	122.44	122.96		
4	Sugar, Salt and Spices	45.22	46.82	45.82		
5	Edible oil	27.81	35.07	30.56		
6	Egg, Fish & Meat	307.12	299.73	304.32		
7	Vegetables	129.97	129.03	129.62		
8	Fruits & Nuts	40.82	52.72	45.32		
9	Beverages, Refreshments & Processed Food	111.43	144.04	123.77		
10	Food Total	1043.14	1085.50	1059.17		
11	Pan, Tobacco & Intoxicants	42.97	62.20	50.24		
12	Fuel and Light	144.19	157.39	149.18		
13	Clothing, Bedding & Footwear	212.70	254.12			
14	Education	113.44	162.49	36.93		
15	Medical	34.19	41.42	132.00		
16	Entertainment & Misc. Goods	133.35		159.48		
17	Consumer Services	72.87	118.15	90.00		
18	Conveyance	92.91	141.10	111.14		
19	Rent	10.55	101.02	44.78		
20	Taxes & Cesses	1.70	15.71	7.00		
21	Durable Goods	60.74	111.78	80.05		
22	Non Food Total	919.61	1367.74	1089.17		
23	All items	1962.75	2453.22	2148.33		
	*includes gram					

## Table 1Absolute Break-up of MPCE<sub>MRP</sub> by item group in 2011-12:Rural, Urban & All, Nagaland

Table 1 gives the absolute break-up of MPCEMMRP 2011-12 into 9 broad groups of food items and 10 broad groups of non-food items. In both rural and urban areas, major share of MPCE- food was on Egg, Fish & meat with expenditure of Rs.307.12 and Rs.299.73 respectively. MPCE on non-food item was registered highest on clothing, bedding and footwear with expenditure of Rs. 212.70 and Rs. 254.12 in rural and urban areas respectively.

Table 2
Pattern of Monthly Per Capita Expenditure on Food and Non-Food items: Nagaland, 2011-2012

	RURAL				URBAN		All		
MPCE	Food	Non food	All	Food	Non food	All	Food	Non food	All
	1043.14	919.61	1962.75	1085.50	1367.74	2453.22	1059.17	1089.17	2148.33
% to total MPCE	53.15	46.85	100.00	44.25	55.75	100.00	49.37	50.77	100.00

Table 2 clearly indicates that the households 'consumption pattern in rural and urban Nagaland is different. In rural sector, 53.15 % of Monthly Per Capita Expenditure is on food item while in urban sector 55.75 % of Monthly Per Capita Expenditure is on non food item. In Nagaland as a whole, MPCE on non-food item was higher share of 50.77 % from the total expenditure.

#### CEREALS

	Per C	Capita Quantity C	Percentage of hhs				
CEREAL	Quanti	ity (kg)	Value	(Rs.)	Consuming in 30 Days Period		
	RURAL	URBAN	RURAL	URBAN	RURAL	URBAN	
Rice: PDS#	0.77	0.24	9.47	3.32	14.20	2.9	
Rice other sources	9.44	9.52	217.26	217.86	97.8	98.8	
Rice : all sources	10.21	9.76	226.73	221.18			
Wheat	0.02	0.06	0.50	1.35	5.8	12.80	
Maize & its products	0.19	0.07	4.00	1.39	11.1	2.80	
Maida	0.01	0.04	0.36	0.98	4.2	10.50	
Other cereals	0.04	0.05	1.53	1.93	8.0	8.5	
All cereals*	10.47	9.99	233.12	226.83	100	100	

Table 3Monthly Per Capita Consumption of selected major Cereals in 2011-12: Rural & Urban

*# excludes rice products \*includes all cereals, its products* 

Table 3 represents MPCE in both quantity and value terms in rural and urban areas of Nagaland. It can be observed from the table that around 98% of the rural and urban sample households reported consumption of rice in 2011-2012. MPCE of Rice-PDS was higher in rural area (Rs.9.47) with 14.20% of sample households reporting consumption of the same. Expenditure on rice occupied about 22 % of MPCE-food in rural areas and about 21 % of MPCE-food in urban areas during2011-12.

	Per	Capita Quantity C	Percentage of hhs				
PULSES	Quanti	ty (gm)	Value	(Rs.)	Consuming in 30 Days Period		
	RURAL	URBAN	RURAL	URBAN	RURAL	URBAN	
Gram	7	6	0.28	0.29	1.9	2.2	
Besan	3	7	0.10	0.28	1.4	3.3	
Peas	14	22	0.45	1.06	4.1	.4	
Moong	28	59	1.81	3.79	9.0	17.6	
Masur	192	207	12.43	12.21	58.1	64.4	
Other Pulses	75	46	2.25	1.33	14.5	10.1	
All Pulses & Pulses Products#	353	422	19.18	22.15	85.2	90.0	

Table 4Monthly Per Capita Consumption of selected major Pulses in 2011-12: Rural & Urban

# includes all the pulses and its products not included in the table

It can be drawn from Table 4 that Masur is the largest consumed cereal in rural as well as urban areas of Nagaland. Monthly Per Capita quantity consumption was 353 gm and 422 gm in rural and urban areas respectively. In Value terms, MPCE was Rs. 19.18 in rural and 22.15 in urban Nagaland. Consumption of Pulses and its products was reported by 85.2 % of rural and 90.0 % of urban sample households.

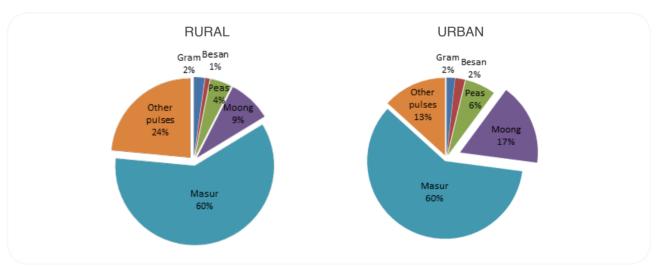


Figure 1 Pattern of Pulse consumption (quantity), Rural and Urban, Nagaland

Figure 1 shows the constitution of pulse consumption in quantity terms. Masur contributed for 60% of pulse consumption in both rural and urban Nagaland, followed by other pulses which accounted for 24% in rural areas and Moong 17% in urban areas.

EDIBLE OILS	P	er capita consi	Percentage of hhs Consuming in 30 Days Period			
	Quantity	' (gm)	Value	(Rs.)		so Days Period
	RURAL	URBAN	RURAL	URBAN	RURAL	URBAN
Mustard oil	263	264	25.37	26.18	67.8	64.8
Refined oil	15	66	1.31	7.07	4.0	16.5
Sub-total #	295	348	26.68	33.25	73.1	80.3

Table 5Monthly Per Capita Consumption of selected Edible Oil in 2011-12: Rural & Urban

#### # includes all edible oil

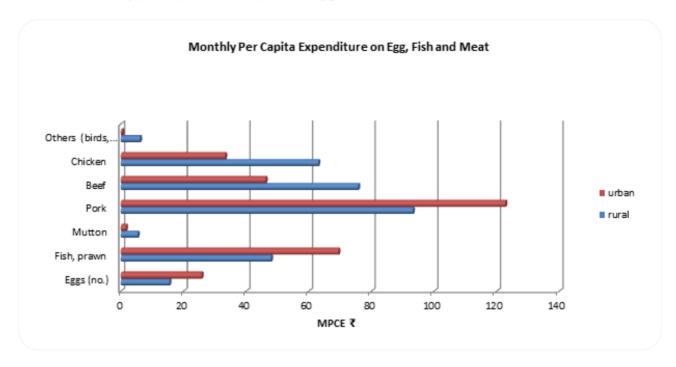
Table 5 shows the quantity and value of consumption of commonly consumed edible oil in both rural and urban areas, 2011-12. In rural areas, Monthly per capita expenditure on oil was estimated as `26.68 while it was `33.25 in the urban areas. Mustard oil had the highest share with Monthly Per capita (quantity) consumption 263 gm and 264 gm in rural and urban areas respectively. 80.3% of urban households and 73.1 % of rural households reported consumption of edible oil in Nagaland, 2011-2012.

