

**Study to Estimate the Sub-State Level Estimates of
Socio Economic Indicators of U.P.
by using Small Area Techniques**

REPORT

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Submitted by

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Preface

Small area estimation has received much attention in recent decades due to increasing demand for reliable small area estimates from both public and private sectors. Traditional direct estimation requires the domain-specific sufficiently large sample. In reality domain specific sample data are not large enough for all small areas (even zero for some small areas) to provide adequate statistical precision of their estimates. This makes it necessary to ‘borrow strength’ from data on related multiple characteristics and/or auxiliary variables from other neighbouring areas through appropriate models, leading to indirect or model based estimates.

Small area estimation has highlighted methodologies which are fully based on various statistical models and theories. In view of the above the present study on Study to Estimate the Sub-State Level Estimates of Socio Economic Indicators of U.P. by using Small Area Techniques. We are immensely thankful to Dr. A. K. Pandey, Director, Directorate of Economics and Statistics (DES), Department of Planning, Government of Uttar Pradesh for granting the study and providing us generous financial assistance along with all the necessary support to carry out this study.

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Project Director

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Chapter 1

Introduction

1.1 Background

The State of Uttar Pradesh is located in the Northern part of India and is surrounded by Bihar in the East, Madhya Pradesh in the South, Rajasthan, Delhi, Himachal Pradesh and Haryana in the West and Uttarakhand in the North and Nepal touches its Northern borders. It is the most populous State in the country with population 199,812,341 (as per Census 2011) as well as the most populous country subdivision in the world and accounts for about 16.16 percent of India's population. It covers 241 thousand square km, equal to 6.88% of the total area of the country.

The concept of economic growth and development is significant in the context of expansion of national wealth and higher standards of living of people [1]. Thus, development efforts always target to enhance the well-being and quality of life of people by providing employment opportunities, increasing national income, and reducing inequality. In the words of Michael Todaro, "economic development is an increase in living standards, improvement in self-esteem needs and freedom from oppression as well as great choice" [2]. When we look at our motherland India, we see its income is increasing at a slower pace in comparison to upper income economies. Also, we see slow pace in socio-economic progress which is uneven across its States/regions. The significant measures of human well-being – life expectancy, infant mortality, and literacy rate – show variations across Indian States which is similar to the cases of international contrasts between low and high performing economies [3].

In this context, the case of Uttar Pradesh is noteworthy. Although Uttar Pradesh is third in terms of size of economy after Maharashtra and Tamil Nadu, but it is not so developed, and is considered one of the poorest states of India. It is comparable with the 7th largest country in the world in terms of population [4]. The rich natural resources, productive agricultural base, diversified industrial potential, and existence of very large market in UP could be an engine of growth of its economy, and also has the potential to support other parts of the nation [5]. In

2010-11 the growth rate of GDP in UP was 8.08 percent. In spite of such growth achievements, the State is threatened by massive poverty, both in economic and non-economic dimensions. The state has also been facing challenges in providing social security and enhanced quality of life. The State not only poses a serious development challenge for India, but also for the global community because unless poverty is reduced substantially the fruits of economic potential cannot be eaten. In this context, the social and economic development of UP during last few years so as to understand the problems that should be addressed to put its economy on a high growth trajectory.

In terms of population, Uttar Pradesh (U.P.) compares with the seventh largest country in the world. Uttar Pradesh accounts for 16.17 per cent of India's population of 1.02 billion fourth in terms of density after West Bengal, Bihar, and Kerala. Uttar Pradesh is the third largest economy in India after Maharashtra and Tamil Nadu. An economically stronger Uttar Pradesh with its huge market, stronger agricultural base, diverse industries that have developed over a long period could be an engine of growth for the rest of the country. Uttar Pradesh registered growth rate of 8.08 per cent GDP growth rate during the period of 2010-11. Despite impressive strides being made in the field of poverty alleviation and recent signs of progress in Uttar Pradesh, the challenge of poverty alleviation is, however, still critical as almost 20 percent of the country's poor are residing in Uttar Pradesh. After tremendous performance in state domestic production, U.P. still faces significant challenges in reducing poverty in its various economic and noneconomic dimensions and improving security and well being for all its citizens (Kozel, 385). Ineffectiveness of the public sector, poor infrastructure, and indifferent attitude of the bureaucrats led to an investment climate not supportive of private investment and growth that proves to be a problem for poverty alleviating programmes and obstacles in access to public services and resources.

1.2 Motivation

For policy formulation, planning, allocation of funds, monitoring and evaluation of programmes, there is the need for statistics at the local or micro level (also referred as small areas, small domains, for example, district or district by land holding categories or various other farm grouping etc.) where programmes are designed and implemented. Census provides such local level statistics but Census information are very limited. In addition, Censuses are less regular. Surveys are more regular and collect wide range of information. However,

sample sizes at the local level are not large enough to provide “direct sample estimates (estimates that use only the data on the target variable from the domain of study and time period of interest)” with adequate precision. Sample surveys are generally planned to give reliable estimates at national and large domain levels (for example, national or state level) and are not appropriate to produce small domain level estimates due to small sample sizes. A survey designed for a large population may select a small number of units or even no unit for the small area of interest (small domain) in the population. Consequently, sample sizes within the small areas or small domains are too small to warrant the use of direct sample estimates. For example, the National Sample Survey Office (NSSO) surveys are planned to generate statistics at state and national level. Although, the NSSO surveys provide reliable state and national level estimates, but they cannot be used to produce reliable direct estimates at the district level because of small sample sizes which lead to high levels of sampling variability. At the same time it is also true that conducting such a survey aimed at this level is going to be costly and time consuming. Using these survey data to produce the estimates at district or further smaller domain level may end up with very small sample sizes in these domains which results into very unstable estimates of parameters of interest for these domains. The underlying theory that resolves this problem of small sample sizes is often referred as small area estimation techniques in the literature of survey sampling. This is a part of the statistical science that combines survey sampling and finite population inference with statistical models. Small areas (or small domains or local or micro areas etc.) are subsets of the population with small sample sizes, so standard survey estimation methods for these areas, which only use information from the small area samples, are unreliable. In this context, small area estimation methods that ‘*borrow strength*’ via statistical models can be used to produce reliable small area estimates.

The small area estimation methods produce estimates with adequate precision for such small areas or domains, through an estimation procedure that ‘*borrow strength*’ from related areas or time periods (or both) and thus increase the overall (effective) sample size and precision. This makes it necessary to borrow information across related areas through indirect estimation based on models, using auxiliary information such as recent census data and current administrative data. Such methods improve direct estimates that by definition rely only on data collected within each small area and which may not be sufficiently accurate for reliable use. The most popular class of models for small area estimation is linear mixed models that include independent random area effects to account for between area variations

beyond that explained by auxiliary variables. The methods used for small area estimation can be divided accordingly by the related data sources that they employ, whether cross-sectional (from other areas), past data or both. Based on the level of auxiliary information, available methods can also be divided into area level and unit level small area models. When unit level survey data is available small area estimation is done under unit level small area models. However, in many small area estimation problems, it is not possible to use the unit level small area model simply because of the unavailability of the unit level data. Area-level version of small area modelling is typically used when unit-level data are unavailable, or, as is often the case, where model covariates (e.g. census variables) are only available in aggregate form. The Fay–Herriot model is widely used area level model in small area estimation. Further, the problem of small area estimation is two-fold. First is the fundamental question of how to produce reliable estimates of characteristics of interest for small areas, based on very small samples taken from these areas. The second related question is how to assess the estimation error.

1.3 Objectives of the study

The main aim of the project is to develop sub-state level estimates of various socio-economic indicators for the state of Uttar Pradesh in India by linking NSSO survey data and auxiliary information from the secondary data sources such as Census using small area estimation methodologies. Major objectives of the project are:

1. To estimate district-wise households consumption expenditure (Monthly per capita expenditure) in rural and urban areas based on NSSO 68th round data.
- 2 To estimate employment and unemployment in rural and urban areas based on NSSO 68th Round data. Following will cover sub objectives for development of estimates at district level.
- 3 To estimate district level of Gross Value Added (GVA) and number of workers in three sectors; Manufacturing, trade and other service sectors enterprises excluding construction in Uttar Pradesh based on NSSO 67th round data. It will cover following sub objectives for development of estimates at district level.

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Chapter 2

Data Description

2.1 Introduction

This chapter introduces the basic sources of the data, i.e. the 68th round (July 2011-June 2012) of National Sample Survey (NSS), earmarked for surveys on Household Consumer Expenditure Survey (HCES) of the NSSO conducted in 2011-12 for both rural and urban sectors of the State of Uttar Pradesh in India and the 2011 Population Census, used in the small area application reported in this study. Data obtained from these sources are then used to estimate the average household monthly per capita consumer expenditure (MPCE) and the proportion of poor households at district and further disaggregation level for both rural and urban sectors in Uttar Pradesh. The NSSO conducts nationwide HCE surveys at regular intervals as part of its “rounds”, with the duration of each round normally being a year. These surveys are aimed at generating estimates of average household MPCE, the distribution of households and persons over the MPCE range, and the break-up of average MPCE by commodity group, separately for the rural and urban sectors of the country, for States and Union Territories, and for different socio-economic groups. These indicators are amongst the most important measures of the living conditions of the relevant domains of the population. The surveys are conducted through interviews of a representative sample of households selected randomly through a scientific design and covering almost the entire geographical area of the country. In particular, the sampling design used in the NSSO survey is stratified multi-stage random sampling with districts as strata, villages and UFS blocks in rural and urban sectors respectively as first stage units and households as second stage units. Although, these surveys provide reliable and representative state and national level estimates, they cannot be used directly to produce reliable estimates at the district level due to small sample sizes. In particular, although district is a very important domain of the planning process in India, there are no surveys aimed at producing estimates at this level. The lack of robust and reliable outcome measures at the district level puts constraints on the design of targeted interventions and policy development. More importantly, state and national estimates do not adequately capture the extent of geographical inequalities, which restricts the scope for evaluating progress locally within and between districts. Balanced against all of this however

is the fact that conducting a district level survey would be very costly as well as time-consuming.

In the 2011-12 HCES, a total of 5916 rural and 3102 urban households from the 71 districts of Uttar Pradesh were surveyed. The district sample sizes for rural areas ranged from 32 to 128 with average of 83. Similarly the district sample sizes for urban areas varied from 30 to 128 with average of 44. The district specific sample sizes reduce further for district by further disaggregation such as district by land categories etc. Table 1 and 2 show the district-wise sample sizes in the 2011-12 HCES data for rural and urban areas respectively.

It is evident that these district level sample sizes are relatively small. As a consequence, it is difficult to generate reliable district level direct survey estimates with associated standard errors from this survey. This small sample size problem can be resolved by using SAE methodology provided auxiliary information is available to strengthen the limited sample data from the districts (Rao and Molina 2015).

2.2 Target Variables

The target variables of interest are the household monthly per capita consumer expenditure (MPCE) and the binary variable indicating whether a household is poor or not. In our application a household having MPCE below the state poverty line is defined as being poor. The poverty line used in this study (Rs. 768 for rural and Rs. 941 urban) is the same as that set by the then Planning Commission, Govt. of India, for 2011-12. The parameter of interest is then the proportion of poor households within each district and further disaggregation of districts. In case of rural areas disaggregation is defined as districts by three land holding categories (LC1: less than 1 ha; LC2: ≥ 1 and < 2 ha and LC3: ≥ 2 ha) and districts by four social groups (SC, ST, OBC and Others). On the other hands, for urban areas disaggregation is defined as districts by four social groups (SC, ST, OBC and Others). The different districts and districts by different categories are the small areas of interest in this study.

2.3 The auxiliary Variables

The auxiliary variables (covariates) used in our analysis are taken from the Indian Population Census of 2011. These auxiliary variables are only available as counts at district level, and so SAE methods based on area level small area models, as described in next chapters, must be employed to derive the small area estimates. There are approximately 50 such covariates that

are available for use in SAE analysis. We therefore carried out a preliminary data analysis in order to define appropriate covariates for SAE modelling, using Principal Component Analysis (PCA) to derive composite scores for selected groups of variables. These are done separately for both rural and urban areas.

2.3.1 Rural areas

We carried out PCA separately on two groups of variables from district aggregates of rural data, all measured at district level and identified as S1 and S2 below. The first group (S1) consisted of the proportions of main worker by gender, proportions of main cultivator by gender and proportions of main agricultural labourer by gender. The first principal component (S11) for this first group explained 44% of the variability in the S1 group, while adding the second component (S12) increased explained variability to 69%. The second group (S2) consisted of proportions of marginal cultivator by gender and proportions of marginal agriculture labourers by gender. The first principal component (S21) for this second group explained 52% of the variability in the S2 group, while adding the second component (S22) increased explained variability to 90%.

2.3.2. Urban areas

In case of urban areas also, we applied PCA separately on two groups of variables using district level data of urban area, all measured at district level and identified as G1 and G2 below. The first group (G1) consisted of the proportions of main worker by gender, proportions of main cultivator by gender and proportions of main agricultural labourer by gender. The first principal component (G11) for this first group explained 53% of the variability in the G1 group, while adding the second component (G12) increased explained variability to 83%. The second group (G2) consisted of proportions of marginal cultivator by gender and proportions of marginal agriculture labourers by gender. The first principal component (G21) for this second group explained 63% of the variability in the G2 group, while adding the second component (g22) increased explained variability to 87%.

2.4 Model Specification for Rural and Urban Data

For each group of data (e.g. rural, urban, rural by categories and urban by categories), we separately fitted a linear model using district-wise direct survey estimates of MPCE as the response variable and the principal component scores as well as other auxiliary variables from the Census 2011 as potential covariates. The final model with selected covariates was

then used to produce district wise estimates of MPCE. The model was fitted using the `lm()` function in R using the district specific sample sizes as the weight. Similarly, we also fitted a generalized linear model using direct survey estimates of proportions of poor households as the response variable and the principal component scores as well as other auxiliary variables from the Census 2011 as potential covariates for each group of data. The final model selected covariates was then used to produce district wise estimates of poverty incidence, i.e. estimates of the head count ratio (HCR) used in poverty mapping. The model was fitted using the `glm()` function in R and specifying the family as “binomial” and the district specific sample sizes as the weight. Table 3 provides list of selected covariates to use in small area estimation for both MPCE and poverty incidence estimates for different groups of data.

Table 1: District-wise sample sizes in the 2011-12 HCES data for rural areas.

S NO	District	All	LC-1	LC-2	LC-3	SC	ST	OBC	Others
1	Saharanpur	96	71	11	14	28	6	48	14
2	Muzaffarnagar	128	99	12	17	29	8	72	19
3	Bijnor	96	79	9	8	29	1	42	24
4	Moradabad	128	108	14	6	16	0	72	40
5	Rampur	64	61	2	1	18	0	35	11
6	Jyotiba Phule Nagar	64	50	5	9	12	2	36	14
7	Meerut	64	51	5	8	19	0	18	27
8	Baghpat	32	24	4	4	4	0	26	2
9	Ghaziabad	64	49	8	7	7	1	31	25
10	Gautam Buddha Nagar	32	32	0	0	5	6	16	5
11	Bulandshahar	96	73	11	12	23	0	59	14
12	Aligarh	95	63	11	21	41	3	28	23
13	Hathras	64	41	10	13	19	0	32	13
14	Mathura	64	49	6	9	18	0	14	32
15	Agra	96	69	14	13	24	1	32	39
16	Firozabad	64	48	8	8	7	0	52	5
17	Etah	64	44	10	10	13	2	42	7
18	Mainpuri	64	54	7	3	13	0	41	10
19	Budaun	96	73	11	12	16	0	70	10
20	Bareilly	95	77	14	4	24	0	60	11

S NO	District	All	LC-1	LC-2	LC-3	SC	ST	OBC	Others
21	Pilibhit	64	52	6	6	7	1	42	14
22	Shahjahanpur	96	70	14	12	22	0	50	24
23	Kheri	128	102	16	10	47	0	74	7
24	Sitapur	128	105	12	11	52	1	47	28
25	Hardoi	128	104	18	6	27	0	72	29
26	Unnao	96	76	11	9	28	0	54	14
27	Lucknow	64	54	8	2	9	1	46	8
28	Rae Bareli	128	83	30	15	52	1	37	38
29	Farrukhabad	64	50	7	7	18	1	36	9
30	Kannauj	64	54	4	6	10	5	38	11
31	Etawah	64	44	13	7	14	2	36	12
32	Auraiya	64	53	7	4	22	1	27	14
33	Kanpur Dehat	64	46	11	7	16	0	38	10
34	Kanpur Nagar	64	51	8	5	9	2	29	24
35	Jalaun	64	27	12	25	13	0	31	20
36	Jhansi	64	33	12	19	22	1	24	17
37	Lalitpur	32	16	8	8	7	0	21	4
38	Hamirpur	32	12	5	15	9	0	13	10
39	Mahoba	32	7	7	18	12	0	12	8
40	Banda	64	33	12	19	21	1	37	5
41	Chitrakoot	32	21	4	7	10	0	15	7
42	Fatehpur	96	64	18	14	33	0	55	8
43	Pratapgarh	128	106	11	11	31	0	66	31
44	Kaushambi	63	50	8	5	26	0	30	7
45	Allahabad	128	102	21	5	35	2	51	40
46	Barabanki	96	73	10	13	22	1	55	18
47	Faizabad	64	57	6	1	15	1	32	16
48	Ambedkar Nagar	96	87	6	3	37	2	40	17
49	Sultanpur	128	101	15	12	39	1	59	29
50	Bahraich	96	77	7	12	19	0	52	25
51	Shrawasti	64	48	7	9	10	0	40	14

S NO	District	All	LC-1	LC-2	LC-3	SC	ST	OBC	Others
52	Balrampur	63	47	8	8	5	0	46	12
53	Gonda	128	112	8	8	17	0	70	41
54	Siddharthnagar	96	70	15	11	14	2	54	26
55	Basti	96	76	12	8	27	0	54	15
56	SantKabir Nagar	64	58	4	2	25	0	26	13
57	Mahrajganj	96	79	11	6	22	0	62	12
58	Gorakhpur	128	111	8	9	35	1	78	14
59	Kushinagar	128	111	10	7	19	1	86	22
60	Deoria	96	89	5	2	13	2	66	15
61	Azamgarh	128	120	7	1	42	0	71	15
62	Mau	64	57	3	4	26	0	36	2
63	Ballia	96	80	9	7	26	1	57	12
64	Jaunpur	128	115	9	4	33	0	70	25
65	Ghazipur	128	100	14	14	44	2	68	14
66	Chandauli	64	56	5	3	18	1	34	11
67	Varanasi	96	86	8	2	27	2	56	11
68	SantRavidas Nagar Bhadohi	64	55	4	5	24	1	28	11
69	Mirzapur	96	85	8	3	39	1	39	17
70	Sonbhadra	64	46	11	7	30	9	21	4
71	Kashiramnagar	32	26	1	5	6	0	23	3
	Total	5916	4652	666	598	1551	77	3130	1158
	Minimum	32	7	0	0	4	0	12	2
	Maximum	128	120	30	25	52	9	86	41

Source : NSSO, 68th Round

Table 2: District-wise sample sizes in the 2011-12 HCES data for urban areas.

S NO	District	All	SC	ST	OBC	Other
1	Saharanpur	64	15	0	29	20
2	Muzaffarnagar	64	2	1	27	34
3	Bijnor	64	5	0	33	26
4	Moradabad	64	5	0	32	27
5	Rampur	32	2	0	18	12
6	Jyotiba Phule Nagar	32	3	1	23	5
7	Meerut	96	9	0	42	45
8	Baghpat	32	3	0	17	12
9	Ghaziabad	96	23	3	16	54
10	Gautam Buddha Nagar	32	1	0	14	17
11	Bulandshahar	64	4	1	27	32
12	Aligarh	64	19	1	23	21
13	Hathras	32	9	0	12	11
14	Mathura	64	6	0	17	41
15	Agra	96	22	1	23	50
16	Firozabad	64	19	0	31	14
17	Etah	32	6	1	12	13
18	Mainpuri	32	9	0	15	8
19	Budaun	32	3	0	13	16
20	Bareilly	64	8	1	44	11
21	Pilibhit	32	0	0	9	23
22	Shahjahanpur	32	2	1	21	8
23	Kheri	32	0	0	15	17
24	Sitapur	32	5	0	17	10
25	Hardoi	32	4	0	19	9
26	Unnao	32	0	1	16	15
27	Lucknow	128	9	0	54	65
28	Rae Bareli	32	9	1	13	9
29	Farrukhabad	32	5	1	18	8
30	Kannauj	32	2	1	9	20
31	Etawah	32	11	1	16	4
32	Auraiya	32	3	1	21	7
33	Kanpur Dehat	32	7	0	14	11
34	Kanpur Nagar	128	13	2	51	62
35	Jalaun	32	5	0	10	17
36	Jhansi	64	19	5	27	13
37	Lalitpur	32	1	0	13	18
38	Hamirpur	32	4	0	16	12

39	Mahoba	32	3	0	22	7
40	Banda	32	4	0	23	5
41	Chitrakoot	32	13	0	13	6
42	Fatehpur	32	1	0	19	12
43	Pratapgarh	32	0	0	26	6
44	Kaushambi	32	7	0	10	15
45	Allahabad	63	9	0	36	18
46	Barabanki	32	4	0	23	5
47	Faizabad	32	1	0	23	8
48	Ambedkar Nagar	32	6	0	24	2
49	Sultanpur	31	3	0	18	10
50	Bahraich	32	3	0	12	17
51	Shrawasti	30	0	0	26	4
52	Balrampur	32	0	0	16	16
53	Gonda	32	6	1	12	13
54	Siddharthnagar	32	5	1	17	9
55	Basti	32	6	0	18	8
56	SantKabir Nagar	32	2	0	23	7
57	Mahrajganj	32	6	2	19	5
58	Gorakhpur	64	8	0	32	24
59	Kushinagar	32	6	0	20	6
60	Deoria	32	9	0	14	9
61	Azamgarh	32	3	0	21	8
62	Mau	32	0	0	30	2
63	Ballia	32	0	0	18	14
64	Jaunpur	32	2	0	24	6
65	Ghazipur	32	6	0	20	6
66	Chandauli	32	4	3	17	8
67	Varanasi	96	14	0	49	33
68	SantRavidas Nagar	32	8	1	22	1
69	Mirzapur	32	6	0	17	9
70	Sonbhadra	31	3	2	12	14
71	KashiramNr	32	3	0	23	6
	Total	3099	423	34	1526	1116
	Mnimum	30	0	0	9	1
	Maximum	128	23	5	54	65

Source : NSSO, 68th Round

Table 3: Selected auxiliary variables for small area estimation of the household monthly per capita consumer expenditure (MPCE) and the proportion of poor households (poverty incidence)

	MPCE	Poverty incidence
Rural	<ul style="list-style-type: none"> - Proportion of Scheduled Caste Population to Total Population (P_SC) - Literacy Rate - S11 - S21 - S22 	<ul style="list-style-type: none"> - Proportion of Scheduled Caste Population to Total Population (P_SC) - Literacy Rate - S11 - S21 - S22
Rural-LC1	<ul style="list-style-type: none"> - Proportion of Scheduled Caste Population to Total Population (P_SC) - Literacy Rate - S11 - S12 	<ul style="list-style-type: none"> - Proportion of Scheduled Caste Population to Total Population (P_SC) - Literacy Rate - S11 - S12
Rural-LC2	<ul style="list-style-type: none"> - Proportion of Total Worker Population to Total Population (TOT_WORK_P) - S12 	<ul style="list-style-type: none"> - Proportion of Scheduled Caste Population to Total Population (P_SC) - S11 - S12
Rural-LC3	<ul style="list-style-type: none"> - Proportion of Total Worker Population to Total Population (TOT_WORK_P) 	<ul style="list-style-type: none"> - Proportion of Total Worker Population to Total Population (TOT_WORK_P)
Rural-SC	<ul style="list-style-type: none"> - Proportion of Male Scheduled Caste Population to Total Male Population (M_SC) - Proportion of Female Scheduled Caste Population to Total Female Population (F_SC) - S11 - S12 	<ul style="list-style-type: none"> - Proportion of Male Scheduled Caste Population to Total Male Population (M_SC) - Proportion of Female Scheduled Caste Population to Total Female Population (F_SC) - S11 - S12
Rural-OBC	<ul style="list-style-type: none"> - Literacy Rate - Proportion of Scheduled Caste Population to Total Population (P_SC) - S11 - S12 	<ul style="list-style-type: none"> - Literacy Rate - Proportion of Scheduled Caste Population to Total Population (P_SC) - S11 - S12
Rural-Other	<ul style="list-style-type: none"> - Literacy Rate 	<ul style="list-style-type: none"> - Literacy Rate
Urban	<ul style="list-style-type: none"> - Literacy Rate - Proportion of Total Worker Population to Total Population (TOT_WORK_P) 	<ul style="list-style-type: none"> - Literacy Rate - Proportion of Total Worker Population to Total Population (TOT_WORK_P)
Urban-SC	<ul style="list-style-type: none"> - G11 - G21 	<ul style="list-style-type: none"> - Proportion of Total Worker Population to Total Population (TOT_WORK_P) - Proportion of Total Female Worker Population to Total Female Population (TOT_WORK_F) - G21 -

	MPCE	Poverty incidence
Urban-OBC	<ul style="list-style-type: none"> - Literacy Rate - G21 	<ul style="list-style-type: none"> - Literacy Rate - Proportion of Total Worker Population to Total Population (TOT_WORK_P) - Proportion of Total Female Worker Population to Total Female Population (TOT_WORK_F) - G21
Urban-Other	<ul style="list-style-type: none"> - Literacy Rate - Proportion of Total Female Worker Population to Total Female Population (TOT_WORK_F) - G21 - G22 	<ul style="list-style-type: none"> - Literacy Rate - G21

Source: Computed by GIDS

(ii) Employment and Unemployment Target Variables:

2.5. Number of Employed Persons in Sample: (Work Participation Rate, (WPR))

Table 1 presents the number of persons in sample, number of employed person in sample, estimated number of person in population, estimated number of employed person in population, estimates along with their standard error and percentage coefficient of variation (%CV) according to usual status (ps+ss) of WPR of rural and urban areas in the state of Uttar Pradesh during 2011–2012. The WPR according to usual status (ps+ss) was 39 per cent at the all-India level. WPR in rural areas is 338 and that in urban areas is about 317 per cent (see Table 1). The unemployment rates are reported in Table 2 is significantly lower in the population compared to the worker population ratio (WPR) in Table 1. Therefore, the estimates of unemployment rate obtained from the survey are subject to higher sampling fluctuation (i.e. %CV) than the WPR. This problem is further noticed when see district level estimates of the unemployment rate for rural and urban areas in the state.

Table 1. Number of persons in sample (sample size), number of employed person in sample (Employed sample count), estimated number of person in population (Est. Person), estimated number of employed person in population (Est. Employed), estimates along with standard error (SE) and percentage coefficient of variation (%CV) according to usual status (ps+ss) of the worker population ratio (WPR) of rural and urban areas in the state of Uttar Pradesh, 2011–2012.

	Rural	Urban
Sample size	33738	15775
Employed sample count	11089	4979
Est. Person	141135647	39025774
Est. Employed	47633281	12378976
WPR	338	317
SE	4.189	5.941
%CV	1.241	1.873

2.6. Number of Persons in Labour Force in Sample: (Unemployed Rate (UR)):

Table 2. Number of persons in sample (sample size), number of person in labour force in sample (Labour force sample count), number of unemployed person in sample (Unemployed sample count), estimated number of person in labour force in population (Est. Labour Force Person), estimated number of person in population (Est. Person), estimates along with Standard error (SE) and percentage coefficient of variation (%CV) according to usual status (ps+ss) of unemployed rate (UR) of rural and urban areas in the state of Uttar Pradesh, 2011–2012.

	Rural	Urban
Sample size	33738	15775
Labour force sample count	11207	5141
Unemployed sample count	118	162
Est. Labour Force Person	48090969	12907022
UR	9	41
SE	1.288	5.359
%CV	13.71	13.14

2.7. Auxiliary Variables for WPR and UR in Rural and Urban:

Table 3. Selected auxiliary variables for small area estimation of the worker population ratio and the unemployment rate for both rural and urban areas in the state of Uttar Pradesh.

	Worker Population Ratio	Unemployment Rate
Rural	<ul style="list-style-type: none"> – Proportion of Scheduled Caste Population to Total Population (P_SC) – Proportion of Total Worker Population to Total Population (TOT_WORK_P) – Number of Household (No_HH) – Total population person (TOT_P) 	<ul style="list-style-type: none"> – Proportion of Scheduled Caste Population to Total Population (P_SC) – S21
Urban	<ul style="list-style-type: none"> – Proportion of Scheduled Caste Population to Total Population (P_SC) – Literacy Rate – Proportion of Total Worker Population to Total Population (TOT_WORK_P) 	<ul style="list-style-type: none"> – Proportion of Scheduled Caste Population to Total Population (P_SC) – Literacy Rate

95 % CI = (estimate-1.96*SE, estimate+1.96*SE): The purpose of **confidence intervals** is to give us a range of values for our estimated population parameter rather than a single value or a point estimate. The estimated confidence interval gives us a range of values within which we believe with certain probability (**confidence level**), that the true population value falls.

For instance, if repeated samples were taken and the 95% confidence interval for the mean was computed for each sample, 95% of the intervals would contain the population mean. We expect that 5% of the interval would not contain the true value.

The problem is that **for any single interval, we don't know for certain that it will include the true value**; but we know that the odds of it including the true value is much higher than the odds of not containing it.

Every Confidence interval has an associated Confidence Level:

Confidence interval in Statistics is a type of range estimate for a population parameter based on one or more samples. For instance if we want to estimate the average height of all teenage USA boys aged 15 from a sample of one hundred 15 years old teens.

- The **Confidence Level** associated to this interval would tell us the percentage of all possible samples that can be expected to include the true population parameter. The usual values are 90%, 95% and 99%.

For instance, if all possible samples were selected from the same population and a confidence interval were computed for each sample. A 95% confidence level implies that 95% of the confidence intervals would include the true population parameter.

Referring to the above picture, the red line would be the confidence interval and the area below the bell between the upper and lower limits of the interval would be the confidence level.

Chapter 3

Small Area Estimation Methodology

3.1 Introduction

‘Sample surveys are generally planned to produce estimates for population characteristics of interest mainly at higher geographic (e.g. national and state) levels. The sample size is fixed in such a way that the direct estimators for larger domains provides reliable estimates, where by direct estimators we mean estimators that use only sample-weighted data from the domain of interest. In many practical situations, however, the aim is to estimate parameters for domains that contain only a small number of sample observations. The term “*small areas*” is used to describe domains whose sample sizes are not large enough to allow sufficiently precise direct estimation’ (Chandra. & Chandra, 2020).ⁱ When direct estimation is not possible, one has to rely on alternative, model-based methods for producing small area estimates. Such methods depend on model specification as well as on the availability of population level auxiliary information related to the variable of interest, and are commonly referred to as indirect methods. The underlying theory is referred to as the small area estimation (SAE), and SAE techniques aim at producing reliable estimates based on such small sample sizes by using the model "linking" the small areas to “*borrow strength*” from the sample data from other small areas (Rao and Molina, 2015). In this context, we differentiate between SAE methods based on unit-level models and those based on area-level models. In the former case these models are for the individual survey measurements and include area effects, while in the latter case these models are used to smooth out the variability in the unstable area-level direct survey estimates.

Area-level modelling is typically used in SAE when unit-level data are unavailable, or, as is often the case, where model covariates (e.g. census variables) are only available at area level. The Fay–Herriot model (Fay and Herriot, 1979), is a widely used area level model that assumes area-specific survey estimates are available, and that these follow an area level linear mixed model with independent area random effects. This model can also accommodate survey weights in SAE by using the survey weighted direct estimates when fitting the linear mixed model. When the variable of interest is not continuous (for example, binary and count data), a generalized linear mixed model (GLMM) is often used. If the variable of interest is

binary and the target of inference is a small area proportion, then the GLMM with logistic link function (also referred as the logistic linear mixed model) is commonly used.

In this study we adopted the area-level modelling for the SAE of various parameters because the auxiliary variables from the population census 2011 are available at district level. Further for the estimation of average household monthly per capita consumer expenditure (MPCE) at small area level we used the Fay–Herriot method of SAE (see Section 3.2). On the other hands, for the estimation of proportion of poor households which is based on binary variable indicating whether a household is poor or not, SAE method under a generalized linear mixed model (GLMM) is used (see Section 3.3).

3.2 Small Area Estimation Method for Small Area Means

When unit level survey data is not available, SAE is done under area level small area models. In this case, the Fay–Herriot model (hereafter FH model) is often used in SAE (Fay and Herriot, 1979). This model relates small area direct survey estimates to area-specific covariates. The SAE under this model is one of the most popular methods used by private and public agencies because of its flexibility in combining different sources of information and explaining different sources of errors. Let y_d be the observed direct survey estimate of unobservable population parameter (for example, population value of average MPCE) Y_d of variable of interest y for small area d ($d=1, \dots, D$), where D is the number of small areas or simply areas. In this ongoing example, districts of State of Uttar Pradesh are small areas of interest and Y_d denotes the direct survey estimate, i.e. average MPCE for small area (or district) d ($d=1, \dots, D$) in the State of Uttar Pradesh. The parameter of interest Y_d is MPCE for district d . Further, let \mathbf{x}_d be the p -vector of known auxiliary variables, often obtained from various administrative and census records, related to the population mean Y_d . In our example, covariates (auxiliary variables) known for the population are drawn from the Population Census 2011. In particular, selected auxiliary variables for small area modelling for MPCE for different data (e.g. Rural, Urban and Rural for different land categories) are given in Table 3.