	Per C	apita Quantity C	Percentage of Households				
ITEMS	Quantity	r (gm/no)	Value	(Rs.)	Consuming in 7 days Period		
	RURAL	URBAN	RURAL	URBAN	RURAL	URBAN	
Eggs (no.)	4.020	6.022	15.53	25.80	32.7	48.9	
Fish, prawn	453	623	47.96	69.46	38.0	53.1	
Mutton	46	10	5.39	1.63	2.8	.8	
Pork	670	859	93.26	122.76	42.3	55.1	
Beef	714	426	75.80	46.24	41.5	27.3	
Chicken	477	250	63.04	33.34	25.9	16.1	
Others (birds, crabs, etc)	47	3	6.15	0.51	3.4	1.0	
Sub-Total	-	-	307.13	299.73	98.7	97.6	

Table 6Monthly Per Capita Consumption of Eggs, Fish, and Meat in 2011-12: Rural and Urban

Milk, egg, fish and meat are the four main sources of animal-protein-rich foods available to the Naga population. About 98 % of total households in Nagaland reported consumption of egg, fish, and meat. In quantity terms, beef was the highest consumed meat in rural areas with 714 gm monthly per capita consumption whereas, in urban areas, it was pork with Monthly per capita (quantity) consumption of 859 gm in 2011-12. In value terms, it was `75.80 and `46.24 respectively. Monthly Per capita consumption of Milk, egg, fish and meat added to `307.13 in rural areas and `299.73 in urban areas.

Figure 2 Monthly per capita consumption of Eggs, Fish and Meat: Rural & Urban: 2011-12



Consumption of Eggs, fish and meat commanded a share of 28 % and 29 % of Monthly per capita consumption expenditure of food items in rural and urban areas respectively. As shown in figure 2, Monthly per capita consumption of chicken, beef, others (crab, bird, etc) and mutton were higher in rural areas while consumption of Pork, eggs and fish were higher in the urban areas. Monthly per capita expenditure of pork was `93.26 (` 21.74 per week) in rural areas while it was ` 122.76 (` 28.62 per week) in urban Nagaland.

#### VEGETABLES

In view of the great diversity of vegetables consumed all over the country, the vegetables group was assigned a total of 17 items in the schedule of enquiry including the residual "other vegetables" item. Table 7 shows per capita consumption of vegetables in quantity and value of terms, as well as percentages of households reporting consumption during a period of 7 days for rural and urban Nagaland during 2011-12.

	Per (	Capita Quanti	Percentage of Households Consuming in				
VEGETABLES	Quant	ity (kg)	Va	Value (Rs.)		7 Days Period	
	RURAL	URBAN	RURAL	URBAN	RURAL	URBAN	
Potato	1.269	1.673	22.45	30.51	89.9	96.9	
Onion	0.253	0.304	8.84	10.65	65.7	68.5	
Tomato	0.753	0.913	24.81	27.69	93.6	95.6	
Brinjal	0.164	0.165	3.38	3.48	15.3	17.2	
Carrot	0.032	0.021	0.70	0.62	3.1	2.6	
Palak/ other leafy vegetables	1.248	0.982	17.94	17.19	57.6	52.4	
Green chilies	0.423	0.344	17.87	14.65	88.7	82.8	
Lady's finger	0.021	0.042	0.60	1.06	3.1	6.7	
Cauliflower	0.110	0.077	1.86	1.57	8.1	6.4	
Cabbage	0.249	0.301	4.81	5.01	19.9	23.8	
Gourd, pumpkin	0.163	0.061	2.29	1.00	10.3	5.1	
Peas	0.014	0.008	0.39	0.27	2.1	1.4	
Beans/barbate	0.077	0.046	1.66	1.21	6.5	4.8	
Lemon (no.)	0.059	0.111	0.19	0.35	1.3	2.2	
Other vegetables	1.435	0.623	22.07	12.91	53.0	32.8	
Sub-total*	-	-	129.97	129.03	100.0	100.0	

Table 7Monthly Per Capita Consumption of Selected Vegetables in 2011-12: Rural and Urban

\* Sub-total incl. all vegetables not listed in the table

In both rural and urban areas, consumption of vegetables was reported by cent percent of the households in 7 days period. Potato had the highest share of consumption with Monthly per capita quantity consumption of 1.269 kg and 1.673 kg in rural and urban areas respectively. In value terms, Monthly per capita expenditure on potato was ` 22.45 (`5.23 per week) in rural areas and `30.51 (` 7.12 per week) in urban areas during 2011-12. Vegetables occupied 12 % share of the total Monthly per Capita Consumption on food items.

#### **FRUITS AND NUTS**

The schedule of enquiry listed 18 fresh fruits and including "other fruits" and 8 dry fruits and nuts. Table 8 shows MPCE of 8 selected fruits in both quantity and value terms.

FRUITS		er Capita Quantit <u>y</u> ity (gm/no)	/ Consumed in 3 <i>Value</i>	0 Days ( <i>Rs.)</i>	Percentage of Households Consuming in 30 days Period				
	Rural	Rural Urban		Rural Urban		Urban			
Banana (no.)	5.404	4.293	11.13	10.14	33.7	31.1			
Coconut (no.)	.004	0.034	0.10	0.76	.4	3.2			
Orange/Mausambi (no.)	0.146	0.619	0.60	2.15	1.8	3.8			
Рарауа	149	106	2.12	1.82	8.1	5.7			
Mango	5	54	0.27	3.51	.6	5.8			
Apple	72	138	6.68	15.58	6.2	13.9			
Grapes	11	25	1.26	3.22	1.2	3.0			
Pineapple	196	47	2.19	0.88	7.6	2.3			
Sub-total*	-	-	40.82	52.72	-	-			

Table 8Monthly Per Capita Consumption of selected fruits in 2011-12: Rural and Urban

\*includes all fresh fruits and dry fruits

Monthly per capita expenditure of fruits was more in urban Nagaland than rural Nagaland by about 25 %. Fruits and nuts accounted for 4 % (`40.82) of total MPCE-food in rural areas and 5 % (`52.72) of total MPCE- food in urban Nagaland during 2011-12. Out of the total MPCE of fruits, the highest share of expenditure incurred on banana in rural areas with estimated per capita expenditure of `11.13 while in urban Nagaland, the highest share of expenditure was on apple with estimated per capita expenditure of `15.58.

#### **BEVERAGES AND PROCESSED FOOD**

The schedule of inquiry listed o kinds of beverages including mineral water, with "tea" and "coffee" further divided into " tea: cups" and "tea: leaf", and coffee: "cups" and "coffee: powder" respectively. The schedule listed 12 kinds of processed food. It was divided into two categories: those served in restaurants, dhabas, snack bars etc. and those which are usually taken home and consumed. Taken together, this group accounted for 10.7 % (` 111.43) of MPCE-food in rural areas and 13.3 % (` 144.04) of MPCE-food in urban Nagaland during 2011-12.

	Per Ca	pita Quantity C	Percentage of hhs Consuming in 7 Days Period			
BEVERAGE/PROCESSED FOOD	Quantity (no/gm)				Value (Rs.)	
	Rural	Urban	Rural	Urban	Rural	Urban
Tea: Cups <i>(no)</i>	0.505	0.913	1.98	4.29	3.6	9.3
Tea: Leaf <i>(gm)</i>	226.317	208.189	36.71	35.00	98.4	86.5
Fruit Juice/Shake	0.031	0.118	1.93	10.47	3.3	10.2
Biscuits, Choclates	-	-	49.26	54.63	70.1	66.3
Chips	1.761	4.759	0.24	0.86	2.0	2.0
Cooked Snacks Purchased	-	-	4.80	16.01	10.0	18.0

 Table 9

 Monthly Per Capita Consumption of selected beverages and processed food in 2011-12: Rural and Urban

\*incl. all beverages, refreshment & processed food

Monthly per capita expenditure on tea (cups+leaf) was higher in urban areas than rural areas with per person monthly consumption of `39.29 and ` 38.69 respectively. In rural sector 98.4 % of households reported consumption of tea (leaf) while in the urban sector, only 86.5 % of households reported consumption of the same. In both sectors, biscuits and chocolates contributed a major share of value of consumption of beverages and processed food with about 44 % in rural areas and 38 % in urban areas. In value terms expenditure in biscuits and chocolates was higher in urban sector (`54.63), than rural (`49.26) sector during 2011-12 in Nagaland.

#### **ENERGY (Excluding Vehicular Fuel)**

Per Ca	pita Quantity Co	Percentage of hhs Consuming in 30 Days Period				
Quantity				Value (Rs.)		
Rural	Urban	Rural	Urban	Rural	Urban	
25.348	11.586	77.80	33.82	85.6	47.9	
7.717	11.951	24.94	39.60	99.2	100.0	
0.070	0.024	1.29	0.50	17.4	2.6	
0.082	0.048	2.66	1.46	26.4	12.6	
0.890	2.329	28.74	73.80	37.1	83.7	
1.668	1.448	6.43	5.38	76.9	64.0	
1.329	1.062	1.69	1.35	93.7	89.4	
		144.19	157.39	100.0	100.0	
	Qua Rural 25.348 7.717 0.070 0.082 0.890 1.668	Quartity           Rural         Urban           25.348         11.586           7.717         11.951           0.070         0.024           0.082         0.048           0.890         2.329           1.668         1.448	Per Capita Quantity Consumed in 30 I           Quantity         Value           Quantity         Value           Rural         Urban         Rural           25.348         11.586         77.80           7.717         11.951         24.94           0.070         0.024         1.29           0.082         0.048         2.66           0.890         2.329         28.74           1.668         1.448         6.43           1.329         1.062         1.69	Per Capita Quantity Consumed in 30 Days           Quantity Consumed in 30 Days           Quantity         Value (Rs.)           Rural         Urban         Rural         Urban           25.348         11.586         77.80         33.82           7.717         11.951         24.94         39.60           0.070         0.024         1.29         0.50           0.082         0.048         2.66         1.46           0.890         2.329         28.74         73.80           1.668         1.448         6.43         5.38           1.329         1.062         1.69         1.35	Per Capita Quantity Consumed in 30 Days         Percenta Consuming in Consumate consume in Consuming in Consuming in Consuming in C	

Table 10Monthly Per Capita consumption of selected energy items, Nagaland: 2011-12

Table 10 represents estimates of consumption of energy used for heating, lighting and household

appliances. In rural sector, the value of monthly per capita consumption of firewood and chips was estimated at ` 77.80 with quantity per capita consumption of 25.348 kg. It made up about 54% of fuel expenditure in the average rural household. Consumption of the same was reported by 85.6 % of the rural population in Nagaland while only 47.9 % of the population reported its consumption. In urban Nagaland, the primary source of cooking was LPG with 83.7% of its population reporting its consumption. In value and quantity terms, Monthly per capita consumption was ` 73.80 and 2.329 kg respectively. However, in rural areas, its consumption was reported by only 37.1 % of the population.

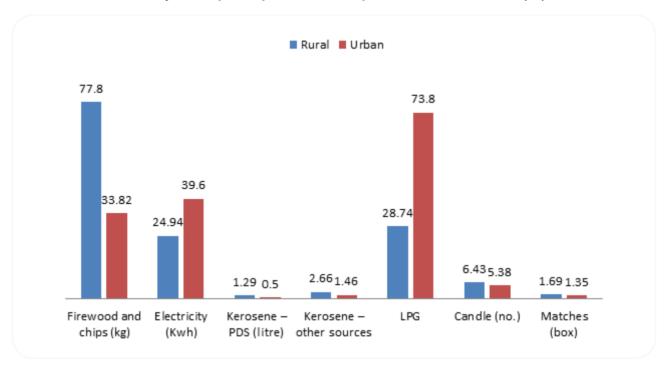


Figure 3 Monthly Per Capita Expenditure on Important Household Fuels (₹)

Figure 3 depicts Monthly per capita value of consumption of important household fuels in rural and urban Nagaland. It can be seen from figure 3 that Monthly per capita expenditure on firewood and chips, kerosene: PDS and other sources, candle and matches (box) were higher in the rural areas while expenditure on electricity and LPG was higher in urban areas than rural areas. Electricity made up about 25 % of fuel expenditure of the average urban household consumption and 17 % of rural households. Consumption of kerosene both PDS and other sources was higher in rural sector by ` 0.080.

#### **CLOTHING AND BEDDING**

The clothing expenditure of a household during 365- day period is usually spread over a large number of items and a number of months; the value of purchase is frequently small and difficult to recall. In an effort to minimize recall lapses, as many as 25 clothing items were provided in the schedule of enquiry.