With this, the simple district (or area) specific two stage model suggested by (Fay and Herriot, 1979) is described as

$$y_d = Y_d + e_d \text{ and } Y_d = \mathbf{x}_d^T \boldsymbol{\beta} + u_d. \quad (1)$$

In this model, the first stage accounts for the sampling variability of the survey estimates y_d of true area means Y_d *i.e.*, the direct survey estimate of the parameter based on the sampling design, expressed as $y_d = Y_d + e_d$, $d = 1, \dots, D$ and the second stage links the true area means Y_d to a vector of known auxiliary variables \mathbf{x}_d , *i.e.* $Y_d = \mathbf{x}_d^T \boldsymbol{\beta} + u_d$. Alternatively, we can express model (1) as

$$y_d = \mathbf{x}_d^T \boldsymbol{\beta} + u_d + e_d; \quad d = 1, \dots, D. \quad (2)$$

Here $\boldsymbol{\beta}$ is a p -vector of unknown fixed effect parameters, u_d 's are independently and identically distributed normal random errors with $E(u_d) = 0$ and $\text{Var}(u_d) = \sigma_u^2$, and e_d 's are independent sampling or measurement errors normally distributed with $E(e_d | Y_d) = 0$, $v_d = \text{Var}(e_d | Y_d) = \sigma_{ed}^2$. The two errors are independent of each other within and across areas (or districts). Here, v_d or σ_{ed}^2 is a design-based sampling variance and u_d is area specific random effects (also called the model errors). Clearly, the model (2) integrates a model dependent random effect u_d and a sampling error e_d with the two errors being independent. The model (2) is a special case of the linear mixed model. Usually, σ_{ed}^2 is known and σ_u^2 is unknown and has to be estimated. The parameter σ_u^2 is typically referred to as the variance component of (2). Since the parameters $\boldsymbol{\beta}$ and σ_u^2 are the same for every area, it makes sense to estimate these simultaneously across all the D areas.

For known variance σ_u^2 , assuming model (2) holds, the Best Linear Unbiased Predictor (BLUP) for Y_d (Henderson, 1963) is given by

$$\tilde{Y}_d^{BLUP} = \mathbf{x}_d^T \tilde{\boldsymbol{\beta}} + \tilde{u}_d = \gamma_d y_d + (1 - \gamma_d) \mathbf{x}_d^T \tilde{\boldsymbol{\beta}}, \quad (3)$$

where $\tilde{\boldsymbol{\beta}} = \boldsymbol{\beta}(\sigma_u^2) = \left(\sum_d (v_d + \sigma_u^2)^{-1} \mathbf{x}_d \mathbf{x}_d^T \right)^{-1} \left(\sum_d (v_d + \sigma_u^2)^{-1} \mathbf{x}_d y_d \right)$, $\tilde{u}_d = \gamma_d (y_d - \mathbf{x}_d^T \tilde{\boldsymbol{\beta}})$ and $\gamma_d = \sigma_u^2 / (v_d + \sigma_u^2)$. In practice, the variance σ_u^2 is usually unknown and it has to be estimated from the data under model (2). Methods of estimating σ_u^2 include maximum likelihood (ML) and restricted maximum likelihood (REML) under normality, and the method of fitting constants without normality assumption. Let $\hat{\sigma}_u^2$ denotes estimate of σ_u^2 . Replacing σ_u^2 (in equation (3) and $\tilde{\boldsymbol{\beta}}$) yields the corresponding empirical Best Linear Unbiased Predictor (EBLUP) for Y_d (denoted by \hat{Y}_d^{EBLUP}) given by

$$\hat{Y}_d^{EBLUP} = \mathbf{x}_d^T \hat{\boldsymbol{\beta}} + \hat{u}_d = \hat{\gamma}_d y_d + (1 - \hat{\gamma}_d) \mathbf{x}_d^T \hat{\boldsymbol{\beta}}, \quad (4)$$

where $\hat{\boldsymbol{\beta}} = \boldsymbol{\beta}(\hat{\sigma}_u^2) = \left(\sum_d (v_d + \hat{\sigma}_u^2)^{-1} \mathbf{x}_d \mathbf{x}_d^T \right)^{-1} \left(\sum_d (v_d + \hat{\sigma}_u^2)^{-1} \mathbf{x}_d y_d \right)$, $\hat{u}_d = \hat{\gamma}_d (y_d - \mathbf{x}_d^T \hat{\boldsymbol{\beta}})$ and $\hat{\gamma}_d = \hat{\sigma}_u^2 / (v_d + \hat{\sigma}_u^2)$. We note that the EBLUP \hat{y}_d is a linear combination of a direct estimate Y_d and the model dependent regression synthetic estimate $\mathbf{x}_d^T \hat{\boldsymbol{\beta}}$, with weights given by $\hat{\gamma}_d$. Here $\hat{\gamma}_d$ is called ‘shrinkage factor’ since it ‘shrinks’ the direct estimator towards the synthetic estimator $\mathbf{x}_d^T \hat{\boldsymbol{\beta}}$ (Rao, 2003).

Turning to mean squared error (MSE) estimation, if $\boldsymbol{\beta}$ and σ_u^2 are also known, the variance of the BLUP (3) is given as

$$\text{Var}[\tilde{Y}_d^{BLUP}(\sigma_u^2, \boldsymbol{\beta})] = \gamma_d v_d = g_{1d}. \quad (5)$$

In practice, $\boldsymbol{\beta}$ and σ_u^2 are estimated from the sample data and substituted for the true values, giving rise to the EBLUP. A naïve variance estimator is obtained by replacing σ_u^2 by $\hat{\sigma}_u^2$ in g_{1d} . This estimator ignores the variability of $\hat{\sigma}_u^2$ and hence underestimates the true variance. Prasad and Rao (1990) extending the work of Kackar and Harville (1984) approximate the true prediction MSE of the EBLUP under normality of the two error terms and for the case where σ_u^2 is estimated by the ANOVA (fitting of constants) method as,

$$\text{MSE}[\hat{Y}_d^{EBLUP}(\hat{\sigma}_u^2, \hat{\boldsymbol{\beta}})] = E[\hat{Y}_d^{EBLUP}(\hat{\sigma}_u^2, \hat{\boldsymbol{\beta}}) - Y_d]^2 = g_{1d} + g_{2d} + g_{3d}. \quad (6)$$

Here $g_{2d} = (1 - \gamma_d)^2 \mathbf{x}_d^T \text{Var}(\hat{\boldsymbol{\beta}}) \mathbf{x}_d$ with $\text{Var}(\hat{\boldsymbol{\beta}}) = \left(\sum_d (v_d + \sigma_u^2)^{-1} \mathbf{x}_d \mathbf{x}_d^T \right)^{-1}$ is the excess in MSE due to estimation of $\boldsymbol{\beta}$ and $g_{3d} = [\sigma_{Di}^4 / (\sigma_{Di}^2 + \sigma_u^2)^3] \times \text{Var}(\hat{\sigma}_u^2)$ is the excess in MSE due to estimation of σ_u^2 . The neglected terms in the approximation are of order $o(1/D)$. Building on the approximation, Prasad and Rao (1990) derive an MSE estimator of (6) with bias of order $o(1/D)$ as,

$$\text{mse}[\hat{Y}_d^{EBLUP}(\hat{\sigma}_u^2, \hat{\boldsymbol{\beta}})] = g_{1d}(\hat{\sigma}_u^2) + g_{2d}(\hat{\sigma}_u^2) + 2g_{3d}(\hat{\sigma}_u^2). \quad (7)$$

where $g_{kd}(\hat{\sigma}_u^2)$ is obtained from g_{kd} by substituting $\hat{\sigma}_u^2$ for σ_u^2 , $k=1,2,3$. The MSE estimator (7) is robust with respect to departures from normality of the random area effects u_d but not the sampling errors e_d (Lahiri and Rao, 1995). Here, standard error of the EBLUP is calculated as square root of MSE. We note that the leading term in the MSE estimate (7) is $g_{1d} = \gamma_d v_d$. For small values of ‘shrinkage factor’ γ_d (i.e., when the model variance σ_u^2 is small relative to the sampling variance v_d), the MSE estimate (7) is given by

$MSE[\hat{Y}_d^{EBLUP}(\hat{\sigma}_u^2, \hat{\beta})] \ll v_d = V_D(y_d)$, where $V_D(y_d)$ is the variance of direct survey estimate. This clearly shows the possible gains from using the model dependent estimator SAE method over the direct survey estimate.

In practice small areas are unplanned domains. Therefore, survey data often have many small areas with zero sample sizes also referred to as out of sample areas. The conventional approach for estimating small areas in this case is synthetic estimation, based on a suitable model fitted to the data from the sampled areas. This is equivalent to setting the area effect for out of sampled area to zero. Under model (2), the synthetic EBLUP predictor for Y_d is

$$\hat{Y}_d^{SYN} = \mathbf{x}_d^T \hat{\beta}. \quad (8)$$

This predictor is referred as the Synthetic EBLUP (hereafter denoted by SYN). Under model (2), the MSE estimate for the synthetic predictor (8) is

$$mse(\hat{Y}_d^{SYN}) = \mathbf{x}_d^T v(\hat{\beta}) \mathbf{x}_d + \hat{\sigma}_u^2. \quad (9)$$

3.3 Small Area Estimation Method for Small Area Proportions for Employment and Unemployment

Let us assume that a finite population U of size N consists of D non-overlapping and mutually exclusive small areas (or areas), and a sample s of size n is drawn from this population using a probability sampling method. We use a subscript d to index quantities belonging to small area d ($d=1, \dots, D$). Let U_d and s_d be the population and sample of sizes N_d and n_d in area d , respectively such that $U = \bigcup_{d=1}^D U_d$, $N = \sum_{d=1}^D N_d$, $s = \bigcup_{d=1}^D s_d$ and $n = \sum_{d=1}^D n_d$. We use subscript s and r respectively to denote quantities related to sample and non-sample parts of the population. Let y_{di} denotes the value of the variable of interest for unit i ($i=1, \dots, N_d$) in area d . The variable of interest, with values y_{di} , is binary (e.g., $y_{di} = 1$ if household i in area d is poor and 0 otherwise), and the aim is to estimate the small area population count, $y_d = \sum_{i \in U_d} y_{di}$, or equivalently the small area proportion, $P_d = N_d^{-1} y_d$, in area d ($d=1, \dots, D$). The standard direct survey estimator (hereafter denoted by Direct) for P_d is $\hat{P}_d^{Direct} = \sum_{i \in s_d} \mathcal{W}_{di} y_{di}$, where $\mathcal{W}_{di} = w_{di} / \sum_{i \in s_d} w_{di}$ is the normalized survey weight with $\sum_{i \in s_d} \mathcal{W}_{di} = 1$ and w_{di} is the survey weight for unit i in area d . The estimated variance of Direct

is approximated by $v(\hat{p}_d^{Direct}) \approx \sum_{i \in \mathcal{S}_d} w_{di} (\frac{y_{di}}{w_{di}} - 1) (y_{di} - \hat{p}_d^{Direct})^2$. This formula for the variance estimator of DIR is obtained from Särndal et al. (1992), with the simplifications $w_{di} = a_{di}^{-1}$, $a_{di,di} = a_{di}$ and $a_{di,dj} = a_{di}a_{dj}$, $i \neq j$, where a_{di} is the first order inclusion probability of unit i in area d and $a_{di,dj}$ is the second order inclusion probability of units i and j in area d . Under simple random sampling (SRS), $w_{di} = N_d n_d^{-1}$ and Direct is then $p_d = n_d^{-1} y_{sd}$, with estimated variance $v(p_d) \approx n_d^{-1} p_d (1 - p_d)$, where $y_{sd} = \sum_{i \in \mathcal{S}_d} y_{di}$ denotes the sample count in area d . Similarly, $y_{rd} = \sum_{i \in \mathcal{S}_r} y_{di}$ denotes the non-sample count in area d . If the sampling design is informative, this SRS-based version of Direct may be biased. Furthermore, Direct is based on area-specific sample data and can therefore be very imprecise when the area specific sample size is small or may even be impossible to compute if this sample size is zero. However, model-based SAE procedures that ‘borrow strength’ via a common statistical model for all the small areas can be used to address this problem (Rao and Molina, 2015). If we ignore the sampling design, the sample count y_{sd} in area (district) d can be assumed to follow a Binomial distribution with parameters n_d and π_d , i.e. $y_{sd} | u_d \sim \text{Bin}(n_d, \pi_d)$. Similarly, for the non-sample count, $y_{rd} | u_d \sim \text{Bin}(N_d - n_d, \pi_d)$. Further, y_{sd} and y_{rd} are assumed to be independent binomial variables with π_d being a common success probability. This leads to $E(y_{sd} | u_d) = n_d \pi_d$ and $E(y_{rd} | u_d) = (N_d - n_d) \pi_d$.

Let \mathbf{x}_d be the k -vector of covariates for area d from available data sources. Following Johnson et al. (2010) and Chandra et al. (2011), the model linking the probability π_d with the covariates \mathbf{x}_d is the logistic linear mixed model of form

$$\text{logit}(\pi_d) = \ln \left\{ \frac{\pi_d}{1 - \pi_d} \right\} = \eta_d = \mathbf{x}_d^T \boldsymbol{\beta} + u_d, \quad (10)$$

with $\pi_d = \exp(\mathbf{x}_d^T \boldsymbol{\beta} + u_d) \{1 + \exp(\mathbf{x}_d^T \boldsymbol{\beta} + u_d)\}^{-1}$. Here $\boldsymbol{\beta}$ is the k -vector of regression coefficients, often known as fixed effect parameters, and u_d is the area-specific random effect that capture the area dissimilarities. We assume that u_d is independent and normally distributed with mean zero and variance σ_u^2 . Here, we observe that equation (10) relates the area (or district) level proportions (direct estimates) from the survey data to the area (or

district) level covariates. This type of model is often referred to as ‘area-level’ model in SAE terminology, as described in Section 3.2. The Fay and Herriot method for SAE is based on area level linear mixed model and their approach is applicable to a continuous variable. Equation (10), a special case of a generalized linear mixed model with logit link function, is suitable for modelling discrete data, particularly the binary variables (Chandra et al.,2011). We can express the total population counts y_d as $y_d = y_{sd} + y_{rd}$, where the first term y_{sd} , the sample count is known whereas the second term y_{rd} , the non-sample count, is unknown. Under model (10), a plug-in empirical predictor (EP) of the population count y_d in area d is obtained as

$$\hat{y}_d^{EP} = y_{sd} + \hat{E}(y_{rd} | \mathbf{u}_d) = y_{sd} + (N_d - n_d) \left[\exp(\mathbf{x}_d^T \hat{\boldsymbol{\beta}} + \hat{u}_d) (1 + \exp(\mathbf{x}_d^T \hat{\boldsymbol{\beta}} + \hat{u}_d))^{-1} \right]. \quad (11)$$

An estimate of the corresponding proportion in area d is $\hat{p}_d^{EP} = N_d^{-1} \hat{y}_d^{EP}$. It is obvious that in order to compute the small area estimates by equation (11), we require estimates of the unknown parameters $\boldsymbol{\beta}$ and \mathbf{u} . We use an iterative procedure that combines the Penalized Quasi-Likelihood (PQL) estimation of $\boldsymbol{\beta}$ and $\mathbf{u} = (u_1, \dots, u_D)^T$ with restricted maximum likelihood (REML) estimation of σ_u^2 to estimate unknown parameters.

It is important to note that the model (10) is based on unweighted sample counts, and hence it assumes that sampling within areas is non-informative given the values of the contextual variables and the random area effects. The small area predictor based on (11) therefore ignores the complex survey design used in NSSO data. The sampling design used in 2011 HCES is informative. Using the effective sample size rather than the actual sample size allows for the survey weights under complex sampling. Furthermore, the precision of an estimate from a complex sample can be higher than for a simple random sample, because of the better use of population data through a representative sample drawn using a suitable sampling design. Following Chandra et al. (2019) and Korn and Graubard (1998), we model the survey weighted probability estimate for an area as a binomial proportion, with an ‘‘effective sample size’’ that equates the resulting binomial variance to the actual sampling variance of the survey weighted direct estimate for the area. Hence, in our analysis we replaced the ‘‘actual sample size’’ and the ‘‘actual sample count’’ with the ‘‘effective sample size’’ and the ‘‘effective sample count’’ respectively.

The mean squared error (MSE) estimates are computed to assess the reliability of estimates and also to construct the confidence interval (CI) for the estimates. Following Chandra et al. (2011), an approximate MSE estimate of (11) is:

$$mse(\hat{p}_d^{EP}) = M_1(\hat{\sigma}_u^2) + M_2(\hat{\sigma}_u^2) + 2M_3(\hat{\sigma}_u^2). \quad (12)$$

It can be noted that MSE estimate (12) is based on certain approximations. The theoretical development is reported in Chandra et al. (2019). For simplicity and ease of implementation, we define few notations to express different components of equation (12). We denote by $\hat{\mathbf{V}}_s = \text{diag}\{n_d \hat{p}_d^{EP}(1 - \hat{p}_d^{EP})\}$ and $\hat{\mathbf{V}}_r = \text{diag}\{(N_d - n_d) \hat{p}_d^{EP}(1 - \hat{p}_d^{EP})\}$ the diagonal matrices defined by the corresponding variances of the sample and non-sample parts, respectively. We then define $\mathbf{A} = \{\text{diag}(N_d^{-1})\} \hat{\mathbf{V}}_r$, $\mathbf{B} = \{\text{diag}(N_d^{-1})\} \hat{\mathbf{V}}_{rd} \mathbf{X} - \mathbf{A} \hat{\mathbf{T}} \hat{\mathbf{V}}_s \mathbf{X}$ and $\hat{\mathbf{T}} = (\hat{\sigma}_u^2 \mathbf{I}_D + \hat{\mathbf{V}}_s)^{-1}$, where $\mathbf{X} = (\mathbf{x}_1^T, \dots, \mathbf{x}_D^T)^T$ is a $D \times k$ matrix, and \mathbf{I}_D is an identity matrix of order D . We further write $\hat{\mathbf{T}}_{11} = \{\mathbf{X}^T \hat{\mathbf{V}}_s \mathbf{X} - \mathbf{X}^T \hat{\mathbf{V}}_s \hat{\mathbf{T}} \hat{\mathbf{V}}_s \mathbf{X}\}^{-1}$ and $\hat{\mathbf{T}}_{22} = \hat{\mathbf{T}} + \hat{\mathbf{T}} \hat{\mathbf{V}}_s \mathbf{X} \hat{\mathbf{T}}_{11} \mathbf{X}^T \hat{\mathbf{V}}_s^T \hat{\mathbf{T}}$. With these notations, assuming model (1) holds, the various components of MSE estimate are:

$$M_1(\hat{\sigma}_u^2) = \mathbf{A} \hat{\mathbf{T}} \mathbf{A}^T, \quad M_2(\hat{\sigma}_u^2) = \mathbf{B} \hat{\mathbf{T}}_{11} \mathbf{B}^T, \quad \text{and} \quad M_3(\hat{\sigma}_u^2) = \text{trace}(\hat{\mathbf{V}}_i \hat{\Sigma} \hat{\mathbf{V}}_j' v(\hat{\sigma}_u^2))$$

with $\hat{\Sigma} = \hat{\mathbf{V}}_{sd} + \hat{\phi} \mathbf{I}_D \hat{\mathbf{V}}_{sd} \hat{\mathbf{V}}_{sd}^T$. Let us write $\Delta = \mathbf{A} \hat{\mathbf{T}}$ and $\hat{\mathbf{V}}_i = \partial(\Delta_i) / \partial \phi|_{\phi = \hat{\phi}} = \partial(A_i \hat{\mathbf{T}}) / \partial \sigma_u^2|_{\sigma_u^2 = \hat{\sigma}_u^2}$, where A_i is the i^{th} row of the matrix \mathbf{A} . Here $v(\hat{\sigma}_u^2)$ is the asymptotic covariance matrix of the estimate of variance component $\hat{\sigma}_u^2$. This also depends upon whether we use ML or REML estimate for of variance component $\hat{\sigma}_u^2$. We use REML estimates for $\hat{\sigma}_u^2$ and then $v(\hat{\sigma}_u^2) = 2 \left((\hat{\sigma}_u^2)^{-2} (D - 2t_1) + (\hat{\sigma}_u^2)^{-4} t_{11} \right)^{-1}$ with $t_1 = (\hat{\sigma}_u^2)^{-1} \text{trace}(\hat{\mathbf{T}}_{22})$ and $t_{11} = \text{trace}(\hat{\mathbf{T}}_{22} \hat{\mathbf{T}}_{22})$.

Chapter 4

District-wise MPCE and Poverty Estimation in Uttar Pradesh

In this Chapter we present the results generated from the SAE methods described in Chapter 3. In particular, the estimates of average of monthly per capita consumer and expenditure (MPCE) along with their standard error and percentage coefficient of variations as well as the estimates of incidence of poverty along with their standard error and percentage coefficient of variations are generated using the Household Consumer Expenditure Survey (HCES) of the NSSO conducted in 2011-12 for both rural and urban sectors of the State of Uttar Pradesh and the 2011 Population Census.

Table 4 provides the estimated number of household, average household size, estimate of average of monthly per capita consumer and expenditure (MPCE) along with their standard error (SE) and percentage coefficient of variations (CV) and estimate of incidence of poverty along with SE and CV for the state of Uttar Pradesh in 2011-12. The results are reported for both rural and urban sectors as well as for different land holdings size of rural areas. .

Table 4: Sample size, estimated number of household (est.HH), average household size (HHS), estimate of average of monthly per capita consumption expenditure (MPCE) along with their standard error (SE) and percentage coefficient of variations (CV) and estimate of incidence of poverty along with SE and CV for the state of Uttar Pradesh in 2011-12

Sector	Category	Sam ple Size	Est. HH	HHS	MPCE	SE	CV	Incidence of Poverty	SE	CV
Rural	All	5916	26372564	5.5	1073	11.9	1.11	0.258	0.0092	3.57
	LC1 (Marginal)	4652	21898413	5.3	1013	11.1	1.09	0.284	0.0104	3.65
	LC2 (Small	666	2886029	6.0	1245	43.6	3.50	0.139	0.0218	15.69
	LC3 (Others)	598	1588122	7.1	1426	73.8	5.17	0.124	0.0317	25.54
	ST	77	341538	5.5	1179	102.1	8.66	0.228	0.0661	29.00
	SC	1551	7431943	5.2	927	18.3	1.97	0.352	0.0185	5.26
	OBC	3130	14300545	5.6	1049	15.8	1.51	0.255	0.0128	5.01
	OTHER	1158	4298539	5.6	1377	34.8	2.53	0.110	0.0151	13.77
Urban	All	3099	8000196	4.9	1942	58.8	3.03	0.192	0.0098	5.12
	ST	34	83590	3.4	2408	393.8	16.36	0.096	0.0412	42.87
	SC	423	1026518	5.2	1345	72.2	5.37	0.326	0.0328	10.05
	OBC	1526	3762665	5.2	1430	45.2	3.16	0.244	0.0155	6.37
	OTHER	1116	3127422	4.5	2882	138.0	4.79	0.087	0.0116	13.31

Source : NSSO, 68th Round, computed by GIDS.

The above table indicates that all households' data in rural areas of the total number of estimated households, average monthly per capita consumption expenditure figures are lower than the urban areas. It means in rural areas average monthly per capita consumption expenditure is only Rs.1073. Secondly, coefficient of variation also shows very less variation in rural areas which is marginally spreaded than the Urban areas. But the incidence of poverty proportion shows higher in rural areas as compared to urban figures. As a whole, the incidence of poverty's percentage coefficient of variation spread in rural areas is comparatively lower than urban areas.

In the rural areas, land category wise farmers data reveals that inverse relationship has taken place between MPCE and Incidence of Poverty proportions. As the land size increases from marginal to small and others, the MPCE has grown at a higher level, but the incidence of poverty proportions has come down. The positive relationship has taken place between direct estimation of CV levels and the incidence of poverty proportions CV levels in rural areas. Direct estimation CV levels are increased marginally if the land size increases, whereas incidences of poverty proportions CV levels are increased at a very high level. It means that the variations are less spreaded in direct estimation of land size increases, whereas the percentage coefficients of variations are highly spreaded in the incidence of poverty proportions if the land size category increases among farmers.

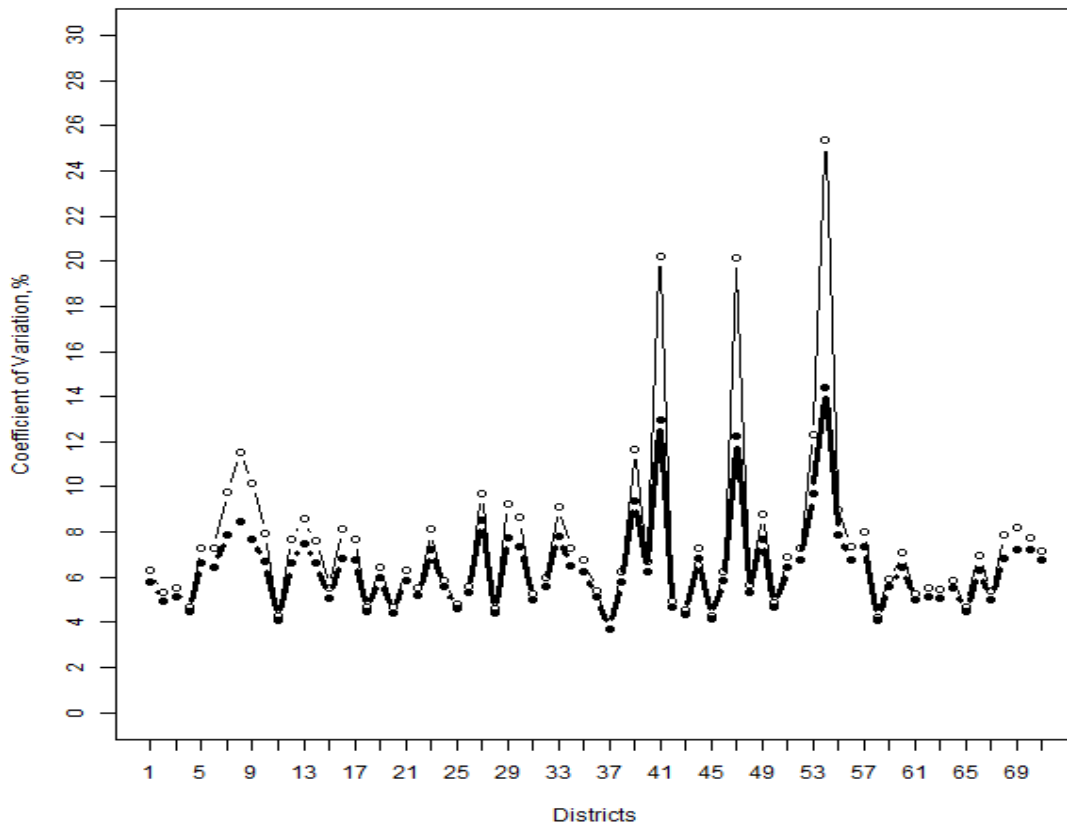
In the rural areas, Caste category data reveals that less variations exists among SC, OBC and ST's as compared to Others category's of direct estimation of MPCE. The incidence of poverty proportion levels is also higher among SC, OBC and ST's as compared to Other category. As per direct estimation, CV of ST's are very much higher than SC, OBC and also Other category households. In case of incidence of poverty proportions, CV of ST is again higher than Others, SC and OBCs. It means variations are very high among ST category households as compared to all other caste categories. Secondly the variations are higher in Other category households as compared to SC and OBC category households. It clearly shows that variations are very high among very poor category households like ST and very rich category households like Others. Very less variations have found among OBC category households in Uttar Pradesh.

In the Urban areas, Caste category data reveals that less variations exists among SC and OBC as compared to ST's and Others category's of direct estimation of MPCE. The incidence of

poverty proportion levels is also higher among SC and OBC as compared to ST's and Other category households. As per direct estimation, CV of ST's are very much higher than SC, OBC and also Other category households. In case of incidence of poverty, CV of ST is again higher than Others, SC and OBCs. It means variations are very high among ST category households as compared to all other caste categories. Secondly the variations are higher in Other category households as compared to SC and OBC category households. It clearly shows that variations are very high among very poor category households like ST and very rich category households like Others. Very fewer variations have been found among OBC category households in Uttar Pradesh.

However, the above mentioned Table 1,2 and 4 explain about the following details. Table 1 shows distribution of district by category-wise sample size in the 2011-12 HCES data for rural areas. From Table 1 it can be seen that for the rural area the sample size for LC2, LC3 and ST categories in rural areas in the 2011-12 HCES data are 666, 598 and 77 respectively, which are marginally small. Table 2 presents distribution of district by category-wise sample size in the 2011-12 HCES data for urban areas. In Table 2 we observed that sample sizes are SC and ST categories in urban areas in the 2011-12 HCES data are 423 and 23 respectively, which are significantly small for the estimation. The district-wise sample sizes for these categories are very small for further district level analysis. Table 4 shows the state level estimates for different categories for rural and urban area in Uttar Pradesh. Looking at the sample sizes and results in Table 1, 2 and 4, we have not considered the district level estimation using small area estimation methods for LC2, LC3 and ST categories of rural areas and SC and ST categories in urban areas.

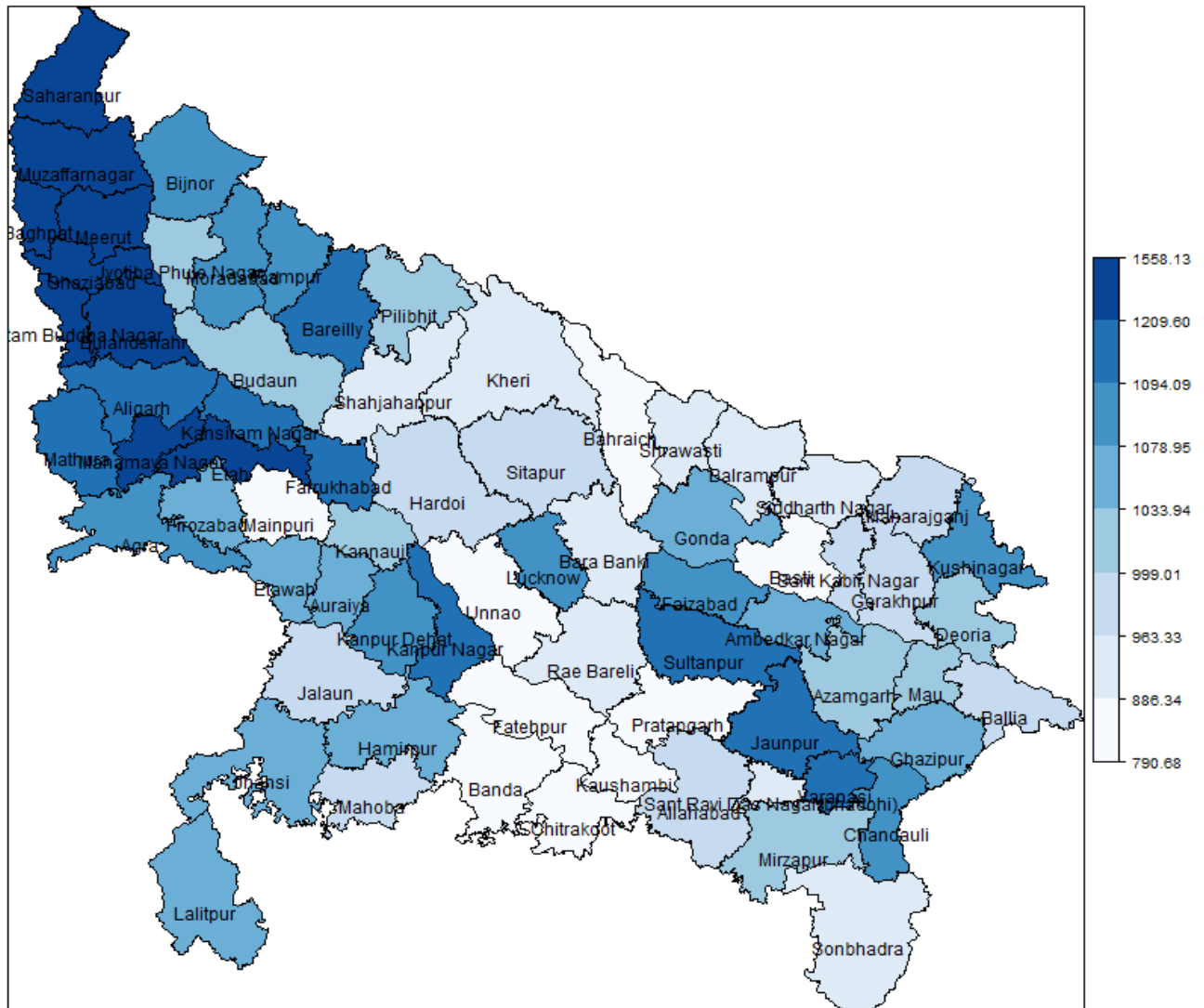
Figure 1: District-wise coefficient of variation (%) plot for the Direct (thin line,°) and small area estimate (solid line,●) estimates of MPCE for rural area of State of Uttar Pradesh, 2011-12.



Source: NSSO, 68th Round

As seen from the above figure, direct estimation of MPCE for rural area of the state of UP is very much marginally higher fluctuations as compared to the Small Area Estimation of district wise MPCE levels which are very much less fluctuated during this period. It also clearly shows that very high fluctuations have taken place in direct estimation of MPCE of some of the rural districts in Uttar Pradesh. Except few districts, the remaining districts rural MPCE is found very much low and less fluctuations during this period. However, in the rural areas MPCE levels are very low and CV levels are also low, except in few districts. Direct estimation CV levels are higher than Small Area Estimation CV Levels in rural areas of UP during this period.