	Per ca	apita quantity	Percentage of hhs Consuming in 30 Days Period			
ITEM	Quantity				Value (Rs.)	
	Rural	Urban	Rural	Urban	Rural	Urban
Coat , jacket, sweater etc	0.015	0.026	6.67	13.96	26.5	44.0
Shawl, chaddar	0.013	0.011	5.29	4.69	41.1	31.1
Shirts and T-shirts	0.069	0.076	13.02	16.43	87.5	83.6
School/college uniform: Boys	99999	99999	13.56	14.60	54.7	56.9
School/college uniform: Girls	99999	99999	11.20	12.38	46.8	50.4
Trousers, shorts, Bermudas	0.025	0.027	6.64	10.13	37.7	45.1
Frocks. Skirts, etc	0.021	0.020	7.14	7.96	44.1	32.2
Other casual wears	99999	99999	18.23	21.56	55.5	50.8
Clothing: others	99999	99999	24.65	25.34	51.6	50.0
Clothing: second-hand	99999	99999	21.19	24.98	83.5	64.3
Clothing total	-	-	147.33	180.52	100.0	100.0

Table 11Monthly Per Capita of consumption of selected clothing Nagaland: 2011-12

Table 11 shows pattern of expenditure on clothing items in rural and urban Nagaland during 2011-12. In both rural and urban sectors, expenditure on clothing constituted about 7 % of the total Monthly per capita expenditure. Expenditure on uniforms: boys & girls made up about 17 % and 15 % of total expenditure on clothing in rural and urban areas respectively. Expenditure on second-hand clothing was reported by 83.5 % of rural and 64.3 % of urban households. Average household monthly per capita expenditure on clothing was about 20 % higher in urban areas than rural areas in Nagaland during 2011-12.

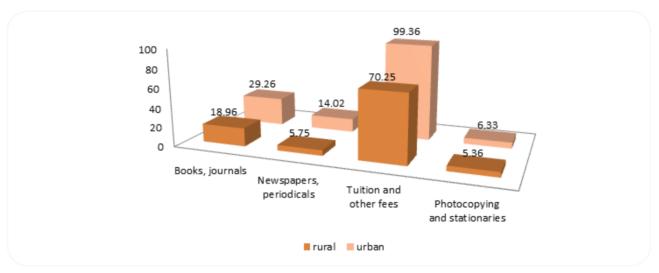
#### **EDUCATION**

Expenditure on education includes expenditure on newspapers, stationary and books of all kinds apart from school and college educational expenses. Table 10 and figure 4 shows pattern of educational expenditure in rural and urban Nagaland during 2011-12.

Table 12Monthly Per Capita of consumption on Educational items, Nagaland: 2011-12

ITEM		lue Consumed Days	Percentage of hhs Consuming in 30 Days Period		
	Rural	Urban	Rural	Urban	
Books, journals	18.96	29.26	55.7	68.7	
Newspapers, periodicals	5.75	14.02	28.9	59.0	
Tuition and other fees	70.25	99.36	58.5	64.8	
Photocopying and stationaries	5.36	6.33	40.6	48.2	
Education: total	113.44	162.49	82.0	90.7	

Figure 4 Monthly Per Capita Expenditure on Education



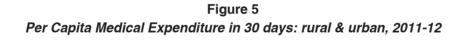
Monthly per capita expenditure on education was `113.44 in rural areas and `162.49 in urban areas of Nagaland during 2011-12. It can be seen that expenditure on all items of education was higher in urban than rural sector. Expenses on education were about 36 % higher in urban areas than rural areas. Monthly per capita expenditure on education was about 6 % of total MPCE in rural areas and 7 % of total MPCE in urban areas. In both rural and urban sectors, tuition and other fees were the highest component in educational expenditure with about 61 % in both sectors. In rural sector, 82 % of rural households reported expenditure on education in 365 days while in urban sector 90 % of households reported expenditure on education during 2011-12.

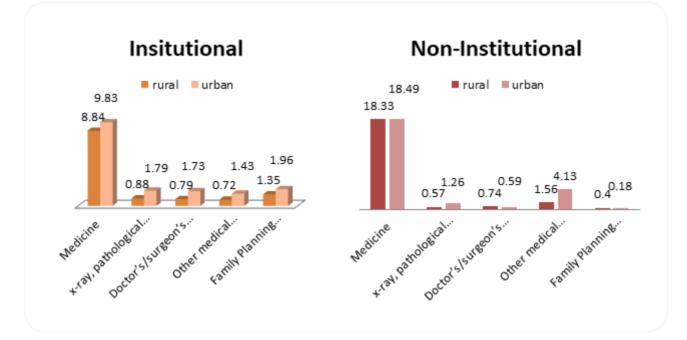
#### **MEDICAL CARE**

In the schedule of enquiry, medical expenditure was captured under two heads: institutional (incurred as in- patient of medical institution) and non-institutional. Data were collected with reference period of 365 days for the institutional component and 30 days for non-institutional.

-		-					
	Institu	itional		Non- Institutional			
Expendit	ure (Rs.)	(Rs.) Consuming in		Per Capita Expenditure (Rs.) in 30 Days		Percentage of hhs Consuming in 30 Days Period	
Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
8.84	9.83	37.8	32.2	18.33	18.49	59.7	55.1
0.88	1.79	9.5	10.5	0.57	1.26	.6	1.6
0.79	1.73	16.3	17.7	0.74	0.59	3.7	1.5
0.72	1.43	15.7	12.1	1.56	4.13	5.0	10.6
1.35	1.96	6.2	8.4	0.40	0.18	.9	.5
12.58	16.74	38.7	32.9	21.60	24.65	61.0	59.9
	Expendit in 30 Rural 8.84 0.88 0.79 0.72 1.35	Per Capita           Expenditure (Rs.)           in 30 Days           Rural         Urban           8.84         9.83           0.88         1.79           0.79         1.73           0.72         1.43           1.35         1.96	Expenditure (Rs.) in 30 Days         Consul 365 Day           Rural         Urban         Rural           8.84         9.83         37.8           0.88         1.79         9.5           0.79         1.73         16.3           0.72         1.43         15.7           1.35         1.96         6.2	Per Capita Expenditure (Rs.) in 30 Days         Percentage of hhs Consuming in 365 Days Period.           Rural         Urban         Rural         Urban           8.84         9.83         37.8         32.2           0.88         1.79         9.5         10.5           0.79         1.73         16.3         17.7           0.72         1.43         15.7         12.1           1.35         1.96         6.2         8.4	Per Capita Expenditure (Rs.) in 30 Days         Percentage of hhs Consuming in 365 Days Period.         Per C Expendit in 30           Rural         Urban         Rural         Urban         Rural           8.84         9.83         37.8         32.2         18.33           0.88         1.79         9.5         10.5         0.57           0.79         1.73         16.3         17.7         0.74           0.72         1.43         15.7         12.1         1.56           1.35         1.96         6.2         8.4         0.40	Per Capita Expenditure (Rs.) in 30 DaysPercentage of hhs Consuming in 365 Days Period.Per Capita Expenditure (Rs.) in 30 DaysRuralUrbanRuralUrbanRuralUrban8.849.8337.832.218.3318.490.881.799.510.50.571.260.791.7316.317.70.740.590.721.4315.712.11.564.131.351.966.28.40.400.18	Per Capita Expenditure (Rs.) in 30 DaysPercentage of hhs Consuming in 365 Days Period.Per Capita Expenditure (Rs.) in 30 DaysPercentage Consuming Consuming in 30 DaysRuralUrbanRuralUrbanRuralUrbanRural8.849.8337.832.218.3318.4959.70.881.799.510.50.571.26.60.791.7316.317.70.740.593.70.721.4315.712.11.564.135.01.351.966.28.40.400.18.9

Table 13Monthly Per Capita of Consumption on Medical Care, Nagaland: 2011 - 12





Expenditure on institutional medical care was reported by 38.7 % of rural and 32.9 % of urban sample households during last 365 days. Expenditure on non-institutional medical care was reported by 61.0 % and 59.9 % of rural and urban households respectively. Medical expenditure on institutional and non institutional was higher in urban sector by about 31 % and 13 % respectively. Expenditure on medicines constituted the highest component on medical expenditure (institutional & non-institutional) in both the sectors.