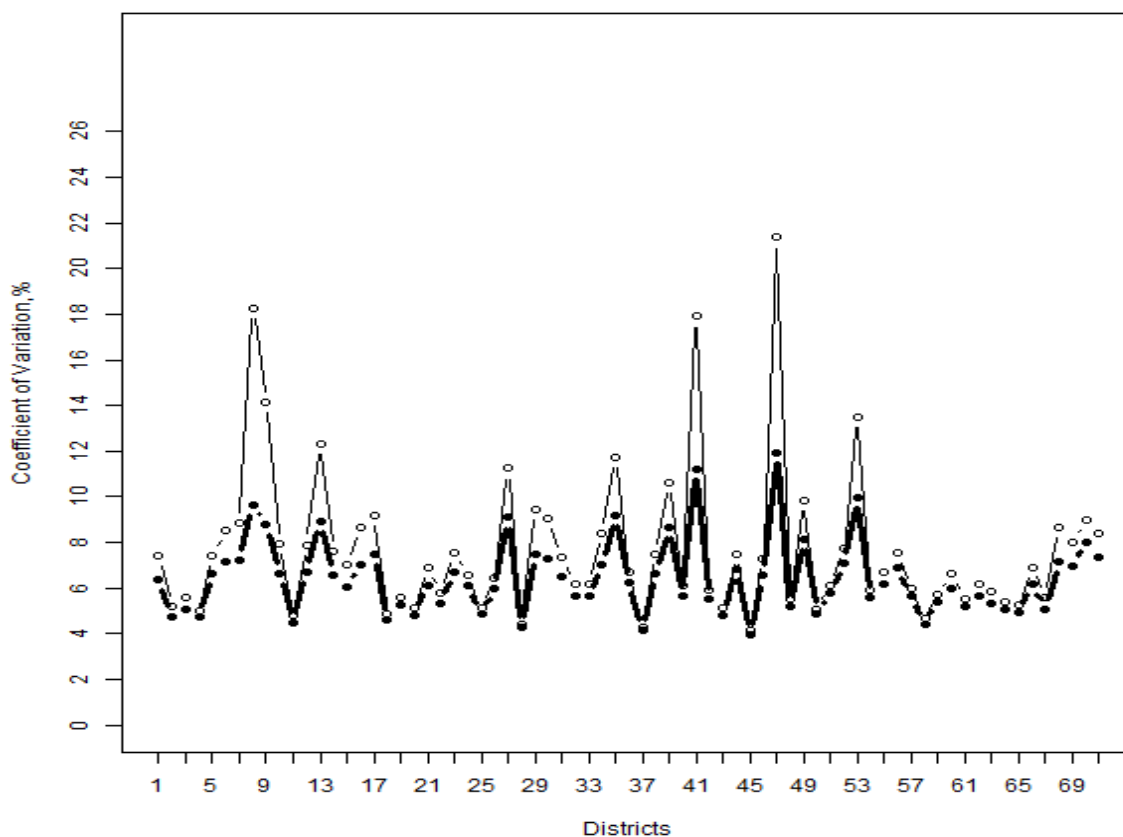
Figure 2: District-wise mapping of MPCE for rural area of Uttar Pradesh generated by small area estimation method, 2011-12.



Source: NSSO, 68th Round

As seen from the above figure, small area estimation of MPCE for district-wise rural area of the state of UP is very much low (Rs.791) in Banda, Chitrakoot, Kaushambi, Fatehpur, Unnao, Pratapgarh, Sant Ravidas Nagar, Basti, Bahraich and Mainpuri districts. It also clearly shows that very high (Rs. 1558) in Saharanpur, Muzafar Nagar, Baghpat, Meerut, Ghaziabad, Gautam Budh Nagar, Bulandshahr, Mahamaya Nagar and Etah districts.

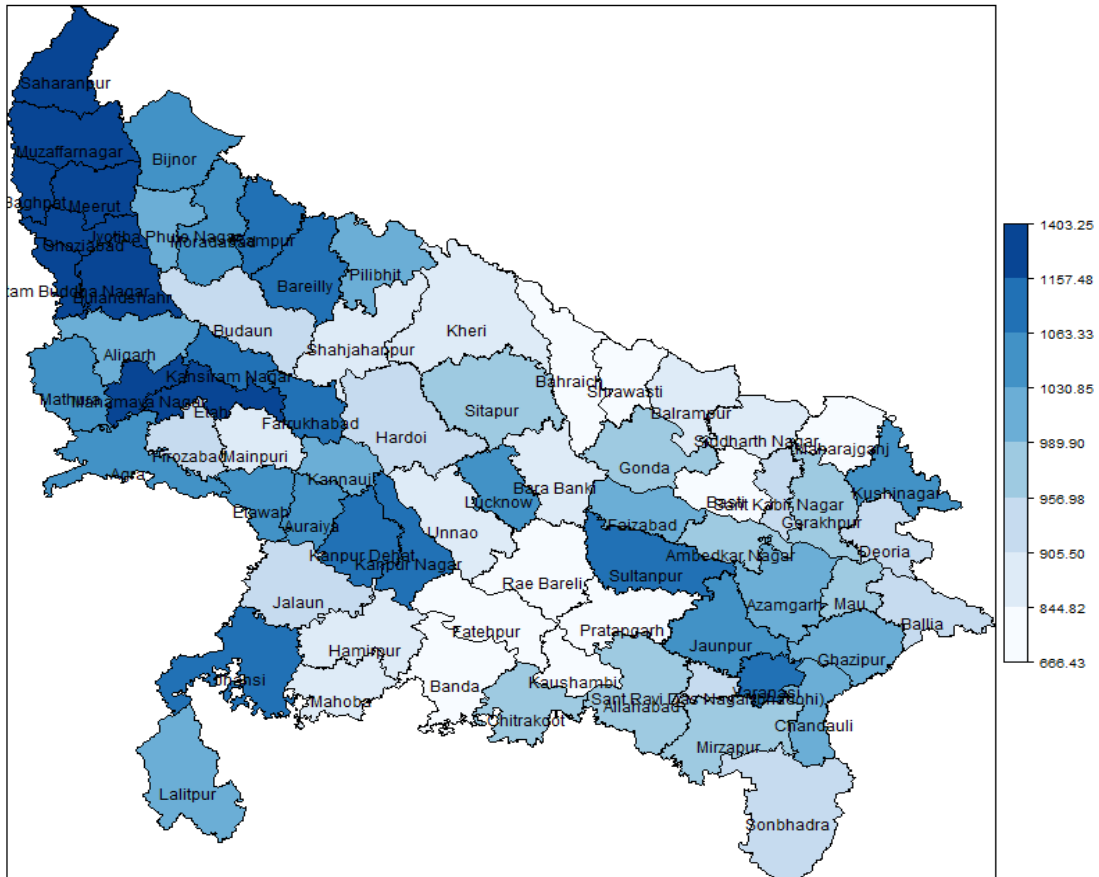
Figure 3: District-wise coefficient of variation (%) plot for the Direct (thin line,°) and small area estimate (solid line,●) estimates of MPCE for land holding category 1 (LC1: < land holding 1 ha) of rural area of the State of Uttar Pradesh, 2011-12.



Source : NSSO, 68th Round

As seen from the above figure, direct estimation of MPCE for land holding category 1 of rural area of the state of UP is very much higher fluctuations as compared to the Small Area Estimation of district wise MPCE levels which are very much less fluctuated during this period. It also clearly shows that very high fluctuations have taken place in direct estimation of MPCE for land holding category 1 of some of the rural districts in Uttar Pradesh. Direct estimation CV levels are higher than small area estimation CV Levels of land holding category 1 in rural areas of UP during this period.

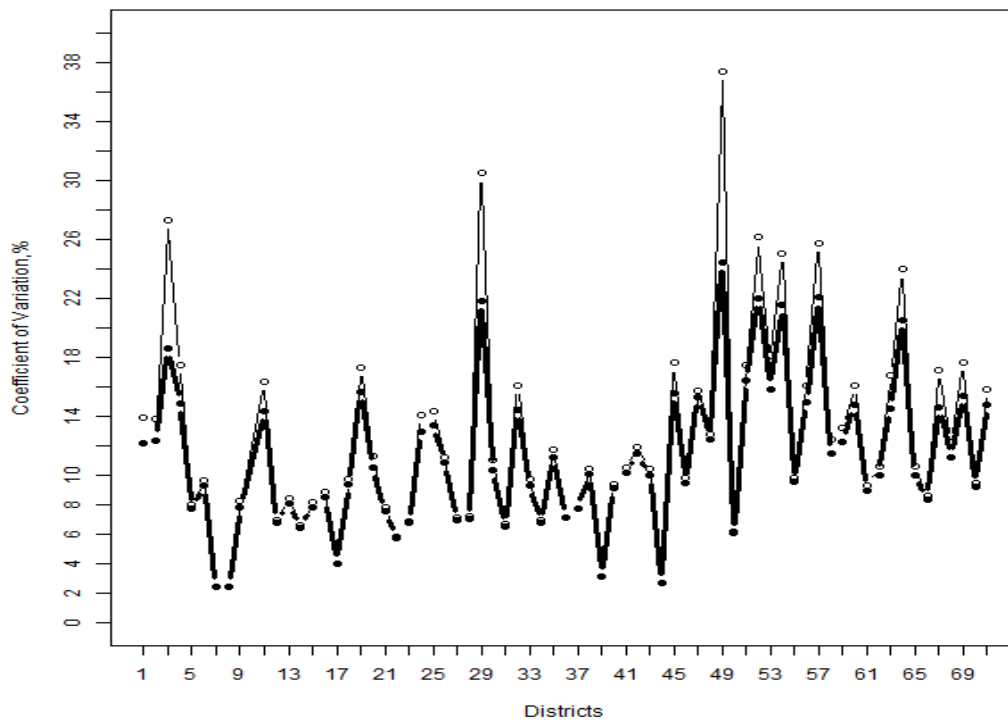
Figure 4: District-wise mapping of MPCE for land holding category 1 (LC1: < land holding 1 ha) of rural area of Uttar Pradesh generated by small area estimation method, 2011-12.



Source : NSSO, 68th Round

As seen from the above figure, small area estimation of MPCE for land holding category 1 of rural area of the state of UP is very low (Rs. 666) in districts like Banda, Fatehpur, Kaushambi, Pratnagarh, Raebareilly, Basti, Maharajganj, Bahraich, and Shrawasti. It also clearly shows that very high (Rs. 1403) in Saharanpur, Muzaffar Nagar, Baghpat, Meerut, Ghaziabad, Gautam Budh Nagar, Bulandshahr, Mahamaya Nagar and Etah districts. However, small area estimation of MPCE for land holding category 1 of rural districts of the UP state values are lower than direct estimation levels of the same category. The number of districts are also more in low MPCE category of small area estimation as compared with the direct estimation as mentioned above.

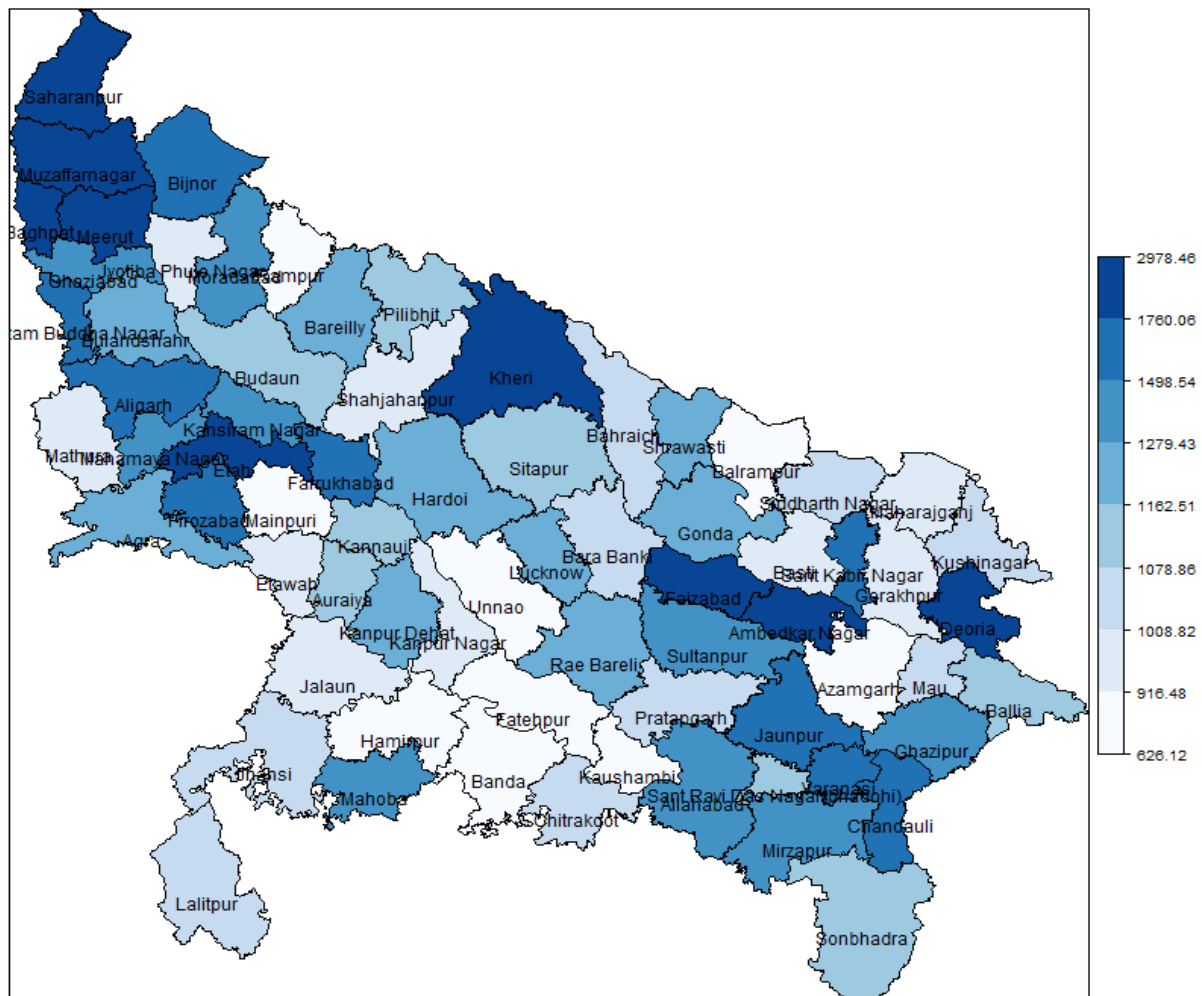
Figure 5: District-wise coefficient of variation (%) plot for the Direct (thin line,°) and small area estimate(solid line,●) estimates of MPCE for land holding category 2 (LC2: land holding ≥ 1 and < 2 ha) of rural area of the State of Uttar Pradesh, 2011-12.



Source : NSSO, 68th Round

As seen from the above figure, direct estimation of MPCE for land holding category 2 of rural area of the state of UP is marginally very much higher fluctuations as compared to the Small Area Estimation of district wise MPCE levels of the same category. It also clearly shows that very high fluctuations have taken place in direct estimation of MPCE for land holding category 2 of some of the rural districts in Uttar Pradesh. Direct estimation CV levels are higher than Small Area Estimation CV Levels of land holding category 2 in rural areas of UP during this period. However, as compared both land holding category of 1 with land holding category 2, the later one has more fluctuations as per direct estimation as well as small area estimation. In the former category MPCE levels are marginally varied from one district to another district as compared with later category farmers.

Figure 6: District-wise mapping of MPCE for land holding category 2 (LC2: land holding ≥ 1 and < 2 ha) of rural area of the State of Uttar Pradesh, 2011-12.

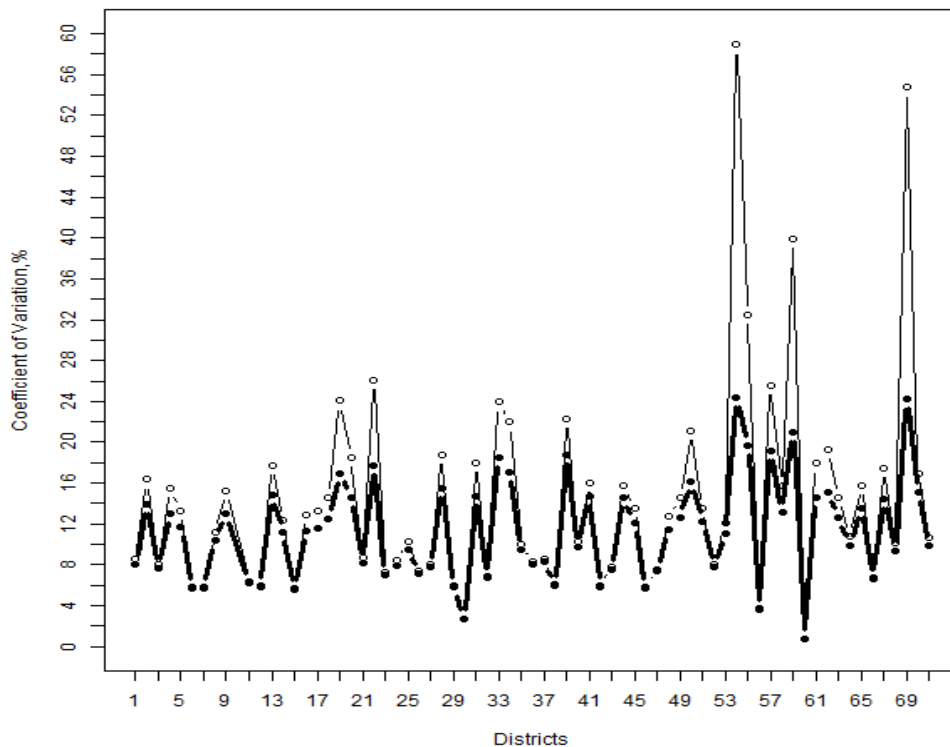


Source : NSSO, 68th Round

As seen from the above figure, small area estimation of MPCE for land holding category 2 of rural area of the state of UP is very low (Rs. 626) in districts like Banda, Fatehpur, Kaushambi, Hamirpur, Unnao, Azamgarh, Balrampur, Mainpuri, Jyothiba Phule Nagar, and Rampur. It also clearly shows that very high (Rs. 2978) in Saharanpur, Muzafar Nagar, Baghpat, Meerut, Etah, Kheri, Faizabad, Ambedkar Nagar and Deoria districts. However, small area estimation of MPCE for land holding category 2 of rural districts of the UP state values are started with much lower than land holding category 1 and end up with very high values of MPCE of land holding category 2. The number of districts are also varied when we

compare with landholding category 1 with 2 small area estimates of MPCE in Uttar Pradesh. The level of consumption has increased at a higher level when we compare both land holding category 2 with 1.

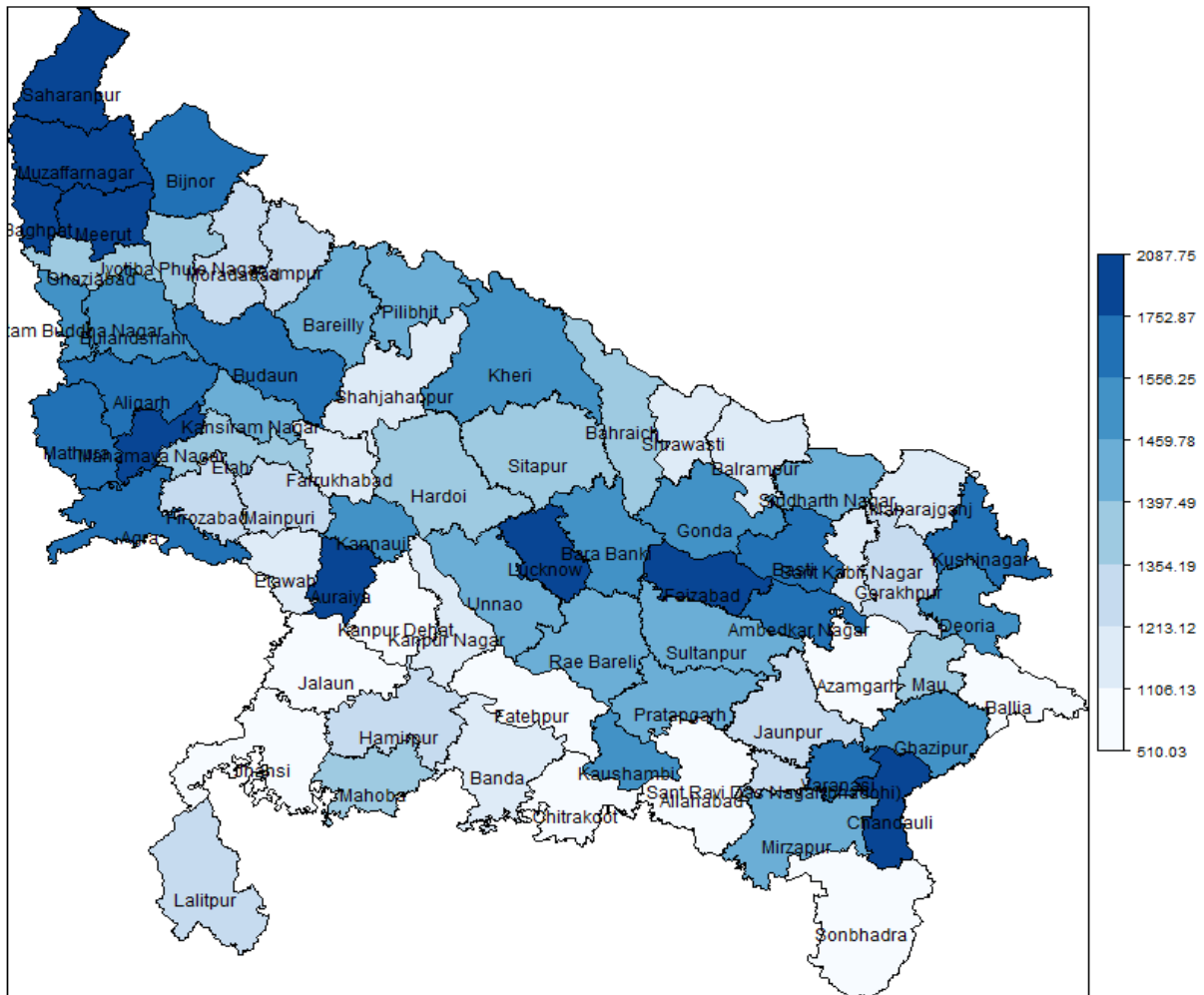
Figure 7: District-wise coefficient of variation (%) plot for the Direct (thin line,°) and small area estimate (solid line,●) estimates of MPCE for land holding category 3 (LC3: land holding ≥ 2 ha) of rural area of the State of Uttar Pradesh, 2011-12.



Source : NSSO, 68th Round

As seen from the above figure, direct estimation of MPCE for land holding category 3 of rural area of the state of UP is very much higher fluctuations as compared to the Small Area Estimation of district wise MPCE levels which are very much less fluctuated during this period. It also clearly shows that very high fluctuations have taken place in direct estimation of MPCE for land holding category 3 in some of the rural districts in Uttar Pradesh. Direct estimation CV levels are higher than small area estimation CV Levels of land holding category 3 in rural areas of UP during this period.

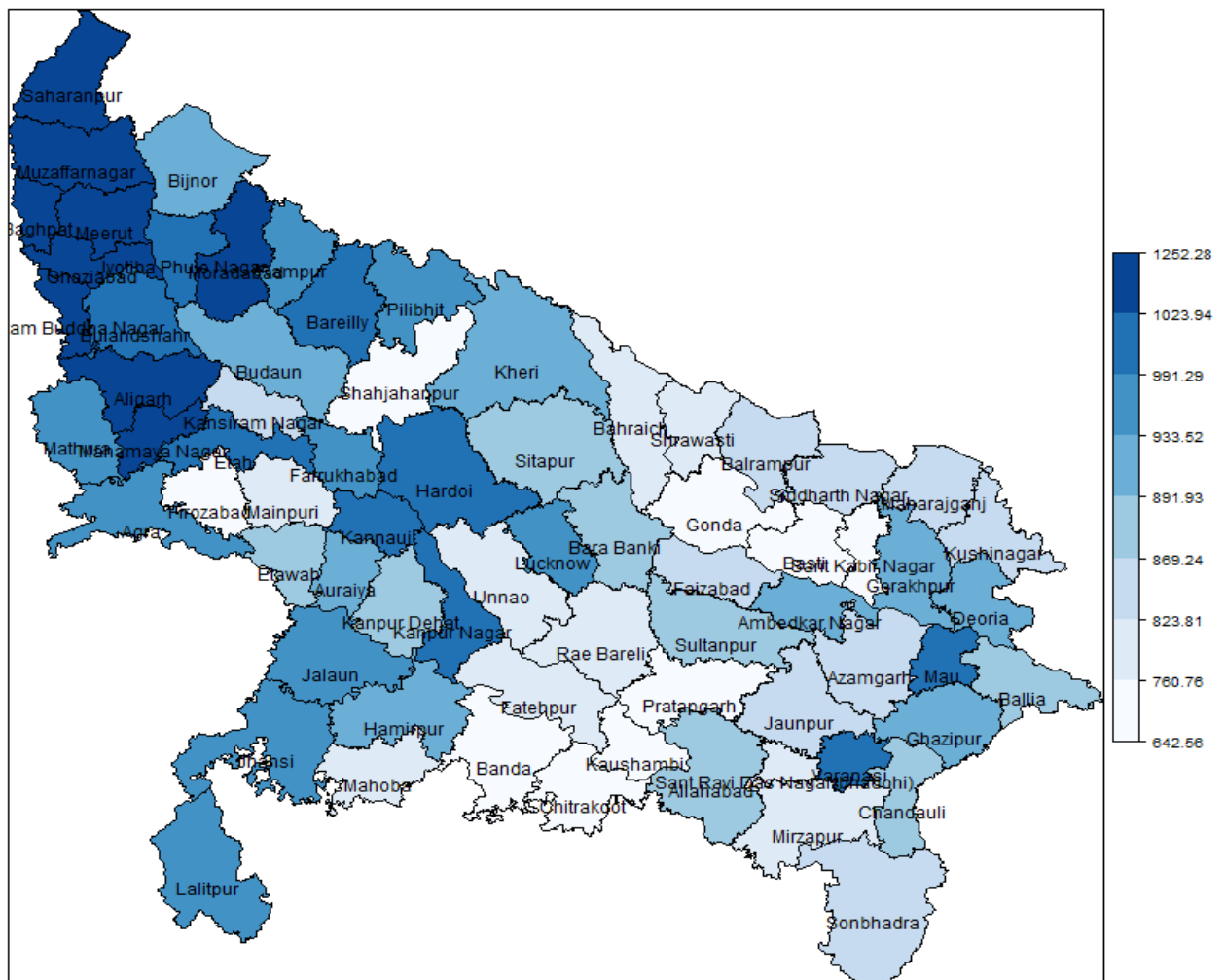
Figure 8: District-wise distribution of monthly per capita consumption and expenditure for land holding category 3 (LC3: land holding ≥ 2 ha) for rural area of State of Uttar Pradesh, 2011-12.



Source : NSSO, 68th Round

As seen from the above figure, small area estimation of MPCE for land holding category 3 of rural area of the state of UP is very low (Rs. 510) in districts like Chitrakoot, Allhabad, Fatehpur, Kanpur Dehat, Jalaun, Jhansi, Azamgarh, Ballia, and Sonbhadra. It also clearly shows that very high (Rs. 2087) in Saharanpur, Muzafar Nagar, Baghpat, Meerut, Mahamaya Nagar, Auraiya, Lucknow, Faizabad, and Chandauli districts. However, small area estimation of MPCE for land holding category 3 of rural districts of the UP state values are comparatively higher than the other two categories of land holdings.

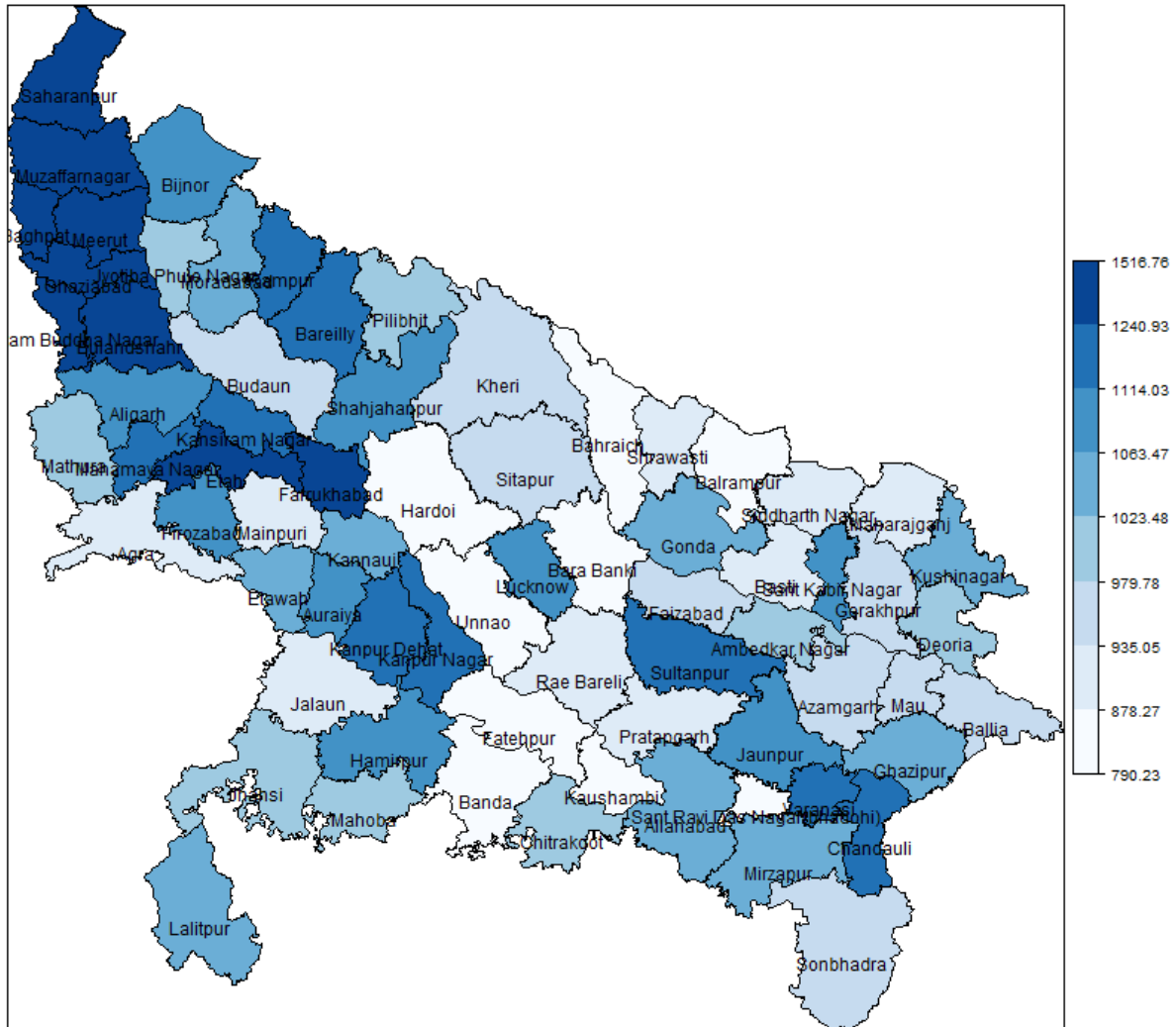
Figure 9. District-wise mapping of monthly per capita consumer and expenditure (MPCE) for social category schedule caste (SC) of rural area



a in the state of Uttar Pradesh generated by small area estimation method, 2011-12.

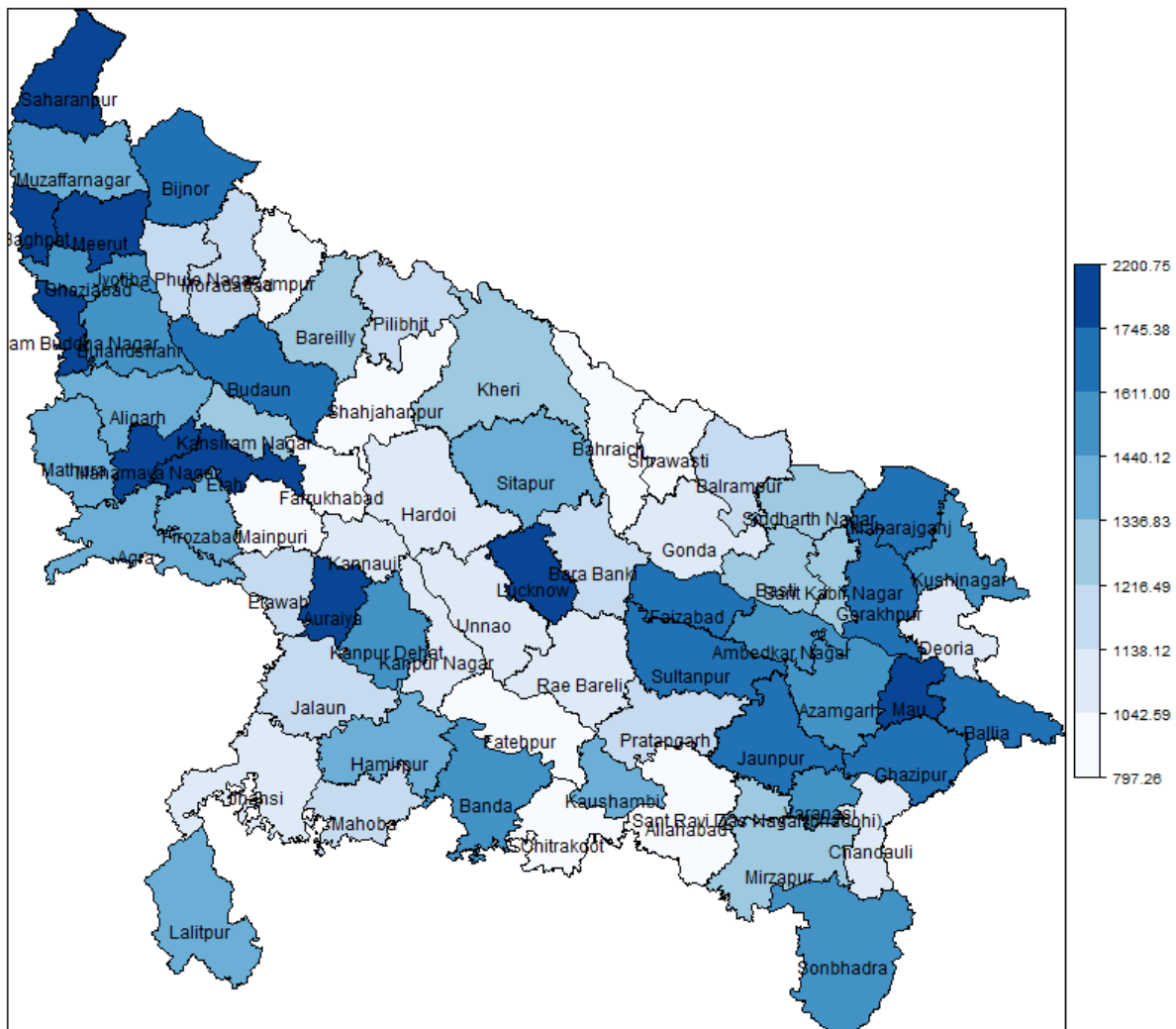
As seen from the above figure, small area estimation of MPCE for social category schedule caste (SC) of rural area of the state of UP is very low (Rs. 643) in districts like Chitrakoot, Banda, Kaushambi, Pratapgarh, Gonda, Basti, Sant Kabir Nagar, Shahjahanpur and Firozabad. It also clearly shows that relatively high (Rs. 1252) in Saharanpur, Muzafar Nagar, Baghpat, Meerut, Aligarh, Ghaziabad, Mahamaya Nagar, and Moradabad districts. However, small area estimation of MPCE for Scheduled Caste category in rural districts of the UP state values are relatively low as compared to OBC category.