# **DURABLE GOODS**

Table 14 represents number of sample households possessing some specific durable goods during last 365 days.

ITEM	Percentage of Sample Households Reporting Possession During Last 365 Days		
	Rural	Urban	
Bedstead	91.9	95.9	
Almirah Dressing Table	83.3	92.6	
Chair, Bench, Table etc.	90.0	92.9	
Radio, 2-in-1	51.6	47.3	
Television	72.2	91.5	
VCR/VCP/DVD Player	30.6	38.7	
Camera & Photo Equipment	24.9	41.2	
Audio/Video Disc/Cassette	29.0	46.4	
Electric Fan	18.3	35.1	
Air Conditioner, Cooler	8.0	12.7	
Sewing Machine	27.3	44.5	
Washing Machine	16.8	31.1	
Refrigerator	28.1	47.3	
Water Purifier	56.6	71.6	
Bicycle	11.4	15.9	
Motor Cycle Scooter	9.6	13.2	
Motor Car Jeep	13.5	20.9	
PC/Laptop incl. Software	14.9	26.4	
Mobile Phone Handset	85.8	97.3	

Table 14
Percentage of Sample Households Reporting Possession: Rural & Urban, 2011-12

It can be seen from Table 14 that possession of durable goods was higher in urban areas than the rural areas except Radio, where 51.6% of households reported its possession against 47.3% households in the urban areas. Television was possessed by 72.2% of rural households and 91.5% of urban households. Mobile phone handsets were possessed by 85.8% of rural households and 97.3% of urban households.

# SAMPLE DESIGN AND ESTIMATION PROCEDURE

# **1 INTRODUCTION**

**1.1** The National Sample Survey *(NSS)*, set up by the Government of India in 1950 to collect socio-economic data employing scientific sampling methods, started its sixty-eighth round from 1<sup>st</sup> July 2011. The survey will continue up to 30<sup>th</sup> June 2012.

# 1.2 Subject Coverage:

The 68<sup>th</sup> round *(July 2011-June 2012)* of NSS is earmarked for surveys on 'Household Consumer Expenditure' and 'Employment and Unemployment'. The last survey on these subjects was conducted in 66th round of NSS *(2009-10)* which was the eighth quinquennial survey in the series on 'Household consumer expenditure' and 'Employment and Unemployment'. Current survey is similar to a quinquennial survey as far as subjects of enquiry, design, questionnaires and sample sizes are concerned.

# 2 OUTLINE OF SURVEY PROGRAMME

# 2.1 Geographical Coverage:

The survey covers the whole of the Indian Union except *(i)* interior villages of Nagaland situated beyond five kilometres of the bus route and *(ii)* villages in Andaman and Nicobar Islands which remain inaccessible throughout the year.

# 2.2 Period of Survey and Work Programme:

The period of survey is of one year duration starting on 1<sup>st</sup> July 2011 and ending on 30<sup>th</sup> June 2012. The survey period of this round is divided into four sub-rounds of three months' duration each as follows:

Sub-Round 1	July - September 2011
Sub-Round 2	October - December 2011
Sub-Round 3	January - March 2012
Sub-Round 4	April - June 2012

In each of these four sub-rounds equal number of sample villages/blocks *(FSUs)* allotted for survey with a view to ensuring uniform spread of sample FSUs over the

entire survey period. Attempt will be made to survey each of the FSUs during the subround to which it is allotted. Because of the arduous field conditions, this restriction need not be strictly enforced in Andaman and Nicobar Islands, Lakshadweep and rural areas of Arunachal Pradesh and Nagaland.

# 2.3 Schedules of Enquiry:

During this round, the following schedules of enquiry are being canvassed:

Schedule 0.0	List of Households
Schedule 1.0	Consumer Expenditure
Schedule 10	Employment and Unemployment

Two types of Schedule 1.0 viz. Schedule Type 1 and Schedule Type 2 are being canvassed in this round. Schedule Type 1 and Type 2 are similar to those of NSS 66th round.

# 2.4 Participation of States:

In this round all the States and Union Territories except Andaman & Nicobar Islands, Chandigarh, Dadra & Nagar Haveli and Lakshadweep are participating. The following is the matching pattern of the participating States/ UTs.

Nagaland (U)	Triple
Andhra Pradesh, J&K, Manipur, Delhi	Double
Maharashtra (U) & Kerala	One and Half
Gujarat	Half
Remaining States/ UTs	Equal

# **3 SAMPLE DESIGN**

# 3.1 Outline of Sample Design:

A stratified multi-stage design has been adopted for the 68th round survey. The first stage units (FSU) are the 2001 census villages (Panchayat wards in case of Kerala) in the rural sector and Urban Frame Survey (UFS) blocks in the urban sector. The ultimate stage units (USU) are households in both the sectors. In case of large FSUs, one intermediate stage of sampling is the selection of two hamlet-groups (hgs)/ subblocks (sbs) from each rural/ urban FSU.

# 3.2 Sampling Frame for First Stage Units:

For the rural sector, the list of 2001 census villages (henceforth the term 'village' would include also Panchayat wards for Kerala) constitutes the sampling frame. For the urban sector, the list of UFS blocks (2007-12) is considered as the sampling frame.

## 3.3 Stratification:

Within each district of a State/ UT, generally speaking, two basic strata have been formed: i) rural stratum comprising of all rural areas of the district and (ii) urban stratum comprising of all the urban areas of the district. However, within the urban areas of a district, if there are one or more towns with population 10 lakhs or more as per population census 2001 in a district, each of them forms a separate basic stratum and the remaining urban areas of the district are considered as another basic stratum.

# 3.4 Sub-Stratification:

Rural Sector r: If 'r' be the sample size allocated for a rural stratum, the number of sub-strata formed would be 'r/4'. The villages within a district as per frame were first arranged in ascending order of population. Then sub-strata 1 to 'r/4' have been demarcated in such a way that each sub-stratum comprised a group of villages of the arranged frame and have more or less equal population.

Urban sector: If 'u' be the sample size for an urban stratum, 'u/4' number of sub-strata have been formed. In case u/4 is more than 1, implying formation of 2 or more substrata, this is done by first arranging the towns in ascending order of total number of households in the town as per UFS phase 2007-12 and then arranging the IV units of each town and blocks within each IV unit in ascending order of their numbers. From this arranged frame of UFS blocks of all the towns/million plus city of a stratum, 'u/4' number of sub- strata formed in such a way that each sub-stratum has more or less equal number of households as per UFS 2007-12.

# 3.5 Total Sample Size (FSUs):

12784 FSUs have been allocated for the central sample at all-India level and 14772 FSUs have been allocated for state sample. State-wise allocation of sample FSUs has been given in Appendix Table-1.