Figure 10. District-wise mapping of monthly per capita consumer and expenditure (MPCE) for social category other backward caste (OBC) of rural area in the state of Uttar Pradesh generated by small area estimation method, 2011-12.



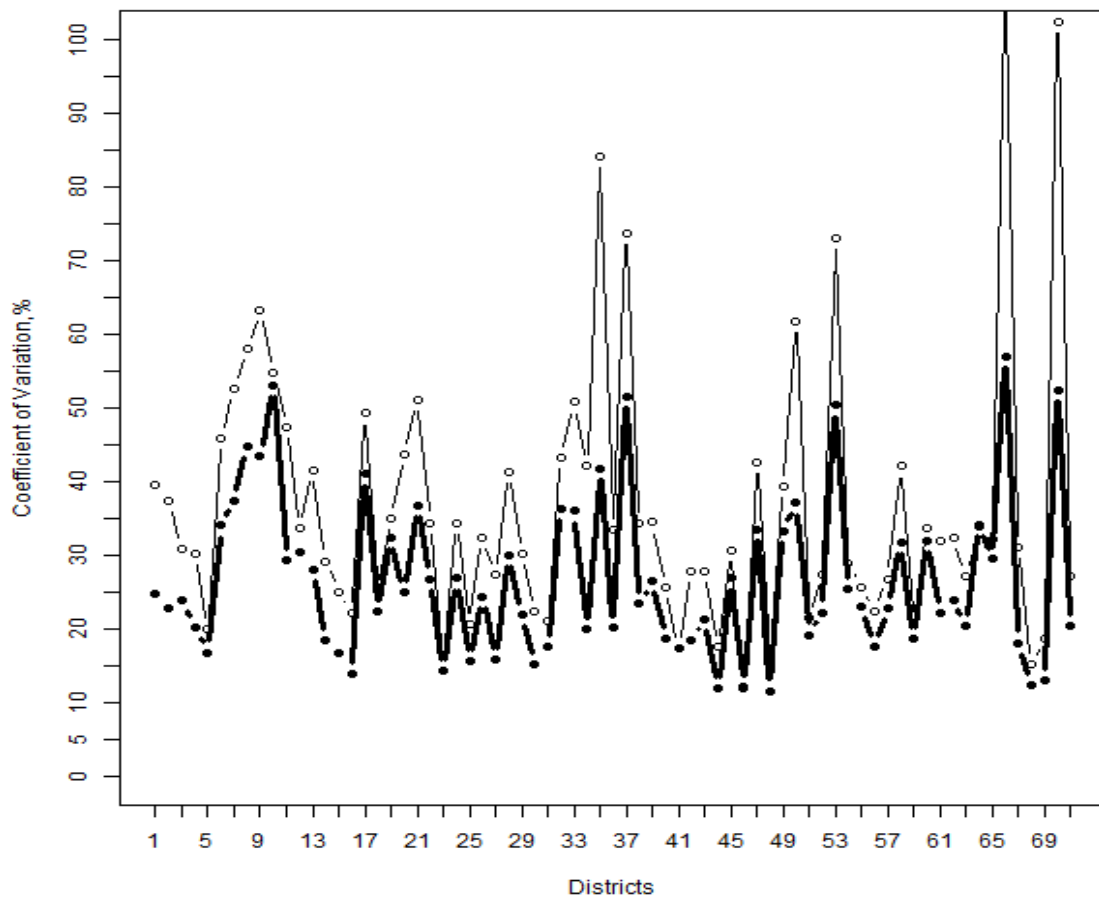
As seen from the above figure, small area estimation of MPCE for social category other backward caste (OBC) of rural area of the state of UP is low (Rs. 790) in districts like Banda, Kaushambi, Fatehpur, Unnao, Hardoi, Bahraich and Balrampur. It also clearly shows that relatively high (Rs. 1517) in Saharanpur, Muzaffar Nagar, Baghpat, Meerut, Ghaziabad, Gautam Budh Nagar and Etah districts. However, small area estimation of MPCE for OBC Caste category in rural districts of the UP state values are relatively high as compared to SC category .

Figure 11. District-wise mapping of monthly per capita consumer and expenditure (MPCE) for social category Other of rural area in the state of Uttar Pradesh generated by small area estimation method, 2011-12.



As seen from the above figure, small area estimation of MPCE for social category of Other of rural area of the state of UP is relatively low (Rs. 797) in districts like Chitrakoot, Allhabad, Fatehpur, Farrukhabad, Mainpuri, Bahraich, Shrawasti, Shahjahanpur and Rampur. It also clearly shows that relatively high (Rs. 2201) in Saharanpur, Baghpat, Meerut, Gautam Budh Nagar, Mahamaya Nagar, Etah, Auraiya, Lucknow, and Mau districts. However, small area estimation of MPCE for Other caste category in rural districts of the UP state values are relatively high as compared to OBC and SC category households in rural areas of Uttar Pradesh.

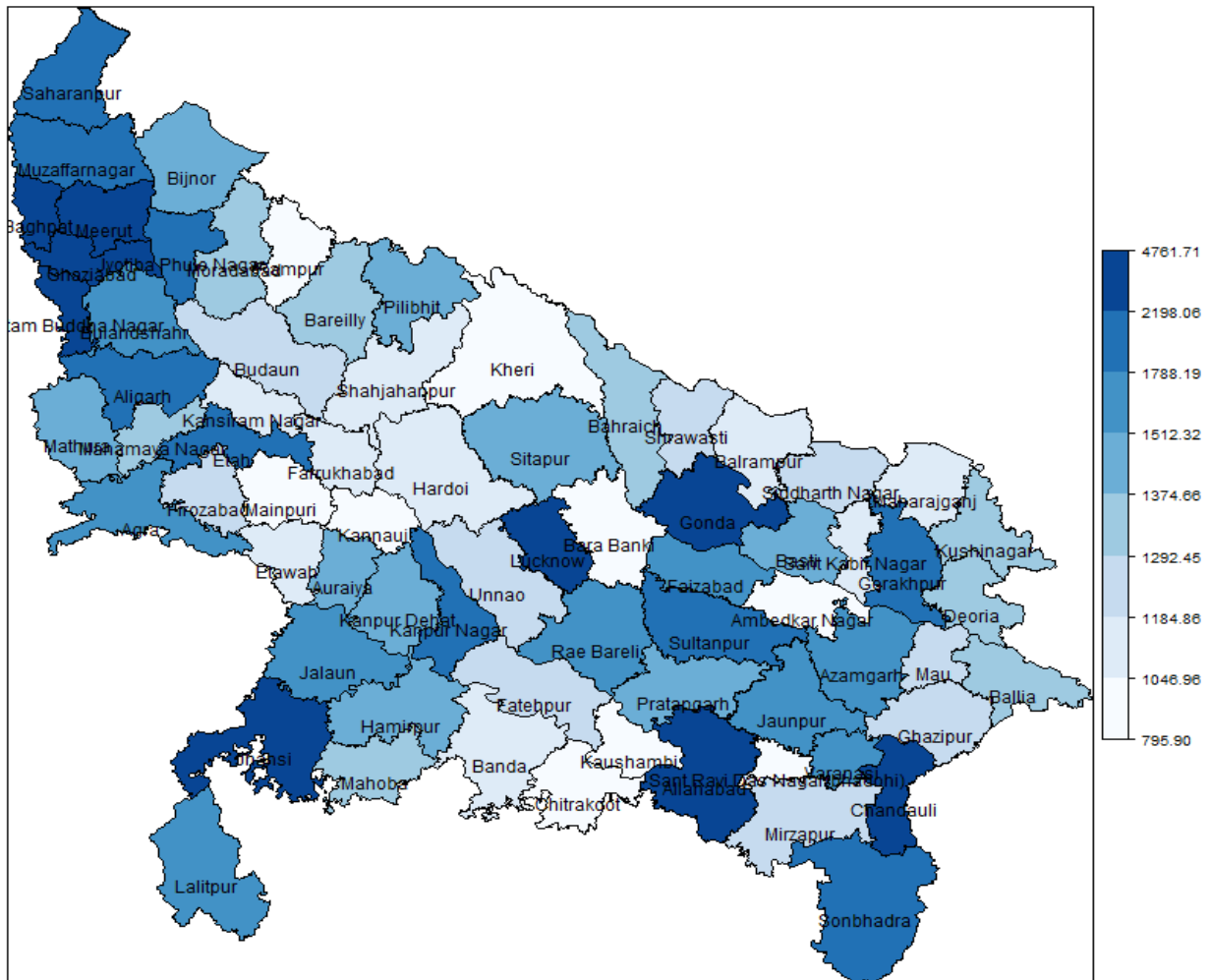
Figure 12: District-wise coefficients of variation (%) plot for the Direct (thin line,°) and small area estimate (solid line,●) estimates for MPCE of urban area of State of Uttar Pradesh, 2011-12.



Source : NSSO, 68th Round

As seen from the above figure, direct estimation of MPCE for urban area of the state of UP is very much higher fluctuations as compared to the Small Area Estimation of district wise MPCE levels which are also very much high fluctuations during this period. It also clearly shows that very high fluctuations have taken place in direct estimation of MPCE of some of the urban districts in Uttar Pradesh. Majority of the districts in urban area districts MPCE is found very much high fluctuations during this period. However, in the urban areas MPCE levels are very high and CV levels are also very high in majority of the districts. However, direct estimation CV levels are higher than Small Area Estimation CV Levels in urban areas of UP during this period.

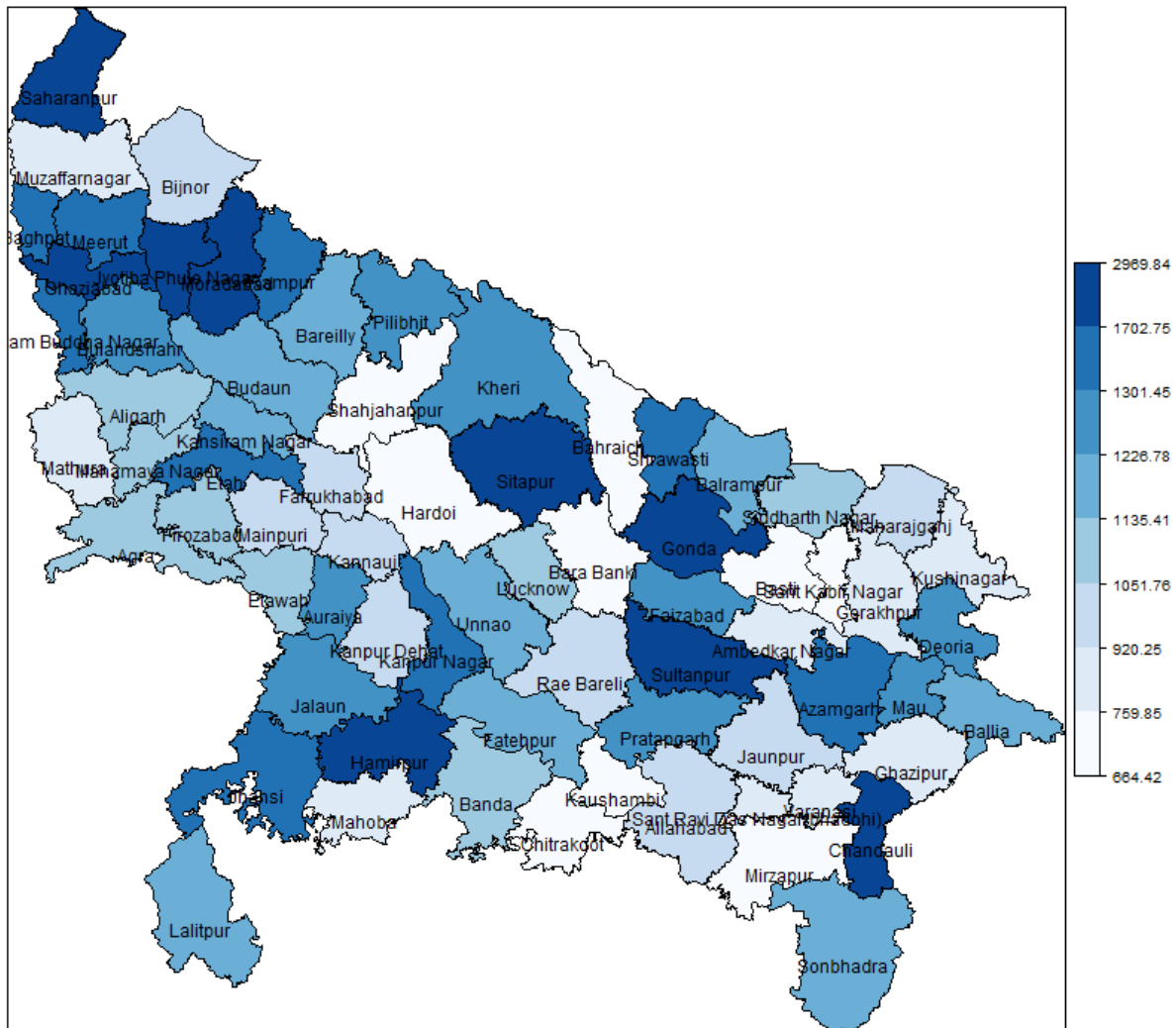
Figure 13: District-wise distribution of monthly per capita consumption and expenditure in the urban area of Uttar Pradesh generated by small area estimation method, 2011-12.



Source : NSSO, 68th Round

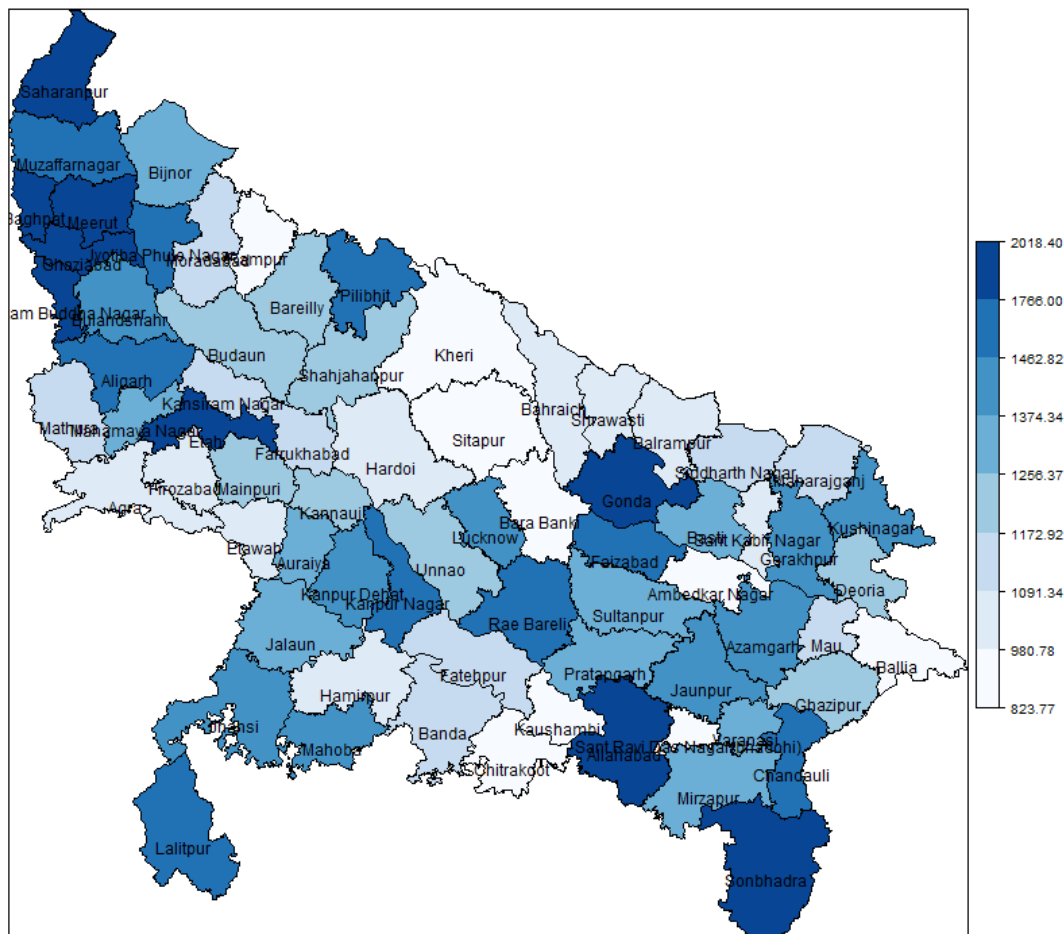
As seen from the above figure, small area estimation of MPCE for urban area of the state of UP is relatively higher than rural areas (Rs. 796) in districts like Chitrakoot, Kaushambi, Ambedkar Nagar, Barabanki, Sant Ravidas Nagar, Kannauj, Mainpuri, Kheri and Rampur. It also clearly shows that very high (Rs. 4762) in Baghpat, Meerut, Ghaziabad, G.B.Nagar, Jhansi, Lucknow, Gonda, Allahabad, and Chandauli districts. However, small area estimation of MPCE for urban area districts of the UP state values are comparatively higher than any other category.

Figure 14. District-wise mapping of monthly per capita consumer and expenditure (MPCE) for social category schedule caste (SC) of urban area in the state of Uttar Pradesh generated by small area estimation method, 2011-12.



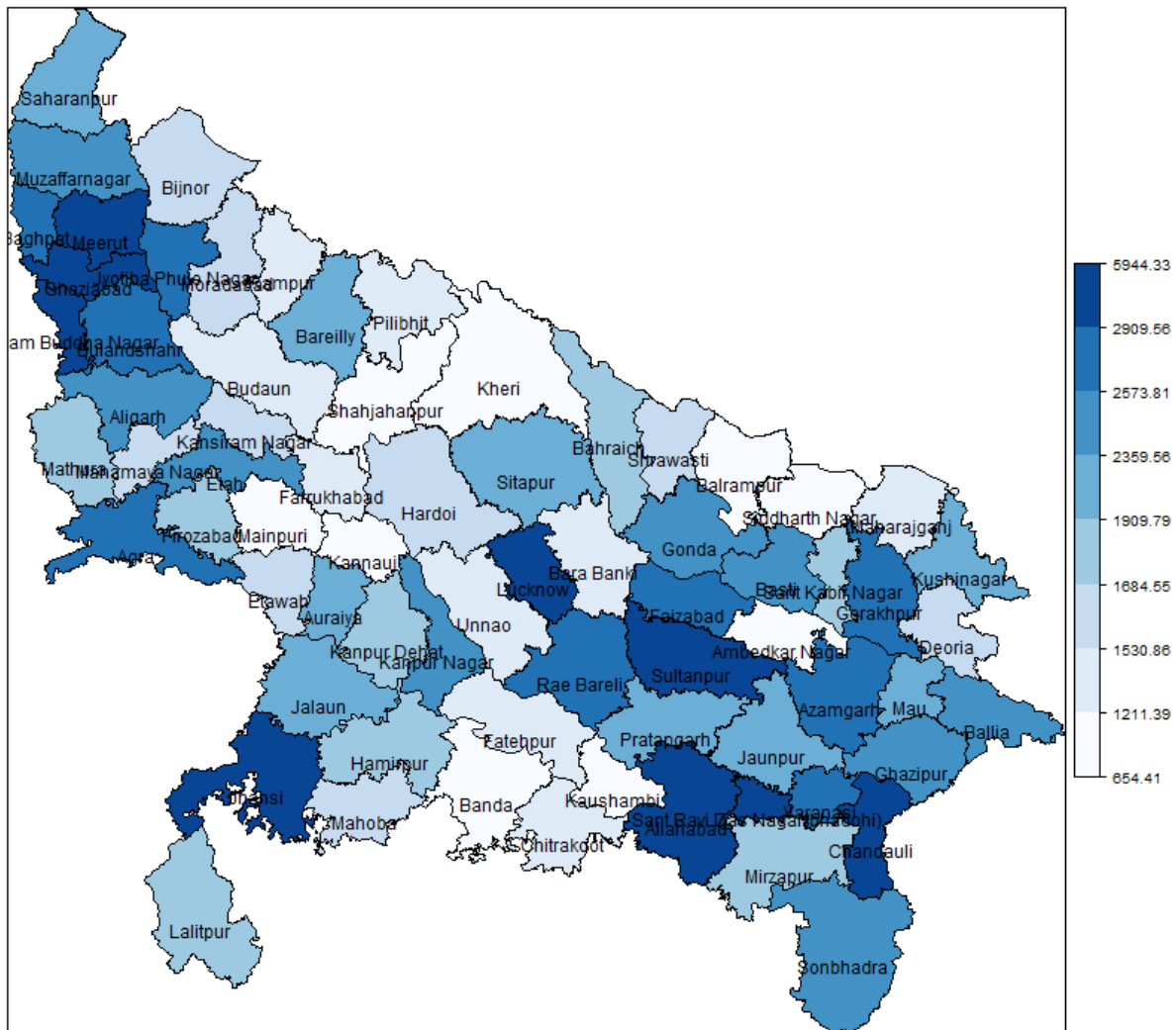
As seen from the above figure, small area estimation of MPCE for social category schedule caste (SC) of urban area of the state of UP is relatively higher than rural areas (Rs. 664) in districts like Chitrakoot, Kaushambi, Mirzapur, Basti, Sant Kabir Nagar, Hardoi, Shahjahanpur Barabanki and Bahraich. It also clearly shows that very high (Rs. 2970) in Saharanpur, Ghaziabad, Jyotibhapule Nagar, Moradabad, Sitapur, Gonda, Sultanpur, Chandauli and Hamirpur districts. However, small area estimation of MPCE for Social Category Schedule Caste in urban area districts of the UP state values are comparatively higher than rural area.

Figure 15. District-wise mapping of monthly per capita consumer and expenditure (MPCE) for social category other backward class (OBC) of urban area in the state of Uttar Pradesh generated by small area estimation method, 2011-12.



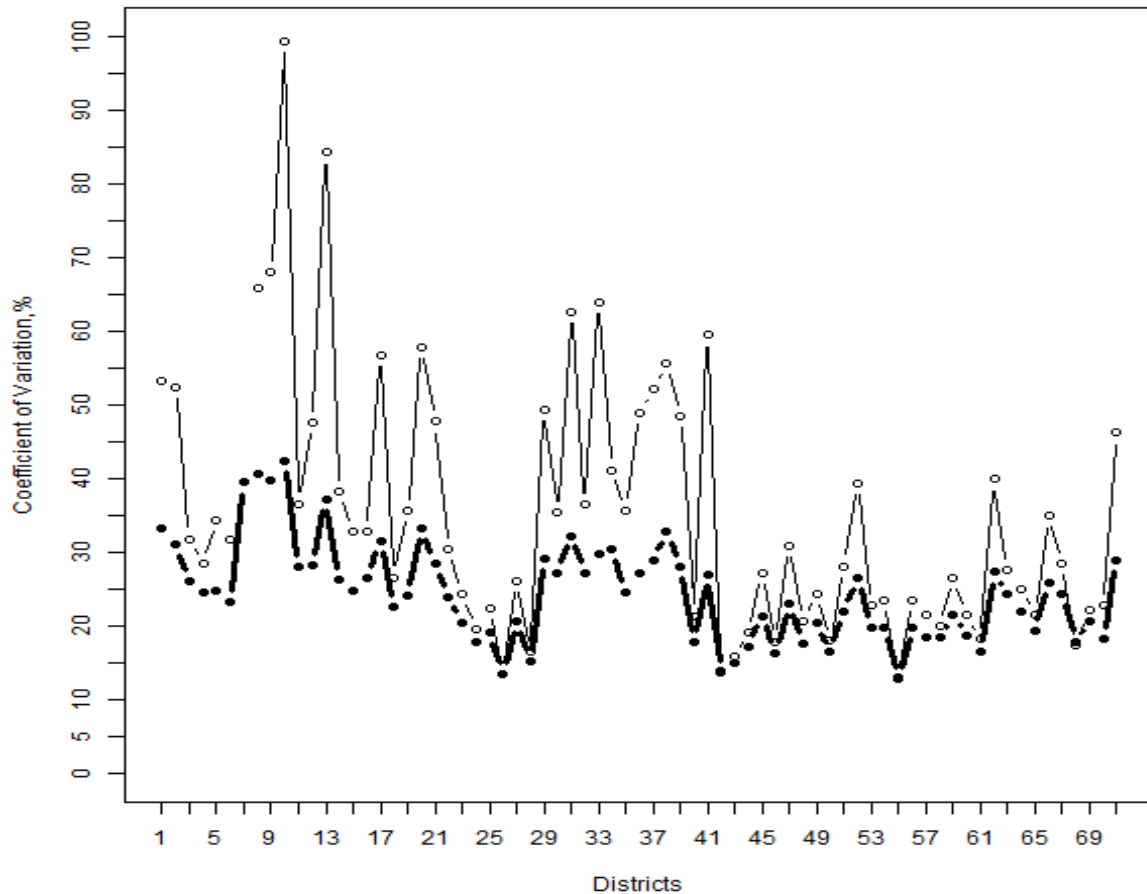
As seen from the above figure, small area estimation of MPCE for social category other backward caste (OBC) of Urban area of the state of UP the low consumption recorded is (Rs. 824) in districts like Chitrakoot, Kaushambi, Hamirpur, Barabanki, Sitapur, Kheri, Rampur, Sant Kabir Nagar, Ambedkar Nagar, Sant Ravidas Nagar, and Ballia. It also clearly shows that relatively high (Rs. 2018) in Saharanpur, Baghpat, Meerut, Ghaziabad, Gautam Budh Nagar, Etah, Gonda, Allahabad and Sonbhadra districts. However, small area estimation of MPCE for OBC Caste category in Urban districts of the UP state values are relatively high as compared to Rural areas of the OBC category.

Figure 16. District-wise mapping of monthly per capita consumer and expenditure (MPCE) for social category Other of urban area in the state of Uttar Pradesh generated by small area estimation method, 2011-12.



As seen from the above figure, small area estimation of MPCE for social category of Other of Urban area of the state of UP is relatively low (Rs. 654) in districts like Shahjahanpur, Kheri, Mainpuri, Kannauj, Balrampur, Siddharthanagar, Ambedkar Nagar, Banda, Kaushambi and Barabanki. It also clearly shows that Very high (Rs. 5944) in Meerut, Ghaziabad, Gautam Budh Nagar, Lucknow, Sultanpur, Allhabad, Jhansi, Sant Ravidas Nagar, and Chandauli districts. However, small area estimation of MPCE for Other caste category in urban districts of the UP state values are relatively high as compared to Others, OBC and SC category households in rural areas of Uttar Pradesh .

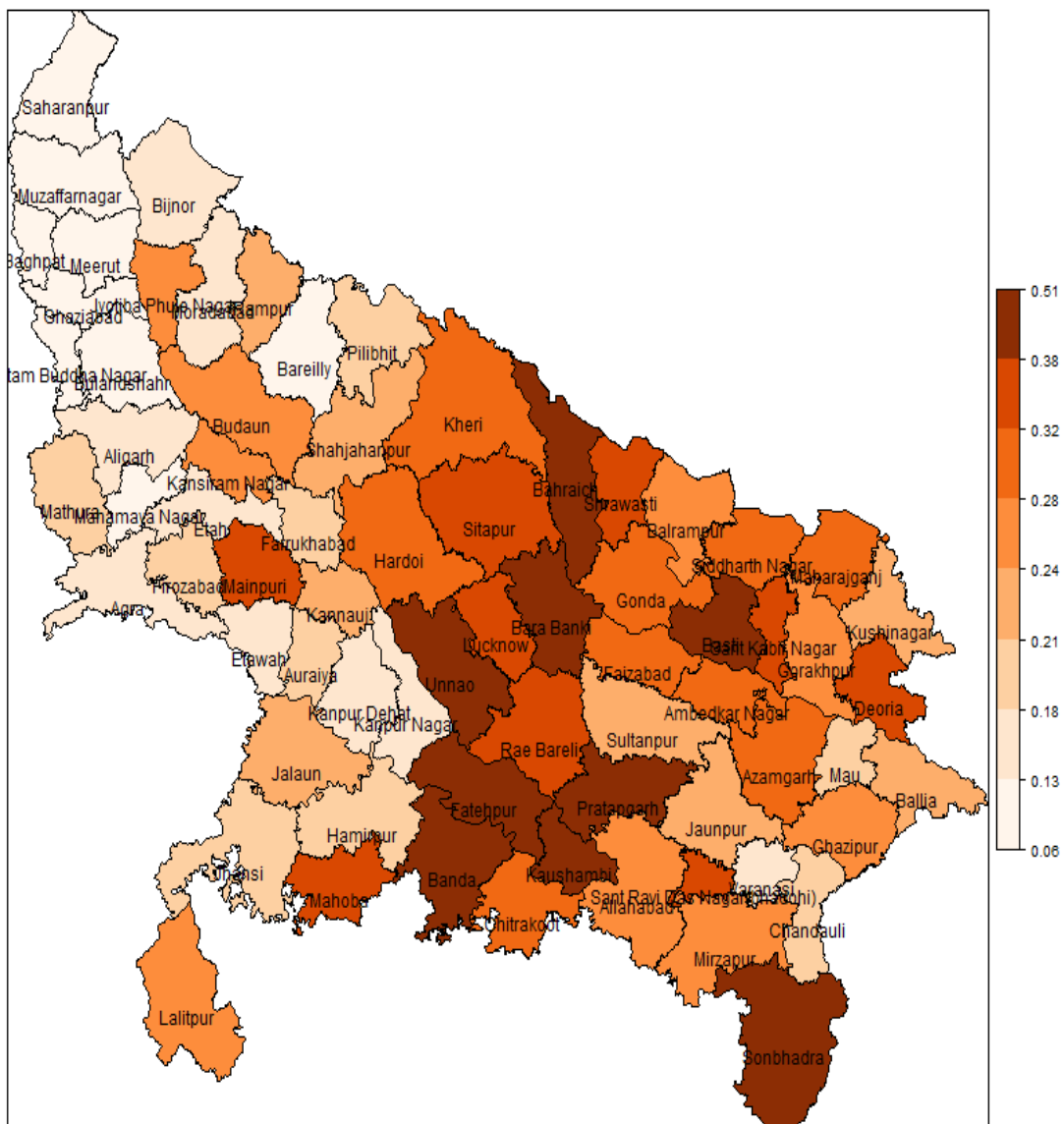
Figure 17: District-wise coefficients of variation (%) plot for the Direct (thin line,°) and small area estimate (solid line,●) of poverty incidence rural area of Uttar Pradesh generated, 2011-12.



Source : NSSO, 68th Round

As seen from the above figure, direct estimation of incidence of poverty in rural area of the state of UP is very much higher and large fluctuations as compared to the Small Area Estimation of district wise incidence of poverty levels which are very much lower and large fluctuations found between the districts during this period. It also clearly shows that very high fluctuations have taken place in direct estimation of incidence of poverty levels in some of the rural districts in Uttar Pradesh. However, in the rural areas incidence of poverty levels are very high and CV levels are also high as per direct estimation, whereas the incidence of poverty levels according to Small Area Estimation CV Levels in rural areas are very low and less fluctuations among the districts of UP during this period.

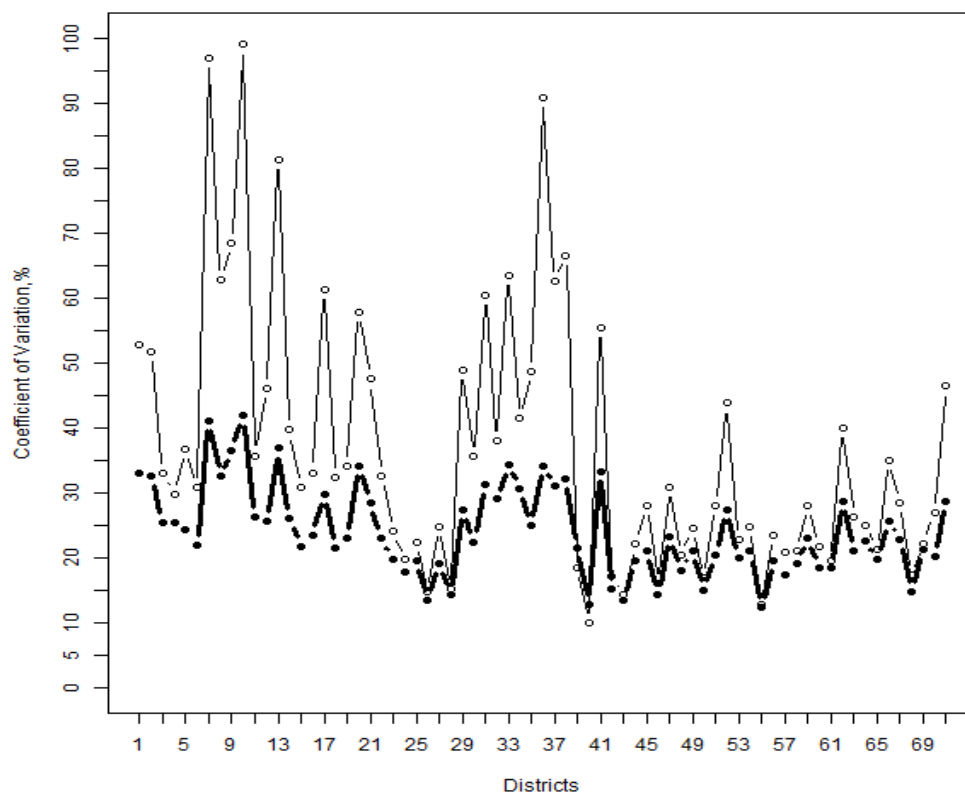
Figure 18: District-wise distribution of poverty incidence in the rural area of Uttar Pradesh generated by small area estimation method, 2011-12.



Source : NSSO, 68th Round

As seen from the above figure, small area estimation of incidence of poverty in rural area of the state of UP is relatively low (0.06) in districts like Varanasi, Kanpur Nagar, Kanpur Dehat, Mahamaya Nagar and Bareilly. It also clearly shows that very high (0.51) in Baharaich, Basti, Barabanki, Banda, Fatehpur, Kaushambi, Pratapgarh, Sonbhadra, and Unnao districts. However, small area estimation of incidence of poverty in rural area districts of the UP state values are comparatively lower than urban areas.