# 3.6 Allocation of Total Sample to States and UTs:

The total number of sample FSUs has allocated to the States and UTs in proportion to population as per census 2001 subject to a minimum sample allocation to each State/UT. While doing so, the resource availability in terms of number of field investigators has been kept in view.

# 3.7 Allocation of State/ UT level sample to rural and urban sectors:

State/ UT level sample size has been allocated between two sectors in proportion to population as per census 2001 with double weightage to urban sector. However, if such weighted allocation resulted in too high sample size for the urban sector, the allocation for bigger states like Maharashtra, Tamil Nadu, etc. was restricted to that of the rural sector. A minimum of 16 FSUs (minimum 8 each for rural and urban sector separately) is allocated to each state/ UT.

#### 3.8 Allocation to Strata/ sub-strata:

Within each sector of a State/ UT, the respective sample size has been allocated to the different strata/ sub-strata in proportion to the population as per census 2001. Allocations at stratum level are adjusted to multiples of 4 with a minimum sample size of 4. Allocation for each sub-stratum is 4. Equal number of samples has been allocated among the four sub-rounds.

#### 3.9 Selection of FSUs:

For the rural sector, from each stratum/sub-stratum, required number of sample villages has been selected by probability proportional to size with replacement (PPSWR), size being the population of the village as per Census 2001.

For the urban sector, UFS 2007-12 phase has been used for all towns and cities and FSUs have been selected from each stratum/sub-stratum by using Simple Random Sampling Without Replacement (SRSWOR).

Both rural and urban samples are to be drawn in the form of two independent subsamples and equal number of samples have been allocated among the four sub rounds.

# 3.10 Selection of Hamlet-groups/Sub-blocks - Important Steps

#### 3.10.1 Criterion for Hamlet-group/ Sub-block Formation:

After identification of the boundaries of the FSU, it is first determined whether listing is to be done in the whole sample FSU or not. In case the population of the selected FSU is found to be 1200 or more, it has to be divided into a suitable number (say, D) of 'hamlet-groups' in the rural sector and 'subblocks' in the urban sector by more or less equalising the population as stated below.

Approximate Present Population of the Sample FSU	No. of hg's/sb's to be Formed
Less than 1200 (No Hamlet-groups/Sub-blocks)	1
1200 to 1799	3
1800 to 2399	4
2400 to 2999	5
3000 to 3599	6
and so on	

For rural areas of Himachal Pradesh, Sikkim, Uttarakhand (except four districts Dehradun (P), Nainital (P), Hardwar and Udham Singh Nagar), Poonch, Rajouri, Udhampur, Doda, Leh (Ladakh), Kargil districts of Jammu and Kashmir and Idukki district of Kerala, the number of hamlet-groups are formed as follows:

Approximate Present Population of the Sample Village	No. of hg's to be Formed
less than 600 (No Hamlet-groups)	1
600 to 899	3
900 to 1199	4
1200 to 1499	5
and so on	

#### 3.10.2 Formation and selection of hamlet-groups/ sub-blocks:

In case hamlet-groups/ sub-blocks are formed in the sample FSU, the same is done by more or less equalizing population.

Two hamlet-groups (hg)/ sub-blocks (sb) are selected from a large FSU wherever hamlet-groups/ sub-blocks have been formed in the following manner – one hg/ sb with maximum percentage share of population is always selected and termed as hg/ sb 1; one more hg/ sb is selected from the remaining hg's/ sb's by simple random sampling (SRS) and termed as hg/ sb 2. Listing and selection of the households is done independently in the two selected hamlet-groups/ sub-blocks. The FSUs without hg/ sb formation are treated as sample hg/ sb number 1. It is to be noted that if more than one hg/ sb have same maximum percentage share of population, the one among them which is listed first in block 4.2 of schedule 0.0 is treated as hg/ sb 1.

#### 3.11 Formation of second stage strata and allocation of households

#### *3.12 Selection of households:*

- **3.11.1** Two cut-off points 'A' and 'B' (in Rs.) have been determined from NSS 66th round data for each NSS state-region for urban areas in such a way that top 10% of the population have MPCE more than 'B' and bottom 30% of the population have MPCE less than A.
- **3.11.2** For both Schedule 1.0 and Schedule 10, households listed in the selected FSU/ hamletgroup/ sub-block are stratified into three second stage strata (SSS). Composition of the SSS and number of households to be surveyed from different SSS for each of the three schedules of enquiry namely, Schedule 1.0 (Type 1), Schedule 1.0 (Type 2) and Schedule 10 are as follows:

	Composition of SSS	Number of Households to be Surveyed		
SSS i i i i i i i i i i i i i i i i i i	FSU without hg/sb Formation	FSU without hg/sb Formation	FSU with hg/sb Formation (for each hg/sb)	
	RURAL			
SSS 1	Relatively Affluent Households	2	1	
SSS 2	of the remaining, Households having Principal earning from Non-Agricultural Activity	4	2	
SSS 3	Other Households	2	1	
URBAN				
SSS 1	Households having MPCE of top 10% of Urban Population (MPCE > B)	2	1	
SSS 2	Households having MPCE of middle 60% of Urban Population (A $\leq$ MPCE $\leq$ B)	4	2	
SSS 3	Households having MPCE of bottom 30% of Urban Population (MPCE < A)	2	1	

From each SSS the sample households for each of the schedules are selected by SRSWOR. If a household is selected for more than one schedule, only one schedule is canvassed in that household in the priority order of Schedule 1.0 (Type 1), Schedule 1.0 (Type 2) and Schedule 10 and in that case the household would be replaced

for the other schedule. If a household is selected for Schedule 1.0 (Type 1) it is not selected for Schedule 1.0 (Type 2) or Schedule 10. Similarly, if a household is not selected for Schedule 1.0 (Type 1) but selected for Schedule 1.0 (Type 2) it is not selected for Schedule 10.

#### **4 ESTIMATION PROCEDURE**

#### 4.1 Notations:

- s = subscript for s-th stratum
- t = subscript for t-th sub-stratum
- m = subscript for sub-sample (m =1, 2)
- i = subscript for i-th FSU [village (Panchayat Ward)/Block)
- d = subscript for a Hamlet-group/Sub-block (d = 1, 2)
- j = subscript for j-th second stage stratum in an FSU/ hg/sb [j = 1, 2 or 3]
- k = subscript for k-th sample household under a particular second stage stratum within an FSU/ hg/sb
- D = total number of hg's/ sb's formed in the sample FSU
- D\* = 0 if **D = 1**

= (*D* -1) for FSUs with *D* > 1

- N = total number of FSUs in any urban sub-stratum
- Z = total size of a rural sub-stratum (= sum of sizes for all the FSUs of a sub-stratum)
- z = size of sample village used for selection.
- n = number of sample FSUs surveyed including 'zero cases' but excluding casualty for a particular sub-sample and sub-stratum.
- H = total number of households listed in a second-stage stratum of an FSU / hamletgroup or sub-block of sample FSU
- h = number of households surveyed in a second-stage stratum of an FSU / hamletgroup or sub-block of sample FSU

x,y = observed value of characteristics x,y under estimation

 $\hat{X}$  ,  $\hat{Y}$  = estimate of population total **X**, **Y** for the characteristics **x**, **y** 

#### Under the above symbols,

 $y_{stmidjk}$  = observed value of the characteristic y for the k-th household in the j-th second stage stratum of the d-th hg/ sb (d = 1, 2) of the i-th FSU belonging to the m-th sub-sample for the t-th sub-stratum of s-th stratum.