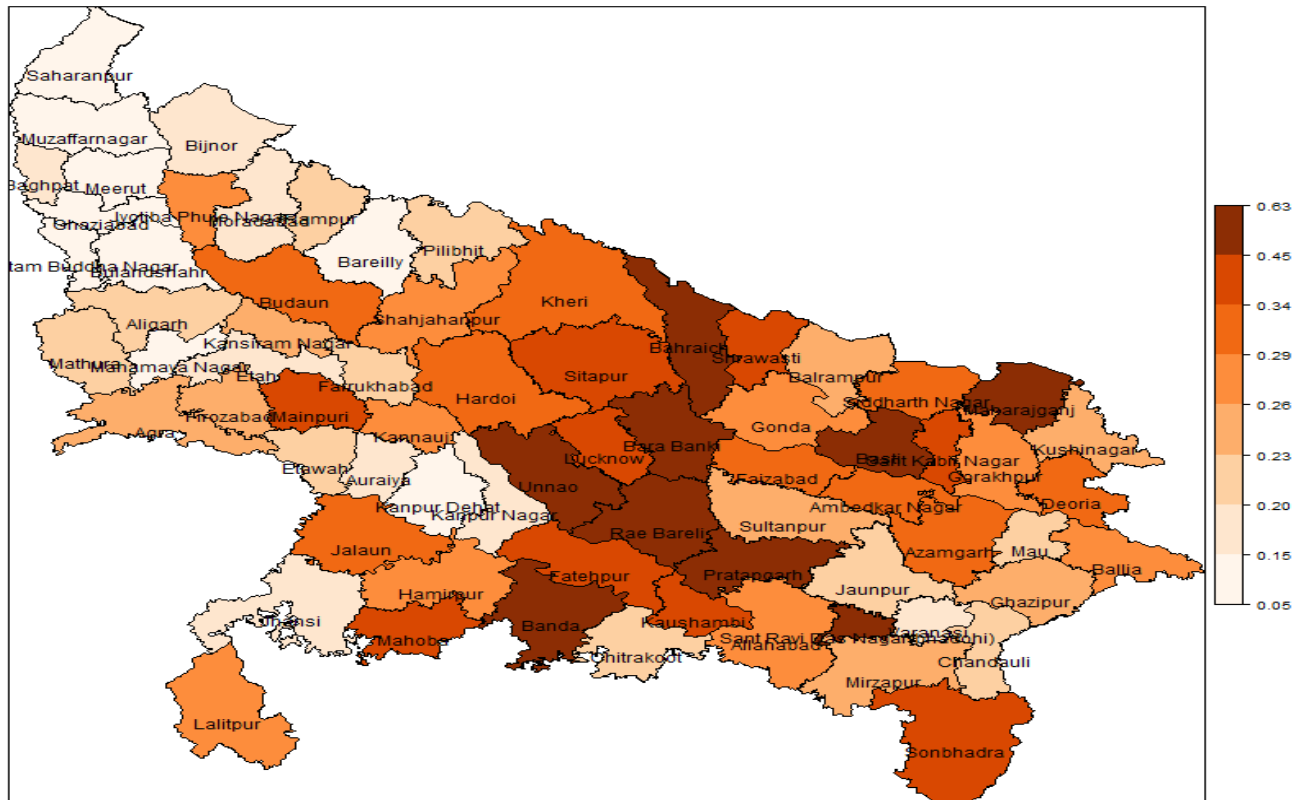
Figure 19: District-wise coefficients of variation (%) plot for the Direct (thin line,°) and small area estimate (solid line,●) for poverty incidence for land holding category 1 (LC1: < land holding 1 ha) for rural area of Uttar Pradesh generated by small area estimation method, 2011-12.



Source : NSSO, 68th Round

As seen from the above figure, direct estimation of incidence of poverty in land holding category 1 in rural area of the state of UP is very much higher and large fluctuations as compared to the Small Area Estimation of district wise incidence of poverty levels which are very much lower and large fluctuations found between the districts during this period. It also clearly shows that very high fluctuations have taken place in direct estimation of incidence of poverty levels in some of the rural districts in Uttar Pradesh. However, in the rural areas incidence of poverty levels are very high and CV levels are also high as per direct estimation, whereas the incidence of poverty levels according to Small Area Estimation CV Levels in rural areas are very low and less fluctuations among the districts of UP during this period.

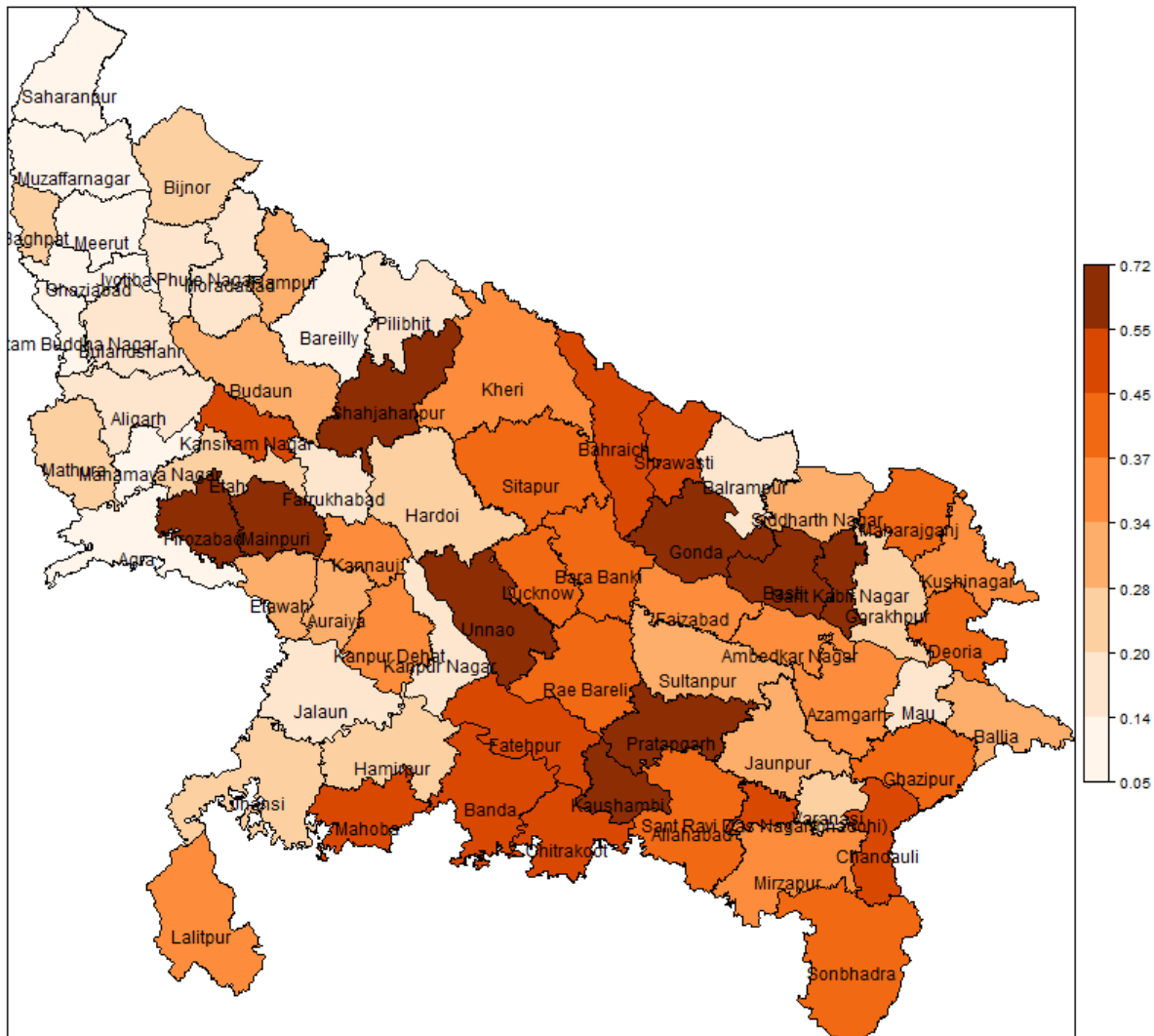
Figure 20: District-wise distribution of poverty incidence for land holding category 1 (LC1: < land holding 1 ha) for rural area of Uttar Pradesh generated by small area estimation method, 2011-12.



Source : NSSO, 68th Round

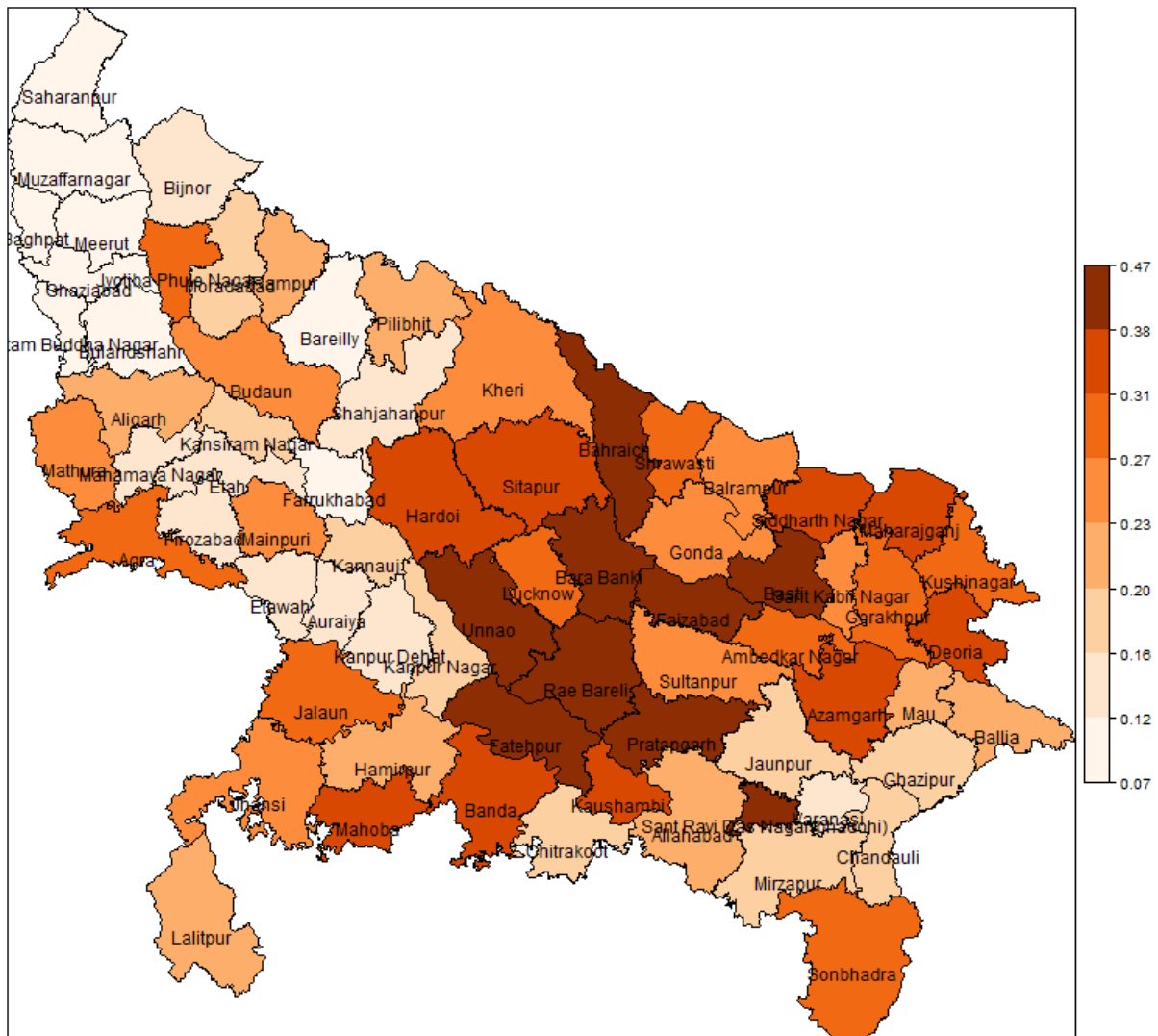
As seen from the above figure, small area estimation of incidence of poverty in land holding category 1 of rural area of the state of UP is relatively low (0.05) in less number of districts like Bareilly, Mahamaya Nagar, Kanpur Dehat and Varanasi. It also clearly shows that very high (0.63) in Bahraich, Basti, Barabanki, Banda, Pratapgarh, Maharaj Ganj, Rae Bareilly, Sant Ravidas Nagar and Unnao districts.

Figure 21. District-wise mapping of poverty incidence for social category schedule caste (SC) in the rural area in the state of Uttar Pradesh generated by small area estimation method, 2011-12.



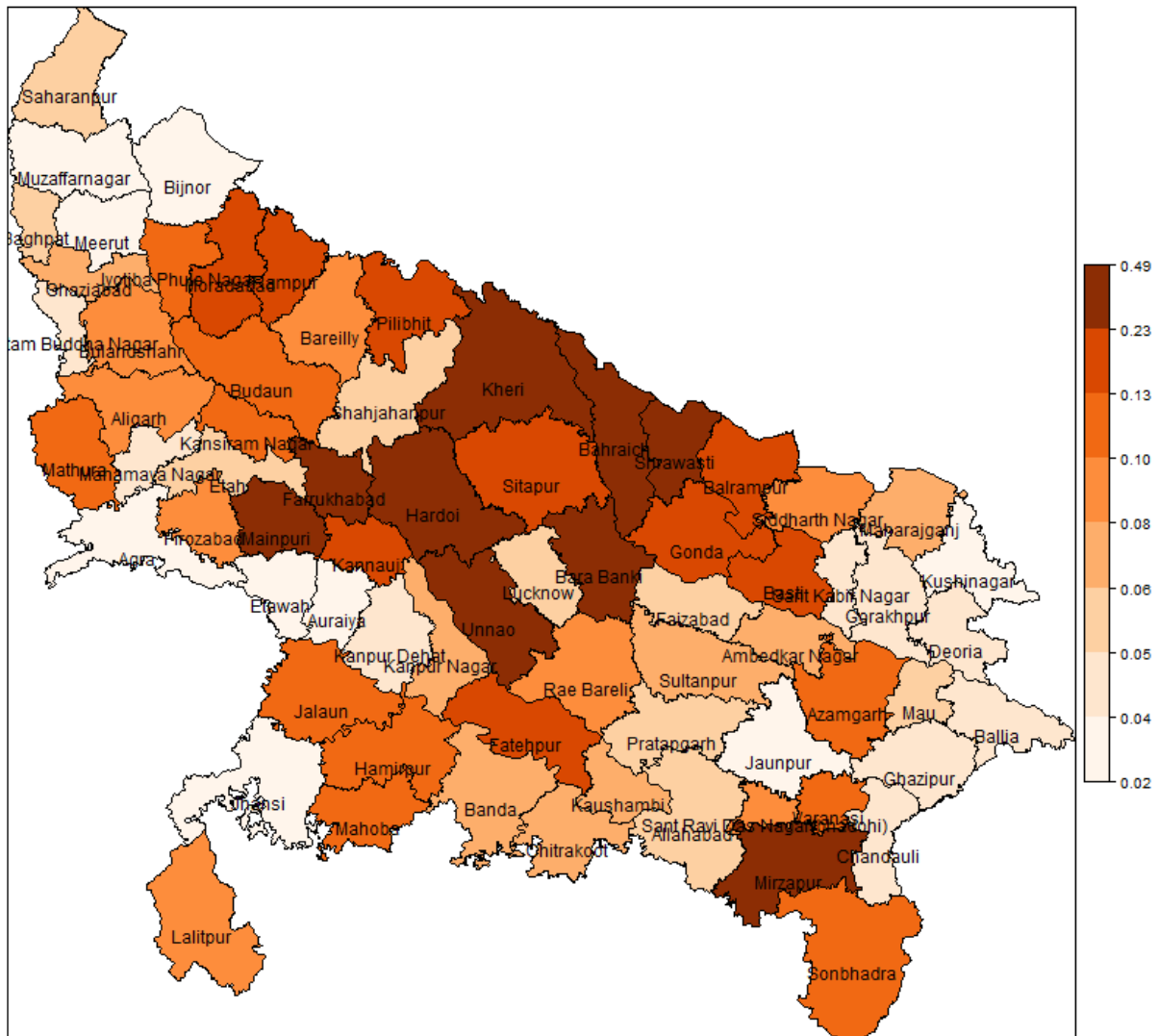
As seen from the above figure, small area estimation of incidence of poverty for social category schedule caste (SC) in rural area of the state of UP is relatively low (0.05) in districts like Bareilly, Farrukhabad, Kanpur Nagar and Mau. It also clearly shows that very high (0.72) in Shahjahanpur, Firozabad, Mainpuri, Unnao, Gonda, Basti, Pratapgarh and Kaushambi districts. However, small area estimation of incidence of poverty for Social category of SC in rural area districts of the UP state are comparatively high as compared to low incidence.

Figure 22. District-wise mapping of poverty incidence for social category other backward class (OBC) in the rural area in the state of Uttar Pradesh generated by small area estimation method, 2011-12.



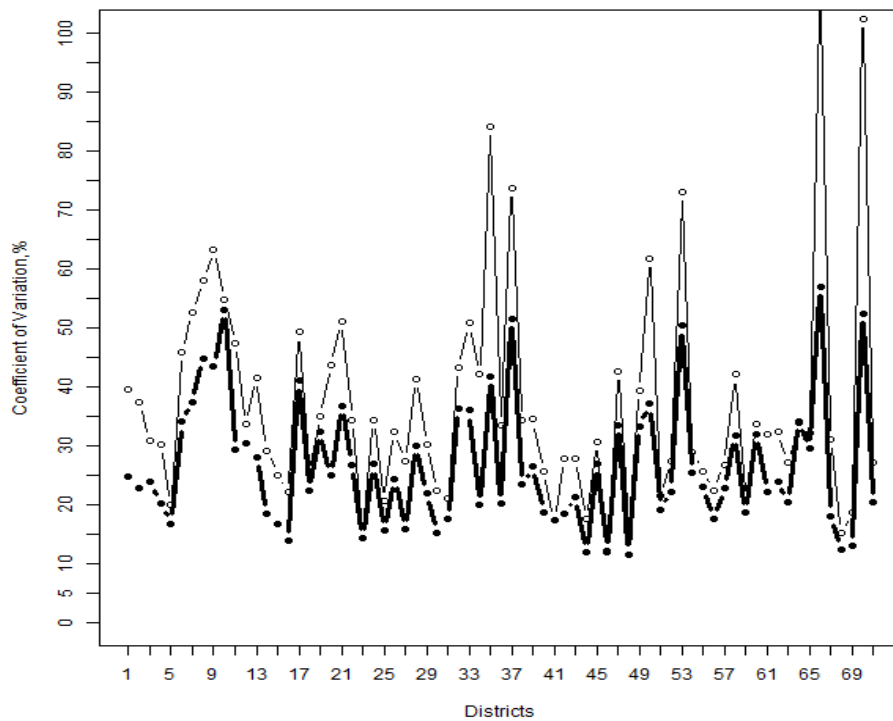
As seen from the above figure, small area estimation of incidence of poverty for social category OBC in rural area of the state of UP is relatively low (0.07) in districts like Bareilly, Farrukhabad, and Varanasi. It also clearly shows that very high (0.47) in Bahraich, Barabanki, Faizabad, Basti, Rae Bareilly, Pratapgarh, Fatehpur, Unnao and Sant Ravidas Nagar districts. However, small area estimation of incidence of poverty for OBC category of rural area districts of the UP state are comparatively low as compared to SC category.

Figure 23. District-wise mapping of poverty incidence for social category Other in the rural area in the state of Uttar Pradesh generated by small area estimation method, 2011-12.



As seen from the above figure, small area estimation of incidence of poverty for social category Other Castes in rural area of the state of UP is relatively low (0.02) in districts like Jaunpur, Etawah and Auraiya. It also clearly shows that very high (0.49) in Kheri, Bahraich, Shrawasti, Hardoi, Farrukhabad, Mainpuri, Unnao, Barabanki and Mirzapur districts. However, small area estimation of incidence of poverty for Social category of Others in rural area districts of the UP state are marginally high as compared to OBC category.

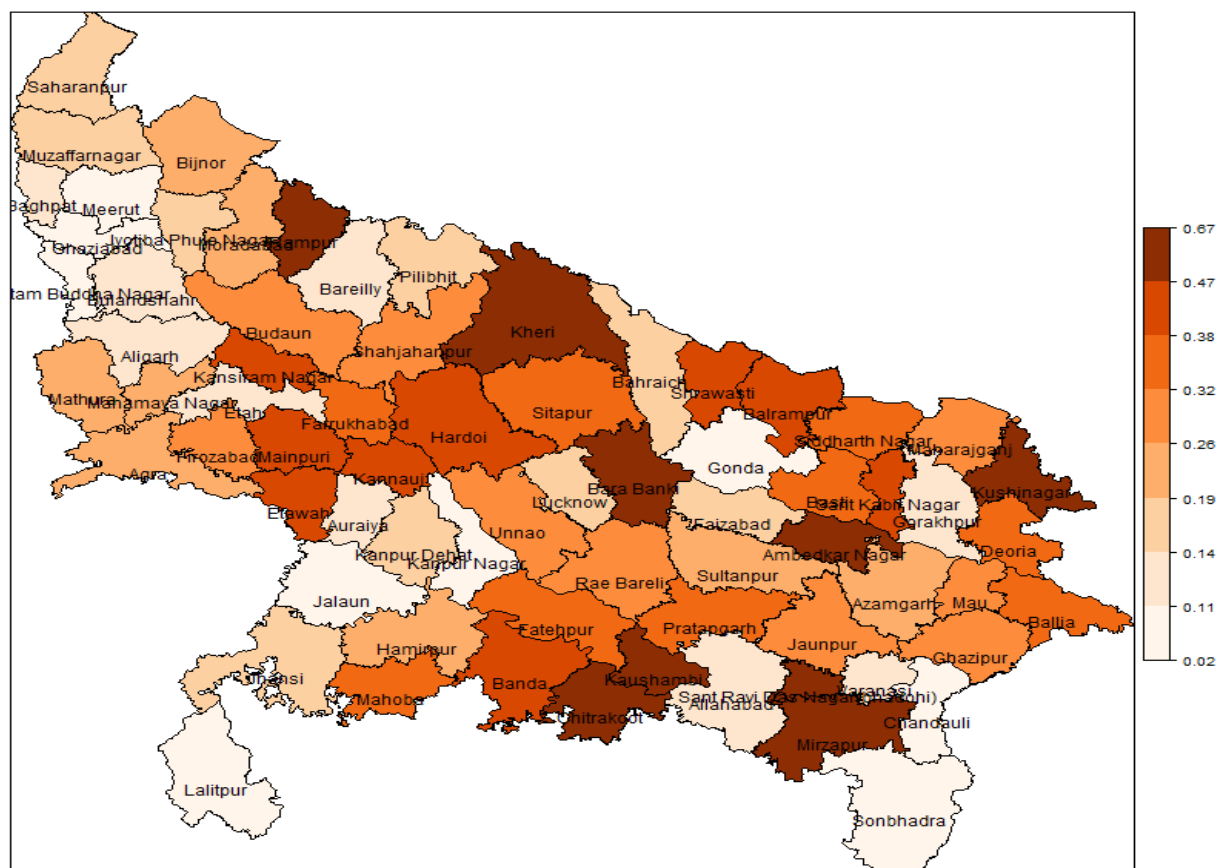
Figure24: District-wise coefficients of variation (%) plot for the Direct (thin line,°) and small area estimate (solid line,●) of poverty incidence urban area of Uttar Pradesh generated, 2011-12.



Source : NSSO, 68th Round

As seen from the above figure, direct estimation of incidence of poverty in urban area of the state of UP is very much higher and large fluctuations as compared to the Small Area Estimation of district wise incidence of poverty levels which are very much lower and large fluctuations found between the districts during this period. It also clearly shows that very high fluctuations have taken place in direct estimation of incidence of poverty levels in some of the urban districts in Uttar Pradesh. However, in the urban areas incidence of poverty levels are very high and CV levels are also high as per direct estimation, whereas the incidence of poverty levels according to Small Area Estimation CV Levels in urban areas are very low and less fluctuations among the districts of UP during this period.

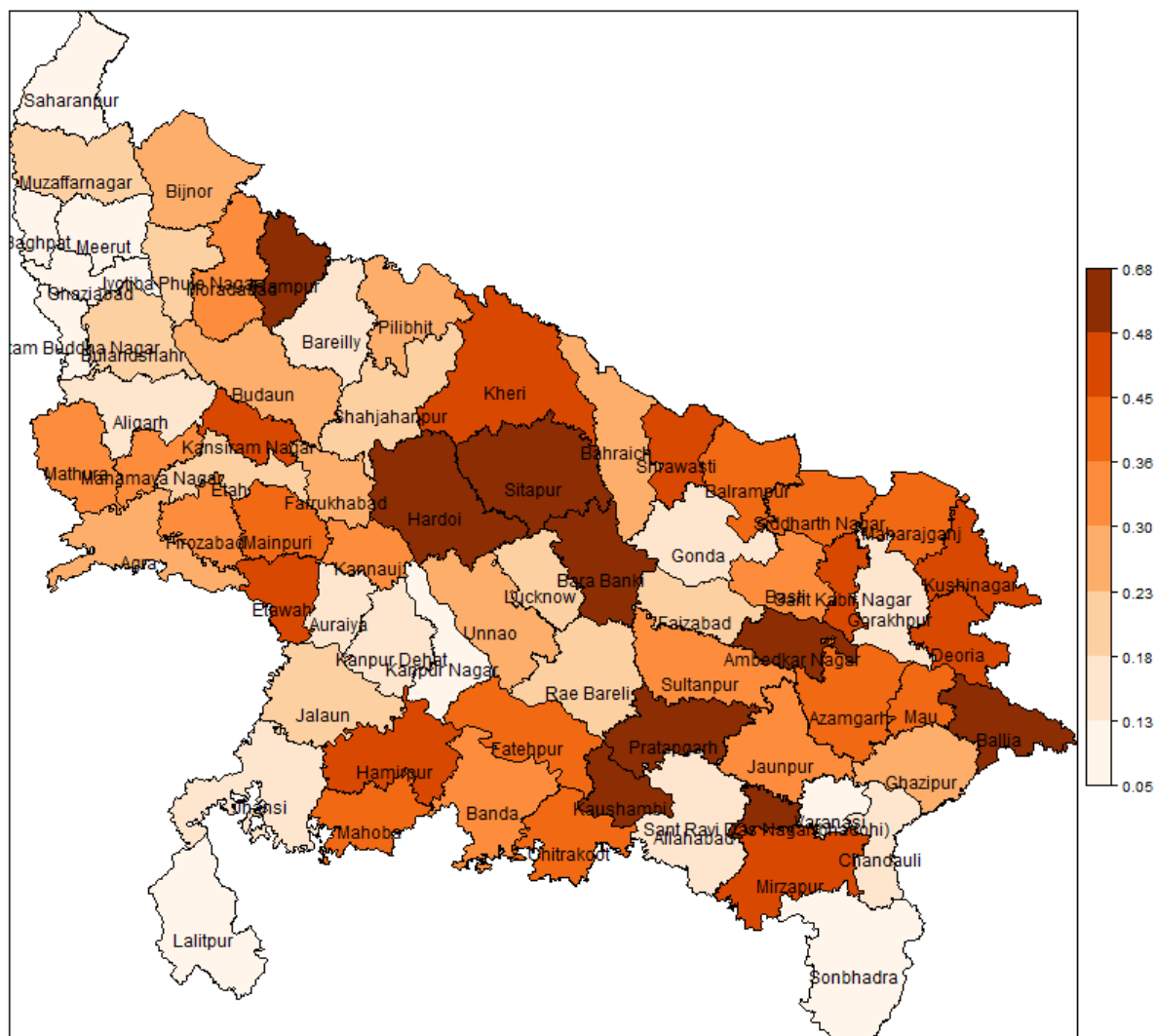
Figure 25: District-wise distribution of poverty incidence in the urban area of Uttar Pradesh generated by small area estimation method, 2011-12.



Source : NSSO, 68th Round

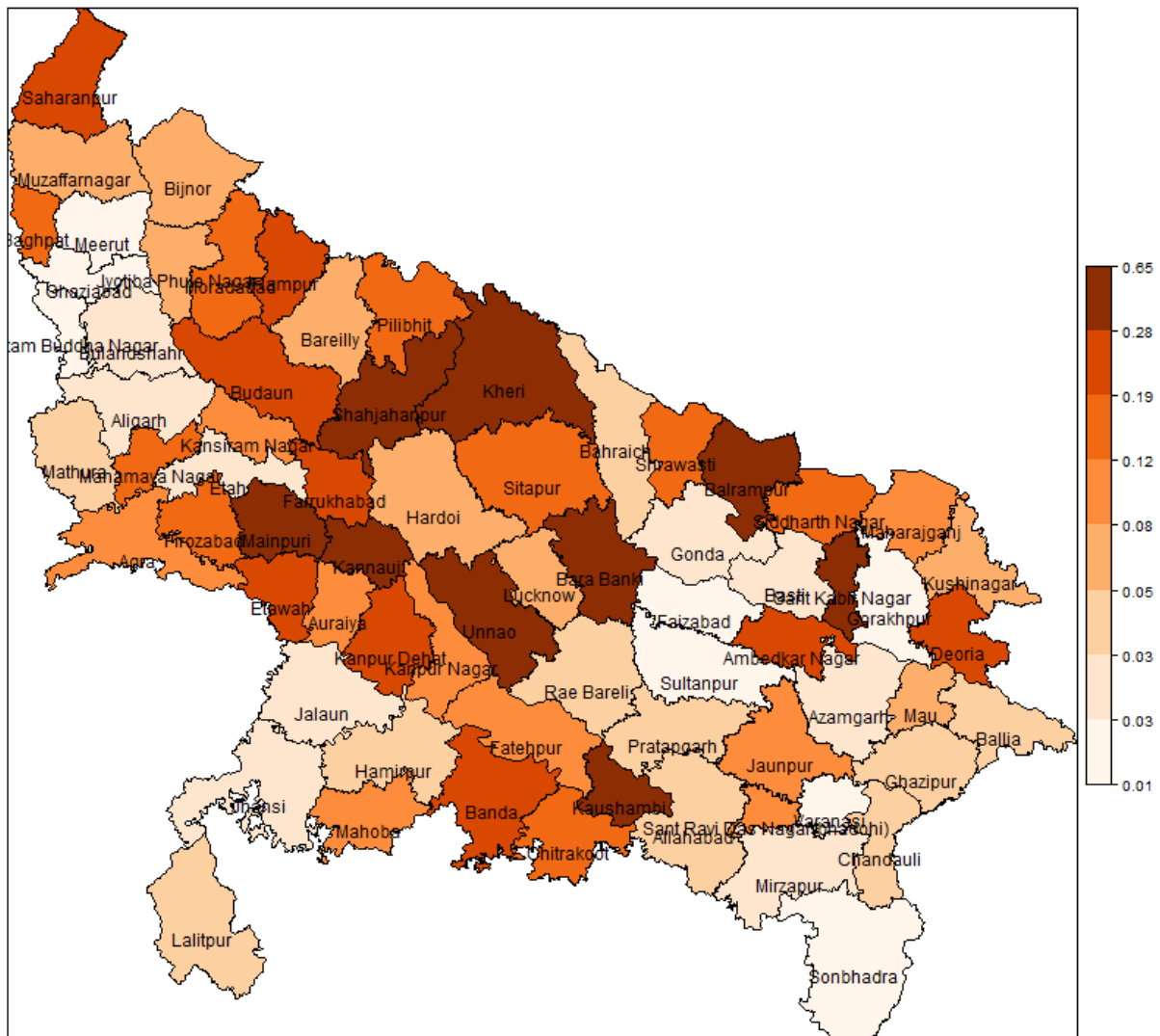
As seen from the above figure, small area estimation of incidence of poverty in urban area of the state of UP is relatively low (0.02) and less number of districts like Gonda, Jalaun, and Kanpur Nagar. It also clearly shows that very high (0.67) in Rampur, Kheri, Barabanki, Khushinagar, Ambedkar Nagar, Kaushambi, Mirzapur, and Chitrakoot districts. However, small area estimation of incidence of poverty in urban area districts of the UP state values are comparatively higher.

Figure 26. District-wise mapping of poverty incidence for social category other backward class (OBC) in urban area in the state of Uttar Pradesh generated by small area estimation method, 2011-12.



As seen from the above figure, small area estimation of incidence of poverty for social category OBC in Urban area of the state of UP is relatively low (0.05) in districts like Kanpur Nagar and Varanasi. It also clearly shows that very high (0.68) in Rampur, Sitapur, Hardoi, Barabanki, Ambedkar Nagar, Pratapgarh, Kaushambi, Ballia and Sant Ravidas Nagar districts. However, small area estimation of incidence of poverty for Social category of OBC in Urban area districts of the UP state are marginally lower than Other castes in Urban areas.

Figure 27. District-wise mapping of poverty incidence for social category Other in urban area in the state of Uttar Pradesh generated by small area estimation method, 2011-12.



As seen from the above figure, small area estimation of incidence of poverty for social category of Other caste in Urban area of the state of UP is relatively low (0.01) in districts like Faizabad, Sultanpur and Gorakhpur. It also clearly shows that very high (0.65) in Shahjahanpur, Kheri, Mainpuri, Kannauj, Unnao, Barabanki, Kaushambi, Balrampur and Sant Kabir Nagar districts. However, small area estimation of incidence of poverty for Social category of Others in Urban area districts of the UP state are marginally low as compared to OBC category in Urban areas.