*However,* for ease of understanding, a few symbols have been suppressed in following paragraphs where they are obvious.

# 4.2 Formulae for Estimation of Aggregates for a particular sub-sample and stratum × sub-stratum:

#### 4.2.1 Schedule 0.0

#### 4.2.1.1 Rural:

*(i)* For estimating the number of households in a stratum × substratum possessing a characteristic:

$$\hat{Y} = \frac{Z}{n} \sum_{i=1}^{n} \frac{1}{z_i} \left[ y_{i1} + D_i^* \times y_{i2} \right]$$

where  $\mathcal{Y}_{i1}$ ,  $\mathcal{Y}_{i2}$  are the total number of households possessing the characteristic y in hg's 1 & 2 of the i-th FSU respectively.

*(ii)* For estimating the number of villages in a stratum × substratum possessing a characteristic:

$$\hat{Y} = \frac{Z}{n} \sum_{i=1}^{n} \frac{1}{z_i} y_i$$

where  $\mathcal{Y}^i$  is taken as 1 for sample villages possessing the characteristic and 0 otherwise.

#### 4.2.1.2 Urban:

*(i)* For estimating the number of households in a stratum × sub-stratum possessing a characteristic:

$$\hat{Y} = \frac{N}{n} \sum_{i=1}^{n} \left[ y_{i1} + D_i^* \times y_{i2} \right]$$

where  $y_{i1}$  and  $y_{i2}$  are the total number of households possessingthecharacteristicybelongingtosub-blocks1 and 2 respectively, of the i-th FSU.

4.2.2 Schedules 1.0 (Type 1) / 1.0 (Type 2) / 10:

#### 4.2.2.1 Rural:

*(i)* For *j*-th second stage stratum of a stratum × sub-stratum:

$$\hat{Y}_{j} = \frac{Z}{n_{j}} \sum_{i=1}^{n_{j}} \frac{1}{z_{i}} \left[ \frac{H_{i1j}}{h_{i1j}} \sum_{k=1}^{h_{i1j}} y_{i1jk} + D_{i}^{*} \times \frac{H_{i2j}}{h_{i2j}} \sum_{k=1}^{h_{i2j}} y_{i2jk} \right]$$

*(ii)* For all second-stage strata combined:

$$\hat{Y} = \sum_{j} \hat{Y}_{j}$$

(iii) Estimate for a stratum ( $\hat{Y}_s$ ) will be obtained by adding substratum level estimates  $\hat{Y}_{st}$ ).

#### 4.2.2.2 Urban:

*(i)* For j-th second stage stratum of a stratum × sub-stratum:

$$\hat{Y}_{j} = \frac{N}{n_{j}} \sum_{i=1}^{n_{j}} \left[ \frac{H_{i1j}}{h_{i1j}} \sum_{k=1}^{h_{i1j}} y_{i1jk} + D_{i}^{*} \times \frac{H_{i2j}}{h_{i2j}} \sum_{k=1}^{h_{i2j}} y_{i2jk} \right]$$

*(ii)* For all second-stage strata combined:

$$\hat{Y} = \sum_{j} \hat{Y}_{j}$$

(iii) Estimate for a stratum ( $\hat{Y}_s$ ) will be obtained by adding sub-stratum level estimates ( $\hat{Y}_{st}$ ).

#### 4.3 Overall Estimate for Aggregates:

Overall estimate for aggregates for a stratum ( $\hat{Y}_s$ ) based on two sub-samples is obtained as:

$$\hat{Y}_{s} = \frac{1}{2} \sum_{m=1}^{2} \hat{Y}_{sm}$$

## 4.4 Overall Estimate of Aggregates at State/UT/all-India level:

The overall estimate  $\hat{Y}$  at the State/UT/ all-India level is obtained by summing the stratum estimates  $\hat{Y}_{s}$  over all strata belonging to the State/UT/ all-India.

#### 4.5 Estimates of Ratios:

Let  $\hat{Y}$  and  $\hat{X}$  be the overall estimates of the aggregates Y and X for two characteristics y and x respectively at the State/ UT/ all-India level.

Then the combined ratio estimate

$$(\hat{R})$$
 of the ratio  $(R = \frac{Y}{X})$  will be obtained as  $\hat{R} = \frac{\hat{Y}}{\hat{X}}$ 

#### 4.6 Estimates of Error:

The estimated variances of the above estimates will be as follows:

# **4.6.1** For aggregate $\hat{Y}$ :

$$V\hat{a}r(\hat{Y}) = \sum_{s} V\hat{a}r(\hat{Y}_{s}) \text{ where } V\hat{a}r(\hat{Y}_{s}) \text{ is given by}$$
$$Va\hat{r}(\hat{Y}_{s}) = \sum_{t} \frac{1}{4} (\hat{Y}_{st1} - \hat{Y}_{st2})^{2}, \text{ where } \hat{Y}_{st1} \text{ and } \hat{Y}_{st2} \text{ are the estimates for}$$

sub-sample 1 and sub-sample 2 respectively for stratum 's' and sub-stratum 't'.

# **4.6.2** For ratio $\hat{R}$ :

$$M\hat{S}E(\hat{R}) = \frac{1}{4\hat{X}^2} \sum_{s} \sum_{t} \left[ \left( \hat{Y}_{st1} - \hat{Y}_{st2} \right)^2 + \hat{R}^2 \left( \hat{X}_{st1} - \hat{X}_{st2} \right)^2 - 2\hat{R} \left( \hat{Y}_{st1} - \hat{Y}_{st2} \right) \left( \hat{X}_{st1} - \hat{X}_{st2} \right) \right]$$

#### 4.6.3 Estimates of Relative Standard Error (RSE):

$$R\hat{S}E(\hat{Y}) = \frac{\sqrt{V\hat{a}r(\hat{Y})}}{\hat{Y}} \times 100$$
$$R\hat{S}E(\hat{R}) = \frac{\sqrt{M\hat{S}E(\hat{R})}}{\hat{R}} \times 100$$

#### 5. MULTIPLIERS:

The formulae for multipliers at stratum/sub-stratum/second-stage stratum level for a sub-sample and schedule type are given below:

sch Type	sector	FORMULA FOR MULTIPLIERS			
	000101	hg / sb 1	hg / sb 2		
0.0	RURAL	$\frac{Z_{st}}{n_{stm}} \times \frac{1}{z_{stmi}}$	$\frac{Z_{st}}{n_{stm}} \times \frac{1}{z_{stmi}} \times D^*_{stmi}$		
	URBAN	$\frac{N_s}{n_{sm}}$	$\frac{N_s}{n_{sm}}D_{smi}^*$		
1.0 (Type 1)/	RURAL	$\frac{Z_{st}}{n_{stmj}} \times \frac{1}{z_{stmi}} \times \frac{H_{stmi1j}}{h_{stmi1j}}$	$\frac{Z_{st}}{n_{stmj}} \times \frac{1}{z_{stmi}} \times D^*_{stmi} \times \frac{H_{stmi2j}}{h_{stmi2j}}$		
1.0 (Type 2)/ 10	URBAN	$\frac{N_s}{n_{smj}} \times \frac{H_{smi1j}}{h_{smi1j}}$	$\frac{N_s}{n_{smj}} \times D^*_{smi} \times \frac{H_{smi2j}}{h_{smi2j}}$		
	(j = 1, 2, 3)				

- *Note: (i) Forestimatinganycharacteristicforanydomainnotspecificallyconsidered in sample design, indicator variable may be used.* 
  - *(ii) Multipliers have to be computed on the basis of information available in the listing schedule irrespective of any misclassification observed between the listing schedule and detailed enquiry schedule.*

Forestimatingnumber of villages possessing a characteristic,  $D_{stmi}^*$  =0 in the relevant multipliers and there will be only one multiplier for the village (see paragraph 6.2.1 in this context).