MPCE and Incidence of Poverty estimation in each district of Uttar Pradesh through Direct Estimation and Small Area Estimation Techniques:

As mentioned above, the incidence of poverty graphs and poverty mapping is able to succeed in explaining the geographical location of the problem, but not in a position to explain the accurate percentage of population falling in the category of poverty. In order to achieve the above objective, the following analysis made an attempt to, estimation of Monthly Per capita Consumption Expenditure per household in each district and incidence of poverty in the corresponding district through direct estimation and small area estimation techniques applied to NSSO 68th round (2011-12) data. The main objective of this analysis is the available very small sample data which is not able to explain the incidence of poverty on the basis of monthly per capita consumption levels. In view of this, the present study made an attempt to achieve the results of incidence of poverty per each district on the basis of MPCE while applying direct estimation and small area estimation techniques to the available small and unrepresentative data of each district in Uttar Pradesh. Both the estimates have derived the results of MPCE per district, incidence of poverty per district, Standard Error (SE) and Coefficient of Variation (CV). Based on the data, we have computed three levels of MPCE and Incidence of Poverty (Low, Medium and High) as per direct estimate and small area estimation techniques. On the basis of these three levels, we have analysed each district's position and its CV. The results of CV explains about what extent the variation of that particular district's MPCE and incidence of poverty is taking place during 2011-12. In the previous chapters we have already explained about the use of direct estimation and small area estimation techniques benefits. The following analysis reveals about the MPCE level and incidence of poverty of each district and its variation from 1.

Table 5: District-wise sample size, estimated number of household (Est.HH), average household size (HHS), direct estimates (Direct) and model-based small area estimates (SAE) along with their standard error (SE) and percentage coefficient of variations (CV) of monthly per capita consumer and expenditure in Rupees (MPCE) for rural areas in the state of Uttar Pradesh in 2011-12.

Region	District	Sample Size	est.HH	HHS	Direct			Model based SAE		
					MPCE	SE	CV	MPCE	SE	CV
Western	Saharanpur	96	485534	5.89	1419	89	6.30	1361	78	5.76
	Muzaffarnagar	128	598862	5.54	1366	73	5.31	1345	66	4.91
	Bijnor	96	401783	5.82	1068	59	5.55	1087	56	5.12
	Moradabad	128	485625	6.07	1081	51	4.71	1083	49	4.49
	Rampur	64	247020	6.01	1092	80	7.31	1081	71	6.61
	JyotibaPhuleNr	64	200501	5.93	1012	74	7.28	1032	67	6.47
	Meerut	64	315706	5.47	1958	191	9.75	1558	123	7.87
	Baghpat	32	171481	6.75	1885	218	11.56	1542	130	8.44
	Ghaziabad	64	293986	6.89	1454	147	10.14	1430	110	7.71
	Gautam Buddha Nr	32	192376	5.51	1547	123	7.93	1465	98	6.68
	Bulandshahar	96	424596	6.07	1247	53	4.29	1247	51	4.07
	Aligarh	95	527508	6.40	1135	87	7.66	1151	76	6.61
	Hathras	64	232375	5.45	1546	133	8.58	1360	102	7.50
	Mathura	64	282645	5.78	1109	84	7.59	1116	74	6.63
	Agra	96	392705	6.02	1063	58	5.50	1080	55	5.07
	Firozabad	64	278478	6.05	1014	83	8.14	1075	73	6.82
	Etah	64	307131	4.39	1436	111	7.71	1338	91	6.79
	Mainpuri	64	260786	5.41	836	39	4.68	853	38	4.46
	Budaun	96	511154	5.39	1016	65	6.42	1018	61	5.98
	Bareilly	95	482279	4.61	1168	55	4.67	1168	52	4.43
	Pilibhit	64	292601	4.82	1021	65	6.33	1024	60	5.84
	Shahjahanpur	96	441212	5.63	921	51	5.52	939	49	5.18
	Farrukhabad	64	232109	4.72	1149	107	9.28	1146	89	7.74
	Kannauj	64	211253	5.94	973	84	8.63	1023	75	7.33
Etawah	64	216204	4.97	1045	55	5.28	1045	52	5.00	
Auraiya	64	210599	5.21	1087	65	5.97	1076	60	5.59	
Kashiramnagar	32	179800	4.28	1230	88	7.19	1161	79	6.79	
Central	Kheri	128	661636	5.00	936	76	8.11	947	69	7.25
	Sitapur	128	764680	4.81	1002	59	5.86	993	55	5.58
	Hardoi	128	613997	5.55	967	46	4.80	965	45	4.63
	Unnao	96	507453	4.83	861	48	5.59	867	46	5.32
	Lucknow	64	293224	5.05	1130	110	9.69	1083	92	8.51
	Rae Bareli	128	560838	4.81	930	43	4.60	930	41	4.44
	Kanpur Dehat	64	298331	4.99	1104	101	9.15	1090	85	7.80
	Kanpur Nagar	64	313564	5.06	1139	83	7.27	1126	74	6.53
	Fatehpur	96	444647	5.84	777	38	4.91	791	37	4.69
Southern	Jalaun	64	222727	5.61	993	67	6.74	987	62	6.25
	Jhansi	64	247827	5.08	1070	58	5.39	1056	54	5.14
	Lalitpur	32	191383	4.63	1061	40	3.73	1052	39	3.67
	Hamirpur	32	181553	4.75	1079	67	6.25	1069	62	5.81
	Banda	64	268085	5.52	774	52	6.71	793	49	6.22
	Chitrakoot	32	128609	4.69	839	170	20.23	879	114	12.99
	Mahoba	32	111115	5.82	975	114	11.68	976	92	9.40

Region	District	Sample Size	est.HH	HHS	Direct			Model based SAE		
					MPCE	SE	CV	MPCE	SE	CV
Eastern	Mahrajganj	96	397288	4.71	1012	81	7.99	984	73	7.38
	Pratapgarh	128	491101	5.65	870	40	4.54	880	38	4.35
	Kaushambi	63	264099	4.99	809	59	7.29	819	56	6.83
	Allahabad	128	778439	5.17	991	43	4.32	999	41	4.14
	Barabanki	96	640360	5.08	900	56	6.26	906	53	5.86
	Faizabad	64	322133	4.84	1378	278	20.18	1080	132	12.22
	Ambedkar Nagar	96	331093	6.04	1047	59	5.67	1041	55	5.32
	Sultanpur	128	571941	5.61	1313	115	8.78	1197	92	7.71
	Bahraich	96	492985	4.94	828	40	4.85	833	39	4.69
	Shrawasti	64	268017	4.43	888	61	6.88	887	57	6.47
	Balrampur	63	326397	5.35	892	65	7.29	895	61	6.77
	Gonda	128	499876	5.15	1063	131	12.31	1034	100	9.68
	Siddharthnagar	96	366595	5.64	1220	309	25.35	962	139	14.43
	Basti	96	357854	5.74	861	78	9.02	885	70	7.86
	SantKabir Nagar	64	246804	5.25	1006	74	7.36	991	67	6.77
	Gorakhpur	128	582985	6.69	993	42	4.25	996	41	4.10
	Kushinagar	128	506741	5.90	1108	65	5.89	1087	61	5.59
	Deoria	96	433303	5.70	988	70	7.11	999	64	6.45
	Azamgarh	128	682955	6.38	1020	54	5.28	1020	51	5.00
	Mau	64	274656	5.79	1000	55	5.51	1007	52	5.16
	Ballia	96	384679	5.92	955	52	5.44	976	49	5.07
	Jaunpur	128	645661	5.72	1115	65	5.86	1098	61	5.53
	Ghazipur	128	451170	5.71	1051	50	4.71	1050	47	4.50
	Chandauli	64	252548	5.01	1092	76	6.98	1087	69	6.31
	Varanasi	96	323260	5.31	1136	61	5.41	1152	57	4.99
SantRavidasNr	64	202655	6.55	873	69	7.91	929	63	6.83	
Mirzapur	96	330700	5.84	1023	84	8.18	1024	74	7.21	
Sonbhadra	64	260292	4.67	946	73	7.74	928	67	7.21	
Summary	Minimum	32		4.28	774	38	3.73	791	37	3.67
	Maximum	128		6.89	1958	309	25.35	1558	139	14.43

Source: Derived from 68th Round NSSO Unit Level Data

Table 5A: Analysis Table for All Districts

District	Direct (MPCE)		CV	District	Model based SAE (MPCE)		CV
Banda	774	low	6.71	Fatehpur	791	low	4.69
Fatehpur	777	low	4.91	Banda	793	low	6.22
Kaushambi	809	low	7.29	Kaushambi	819	low	6.83
Bahraich	828	low	4.85	Bahraich	833	low	4.69
Mainpuri	836	low	4.68	Mainpuri	853	low	4.46
Chitrakoot	839	low	20.23	Unnao	867	low	5.32
Unnao	861	Medium	5.59	Chitrakoot	879	low	12.99
Basti	861	Medium	9.02	Pratapgarh	880	low	4.35
Pratapgarh	870	Medium	4.54	Basti	885	low	7.86
SantRavidasNr	873	Medium	7.91	Shrawasti	887	low	6.47

District	Direct (MPCE)		CV	District	Model based SAE (MPCE)		CV
Shrawasti	888	Medium	6.88	Balrampur	895	Medium	6.77
Balrampur	892	Medium	7.29	Barabanki	906	Medium	5.86
Barabanki	900	Medium	6.26	Sonbhadra	928	Medium	7.21
Shahjahanpur	921	Medium	5.52	SantRavidasNr	929	Medium	6.83
Rae Bareli	930	Medium	4.6	Rae Bareli	930	Medium	4.44
Kheri	936	Medium	8.11	Shahjahanpur	939	Medium	5.18
Sonbhadra	946	Medium	7.74	Kheri	947	Medium	7.25
Ballia	955	Medium	5.44	Siddharthnagar	962	Medium	14.43
Hardoi	967	Medium	4.8	Hardoi	965	Medium	4.63
Kannauj	973	Medium	8.63	Ballia	976	Medium	9.4
Mahoba	975	Medium	11.68	Mahoba	976	Medium	5.07
Deoria	988	Medium	7.11	Mahrajganj	984	Medium	7.38
Allahabad	991	Medium	4.32	Jalaun	987	Medium	6.25
Jalaun	993	Medium	6.74	SantKabir Nagar	991	Medium	6.77
Gorakhpur	993	Medium	4.25	Sitapur	993	Medium	5.58
Mau	1000	Medium	5.51	Gorakhpur	996	Medium	4.1
Sitapur	1002	Medium	5.86	Deoria	999	Medium	4.14
SantKabir Nagar	1006	Medium	7.36	Allahabad	999	Medium	6.45
JyotibaPhuleNr	1012	Medium	7.28	Mau	1007	Medium	5.16
Mahrajganj	1012	Medium	7.99	Budaun	1018	Medium	5.98
Firozabad	1014	Medium	8.14	Azamgarh	1020	Medium	5
Budaun	1016	Medium	6.42	Kannauj	1023	Medium	7.33
Azamgarh	1020	Medium	5.28	Pilibhit	1024	Medium	5.84
Pilibhit	1021	Medium	6.33	Mirzapur	1024	Medium	7.21
Mirzapur	1023	Medium	8.18	JyotibaPhuleNr	1032	Medium	6.47
Etawah	1045	Medium	5.28	Gonda	1034	Medium	9.68
Ambedkar Nagar	1047	Medium	5.67	Ambedkar Nagar	1041	Medium	5.32
Ghazipur	1051	Medium	4.71	Etawah	1045	Medium	5
Lalitpur	1061	Medium	3.73	Ghazipur	1050	Medium	4.5
Agra	1063	Medium	5.5	Lalitpur	1052	Medium	3.67
Gonda	1063	Medium	12.31	Jhansi	1056	Medium	5.14
Bijnor	1068	Medium	5.55	Hamirpur	1069	Medium	5.81
Jhansi	1070	Medium	5.39	Firozabad	1075	Medium	6.82
Hamirpur	1079	Medium	6.25	Auraiya	1076	Medium	5.59
Moradabad	1081	Medium	4.71	Agra	1080	Medium	5.07
Auraiya	1087	Medium	5.97	Faizabad	1080	Medium	12.22
Rampur	1092	Medium	7.31	Rampur	1081	Medium	6.61
Chandauli	1092	Medium	6.98	Moradabad	1083	Medium	4.49

District	Direct (MPCE)		CV	District	Model based SAE (MPCE)		CV
Kanpur Dehat	1104	Medium	9.15	Lucknow	1083	Medium	8.51
Kushinagar	1108	Medium	5.89	Bijnor	1087	Medium	5.12
Mathura	1109	Medium	7.59	Chandauli	1087	Medium	5.59
Jaunpur	1115	Medium	5.86	Kushinagar	1087	Medium	6.31
Lucknow	1130	Medium	9.69	Kanpur Dehat	1090	Medium	7.8
Aligarh	1135	Medium	7.66	Jaunpur	1098	Medium	5.53
Varanasi	1136	Medium	5.41	Mathura	1116	Medium	6.63
Kanpur Nagar	1139	Medium	7.27	Kanpur Nagar	1126	Medium	6.53
Farrukhabad	1149	Medium	9.28	Farrukhabad	1146	Medium	7.74
Bareilly	1168	Medium	4.67	Aligarh	1151	Medium	6.61
Siddharthnagar	1220	Medium	25.35	Varanasi	1152	Medium	4.99
Kashiramnagar	1230	Medium	7.19	Kashiramnagar	1161	Medium	6.79
Bulandshahar	1247	Medium	4.29	Bareilly	1168	Medium	4.43
Sultanpur	1313	High	8.78	Sultanpur	1197	Medium	7.71
Muzaffarnagar	1366	High	5.31	Bulandshahar	1247	High	4.07
Faizabad	1378	High	20.18	Etah	1338	High	6.79
Saharanpur	1419	High	6.3	Muzaffarnagar	1345	High	4.91
Etah	1436	High	7.71	Hathras	1360	High	7.5
Ghaziabad	1454	High	10.14	Saharanpur	1361	High	5.76
Hathras	1546	High	8.58	Ghaziabad	1430	High	7.71
Gautam Buddha Nr	1547	High	7.93	Gautam Buddha Nr	1465	High	6.68
Baghpat	1885	High	11.56	Baghpat	1542	High	8.44
Meerut	1958	High	9.75	Meerut	1558	High	7.87

Source: Computed at GIDS

Table 5B: Analysis Table by Region-wise

Region	District	Direct (MPCE)		CV	District	Model based SAE (MPCE)		CV
Western	Mainpuri	836	low	4.68	Mainpuri	853	low	4.46
	Shahjahanpur	921	low	5.52	Shahjahanpur	939	low	5.18
	Kannauj	973	Medium	8.63	Badaun	1018	Medium	5.98
	JyotibaPhuleNr	1012	Medium	7.28	Kannauj	1023	Medium	7.33
	Firozabad	1014	Medium	8.14	Pilibhit	1024	Medium	5.84
	Badaun	1016	Medium	6.42	JyotibaPhuleNr	1032	Medium	6.47
	Pilibhit	1021	Medium	6.33	Etawah	1045	Medium	5

Region	District	Direct (MPCE)		CV	District	Model based SAE (MPCE)		CV
	Etawah	1045	Medium	5.28	Firozabad	1075	Medium	6.82
	Agra	1063	Medium	5.5	Auraiya	1076	Medium	5.59
	Bijnor	1068	Medium	5.55	Agra	1080	Medium	5.07
	Moradabad	1081	Medium	4.71	Rampur	1081	Medium	6.61
	Auraiya	1087	Medium	5.97	Moradabad	1083	Medium	4.49
	Rampur	1092	Medium	7.31	Bijnor	1087	Medium	5.12
	Mathura	1109	Medium	7.59	Mathura	1116	Medium	6.63
	Aligarh	1135	Medium	7.66	Farrukhabad	1146	Medium	7.74
	Farrukhabad	1149	Medium	9.28	Aligarh	1151	Medium	6.61
	Bareilly	1168	Medium	4.67	Kanshiram nagar	1161	Medium	6.79
	Kanshiram nagar	1230	Medium	7.19	Bareilly	1168	Medium	4.43
	Bulandshahar	1247	Medium	4.29	Bulandshahar	1247	Medium	4.07
	Muzaffar nagar	1366	Medium	5.31	Etah	1338	Medium	6.79
	Saharanpur	1419	Medium	6.3	Muzaffar nagar	1345	Medium	4.91
	Etah	1436	Medium	7.71	Hathras	1360	Medium	7.5
	Ghaziabad	1454	Medium	10.14	Saharanpur	1361	Medium	5.76
	Hathras	1546	High	8.58	Ghaziabad	1430	High	7.71
	Gautam Buddha Nr	1547	High	7.93	Gautam Buddha Nr	1465	High	6.68
	Baghpat	1885	High	11.56	Baghpat	1542	High	8.44
	Meerut	1958	High	9.75	Meerut	1558	High	7.87
Central	Fatehpur	777	low	4.91	Fatehpur	791	low	4.69
	Unnao	861	Medium	5.59	Unnao	867	low	5.32
	Rae Bareli	930	Medium	4.6	Rae Bareli	930	Medium	4.44
	Kheri	936	Medium	8.11	Kheri	947	Medium	7.25
	Hardoi	967	Medium	4.8	Hardoi	965	Medium	4.63
	Sitapur	1002	Medium	5.86	Sitapur	993	Medium	5.58
	Kanpur Dehat	1104	Medium	9.15	Lucknow	1083	Medium	8.51
	Lucknow	1130	High	9.69	Kanpur Dehat	1090	High	7.8
	Kanpur Nagar	1139	High	7.27	Kanpur Nagar	1126	High	6.53
Southern	Banda	774	low	6.71	Banda	793	low	6.22

Region	District	Direct (MPCE)		CV	District	Model based SAE (MPCE)		CV
(Bundelkhand)								
	Chitrakoot	839	low	20.23	Chitrakoot	879	Medium	12.99
	Mahoba	975	Medium	11.68	Mahoba	976	Medium	9.4
	Jalaun	993	Medium	6.74	Jalaun	987	Medium	6.25
	Lalitpur	1061	Medium	3.73	Lalitpur	1052	Medium	3.67
	Jhansi	1070	Medium	5.39	Jhansi	1056	Medium	5.14
	Hamirpur	1079	Medium	6.25	Hamirpur	1069	Medium	5.81
Eastern (Poorvanchal)								
	Kaushambi	809	low	7.29	Kaushambi	819	low	6.83
	Bahraich	828	low	4.85	Bahraich	833	low	4.69
	Basti	861	low	9.02	Pratapgarh	880	low	4.35
	Pratapgarh	870	low	4.54	Basti	885	low	7.86
	SantRavidasNr	873	low	7.91	Shrawasti	887	low	6.47
	Shrawasti	888	Medium	6.88	Balrampur	895	low	6.77
	Balrampur	892	Medium	7.29	Barabanki	906	Medium	5.86
	Barabanki	900	Medium	6.26	Sonbhadra	928	Medium	7.21
	Sonbhadra	946	Medium	7.74	SantRavidasNr	929	Medium	6.83
	Ballia	955	Medium	5.44	Siddharthnagar	962	Medium	14.43
	Deoria	988	Medium	7.11	Ballia	976	Medium	5.07
	Allahabad	991	Medium	4.32	Mahrajganj	984	Medium	7.38
	Gorakhpur	993	Medium	4.25	SantKabir Nagar	991	Medium	6.77
	Mau	1000	Medium	5.51	Gorakhpur	996	Medium	4.1
	SantKabir Nagar	1006	Medium	7.36	Deoria	999	Medium	4.14
	Mahrajganj	1012	Medium	7.99	Allahabad	999	Medium	6.45
	Azamgarh	1020	Medium	5.28	Mau	1007	Medium	5.16
	Mirzapur	1023	Medium	8.18	Azamgarh	1020	Medium	5
	Ambedkar Nagar	1047	Medium	5.67	Mirzapur	1024	Medium	7.21
	Ghazipur	1051	Medium	4.71	Gonda	1034	Medium	9.68
	Gonda	1063	Medium	12.31	Ambedkar Nagar	1041	Medium	5.32
	Chandauli	1092	Medium	6.98	Ghazipur	1050	Medium	4.5

Region	District	Direct (MPCE)		CV	District	Model based SAE (MPCE)		CV
	Kushinagar	1108	Medium	5.89	Faizabad	1080	Medium	12.22
	Jaunpur	1115	Medium	5.86	Chandauli	1087	High	5.59
	Varanasi	1136	Medium	5.41	Kushinagar	1087	High	6.31
	Siddharthnagar	1220	High	25.35	Jaunpur	1098	High	5.53
	Sultanpur	1313	High	8.78	Varanasi	1152	High	4.99
	Faizabad	1378	High	20.18	Sultanpur	1197	High	7.71

Source: computed at GIDS

The above data in table 5A shows that district wise direct estimates and model based small area estimates along with percentage coefficient of variations(CV) of Monthly per capita consumer expenditure in Rupees (MPCE) for rural areas in the state of Uttar Pradesh in 2011-12. As mentioned above as per direct estimate and model based small area estimate based MPCE has been categorised into 3 levels i.e. low, medium and high.

As per direct estimates the number of districts fallen in the low level category is 6, namely Banda, Fatehpur, Kaushambi, Bahraich, Mainpuri and Chitrakoot respectively. Their level of MPCE represents the range of Rs. 774 to 839, whereas their percentage coefficient of variation levels shows that 4.68% to 20.23%.

On the other hand as per model based small area estimates the number of districts fallen in the low level category is 10, namely Fatehpur, Banda, Kaushambi, Bahraich, Mainpuri, Unnao, Chitrakoot, Pratapgarh, Basti and Shrawasti respectively. Their level of MPCE represents the range of Rs. 791 to 887, whereas their percentage coefficient of variation levels shows that 4.39% to 12.99%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

As per direct estimates the number of districts fallen in the Medium level category is 55. Their level of MPCE represents the range of Rs. 861 to 1247, whereas their percentage coefficient of variation levels shows that 4.25% to 25.35%.

On the other hand as per model based small area estimates the number of districts fallen in the medium level category is 52. Their level of MPCE represents the range of Rs. 895 to 1197, whereas their percentage coefficient of variation levels shows that 3.67% to 14.43%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

As per direct estimates the number of districts fallen in the high level category is 10, namely Sultanpur, Muzaffarnagar, Faizabad, Saharanpur, Etah, Ghaziabad, Hathras, GB.Nagar, Baghpat and Meerut respectively. Their level of MPCE represents the range of Rs. 1313 to 1958, whereas their percentage coefficient of variation levels shows that 5.31% to 20.18%.

On the other hand as per model based small area estimates the number of districts fallen in the high level category is 9, namely Bulandshahar, Muzaffarnagar, Faizabad, Saharanpur, Etah, Ghaziabad, Hathras, GB.Nagar, Baghpat and Meerut respectively. Their level of MPCE represents the range of Rs. 1247 to 1558, whereas their percentage coefficient of variation levels shows that 4.07% to 8.44%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

The above data in table 5B shows that Region-wise districts (4 regions) direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of Monthly per capita consumer expenditure in Rupees (MPCE) for rural areas in the state of Uttar Pradesh in 2011-12. As mentioned above as per direct estimates and model based small area estimate based MPCE has been categorised into 3 levels i.e. low, medium and high.

As per direct estimates the Western region-wise(27) number of districts fallen in the low level category is 2, Medium – 21, and High – 4; Central region-wise (9) number of districts fallen in the low category – 1, Medium – 6, and High – 2; Bundelkhand region-wise (7) number of districts fallen in the low category – 2 and Medium – 5; and Eastern region-wise (28) number of districts fallen in the low level category – 5, Medium – 20 and High – 3.

On the other hand as per model based small area estimates the Western region-wise (27) number of districts fallen in the low level category is 2, Medium – 21, and High – 4; Central region-wise (9) number of districts fallen in the low category – 2, Medium – 5, and High – 2; Bundelkhand region-wise (7) number of districts fallen in the low category – 1 and Medium – 6; and Eastern region-wise (28) number of districts fallen in the low level category – 6, Medium – 17 and High – 5.

However, the direct estimates compared with model based small area estimates indicate that the MPCE variations are high in Western region and CV variations are higher in Eastern region followed by Bundelkhand region. Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates in rural areas of the State.

Table 6: District-wise sample size, sample count of poor household (Sample Count), direct estimates (Direct) and model-based small area estimates (SAE) along with their standard error (SE) and percentage coefficient of variations (CV) for poverty incidence for rural areas in the state of Uttar Pradesh in 2011-12.

Region	District	Sample Size	Sample Count	Direct			Model based SAE		
				Poverty Incidence	SE	CV	Poverty Incidence	SE	CV
Western	Saharanpur	96	5	0.068	0.0362	53.23	0.089	0.0297	33.33
	Muzaffarnagar	128	8	0.052	0.0272	52.31	0.083	0.0257	30.95
	Bijnor	96	18	0.165	0.0524	31.78	0.160	0.0417	26.07
	Moradabad	128	24	0.131	0.0371	28.36	0.149	0.0365	24.48
	Rampur	64	15	0.240	0.0825	34.36	0.232	0.0574	24.76
	JyotibaPhuleNr	64	12	0.268	0.0850	31.71	0.253	0.0589	23.28
	Meerut	64	1	0.002			0.060	0.0237	39.44
	Baghpat	32	3	0.138	0.0909	65.86	0.092	0.0374	40.67
	Ghaziabad	64	3	0.054	0.0367	68.04	0.063	0.0251	39.84
	Gautam Buddha Nr	32	1	0.018	0.0179	99.38	0.066	0.0279	42.32
	Bulandshahar	96	8	0.103	0.0377	36.59	0.110	0.0308	28.02
	Aligarh	95	13	0.181	0.0861	47.56	0.160	0.0452	28.23
	Hathras	64	2	0.013	0.0110	84.27	0.084	0.0311	37.08
	Mathura	64	8	0.179	0.0684	38.22	0.192	0.0504	26.25
	Agra	96	12	0.192	0.0628	32.73	0.179	0.0443	24.73
	Firozabad	64	14	0.252	0.0824	32.70	0.187	0.0496	26.52
	Etah	64	6	0.126	0.0716	56.79	0.139	0.0437	31.44
	Mainpuri	64	19	0.451	0.1198	26.57	0.343	0.0772	22.51
	Budaun	96	16	0.233	0.0829	35.57	0.245	0.0591	24.11
	Bareilly	95	5	0.047	0.0272	57.88	0.099	0.0329	33.20
	Pilibhit	64	8	0.177	0.0844	47.71	0.192	0.0546	28.43
	Shahjahanpur	96	18	0.270	0.0820	30.38	0.229	0.0549	23.96
	Farrukhabad	64	11	0.184	0.0907	49.27	0.190	0.0553	29.11
	Kannauj	64	12	0.308	0.1089	35.37	0.221	0.0601	27.19
Etawah	64	6	0.093	0.0582	62.61	0.160	0.0516	32.23	
Auraiya	64	10	0.148	0.0540	36.51	0.205	0.0555	27.07	
Kashiramnagar	32	5	0.161	0.0744	46.19	0.257	0.0740	28.80	
Central	Kheri	128	36	0.295	0.0717	24.30	0.288	0.0588	20.42
	Sitapur	128	40	0.324	0.0634	19.57	0.321	0.0570	17.76
	Hardoi	128	38	0.260	0.0579	22.26	0.287	0.0550	19.18
	Unnao	96	38	0.566	0.0756	13.36	0.499	0.0669	13.41
	Lucknow	64	12	0.347	0.0903	26.02	0.326	0.0670	20.55
	Rae Bareli	128	42	0.367	0.0604	16.46	0.360	0.0548	15.21
	Kanpur Dehat	64	7	0.152	0.0971	63.89	0.183	0.0543	29.68
	Kanpur Nagar	64	12	0.115	0.0473	41.16	0.161	0.0488	30.30
	Fatehpur	96	38	0.520	0.0722	13.88	0.453	0.0618	13.64

Southern	Jalaun	64	7	0.213	0.0760	35.69	0.236	0.0578	24.49
	Jhansi	64	6	0.117	0.0573	48.95	0.187	0.0506	27.06
	Lalitpur	32	4	0.144	0.0751	52.15	0.260	0.0752	28.91
	Hamirpur	32	7	0.169	0.0939	55.54	0.201	0.0659	32.78
	Banda	64	26	0.486	0.1038	21.35	0.434	0.0773	17.82
	Chitrakoot	32	9	0.204	0.1213	59.47	0.290	0.0780	26.89
	Mahoba	32	4	0.349	0.1693	48.51	0.295	0.0828	28.08
Eastern	Mahrajganj	96	36	0.354	0.0757	21.38	0.354	0.0652	18.42
	Pratapgarh	128	48	0.451	0.0711	15.77	0.403	0.0604	14.99
	Kaushambi	63	29	0.450	0.0863	19.17	0.430	0.0734	17.07
	Allahabad	128	34	0.244	0.0664	27.22	0.242	0.0517	21.35
	Barabanki	96	29	0.501	0.0895	17.86	0.437	0.0711	16.28
	Faizabad	64	17	0.287	0.0884	30.81	0.295	0.0677	22.97
	Ambedkar Nagar	96	30	0.310	0.0639	20.60	0.303	0.0535	17.65
	Sultanpur	128	27	0.210	0.0512	24.37	0.221	0.0449	20.34
	Bahraich	96	29	0.488	0.0873	17.90	0.437	0.0716	16.39
	Shrawasti	64	20	0.359	0.1008	28.09	0.364	0.0797	21.89
	Balrampur	63	12	0.196	0.0773	39.42	0.257	0.0678	26.39
	Gonda	128	37	0.274	0.0625	22.82	0.277	0.0544	19.64
	Siddharthnagar	96	30	0.263	0.0616	23.44	0.295	0.0583	19.77
	Basti	96	46	0.578	0.0746	12.91	0.506	0.0645	12.75
	SantKabir Nagar	64	19	0.325	0.0765	23.53	0.320	0.0634	19.81
	Gorakhpur	128	34	0.283	0.0563	19.89	0.275	0.0504	18.33
	Kushinagar	128	29	0.214	0.0567	26.52	0.238	0.0511	21.47
	Deoria	96	26	0.347	0.0746	21.49	0.322	0.0597	18.56
	Azamgarh	128	39	0.322	0.0585	18.16	0.315	0.0517	16.40
	Mau	64	12	0.146	0.0582	39.88	0.198	0.0539	27.24
	Ballia	96	26	0.267	0.0738	27.62	0.232	0.0564	24.31
	Jaunpur	128	24	0.177	0.0443	25.01	0.216	0.0473	21.91
	Ghazipur	128	29	0.236	0.0509	21.56	0.248	0.0477	19.25
	Chandauli	64	12	0.190	0.0663	34.87	0.205	0.0530	25.86
	Varanasi	96	18	0.192	0.0546	28.43	0.170	0.0415	24.40
	SantRavidasNr	64	26	0.506	0.0880	17.40	0.380	0.0673	17.71
	Mirzapur	96	25	0.237	0.0522	22.05	0.247	0.0509	20.60
	Sonbhadra	64	18	0.375	0.0854	22.77	0.382	0.0698	18.27
Summary	Minimum	32	1	0.002	0.0110	12.91	0.060	0.0237	12.75
	Maximum	128	48	0.578	0.1693	99.38	0.506	0.0828	42.32

Source: Derived from 68th Round NSSO Unit Level Data

Table 6A: Analysis Table for All Districts

District Name	Direct (Poverty Incidence)		CV	District	Model based SAE (Poverty Incidence)		CV
Meerut	0.002	low		Meerut	0.06	low	39.44
Hathras	0.013	low	84.27	Ghaziabad	0.063	low	39.84
Gautam Buddha Nr	0.018	low	99.38	Gautam Buddha Nr	0.066	low	42.32
Bareilly	0.047	low	57.88	Muzaffar nagar	0.083	low	30.95
Muzaffarnagar	0.052	low	52.31	Hathras	0.084	low	37.08
Ghaziabad	0.054	low	68.04	Saharanpur	0.089	low	33.33
Saharanpur	0.068	low	53.23	Baghpat	0.092	low	40.67
Etawah	0.093	low	62.61	Bareilly	0.099	low	33.2
Bulandshahar	0.103	low	36.59	Bulandshahar	0.11	low	28.02
Kanpur Nagar	0.115	Medium	41.16	Etah	0.139	low	31.44
Jhansi	0.117	Medium	48.95	Moradabad	0.149	Medium	24.48
Etah	0.126	Medium	56.79	Etawah	0.16	Medium	26.07
Moradabad	0.131	Medium	28.36	Bijnor	0.16	Medium	28.23
Baghpat	0.138	Medium	65.86	Aligarh	0.16	Medium	32.23
Lalitpur	0.144	Medium	52.15	Kanpur Nagar	0.161	Medium	30.3
Mau	0.146	Medium	39.88	Varanasi	0.17	Medium	24.4
Auraiya	0.148	Medium	36.51	Agra	0.179	Medium	24.73
Kanpur Dehat	0.152	Medium	63.89	Kanpur Dehat	0.183	Medium	29.68
Kanshiramnagar	0.161	Medium	46.19	Jhansi	0.187	Medium	26.52
Bijnor	0.165	Medium	31.78	Firozabad	0.187	Medium	27.06
Hamirpur	0.169	Medium	55.54	Farrukhabad	0.19	Medium	29.11
Pilibhit	0.177	Medium	47.71	Pilibhit	0.192	Medium	26.25
Jaunpur	0.177	Medium	25.01	Mathura	0.192	Medium	28.43
Mathura	0.179	Medium	38.22	Mau	0.198	Medium	27.24
Aligarh	0.181	Medium	47.56	Hamirpur	0.201	Medium	32.78
Farrukhabad	0.184	Medium	49.27	Auraiya	0.205	Medium	27.07
Chandauli	0.19	Medium	34.87	Chandauli	0.205	Medium	25.86
Agra	0.192	Medium	32.73	Jaunpur	0.216	Medium	21.91

District Name	Direct		CV	District	Model based		CV
					SAE		
Varanasi	0.192	Medium	28.43	Sultanpur	0.221	Medium	27.19
Balrampur	0.196	Medium	39.42	Kannauj	0.221	Medium	20.34
Chitrakoot	0.204	Medium	59.47	Shahjahanpur	0.229	Medium	23.96
Sultanpur	0.21	Medium	24.37	Rampur	0.232	Medium	24.76
Jalaun	0.213	Medium	35.69	Ballia	0.232	Medium	24.31
Kushinagar	0.214	Medium	26.52	Jalaun	0.236	Medium	24.49
Badaun	0.233	Medium	35.57	Kushinagar	0.238	Medium	21.47
Ghazipur	0.236	Medium	21.56	Allahabad	0.242	Medium	21.35
Mirzapur	0.237	Medium	22.05	Badaun	0.245	Medium	24.11
Rampur	0.24	Medium	34.36	Mirzapur	0.247	Medium	20.6
Allahabad	0.244	Medium	27.22	Ghazipur	0.248	Medium	19.25
Firozabad	0.252	Medium	32.7	JyotibaPhuleNr	0.253	Medium	23.28
Hardoi	0.26	Medium	22.26	Kashiramnagar	0.257	Medium	28.8
Siddharthnagar	0.263	Medium	23.44	Balrampur	0.257	Medium	26.39
Ballia	0.267	Medium	27.62	Lalitpur	0.26	Medium	28.91
JyotibaPhuleNr	0.268	Medium	31.71	Gorakhpur	0.275	Medium	18.33
Shahjahanpur	0.27	Medium	30.38	Gonda	0.277	Medium	19.64
Gonda	0.274	Medium	22.82	Hardoi	0.287	Medium	19.18
Gorakhpur	0.283	Medium	19.89	Kheri	0.288	Medium	20.42
Faizabad	0.287	Medium	30.81	Chitrakoot	0.29	Medium	26.89
Kheri	0.295	Medium	24.3	Siddharthnagar	0.295	Medium	28.08
Kannauj	0.308	Medium	35.37	Faizabad	0.295	Medium	22.97
Ambedkar Nagar	0.31	Medium	20.6	Mahoba	0.295	Medium	19.77
Azamgarh	0.322	Medium	18.16	Ambedkar Nagar	0.303	Medium	17.65
Sitapur	0.324	Medium	19.57	Azamgarh	0.315	Medium	16.4
SantKabir Nagar	0.325	Medium	23.53	SantKabir Nagar	0.32	Medium	19.81
Lucknow	0.347	Medium	26.02	Sitapur	0.321	Medium	17.76
Deoria	0.347	Medium	21.49	Deoria	0.322	Medium	18.56
Mahoba	0.349	Medium	48.51	Lucknow	0.326	Medium	20.55
Mahrajganj	0.354	Medium	21.38	Mainpuri	0.343	Medium	22.51
Shrawasti	0.359	Medium	28.09	Mahrajganj	0.354	Medium	18.42
Rae Bareli	0.367	Medium	16.46	Rae Bareli	0.36	High	15.21

District Name	Direct		CV	District	Model based		CV
	SAE				SAE		
Sonbhadra	0.375	Medium	22.77	Shrawasti	0.364	High	21.89
Kaushambi	0.45	High	19.17	SantRavidasNr	0.38	High	17.71
Mainpuri	0.451	High	26.57	Sonbhadra	0.382	High	18.27
Pratapgarh	0.451	High	15.77	Pratapgarh	0.403	High	14.99
Banda	0.486	High	21.35	Kaushambi	0.43	High	17.07
Bahraich	0.488	High	17.9	Banda	0.434	High	17.82
Barabanki	0.501	High	17.86	Bahraich	0.437	High	16.28
SantRavidasNr	0.506	High	17.4	Barabanki	0.437	High	16.39
Fatehpur	0.52	High	13.88	Fatehpur	0.453	High	13.64
Unnao	0.566	High	13.36	Unnao	0.499	High	13.41
Basti	0.578	High	12.91	Basti	0.506	High	12.75

Source: computed at GIDS

The above data in table 6A shows that district wise direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of Incidence of Poverty proportions for rural areas in the state of Uttar Pradesh in 2011-12. As mentioned above as per direct estimate and model based small area estimate based Incidence of Poverty has been categorised into 3 levels i.e. low, medium and high.

As per direct estimates the Incidence of Poverty proportions the number of districts fallen in the low level category is 9, namely Meerut, Hathras, G.B.Nagar, Bareilly, Muzaffar Nagar, Ghaziabad, Shaharanpur, Etawah and Bulandshahar respectively. Their level of Incidence of Poverty proportions represents the range of 0.002 to 0.103, whereas their percentage coefficient of variation levels shows that 36.59% to 99.38%.

On the other hand as per model based small area estimates the Incidence of Poverty proportions the number of districts fallen in the low level category is 9, namely Meerut, Ghaziabad, G.B.Nagar, Muzaffar Nagar, Hathras, Shaharanpur, Baghpat, Bareilly, Bulandshahar, and Etah respectively. Their level of incidence of poverty proportions represents the range of 0.06 to 0.139, whereas their percentage coefficient of variation levels shows that 28.02% to 42.32%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

As per direct estimates the number of districts fallen in the Medium level category is 52. Their level of incidence of poverty proportions represents the range of 0.115 to 0.375, whereas their percentage coefficient of variation levels shows that 16.46% to 65.86%.

On the other hand as per model based small area estimates the number of districts fallen in the medium level category is 50. Their level of incidence of poverty proportions represents the range of 0.149 to 0.354, whereas their percentage coefficient of variation levels shows that 16.4% to 32.78%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

As per direct estimates the number of districts fallen in the high level category is 10, namely Kaushambi, Mainpuri, Pratapgarh, Banda, Bahraich, Barabanki, Sant Ravidas Nagar, Fatehpur, Unnao and Basti respectively. Their level of incidence of poverty proportions represents the range of 0.45 to 0.578, whereas their percentage coefficient of variation levels shows that 12.91% to 26.57%.

On the other hand as per model based small area estimates the number of districts fallen in the high level category is 12, namely Rae Bareli, Shrawasti, Sant Ravidas Ngar, Sonbhadra, Pratapgarh, Kaushambi, Banda, Bahraich, Barabanki, Fatehpur, Unnao and Basti respectively. Their level of incidence of poverty proportions represents the range of 0.36 to 0.506, whereas their percentage coefficient of variation levels shows that 12.75% to 21.89%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates in the rural areas.

Table 6B: Analysis Table by Region-wise

Region	District Name	Direct (Poverty Incidence)		CV	District	Model based SAE (Poverty Incidence)		CV
Western	Meerut	0.002	low		Meerut	0.06	low	39.44
	Hathras	0.013	low	84.27	Ghaziabad	0.063	low	39.84
	Gautam Buddha Nr	0.018	low	99.38	Gautam Buddha Nr	0.066	low	42.32
	Bareilly	0.047	low	57.88	Muzaffarnagar	0.083	low	30.95
	Muzaffarnagar	0.052	low	52.31	Hathras	0.084	low	37.08
	Ghaziabad	0.054	low	68.04	Saharanpur	0.089	low	33.33
	Saharanpur	0.068	Medium	53.23	Baghpat	0.092	low	40.67
	Etawah	0.093	Medium	62.61	Bareilly	0.099	Medium	33.2
	Bulandshahar	0.103	Medium	36.59	Bulandshahar	0.11	Medium	28.02
	Etah	0.126	Medium	56.79	Etah	0.139	Medium	31.44
	Moradabad	0.131	Medium	28.36	Moradabad	0.149	Medium	24.48
	Baghpat	0.138	Medium	65.86	Etawah	0.16	Medium	26.07
	Auraiya	0.148	Medium	36.51	Bijnor	0.16	Medium	28.23
	Kashiramnagar	0.161	Medium	46.19	Aligarh	0.16	Medium	32.23
	Bijnor	0.165	Medium	31.78	Agra	0.179	Medium	24.73
	Pilibhit	0.177	Medium	47.71	Firozabad	0.187	Medium	26.52
	Mathura	0.179	Medium	38.22	Farrukhabad	0.19	Medium	29.11
	Aligarh	0.181	Medium	47.56	Pilibhit	0.192	Medium	26.25
	Farrukhabad	0.184	Medium	49.27	Mathura	0.192	Medium	28.43
	Agra	0.192	Medium	32.73	Auraiya	0.205	Medium	27.07
Badaun	0.233	Medium	35.57	Kannauj	0.221	Medium	27.19	
Rampur	0.24	Medium	34.36	Shahjahanpur	0.229	Medium	23.96	
Firozabad	0.252	Medium	32.7	Rampur	0.232	Medium	24.76	
JyotibaPhuleNr	0.268	High	31.71	Badaun	0.245	High	24.11	
Shahjahanpur	0.27	High	30.38	JyotibaPhule Nr	0.253	High	23.28	
Kannauj	0.308	High	35.37	Kashiramnagar	0.257	High	28.8	
Mainpuri	0.451	High	26.57	Mainpuri	0.343	High	22.51	
Central	Kanpur Nagar	0.115	low	41.16	Kanpur Nagar	0.161	low	30.3
	Kanpur Dehat	0.152	low	63.89	Kanpur Dehat	0.183	low	29.68
	Hardoi	0.26	Medium	22.26	Hardoi	0.287	Medium	19.18
	Kheri	0.295	Medium	24.3	Kheri	0.288	Medium	20.42
	Sitapur	0.324	Medium	19.57	Sitapur	0.321	Medium	17.76

Region	District Name	Direct (Poverty Incidence)		CV	District	Model based SAE (Poverty Incidence)		CV
	Lucknow	0.347	Medium	26.02	Lucknow	0.326	Medium	20.55
	Rae Bareli	0.367	Medium	16.46	Rae Bareli	0.36	Medium	15.21
	Fatehpur	0.52	High	13.88	Fatehpur	0.453	High	13.64
	Unnao	0.566	High	13.36	Unnao	0.499	High	13.41
Southern (Bundelkhand)	Jhansi	0.117	Medium	48.95	Jhansi	0.187	low	27.06
	Lalitpur	0.144	Medium	52.15	Hamirpur	0.201	Medium	32.78
	Hamirpur	0.169	Medium	55.54	Jalaun	0.236	Medium	24.49
	Chitrakoot	0.204	Medium	59.47	Lalitpur	0.26	Medium	28.91
	Jalaun	0.213	Medium	35.69	Chitrakoot	0.29	Medium	26.89
	Mahoba	0.349	Medium	48.51	Mahoba	0.295	Medium	28.08
	Banda	0.486	High	21.35	Banda	0.434	High	17.82
	Eastern (Poorvanchal)	Mau	0.146	low	39.88	Varanasi	0.17	low
Jaunpur		0.177	low	25.01	Mau	0.198	low	27.24
Chandauli		0.19	low	34.87	Chandauli	0.205	low	25.86
Varanasi		0.192	low	28.43	Jaunpur	0.216	low	21.91
Balrampur		0.196	low	39.42	Sultanpur	0.221	Medium	20.34
Sultanpur		0.21	Medium	24.37	Ballia	0.232	Medium	24.31
Kushinagar		0.214	Medium	26.52	Kushinagar	0.238	Medium	21.47
Ghazipur		0.236	Medium	21.56	Allahabad	0.242	Medium	21.35
Mirzapur		0.237	Medium	22.05	Mirzapur	0.247	Medium	20.6
Allahabad		0.244	Medium	27.22	Ghazipur	0.248	Medium	19.25
Siddharthnagar		0.263	Medium	23.44	Balrampur	0.257	Medium	26.39
Ballia		0.267	Medium	27.62	Gorakhpur	0.275	Medium	18.33
Gonda		0.274	Medium	22.82	Gonda	0.277	Medium	19.64
Gorakhpur		0.283	Medium	19.89	Siddharthnagar	0.295	Medium	22.97
Faizabad		0.287	Medium	30.81	Faizabad	0.295	Medium	19.77
Ambedkar Nagar		0.31	Medium	20.6	Ambedkar Nagar	0.303	Medium	17.65
Azamgarh		0.322	Medium	18.16	Azamgarh	0.315	Medium	16.4
SantKabir Nagar	0.325	Medium	23.53	SantKabir Nagar	0.32	Medium	19.81	
Deoria	0.347	Medium	21.49	Deoria	0.322	Medium	18.56	
Mahrajganj	0.354	Medium	21.38	Mahrajganj	0.354	Medium	18.42	
Shrawasti	0.359	Medium	28.09	Shrawasti	0.364	Medium	21.89	
Sonbhadra	0.375	Medium	22.77	SantRavidasN	0.38	Medium	17.71	

Region	District Name	Direct (Poverty Incidence)		CV	District	Model based SAE (Poverty Incidence)		CV
					r			
	Kaushambi	0.45	High	19.17	Sonbhadra	0.382	Medium	18.27
	Pratapgarh	0.451	High	15.77	Pratapgarh	0.403	High	14.99
	Bahraich	0.488	High	17.9	Kaushambi	0.43	High	17.07
	Barabanki	0.501	High	17.86	Bahraich	0.437	High	16.28
	SantRavidasNr	0.506	High	17.4	Barabanki	0.437	High	16.39
	Basti	0.578	High	12.91	Basti	0.506	High	12.75

Source: computed at GIDS

The above data in table 6b shows that district wise direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of Incidence of Poverty proportions for rural areas in the state of Uttar Pradesh in 2011-12. As mentioned above as per direct estimate and model based small area estimate based Incidence of Poverty has been categorised into 3 levels i.e. low, medium and high.

As per direct estimates the Incidence of Poverty proportions the number of districts fallen in the low level category is 9, namely Meerut, Hathras, G.B.Nagar, Bareilly, Muzaffar Nagar, Ghaziabad, Shaharanpur, Etawah and Bulandshahar respectively. Their level of Incidence of Poverty proportions represents the range of 0.002 to 0.103, whereas their percentage coefficient of variation levels shows that 36.59% to 99.38%.

On the other hand as per model based small area estimates the Incidence of Poverty proportions the number of districts fallen in the low level category is 9, namely Meerut, Ghaziabad, G.B.Nagar, Muzaffar Nagar, Hathras Shaharanpur, Baghpat, Bareilly, Bulandshahar, and Etah respectively. Their level of incidence of poverty proportions represents the range of 0.06 to 0.139, whereas their percentage coefficient of variation levels shows that 28.02% to 42.32%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

As per direct estimates the number of districts fallen in the Medium level category is 52. Their level of incidence of poverty proportions represents the range of 0.115 to 0.375, whereas their percentage coefficient of variation levels shows that 16.46% to 65.86%.

On the other hand as per model based small area estimates the number of districts fallen in the medium level category is 50. Their level of incidence of poverty proportions represents the range of 0.149 to 0.354, whereas their percentage coefficient of variation levels shows that 16.4% to 32.78%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

As per direct estimates the number of districts fallen in the high level category is 10, namely Kaushambi, Mainpuri, Pratapgarh, Banda, Bahraich, Barabanki, Sant Ravidas Nagar, Fatehpur, Unnao and Basti respectively. Their level of incidence of poverty proportions represents the range of 0.45 to 0.578, whereas their percentage coefficient of variation levels shows that 12.91% to 26.57%.

On the other hand as per model based small area estimates the number of districts fallen in the high level category is 12, namely Rae Bareli, Shrawasti, Sant Ravidas Ngar, Sonbhadra, Pratapgarh, Kaushambi, Banda, Bahraich, Barabanki, Fatehpur, Unnao and Basti respectively. Their level of incidence of poverty proportions represents the range of 0.36 to 0.506, whereas their percentage coefficient of variation levels shows that 12.75% to 21.89%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

The above data in table shows that Region-wise districts (4 regions) direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of incidence of poverty proportions for rural areas in the state of Uttar Pradesh in 2011-12. As mentioned above as per direct estimate and model based small area estimate based incidence of poverty proportions has been categorised into 3 levels i.e. low, medium and high.

As per direct estimates the incidence of poverty proportions in Western region-wise (27) number of districts fallen in the low level category is 6, Medium – 17, and High – 4; Central region-wise (9) number of districts fallen in the low category – 2, Medium – 5, and High – 2; Bundelkhand region-wise (7) number of districts fallen in the Medium – 6, and High - 1; and Eastern region-wise (28) number of districts fallen in the low level category – 5, Medium – 17 and High – 6.

On the other hand as per model based small area estimates the incidence of poverty proportions in Western region-wise (27) number of districts fallen in the low level category is 7, Medium – 16, and High – 4; Central region-wise (9) number of districts fallen in the low category – 2, Medium – 5, and High – 2; Bundelkhand region-wise (7) number of districts fallen in the low category – 1, Medium – 5 and High - 1; and Eastern region-wise (28) number of districts fallen in the low level category – 4, Medium – 19 and High – 5.

However, the direct estimates compared with model based small area estimates indicate that the incidence of poverty proportions in rural areas the variations are high in Western region and CV variations are higher in Western region also. Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates in the rural areas.

Table 7: District-wise sample size, estimated number of household (est. HH), average household size (HHS), direct estimates (Direct) and model-based small area estimates (SAE) along with their standard error (SE) and percentage coefficient of variations (CV) of monthly per capita consumer and expenditure in Rupees (MPCE) for rural LC1 areas in the state of Uttar Pradesh in 2011-12.

Region	District	Sample Size	est. HH	HHS	Direct			Model Based SAE		
					MPCE	SE	CV	MPCE	SE	CV
Western	Saharanpur	71	393785	5.6	1300	96.68	7.43	1261	80.56	6.39
	Muzaffarnagar	99	473820	5.9	1233	63.70	5.17	1230	58.32	4.74
	Bijnor	79	372028	5.8	1015	56.55	5.57	1034	52.56	5.09
	Moradabad	108	449575	6.0	1060	53.29	5.03	1054	49.99	4.74
	Rampur	61	241044	6.0	1101	81.67	7.42	1072	70.97	6.62
	Jyotiba Phule Nr	50	169459	5.9	973	82.86	8.51	990	70.96	7.17
	Meerut	51	254692	5.0	1670	147.53	8.83	1403	100.98	7.20
	Baghpat	24	113127	5.8	1576	287.70	18.26	1320	127.37	9.65
	Ghaziabad	49	214752	6.3	1479	209.07	14.13	1330	117.22	8.81
	Gautam Buddha Nr	32	192376	5.5	1547	122.65	7.93	1400	92.58	6.61
	Bulandshahar	73	320521	5.5	1186	56.71	4.78	1176	52.52	4.47
	Aligarh	63	394025	6.3	961	75.98	7.90	994	66.43	6.69
	Hathras	41	139585	5.4	1404	173.01	12.32	1188	105.88	8.91
	Mathura	49	236929	5.4	1034	78.78	7.62	1039	68.17	6.56
	Agra	69	300305	5.9	1003	70.25	7.00	1031	62.60	6.07
	Firozabad	48	216738	6.0	888	76.93	8.66	957	67.29	7.03
	Etah	44	228057	3.7	1305	119.80	9.18	1211	91.00	7.51
	Mainpuri	54	221691	5.2	855	41.84	4.89	875	40.28	4.61
	Budaun	73	401589	5.3	917	51.12	5.58	918	48.45	5.28
	Bareilly	77	391607	4.2	1158	59.73	5.16	1141	55.13	4.83
Pilibhit	52	271529	4.6	986	68.00	6.89	993	60.94	6.14	
Shahjahanpur	70	309852	5.0	885	51.23	5.79	904	48.11	5.32	

Region	District	Sample Size	est. HH	HHS	Direct			Model Based SAE		
					MPCE	SE	CV	MPCE	SE	CV
Central	Farrukhabad	50	202026	4.5	1077	101.72	9.44	1093	82.02	7.50
	Kannauj	54	200397	6.0	959	86.88	9.06	1021	74.13	7.26
	Etawah	44	135983	4.9	1049	77.14	7.35	1044	67.62	6.48
	Auraiya	53	173921	4.8	1064	65.65	6.17	1052	59.60	5.67
	Kashiramnagar	26	162979	4.1	1193	99.82	8.37	1105	81.24	7.35
Central	Kheri	102	599182	5.0	830	62.74	7.56	853	57.34	6.72
	Sitapur	105	685865	4.7	973	64.01	6.58	959	58.70	6.12
	Hardoi	104	536903	5.5	930	47.71	5.13	926	45.37	4.90
	Unnao	76	393423	4.5	852	54.62	6.41	855	51.17	5.98
	Lucknow	54	261341	4.9	1108	124.49	11.24	1042	94.71	9.09
	Rae Bareli	83	392043	4.9	814	36.20	4.45	817	35.08	4.29
	Kanpur Dehat	46	201118	4.6	1192	73.39	6.16	1151	64.85	5.63
	Kanpur Nagar	51	253106	4.7	1181	99.34	8.41	1142	80.53	7.05
	Fatehpur	64	321345	5.3	801	47.58	5.94	816	44.96	5.51
Southern	Jalaun	27	91112	4.9	938	110.23	11.75	936	86.07	9.20
	Jhansi	33	122429	3.9	1205	80.80	6.70	1124	69.96	6.22
	Lalitpur	16	108332	4.3	1001	42.66	4.26	990	41.08	4.15
	Hamirpur	12	101954	3.5	855	64.26	7.51	876	58.17	6.64
	Banda	33	144104	5.5	642	39.14	6.09	666	37.64	5.65
	Chitrakoot	21	72737	3.8	1065	190.70	17.91	978	109.47	11.20
	Mahoba	7	24746	5.8	661	70.36	10.64	724	62.56	8.64
Eastern	Mahrajganj	79	335197	4.5	881	52.47	5.96	874	49.41	5.65
	Pratapgarh	106	431721	5.4	827	42.43	5.13	838	40.58	4.84
	Kaushambi	50	230252	4.8	797	59.50	7.47	817	55.68	6.82
	Allahabad	102	691145	5.0	954	39.68	4.16	959	38.12	3.97
	Barabanki	73	555935	4.8	837	61.02	7.29	854	55.85	6.54
	Faizabad	57	308043	4.9	1337	285.85	21.37	1005	119.85	11.92
	Ambedkar Nr	87	312706	6.1	995	54.98	5.52	988	51.12	5.17
	Sultanpur	101	468800	5.2	1221	119.96	9.82	1099	89.77	8.16
	Bahraich	77	453645	4.8	799	40.76	5.10	803	39.30	4.90
	Shrawasti	48	228605	4.2	805	49.08	6.09	803	46.61	5.81
	Balrampur	47	260000	5.0	854	65.88	7.72	847	60.11	7.10
	Gonda	112	464280	5.2	1045	141.34	13.52	981	98.06	9.99
	Siddharthnagar	70	266863	5.8	875	51.74	5.91	868	48.72	5.61
	Basti	76	304550	5.7	749	50.35	6.73	770	47.40	6.16
	Sant Kabir Nr	58	238997	5.2	981	74.02	7.55	953	65.44	6.87
	Gorakhpur	111	520971	6.7	982	45.78	4.66	981	43.50	4.44
	Kushinagar	111	456273	5.6	1065	60.78	5.71	1036	56.11	5.42
	Deoria	89	412698	5.6	927	61.36	6.62	940	56.31	5.99
	Azamgarh	120	634689	6.1	1045	57.92	5.54	1030	53.41	5.19
	Mau	57	251533	5.4	983	60.94	6.20	982	55.75	5.68
Ballia	80	319412	5.7	928	54.27	5.85	948	50.78	5.35	
Jaunpur	115	607677	5.5	1042	56.24	5.40	1033	52.11	5.04	

Region	District	Sample Size	est. HH	HHS	Direct			Model Based SAE		
					MPCE	SE	CV	MPCE	SE	CV
	Ghazipur	100	382299	5.8	989	52.32	5.29	996	48.92	4.91
	Chandauli	56	240690	4.9	1029	71.21	6.92	1023	63.36	6.19
	Varanasi	86	316147	5.2	1119	62.78	5.61	1133	57.46	5.07
	Sant Ravidas Nr	55	192471	6.4	853	74.10	8.68	907	65.18	7.19
	Mirzapur	85	305918	5.7	950	76.25	8.03	958	66.94	6.99
	Sonbhadra	46	214766	4.2	961	86.08	8.96	923	74.04	8.02

Source: Derived from 68th Round NSSO Unit Level Data

Tab 7A : Analysis Table for All Districts

District (Direct)	MPCE	Rank	CV	District (SAE)	MPCE	Rank	CV
Banda	642	Low	6.09	Banda	666	Low	5.65
Mahoba	661	Low	10.64	Mahoba	724	Low	8.64
Basti	749	Low	6.73	Basti	770	Low	6.16
Kaushambi	797	Low	7.47	Bahraich	803	Low	4.9
Bahraich	799	Low	5.1	Shrawasti	803	Low	5.81
Fatehpur	801	Low	5.94	Fatehpur	816	Low	5.51
Shrawasti	805	Low	6.09	Rae Bareli	817	Low	4.29
Rae Bareli	814	Low	4.45	Kaushambi	817	Low	6.82
Pratapgarh	827	Medium	5.13	Pratapgarh	838	Low	4.84
Kheri	830	Medium	7.56	Balrampur	847	Low	7.1
Barabanki	837	Medium	7.29	Kheri	853	Medium	6.72
Unnao	852	Medium	6.41	Barabanki	854	Medium	6.54
Sant Ravidas Nr	853	Medium	8.68	Unnao	855	Medium	5.98
Balrampur	854	Medium	7.72	Siddharthnagar	868	Medium	5.61
Mainpuri	855	Medium	4.89	Mahrajganj	874	Medium	5.65
Hamirpur	855	Medium	7.51	Mainpuri	875	Medium	4.61
Siddharthnagar	875	Medium	5.91	Hamirpur	876	Medium	6.64
Mahrajganj	881	Medium	5.96	Shahjahanpur	904	Medium	5.32
Shahjahanpur	885	Medium	5.79	Sant Ravidas Nr	907	Medium	7.19
Firozabad	888	Medium	8.66	Budaun	918	Medium	5.28
Budaun	917	Medium	5.58	Sonbhadra	923	Medium	8.02
Deoria	927	Medium	6.62	Hardoi	926	Medium	4.9
Ballia	928	Medium	5.85	Jalaun	936	Medium	9.2
Hardoi	930	Medium	5.13	Deoria	940	Medium	5.99
Jalaun	938	Medium	11.75	Ballia	948	Medium	5.35
Mirzapur	950	Medium	8.03	Sant Kabir Nr	953	Medium	6.87
Allahabad	954	Medium	4.16	Firozabad	957	Medium	7.03
Kannauj	959	Medium	9.06	Mirzapur	958	Medium	6.99
Aligarh	961	Medium	7.9	Sitapur	959	Medium	6.12
Sonbhadra	961	Medium	8.96	Allahabad	959	Medium	3.97

District (Direct)	MPCE	Rank	CV	District (SAE)	MPCE	Rank	CV
Jyotiba Phule Nr	973	Medium	8.51	Chitrakoot	978	Medium	11.2
Sitapur	973	Medium	6.58	Gonda	981	Medium	9.99
Sant Kabir Nr	981	Medium	7.55	Gorakhpur	981	Medium	4.44
Gorakhpur	982	Medium	4.66	Mau	982	Medium	5.68
Mau	983	Medium	6.2	Ambedkar Nr	988	Medium	5.17
Pilibhit	986	Medium	6.89	Jyotiba Phule Nr	990	Medium	7.17
Ghazipur	989	Medium	5.29	Lalitpur	990	Medium	4.15
Ambedkar Nr	995	Medium	5.52	Pilibhit	993	Medium	6.14
Lalitpur	1001	Medium	4.26	Aligarh	994	Medium	6.69
Agra	1003	Medium	7	Ghazipur	996	Medium	4.91
Bijnor	1015	Medium	5.57	Faizabad	1005	Medium	11.92
Chandauli	1029	Medium	6.92	Kannauj	1021	Medium	7.26
Mathura	1034	Medium	7.62	Chandauli	1023	Medium	6.19
Jaunpur	1042	Medium	5.4	Azamgarh	1030	Medium	5.19
Gonda	1045	Medium	13.52	Agra	1031	Medium	6.07
Azamgarh	1045	Medium	5.54	Jaunpur	1033	Medium	5.04
Etawah	1049	Medium	7.35	Bijnor	1034	Medium	5.09
Moradabad	1060	Medium	5.03	Kushinagar	1036	Medium	5.42
Auraiya	1064	Medium	6.17	Mathura	1039	Medium	6.56
Chitrakoot	1065	Medium	17.91	Lucknow	1042	Medium	9.09
Kushinagar	1065	Medium	5.71	Etawah	1044	Medium	6.48
Farrukhabad	1077	Medium	9.44	Auraiya	1052	Medium	5.67
Rampur	1101	Medium	7.42	Moradabad	1054	Medium	4.74
Lucknow	1108	Medium	11.24	Rampur	1072	Medium	6.62
Varanasi	1119	Medium	5.61	Farrukhabad	1093	Medium	7.5
Bareilly	1158	Medium	5.16	Sultanpur	1099	Medium	8.16
Kanpur Nagar	1181	Medium	8.41	Kashiramnagar	1105	Medium	7.35
Bulandshahar	1186	Medium	4.78	Jhansi	1124	Medium	6.22
Kanpur Dehat	1192	Medium	6.16	Varanasi	1133	Medium	5.07
Kashiramnagar	1193	Medium	8.37	Bareilly	1141	Medium	4.83
Jhansi	1205	Medium	6.7	Kanpur Nagar	1142	Medium	7.05
Sultanpur	1221	Medium	9.82	Kanpur Dehat	1151	High	5.63
Muzaffarnagar	1233	High	5.17	Bulandshahar	1176	High	4.47
Saharanpur	1300	High	7.43	Hathras	1188	High	8.91
Etah	1305	High	9.18	Etah	1211	High	7.51
Faizabad	1337	High	21.37	Muzaffarnagar	1230	High	4.74
Hathras	1404	High	12.32	Saharanpur	1261	High	6.39
Ghaziabad	1479	High	14.13	Baghpat	1320	High	9.65
Gautam Buddha Nr	1547	High	7.93	Ghaziabad	1330	High	8.81
Baghpat	1576	High	18.26	Gautam Buddha Nr	1400	High	6.61
Meerut	1670	High	8.83	Meerut	1403	High	7.2

Source: Computed at GIDS

Tab7B: Analysis Table by Region-wise

District (Direct) (Western Region)	MPCE	Rank	CV	District (SAE)	MPCE		CV
Mainpuri	855	Low	4.89	Mainpuri	875	Low	4.61
Shahjahanpur	885	Low	5.79	Shahjahanpur	904	Low	5.32
Firozabad	888	Low	8.66	Budaun	918	Low	5.28
Budaun	917	Low	5.58	Firozabad	957	Low	7.03
Kannauj	959	Medium	9.06	Jyotiba Phule Nr	990	Medium	7.17
Aligarh	961	Medium	7.9	Pilibhit	993	Medium	6.14
Jyotiba Phule Nr	973	Medium	8.51	Aligarh	994	Medium	6.69
Pilibhit	986	Medium	6.89	Kannauj	1021	Medium	7.26
Agra	1003	Medium	7	Agra	1031	Medium	6.07
Bijnor	1015	Medium	5.57	Bijnor	1034	Medium	5.09
Mathura	1034	Medium	7.62	Mathura	1039	Medium	6.56
Etawah	1049	Medium	7.35	Etawah	1044	Medium	6.48
Moradabad	1060	Medium	5.03	Auraiya	1052	Medium	5.67
Auraiya	1064	Medium	6.17	Moradabad	1054	Medium	4.74
Farrukhabad	1077	Medium	9.44	Rampur	1072	Medium	6.62
Rampur	1101	Medium	7.42	Farrukhabad	1093	Medium	7.5
Bareilly	1158	Medium	5.16	Kashiramnagar	1105	Medium	7.35
Bulandshahar	1186	Medium	4.78	Bareilly	1141	Medium	4.83
Kashiramnagar	1193	Medium	8.37	Bulandshahar	1176	Medium	4.47
Muzaffarnagar	1233	Medium	5.17	Hathras	1188	Medium	8.91
Saharanpur	1300	Medium	7.43	Etah	1211	Medium	7.51
Etah	1305	Medium	9.18	Muzaffarnagar	1230	Medium	4.74
Hathras	1404	High	12.32	Saharanpur	1261	High	6.39
Ghaziabad	1479	High	14.13	Baghpat	1320	High	9.65
Gautam Buddha Nr	1547	High	7.93	Ghaziabad	1330	High	8.81
Baghpat	1576	High	18.26	Gautam Buddha Nr	1400	High	6.61
Meerut	1670	High	8.83	Meerut	1403	High	7.2
District (Central)	MPCE	Rank	CV	District	MPCE	Rank	CV
Fatehpur	801	Low	5.94	Fatehpur	816	Low	5.51
Rae Bareli	814	Medium	4.45	Rae Bareli	817	Low	4.29
Kheri	830	Medium	7.56	Kheri	853	Medium	6.72
Unnao	852	Medium	6.41	Unnao	855	Medium	5.98
Hardoi	930	Medium	5.13	Hardoi	926	Medium	4.9
Sitapur	973	Medium	6.58	Sitapur	959	Medium	6.12
Lucknow	1108	Medium	11.24	Lucknow	1042	Medium	9.09
Kanpur Nagar	1181	High	8.41	Kanpur Nagar	1142	High	7.05
Kanpur Dehat	1192	High	6.16	Kanpur Dehat	1151	High	5.63
District (Southern)	MPCE	Rank	CV	District	MPCE	Rank	CV
Banda	642	Low	6.09	Banda	666	Low	5.65
Mahoba	661	Low	10.64	Mahoba	724	Low	8.64
Hamirpur	855	Medium	7.51	Hamirpur	876	Medium	6.64
Jalaun	938	Medium	11.75	Jalaun	936	Medium	9.2
Lalitpur	1001	Medium	4.26	Chitrakoot	978	Medium	11.2
Chitrakoot	1065	Medium	17.91	Lalitpur	990	Medium	4.15

District (Direct) (Western Region)	MPCE	Rank	CV	District (SAE)	MPCE		CV
Jhansi	1205	High	6.7	Jhansi	1124	High	6.22
District (Eastern)	MPCE	Rank	CV	District	MPCE	Rank	CV
Basti	749	Low	6.73	Basti	770	Low	6.16
Kaushambi	797	Low	7.47	Bahraich	803	Low	4.9
Bahraich	799	Low	5.1	Shrawasti	803	Low	5.81
Shrawasti	805	Low	6.09	Kaushambi	817	Low	6.82
Pratapgarh	827	Medium	5.13	Pratapgarh	838	Low	4.84
Barabanki	837	Medium	7.29	Balrampur	847	Medium	7.1
Sant Ravidas Nr	853	Medium	8.68	Barabanki	854	Medium	6.54
Balrampur	854	Medium	7.72	Siddharthnagar	868	Medium	5.61
Siddharthnagar	875	Medium	5.91	Mahrajganj	874	Medium	5.65
Mahrajganj	881	Medium	5.96	Sant Ravidas Nr	907	Medium	7.19
Deoria	927	Medium	6.62	Sonbhadra	923	Medium	8.02
Ballia	928	Medium	5.85	Deoria	940	Medium	5.99
Mirzapur	950	Medium	8.03	Ballia	948	Medium	5.35
Allahabad	954	Medium	4.16	Sant Kabir Nr	953	Medium	6.87
Sonbhadra	961	Medium	8.96	Mirzapur	958	Medium	6.99
Sant Kabir Nr	981	Medium	7.55	Allahabad	959	Medium	3.97
Gorakhpur	982	Medium	4.66	Gonda	981	Medium	9.99
Mau	983	Medium	6.2	Gorakhpur	981	Medium	4.44
Ghazipur	989	Medium	5.29	Mau	982	Medium	5.68
Ambedkar Nr	995	Medium	5.52	Ambedkar Nr	988	Medium	5.17
Chandauli	1029	Medium	6.92	Ghazipur	996	Medium	4.91
Jaunpur	1042	Medium	5.4	Faizabad	1005	Medium	11.92
Gonda	1045	Medium	13.52	Chandauli	1023	Medium	6.19
Azamgarh	1045	Medium	5.54	Azamgarh	1030	Medium	5.19
Kushinagar	1065	Medium	5.71	Jaunpur	1033	Medium	5.04
Varanasi	1119	High	5.61	Kushinagar	1036	High	5.42
Sultanpur	1221	High	9.82	Sultanpur	1099	High	8.16
Faizabad	1337	High	21.37	Varanasi	1133	High	5.07

Source: Computed at GIDS

The above data in table 7A shows that district wise direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of Monthly per capita consumer expenditure in Rupees (MPCE) for rural LC1 areas in the state of Uttar Pradesh in 2011-12. As mentioned above as per direct estimate and model based small area estimate based MPCE has been categorised into 3 levels i.e. low, medium and high.