# 6. TREATMENT FOR ZERO CASES, CASUALTY CASES ETC.:

- **6.1** While counting the number of FSUs surveyed (nsm or nstm ) in a stratum/sub-stratum, all the FSUs with survey codes 1 to 6 in schedule 0.0 will be considered. In addition, if no SSU is available in the frame for a particular schedule then also that FSU will be treated as surveyed in respect of that schedule. However, if the SSUs of a particular schedule type are available in the frame of the FSU but none of these could be surveyed then that FSU has to be treated as casualty and it will not be treated as surveyed in respect of that schedule.
- **6.2** Casualty cases: FSUs with survey code 7 as per schedule 0.0 are treated as casualties. In addition to this, an FSU, although surveyed, may have to be treated as casualty for a particular schedule type and a particular second stage stratum as given in the following para:
- 6.2.1 FSUs with survey codes 1 or 4 as per schedule 0.0 having number of households in the frame of j-th second stage stratum greater than 0 but number of households surveyed according to data file, considering both hg/sb together, as nil (i.e. Hi1j + Hi2j >0 but hi1j + hi2j =0) will be taken as casualties for j-th second stage stratum.

# All the FSUs with survey codes 1 to 6 as per schedule 0.0 minus the number of casualties as identified above will be taken as the number of surveyed FSUs (nstmj) for that (stratum/sub-stratum) × (second stage stratum).

When casualty for j-th second stage stratum occurs for a particular hg/sb but not for the other hg/sb, the FSU will not be treated as casualty but some adjustments in the value of H for the other hg/sb will be done as follows:

- (i) Suppose for hg/sb 1, Hi1j > 0 but hi1j = 0 while for hg/sb 2, Hi2j > 0 and hi2j > 0. In that case  $D_i^* \times H_{i2j}$  will be replaced by  $(H_{i1j} + D_i^* \times H_{i2j})$  in the formula for multiplier of hg/sb 2.
- (ii) Suppose for hg/sb 1, Hi1j>0 and hi1j > 0 while for hg/sb 2, Hi2j>0 but hi2j=0. In that case  $H_{i1j}$  will be replaced by  $(H_{i1j} + D_i^* \times H_{i2j})$  in the formula for multiplier of hg/sb 1.

It may be noted that nsmj or nstmj would be same for hg/sb 1 & 2 of an FSU.

# 7. TREATMENT IN CASES OF VOID SECOND-STAGE STRATA/SUB-STRATA / STRATA/NSS REGION AT FSU OR HOUSEHOLD LEVEL

7.1 A stratum/sub-stratum may be void because of the casualty of all the FSUs belonging

to the stratum/sub-stratum. This may occur in one sub-sample or in both the subsamples. If it relates to only one sub-sample, then estimate for the void stratum/substratum may be replaced with the estimate as obtained from the other sub-sample for the same stratum/sub-stratum.

**7.2** When a stratum/sub-stratum is void in both the sub-samples, the following procedure is recommended:

# *Case (I)* : Stratum/Sub-stratum void cases at FSU levels *(i.e. all FSUs having survey code 7)*:

- i) If a rural sub-stratum is void then it may be merged with the other sub-stratum of the stratum.
- ii) If a rural/urban stratum (district) is void due to all FSUs being casualty, it may be excluded from the coverage of the survey. The state level estimates will be based on the estimates of districts for which estimates are available and remarks to that effect may be added in appropriate places.

# *Case (II)* : Stratum/Sub-stratum void case at second stage stratum level (i.e. all the FSUs are casualties for a particular second stage stratum):

An FSU may be a casualty for a particular second stage stratum although survey code is not 7. If all the FSUs of a stratum/sub-stratum become casualties in this manner for a particular second stage stratum, the stratum/sub-stratum will become void. In such cases, sub-strata will be merged with other sub-strata for all the second stage strata as in Case (I) above.

However, if whole district/stratum becomes void in this manner for a particular second stage stratum, adjustment for this type of stratum void case may be done according to the following guidelines.

The adjustment will be made involving other strata/sub-strata (within NSS region) of the State/U.T.cSuppose A, B, C and D are the four strata in the State/UT/Region and stratum C is void for j-th second stage stratum. If  $\hat{Y}_{aj}$ ,  $\hat{Y}_{bj}$  and  $\hat{Y}_{dj}$  are the aggregate estimates for the strata/sub-strata A, B and D respectively, then the estimate  $\hat{Y}_{cj}$  for stratum/sub-stratum C may

be obtained as  $\left(\frac{\hat{Y}_{aj} + \hat{Y}_{bj} + \hat{Y}_{dj}}{Z_a + Z_b + Z_d} \times Z_c\right)$  where  $Z_a$ ,  $Z_b$ ,  $Z_c$  and  $Z_d$  are the sizes of strata A, B, C and D respectively.

# 8. REFERENCE TO THE VALUES OF

 $\mathbf{Z}_{st}, \mathbf{N}_{s}, \mathbf{n}_{st}, \mathbf{n}_{s}, \mathbf{z}_{sti}, \mathbf{D}_{sti}, \mathbf{D}^{\star}_{sti}, \mathbf{D}_{si}, \mathbf{D}^{\star}_{si}, \mathbf{H}_{sti1j}, \mathbf{h}_{sti1j}, \mathbf{H}_{sti2j}, \mathbf{h}_{sti2j};$ 

- i) Values of  $Z_{st}$ ,  $N_{st}$  and allotted nst for the whole round are given in appendix Table 2 for rural sector and in Table 3 for urban sector.
- ii) nst should not be taken from the tables. The values of nstm for each sub-sample are to be obtained following the guidelines given in para 9 above. It includes uninhibited and zero cases but excludes casualty cases.
- iii) The value of zsti for the samples selected by PPS is to be taken from the column of sample list under the heading "frame population" for rural samples. Value of  $D_{sti}$  is to be taken from item 16 of block 1, sch 0.0.  $D^*_{sti}$  is to be calculated from the value of  $D_{sti}$ .
- iv) Values of  $H_{still}$ ,  $H_{still}$  are to be taken from col.(5), block 6 of sch 0.0 for respective hg/sb.
- v) The value of  $h_{stilj}$  and  $h_{stilj}$  should not be taken from col (9), block 6 of sch.0.0. The figures should be obtained by counting the number of households in the data file excluding the casualty households.



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