As per direct estimates the number of districts fallen in the low level category is 8, namely Banda, Mahoba, Basti, Kaushambi, Bahraich, Fatehpur, Shrawasti and Rae Bareilly respectively. Their level of MPCE represents the range of Rs. 642 to 814, whereas their percentage coefficient of variation levels shows that 4.45% to 10.64%.

On the other hand as per model based small area estimates the number of districts fallen in the low level category is 10, namely Banda, Mahoba, Basti, Bahraich, Shrawasti, Fatehpur, Rae Bareili, Kaushambi, Pratapgarhand Balrampur districts respectively. Their level of MPCE represents the range of Rs. 666 to 847, whereas their percentage coefficient of variation levels shows that 4.29% to 8.64%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

As per direct estimates the number of districts fallen in the Medium level category is 54. Their level of MPCE represents the range of Rs. 827 to 1221, whereas their percentage coefficient of variation levels shows that 4.16% to 17.91%.

On the other hand as per model based small area estimates the number of districts fallen in the medium level category is 51. Their level of MPCE represents the range of Rs. 853 to 1142, whereas their percentage coefficient of variation levels shows that 3.97% to 11.92%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

As per direct estimates the number of districts fallen in the high level category is 9, namely, Muzaffarnagar, Saharanpur, Etah, Faizabad, Hathras, Ghaziabad, GB.Nagar, Baghpat and Meerut respectively. Their level of MPCE represents the range of Rs. 1233 to 1670, whereas their percentage coefficient of variation levels shows that 5.17% to 21.37%.

On the other hand as per model based small area estimates the number of districts fallen in the high level category is 10, namely Kanpur Dehat, Bulandshahar, Hathras, Etah, Muzaffarnagar, Saharanpur, Baghpat, Ghaziabad, GB.Nagar, and Meerut respectively. Their level of MPCE represents the range of Rs. 1151 to 1403, whereas their percentage coefficient of variation levels shows that 4.47% to 9.65%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

The above data in table 7B shows that Region-wise districts (4 regions) direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of Monthly per capita consumer expenditure in Rupees (MPCE) for rural LC1 areas in the state of Uttar Pradesh in 2011-12. As mentioned above as per direct estimate and model based

small area estimate based MPCE has been categorised into 3 levels i.e. low, medium and high.

As per direct estimates the Western region consists of 27 number of districts, out of which the districts fallen in the low level category is 4, Medium – 18, and High – 5; Central region consists of 9 number of districts, out of which the districts fallen in the low category – 1, Medium – 6, and High – 2; Bundelkhand region consists of 7 number of districts, out of which the districts fallen in the low category – 2 , Medium – 4 and High - 1; and Eastern region consists of 28 number of districts, out of which the districts fallen in the low level category – 4, Medium – 21 and High – 3.

On the other hand as per model based small area estimates the Western region consists of 27 number of districts, out of which the districts fallen in the low level category is 4, Medium – 18, and High – 5; Central region consists of 9 number of districts, out of which the districts fallen in the low category – 2, Medium – 5, and High – 2; Bundelkhand region consists of 7 number of districts, out of which the districts fallen in the low category – 2, Medium – 4 and High - 1; and Eastern region consists of 28 number of districts, out of which the districts fallen in the low level category – 5, Medium – 20 and High – 3.

However, the direct estimates compared with model based small area estimates indicate that the MPCE variations are more or less same (very marginal variations in central and Bundelkhand) in all regions. Hence, the model based small area estimates percentage coefficient of variation levels are smaller and consistent than the direct estimates.

Table 8: District-wise sample size, sample count of poor household (Sample Count), direct estimates (Direct) and model-based small area estimates (SAE) along with their standard error (SE) and percentage coefficient of variations (CV) for poverty incidence for rural LC1 areas in the state of Uttar Pradesh in 2011-12.

Region	District	Sample Size	Sample Count	Direct			Model Based SAE		
				Poverty Incidence	SE	CV	Poverty Incidence	SE	CV
Western	Saharanpur	71	5	0.084	0.04	52.72	0.102	0.03	32.96
	Muzaffarnagar	99	8	0.066	0.03	51.81	0.082	0.03	32.49
	Bijnor	79	16	0.171	0.06	32.93	0.174	0.04	25.44
	Moradabad	108	21	0.134	0.04	29.79	0.151	0.04	25.48
	Rampur	61	14	0.228	0.08	36.66	0.231	0.06	24.34
	Jyotiba Phule Nr	50	11	0.316	0.10	30.84	0.288	0.06	21.91
	Meerut	51	1	0.002	0.00	97.08	0.055	0.02	41.06
	Baghpat	24	3	0.209	0.13	62.88	0.163	0.05	32.46
	Ghaziabad	49	3	0.073	0.05	68.46	0.084	0.03	36.50
	Gautam Buddha Nr	32	1	0.018	0.02	99.06	0.068	0.03	41.85
	Bulandshahar	73	8	0.137	0.05	35.71	0.150	0.04	26.16
	Aligarh	63	12	0.239	0.11	46.03	0.231	0.06	25.61
	Hathras	41	2	0.022	0.02	81.38	0.099	0.04	36.84
	Mathura	49	6	0.201	0.08	39.64	0.211	0.06	26.09
	Agra	69	12	0.251	0.08	30.75	0.234	0.05	21.71
	Firozabad	48	11	0.307	0.10	33.08	0.256	0.06	23.34
	Etah	44	5	0.151	0.09	61.24	0.170	0.05	29.70
	Mainpuri	54	15	0.416	0.13	32.25	0.366	0.08	21.44
	Budaun	73	16	0.296	0.10	34.04	0.294	0.07	23.07
	Bareilly	77	5	0.058	0.03	57.86	0.106	0.04	34.15
	Pilibhit	52	8	0.191	0.09	47.48	0.196	0.06	28.45
	Shahjahanpur	70	16	0.302	0.10	32.62	0.276	0.06	23.00
	Farrukhabad	50	10	0.209	0.10	48.86	0.199	0.05	27.34
	Kannauj	54	11	0.321	0.11	35.51	0.281	0.06	22.45
Etawah	44	6	0.148	0.09	60.48	0.197	0.06	31.25	
Auraiya	53	9	0.137	0.05	38.02	0.193	0.06	28.99	
Kashiramnagar	26	5	0.178	0.08	46.42	0.233	0.07	28.73	
Central	Kheri	102	36	0.326	0.08	24.05	0.320	0.06	19.79
	Sitapur	105	37	0.350	0.07	19.65	0.348	0.06	17.85
	Hardoi	104	36	0.291	0.06	22.32	0.313	0.06	19.54
	Unnao	76	34	0.578	0.09	14.72	0.537	0.07	13.52
	Lucknow	54	12	0.389	0.10	24.80	0.368	0.07	19.02
	Rae Bareli	83	36	0.466	0.07	15.18	0.455	0.06	14.26
	Kanpur Dehat	46	6	0.069	0.04	63.45	0.144	0.05	34.37
	Kanpur Ngr	51	12	0.142	0.06	41.54	0.173	0.05	30.64
	Fatehpur	64	27	0.479	0.08	17.08	0.451	0.07	15.09

Region	District	Sample Size	Sample Count	Direct			Model Based SAE		
				Poverty Incidence	SE	CV	Poverty Incidence	SE	CV
Southern	Jalaun	27	3	0.263	0.13	48.59	0.301	0.08	25.04
	Jhansi	33	2	0.034	0.03	90.92	0.160	0.05	34.18
	Lalitpur	16	3	0.190	0.12	62.66	0.279	0.09	30.98
	Hamirpur	12	5	0.235	0.16	66.58	0.265	0.09	32.11
	Banda	33	21	0.799	0.08	9.91	0.632	0.08	12.81
	Chitrakoot	21	6	0.100	0.06	55.45	0.202	0.07	33.32
	Mahoba	7	2	0.825	0.15	18.37	0.534	0.11	21.43
Eastern	Mahrajganj	79	34	0.409	0.08	20.76	0.415	0.07	17.26
	Pratapgarh	106	48	0.513	0.07	14.25	0.480	0.06	13.42
	Kaushambi	50	24	0.401	0.09	22.03	0.369	0.07	19.62
	Allahabad	102	32	0.262	0.07	28.01	0.267	0.06	21.12
	Barabanki	73	29	0.577	0.09	16.04	0.516	0.07	14.24
	Faizabad	57	17	0.300	0.09	30.91	0.300	0.07	23.14
	Ambedkar Nr	87	30	0.328	0.07	20.44	0.325	0.06	18.07
	Sultanpur	101	26	0.222	0.05	24.46	0.242	0.05	20.99
	Bahraich	77	28	0.528	0.09	16.88	0.489	0.07	14.92
	Shrawasti	48	17	0.418	0.12	27.99	0.411	0.08	20.47
	Balrampur	47	11	0.187	0.08	43.78	0.262	0.07	27.28
	Gonda	112	36	0.294	0.07	22.68	0.291	0.06	19.95
	Siddharthnagar	70	25	0.275	0.07	24.70	0.309	0.06	20.95
	Basti	76	41	0.623	0.08	12.80	0.560	0.07	12.28
	Sant Kabir Nr	58	19	0.336	0.08	23.50	0.345	0.07	19.51
	Gorakhpur	111	31	0.291	0.06	20.95	0.285	0.05	19.15
	Kushinagar	111	27	0.214	0.06	28.09	0.237	0.05	23.03
	Deoria	89	25	0.357	0.08	21.73	0.328	0.06	18.47
	Azamgarh	120	35	0.298	0.06	19.53	0.298	0.05	18.32
	Mau	57	12	0.159	0.06	39.91	0.196	0.06	28.73
	Ballia	80	26	0.321	0.08	26.18	0.292	0.06	21.08
	Jaunpur	115	24	0.188	0.05	25.05	0.216	0.05	22.63
	Ghazipur	100	28	0.275	0.06	21.24	0.260	0.05	19.69
	Chandauli	56	12	0.199	0.07	34.94	0.220	0.06	25.67
	Varanasi	86	18	0.196	0.06	28.47	0.177	0.04	22.81
Sant Ravidas Nr	55	26	0.533	0.09	17.24	0.455	0.07	14.71	
Mirzapur	85	23	0.254	0.06	22.12	0.254	0.05	21.27	
Sonbhadra	46	15	0.338	0.09	26.89	0.354	0.07	20.15	

Source: Derived from 68th Round NSSO Unit Level Data

Table 8A: Analysis Table for All Districts

District (Direct)	Poverty Incidence	Rank	CV	District (SAE)	Poverty Incidence	Rank	CV
Meerut	0.002	Low	97.08	Meerut	0.055	Low	41.06
Gautam Buddha Nr	0.018	Low	99.06	Gautam Buddha Nr	0.068	Low	41.85
Hathras	0.022	Low	81.38	Muzaffarnagar	0.082	Low	32.49
Jhansi	0.034	Low	90.92	Ghaziabad	0.084	Low	36.5
Bareilly	0.058	Low	57.86	Hathras	0.099	Low	36.84
Muzaffarnagar	0.066	Low	51.81	Saharanpur	0.102	Low	32.96
Kanpur Dehat	0.069	Low	63.45	Bareilly	0.106	Low	34.15
Ghaziabad	0.073	Low	68.46	Kanpur Dehat	0.144	Low	34.37
Saharanpur	0.084	Low	52.72	Bulandshahar	0.15	Low	26.16
Chitrakoot	0.1	Low	55.45	Moradabad	0.151	Low	25.48
Moradabad	0.134	Medium	29.79	Jhansi	0.16	Medium	34.18
Bulandshahar	0.137	Medium	35.71	Baghpat	0.163	Medium	32.46
Auraiya	0.137	Medium	38.02	Etah	0.17	Medium	29.7
Kanpur Ngr	0.142	Medium	41.54	Kanpur Ngr	0.173	Medium	30.64
Etawah	0.148	Medium	60.48	Bijnor	0.174	Medium	25.44
Etah	0.151	Medium	61.24	Varanasi	0.177	Medium	22.81
Mau	0.159	Medium	39.91	Auraiya	0.193	Medium	28.99
Bijnor	0.171	Medium	32.93	Pilibhit	0.196	Medium	28.45
Kanshiramnagar	0.178	Medium	46.42	Mau	0.196	Medium	28.73
Balrampur	0.187	Medium	43.78	Etawah	0.197	Medium	31.25
Jaunpur	0.188	Medium	25.05	Farrukhabad	0.199	Medium	27.34
Lalitpur	0.19	Medium	62.66	Chitrakoot	0.202	Medium	33.32
Pilibhit	0.191	Medium	47.48	Mathura	0.211	Medium	26.09
Varanasi	0.196	Medium	28.47	Jaunpur	0.216	Medium	22.63
Chandauli	0.199	Medium	34.94	Chandauli	0.22	Medium	25.67
Mathura	0.201	Medium	39.64	Rampur	0.231	Medium	24.34
Baghpat	0.209	Medium	62.88	Aligarh	0.231	Medium	25.61
Farrukhabad	0.209	Medium	48.86	Kashiramnagar	0.233	Medium	28.73
Kushinagar	0.214	Medium	28.09	Agra	0.234	Medium	21.71
Sultanpur	0.222	Medium	24.46	Kushinagar	0.237	Medium	23.03
Rampur	0.228	Medium	36.66	Sultanpur	0.242	Medium	20.99
Hamirpur	0.235	Medium	66.58	Mirzapur	0.254	Medium	21.27
Aligarh	0.239	Medium	46.03	Firozabad	0.256	Medium	23.34
Agra	0.251	Medium	30.75	Ghazipur	0.26	Medium	19.69
Mirzapur	0.254	Medium	22.12	Balrampur	0.262	Medium	27.28
Allahabad	0.262	Medium	28.01	Hamirpur	0.265	Medium	32.11
Jalaun	0.263	Medium	48.59	Allahabad	0.267	Medium	21.12
Siddharthnagar	0.275	Medium	24.7	Shahjahanpur	0.276	Medium	23
Ghazipur	0.275	Medium	21.24	Lalitpur	0.279	Medium	30.98
Hardoi	0.291	Medium	22.32	Kannauj	0.281	Medium	22.45

District (Direct)	Poverty Incidence	Rank	CV	District (SAE)	Poverty Incidence	Rank	CV
Gorakhpur	0.291	Medium	20.95	Gorakhpur	0.285	Medium	19.15
Gonda	0.294	Medium	22.68	Jyotiba Phule Nr	0.288	Medium	21.91
Badaun	0.296	Medium	34.04	Gonda	0.291	Medium	19.95
Azamgarh	0.298	Medium	19.53	Ballia	0.292	Medium	21.08
Faizabad	0.3	Medium	30.91	Budaun	0.294	Medium	23.07
Shahjahanpur	0.302	Medium	32.62	Azamgarh	0.298	Medium	18.32
Firozabad	0.307	Medium	33.08	Faizabad	0.3	Medium	23.14
Jyotiba Phule Nr	0.316	Medium	30.84	Jalaun	0.301	Medium	25.04
Kannauj	0.321	Medium	35.51	Siddharthnagar	0.309	Medium	20.95
Ballia	0.321	Medium	26.18	Hardoi	0.313	Medium	19.54
Kheri	0.326	Medium	24.05	Kheri	0.32	Medium	19.79
Ambedkar Nr	0.328	Medium	20.44	Ambedkar Nr	0.325	Medium	18.07
Sant Kabir Nr	0.336	Medium	23.5	Deoria	0.328	Medium	18.47
Sonbhadra	0.338	Medium	26.89	Sant Kabir Nr	0.345	Medium	19.51
Sitapur	0.35	Medium	19.65	Sitapur	0.348	Medium	17.85
Deoria	0.357	Medium	21.73	Sonbhadra	0.354	Medium	20.15
Lucknow	0.389	Medium	24.8	Mainpuri	0.366	Medium	21.44
Kaushambi	0.401	Medium	22.03	Lucknow	0.368	Medium	19.02
Mahrajganj	0.409	Medium	20.76	Kaushambi	0.369	Medium	19.62
Mainpuri	0.416	Medium	32.25	Shrawasti	0.411	High	20.47
Shrawasti	0.418	Medium	27.99	Mahrajganj	0.415	High	17.26
Rae Bareli	0.466	High	15.18	Fatehpur	0.451	High	15.09
Fatehpur	0.479	High	17.08	Rae Bareli	0.455	High	14.26
Pratapgarh	0.513	High	14.25	Sant Ravidas Nr	0.455	High	14.71
Bahraich	0.528	High	16.88	Pratapgarh	0.48	High	13.42
Sant Ravidas Nr	0.533	High	17.24	Bahraich	0.489	High	14.92
Barabanki	0.577	High	16.04	Barabanki	0.516	High	14.24
Unnao	0.578	High	14.72	Mahoba	0.534	High	21.43
Basti	0.623	High	12.8	Unnao	0.537	High	13.52
Banda	0.799	High	9.91	Basti	0.56	High	12.28
Mahoba	0.825	High	18.37	Banda	0.632	High	12.81

Source: Computed at GIDS

Tab 8B: Analysis Table by Region-wise

District (Direct) (Western Region)	Poverty Incidence		CV	District (SAE)	Poverty Incidence		CV
Meerut	0.002	Low	97.08	Meerut	0.055	Low	41.06
Gautam Buddha Nr	0.018	Low	99.06	Gautam Buddha Nr	0.068	Low	41.85
Hathras	0.022	Low	81.38	Muzaffarnagar	0.082	Low	32.49
Bareilly	0.058	Low	57.86	Ghaziabad	0.084	Low	36.5
Muzaffarnagar	0.066	Low	51.81	Hathras	0.099	Low	36.84
Ghaziabad	0.073	Low	68.46	Saharanpur	0.102	Low	32.96
Saharanpur	0.084	Medium	52.72	Bareilly	0.106	Low	34.15
Moradabad	0.134	Medium	29.79	Bulandshahar	0.15	Medium	26.16
Bulandshahar	0.137	Medium	35.71	Moradabad	0.151	Medium	25.48
Auraiya	0.137	Medium	38.02	Baghpat	0.163	Medium	32.46
Etawah	0.148	Medium	60.48	Etah	0.17	Medium	29.7
Etah	0.151	Medium	61.24	Bijnor	0.174	Medium	25.44
Bijnor	0.171	Medium	32.93	Auraiya	0.193	Medium	28.99
Kashiramnagar	0.178	Medium	46.42	Pilibhit	0.196	Medium	28.45
Pilibhit	0.191	Medium	47.48	Etawah	0.197	Medium	31.25
Mathura	0.201	Medium	39.64	Farrukhabad	0.199	Medium	27.34
Baghpat	0.209	Medium	62.88	Mathura	0.211	Medium	26.09
Farrukhabad	0.209	Medium	48.86	Rampur	0.231	Medium	24.34
Rampur	0.228	Medium	36.66	Aligarh	0.231	Medium	25.61
Aligarh	0.239	Medium	46.03	Kashiramnagar	0.233	Medium	28.73
Agra	0.251	Medium	30.75	Agra	0.234	Medium	21.71
Budaun	0.296	High	34.04	Firozabad	0.256	Medium	23.34
Shahjahanpur	0.302	High	32.62	Shahjahanpur	0.276	High	23
Firozabad	0.307	High	33.08	Kannauj	0.281	High	22.45
Jyotiba Phule Nr	0.316	High	30.84	Jyotiba Phule Nr	0.288	High	21.91
Kannauj	0.321	High	35.51	Budaun	0.294	High	23.07
Mainpuri	0.416	High	32.25	Mainpuri	0.366	High	21.44
District (Central)	Poverty Incidence	Rank	CV	District	Poverty Incidence	Rank	CV
Kanpur Dehat	0.069	Low	63.45	Kanpur Dehat	0.144	Low	34.37
Kanpur Ngr	0.142	Low	41.54	Kanpur Ngr	0.173	Low	30.64
Hardoi	0.291	Medium	22.32	Hardoi	0.313	Medium	19.54
Sitapur	0.35	Medium	19.65	Sitapur	0.348	Medium	17.85
Lucknow	0.389	Medium	24.8	Lucknow	0.368	Medium	19.02
Rae Bareli	0.466	Medium	15.18	Fatehpur	0.451	Medium	15.09
Fatehpur	0.479	Medium	17.08	Rae Bareli	0.455	Medium	14.26
Unnao	0.578	High	14.72	Unnao	0.537	High	13.52
Kheri	0.630	High	16.50	Kheri	0.579	High	14.19

District (Direct) (Western Region)	Poverty Incidence		CV	District (SAE)	Poverty Incidence		CV
District (Southern)	Poverty Incidence	Rank	CV	District	Poverty Incidence	Rank	CV
Jhansi	0.034	Low	90.92	Jhansi	0.16	Low	34.18
Chitrakoot	0.1	Low	55.45	Chitrakoot	0.202	Medium	33.32
Lalitpur	0.19	Low	62.66	Hamirpur	0.265	Medium	32.11
Hamirpur	0.235	Low	66.58	Lalitpur	0.279	Medium	30.98
Jalaun	0.263	Medium	48.59	Jalaun	0.301	Medium	25.04
Banda	0.799	High	9.91	Mahoba	0.534	High	21.43
Mahoba	0.825	High	18.37	Banda	0.632	High	12.81
District (Eastern)	Poverty Incidence	Rank	CV	District	Poverty Incidence	Rank	CV
Mau	0.159	Low	39.91	Varanasi	0.177	Low	22.81
Balrampur	0.187	Low	43.78	Mau	0.196	Low	28.73
Jaunpur	0.188	Low	25.05	Jaunpur	0.216	Low	22.63
Varanasi	0.196	Low	28.47	Chandauli	0.22	Low	25.67
Chandauli	0.199	Low	34.94	Kushinagar	0.237	Medium	23.03
Kushinagar	0.214	Medium	28.09	Sultanpur	0.242	Medium	20.99
Sultanpur	0.222	Medium	24.46	Mirzapur	0.254	Medium	21.27
Mirzapur	0.254	Medium	22.12	Ghazipur	0.26	Medium	19.69
Allahabad	0.262	Medium	28.01	Balrampur	0.262	Medium	27.28
Siddharthnagar	0.275	Medium	24.7	Allahabad	0.267	Medium	21.12
Ghazipur	0.275	Medium	21.24	Gorakhpur	0.285	Medium	19.15
Gorakhpur	0.291	Medium	20.95	Gonda	0.291	Medium	19.95
Gonda	0.294	Medium	22.68	Ballia	0.292	Medium	21.08
Azamgarh	0.298	Medium	19.53	Azamgarh	0.298	Medium	18.32
Faizabad	0.3	Medium	30.91	Faizabad	0.3	Medium	23.14
Ballia	0.321	Medium	26.18	Siddharthnagar	0.309	Medium	20.95
Ambedkar Nr	0.328	Medium	20.44	Ambedkar Nr	0.325	Medium	18.07
Sant Kabir Nr	0.336	Medium	23.5	Deoria	0.328	Medium	18.47
Sonbhadra	0.338	Medium	26.89	Sant Kabir Nr	0.345	Medium	19.51
Deoria	0.357	Medium	21.73	Sonbhadra	0.354	Medium	20.15
Kaushambi	0.401	Medium	22.03	Kaushambi	0.369	Medium	19.62
Mahrajganj	0.409	Medium	20.76	Shrawasti	0.411	Medium	20.47
Shrawasti	0.418	Medium	27.99	Mahrajganj	0.415	Medium	17.26
Pratapgarh	0.513	High	14.25	Sant Ravidas Nr	0.455	High	14.71
Bahraich	0.528	High	16.88	Pratapgarh	0.48	High	13.42
Sant Ravidas Nr	0.533	High	17.24	Bahraich	0.489	High	14.92
Barabanki	0.577	High	16.04	Barabanki	0.516	High	14.24
Basti	0.623	High	12.8	Basti	0.56	High	12.28

Source: Computed at GIDS

The above data in table 8A shows that district wise direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of Incidence of Poverty proportions for rural areas in the state of Uttar Pradesh in 2011-12.

As per direct estimates the Incidence of Poverty proportions the number of districts fallen in the low level category is 10, namely Meerut, G.B.Nagar, Hathras, Jhansi, Bareilly, Muzaffar Nagar, Kanpur Dehat, Ghaziabad, Shaharanpur, and Chitrakoot respectively. Their level of Incidence of Poverty proportions represents the range of 0.002 to 0.1, whereas their percentage coefficient of variation levels shows that 51.81% to 99.06%.

On the other hand as per model based small area estimates the Incidence of Poverty proportions the number of districts fallen in the low level category is 10, namely Meerut, G.B.Nagar, Muzaffar Nagar, Ghaziabad, Hathras, Shaharanpur, Bareilly, Kanpur Dehat, Bulandshahar, and Moradabad respectively. Their level of incidence of poverty proportions represents the range of 0.05 to 0.15, whereas their percentage coefficient of variation levels shows that 25.48% to 41.85%.

Hence, the model based small area estimates percentage coefficient of variation levels are very low and consistent than the direct estimates.

As per direct estimates the number of districts fallen in the Medium level category is 51. Their level of incidence of poverty proportions represents the range of 0.13 to 0.42, whereas their percentage coefficient of variation levels shows that 19.53% to 66.58%.

On the other hand as per model based small area estimates the number of districts fallen in the medium level category is 49. Their level of incidence of poverty proportions represents the range of 0.16 to 0.37, whereas their percentage coefficient of variation levels shows that 17.85% to 34.18%.

Hence, the model based small area estimates percentage coefficient of variation levels are very low and consistent than the direct estimates.

As per direct estimates the number of districts fallen in the high level category is 10, namely Rae Bareilly, Fatehpur, Pratapgarh, Bahraich, Sant Ravidas Nagar, Barabanki, Unnao, Basti, Banda and Mahoba respectively. Their level of incidence of poverty proportions represents the range of 0.47 to 0.83, whereas their percentage coefficient of variation levels shows that 9.91% to 18.37%.

On the other hand as per model based small area estimates the number of districts fallen in the high level category is 12, namely Shrawasti, Maharajganj, Fatehpur, Rae Bareli, Sant Ravidas Ngar, Pratapgarh, Bahraich, Barabanki, Mahoba, Unnao, Basti and Banda respectively. Their level of incidence of poverty proportions represents the range of 0.41 to 0.63, whereas their percentage coefficient of variation levels shows that 12.28% to 21.43%.

Hence, the model based small area estimates percentage coefficient of variation levels are higher but consistent than the direct estimates whereas the small area estimates incidence of poverty proportion levels are lesser than the direct estimates.

The above data in table 8B shows that Region-wise districts (4 regions) direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of incidence of poverty proportions for rural areas in the state of Uttar Pradesh in 2011-12.

As per direct estimates the incidence of poverty proportions in Western region districts fallen in the low level category is 6, Medium – 15, and High – 6; Central region districts fallen in the low category – 2, Medium – 5, and High – 2; Bundelkhand region number of districts fallen in the Low – 4, Medium – 1, and High - 2; and Eastern region number of districts fallen in the low level category – 5, Medium – 18 and High – 5.

On the other hand as per model based small area estimates the incidence of poverty proportions in Western region number of districts fallen in the low level category is 7, Medium – 15, and High – 5; Central region number of districts fallen in the low category – 2, Medium – 5, and High – 2; Bundelkhand region number of districts fallen in the low category – 1, Medium – 4 and High - 2; and Eastern region number of districts fallen in the low level category – 4, Medium – 19 and High – 5.

However, the direct estimates compared with model based small area estimates indicate that the incidence of poverty proportions in rural LC1 areas the variations are nominal in all the regions. Hence, the model based small area estimates percentage coefficient of variation levels are smaller and consistent than the direct estimates.

Table 9: District-wise sample size, estimated number of household (est. HH), average household size (HHS), direct estimates (Direct) and model-based small area estimates (SAE) along with their standard error (SE) and percentage coefficient of variations (CV) of monthly per capita consumer and expenditure in Rupees (MPCE) for rural LC2 areas in the state of Uttar Pradesh in 2011-12.

Region	District	Sample Size	est. HH	HHS	Direct			Model Based SAE		
					MPCE	SE	CV	MPCE	SE	CV
Western	Saharanpur	11	34356	6.29	1796	249.50	13.89	1774	215.90	12.18
	Muzaffarnagar	12	73081	3.97	1959	270.60	13.82	1839	227.50	12.37
	Bijnor	9	13235	5.82	1523	415.70	27.30	1577	293.60	18.62
	Moradabad	14	28838	6.45	1337	233.70	17.48	1371	203.20	14.83
	Rampur	2	4949	8.12	735	58.60	7.97	750	58.00	7.74
	Jyotiba Phule Nr	5	7701	10.23	917	88.30	9.62	932	86.30	9.26
	Meerut	5	38351	8.05	3029	73.50	2.43	2978	72.40	2.43
	Baghpat	4	36728	7.76	2377	56.80	2.39	2359	56.30	2.38
	Ghaziabad	8	51457	7.55	1430	117.30	8.20	1445	113.20	7.84
	Gautam Buddha Nr							1545	403.30	26.11
	Bulandshahar	11	61526	6.38	1255	205.20	16.36	1278	183.70	14.37
	Aligarh	11	65369	6.16	1591	110.90	6.97	1577	107.10	6.79
	Hathras	10	65737	5.13	1362	114.20	8.39	1368	110.10	8.05
	Mathura	6	19443	9.41	972	63.80	6.56	980	63.00	6.43
	Agra	14	78246	5.72	1146	93.20	8.14	1163	91.00	7.82
	Firozabad	8	41909	5.23	1598	141.60	8.86	1585	134.00	8.46
	Etah	10	59344	4.80	1907	75.70	3.97	1885	74.50	3.95
	Mainpuri	7	36240	6.40	698	67.60	9.68	712	66.70	9.37
	Budaun	11	61663	6.09	1101	190.60	17.31	1109	173.70	15.67
	Bareilly	14	81982	6.36	1177	132.90	11.29	1205	126.60	10.50
Pilibhit	6	11955	7.14	1141	89.00	7.80	1152	87.00	7.55	
Shahjahanpur	14	94284	5.73	981	57.20	5.83	990	56.60	5.72	
Farrukhabad	7	10314	6.75	2025	617.30	30.49	1539	335.60	21.80	
Kannauj	4	7617	6.32	1140	125.60	11.02	1159	120.10	10.37	
Etawah	13	50845	5.54	996	66.30	6.66	1002	65.50	6.53	
Auraiya	7	34467	7.12	1129	181.30	16.06	1149	165.80	14.43	
Kashiramnagar	1	924	5.00	1340	211.90	15.82	1280	188.70	14.74	
Central	Kheri	16	54924	5.17	1942	133.60	6.88	1873	127.00	6.78
	Sitapur	12	47141	5.14	1078	151.70	14.07	1102	142.30	12.92
	Hardoi	18	69767	5.66	1202	172.30	14.33	1192	159.00	13.34
	Unnao	11	85398	6.50	762	85.70	11.24	773	83.90	10.87
	Lucknow	8	27945	6.27	1205	85.80	7.12	1212	84.00	6.93
	Rae Bareli	30	153617	4.36	1173	84.10	7.17	1171	82.40	7.04
	Kanpur Dehat	11	54077	5.77	1188	115.20	9.69	1191	110.90	9.31
	Kanpur Nagar	8	29252	6.26	947	65.80	6.95	958	65.00	6.79
	Fatehpur	18	76964	7.43	726	86.30	11.88	739	84.60	11.45
Southern	Jalaun	12	54402	5.87	930	108.90	11.70	939	105.30	11.22
	Jhansi	12	60774	4.83	1043	74.30	7.12	1037	73.30	7.07
	Lalitpur	8	52287	4.99	1058	82.00	7.75	1041	80.60	7.74
	Hamirpur	5	10460	5.89	769	80.10	10.42	779	78.70	10.11

Region	District	Sample Size	est. HH	HHS	Direct			Model Based SAE		
					MPCE	SE	CV	MPCE	SE	CV
	Banda	12	71735	6.07	822	77.20	9.39	829	75.90	9.15
	Chitrakoot	4	31535	3.05	1039	109.00	10.49	1036	105.50	10.19
	Mahoba	7	40473	5.58	978	30.20	3.09	978	30.10	3.08
Eastern	Mahrajganj	11	51594	5.59	1585	407.80	25.74	1305	287.70	22.04
	Pratapgarh	11	48213	6.77	1009	105.50	10.45	1022	102.20	9.99
	Kaushambi	8	27542	5.98	625	16.60	2.66	626	16.60	2.65
	Allahabad	21	58138	6.64	1350	237.80	17.61	1323	205.40	15.53
	Barabanki	10	63014	6.82	1010	98.90	9.79	1017	96.10	9.46
	Faizabad	6	13131	4.47	2355	370.80	15.75	1789	273.40	15.28
	Ambedkar Nr	6	14297	4.51	2208	282.90	12.81	1874	232.10	12.39
	Sultanpur	15	50541	6.54	1785	668.20	37.43	1402	342.40	24.42
	Bahraich	7	31122	5.86	1012	61.90	6.11	1015	61.20	6.03
	Shrawasti	7	35673	5.76	1234	215.90	17.49	1169	191.70	16.40
	Balrampur	8	22248	8.87	826	215.80	26.14	871	191.40	21.98
	Gonda	8	29449	4.39	1216	215.10	17.69	1202	190.40	15.85
	Siddharthnagar	15	65400	4.98	1039	260.10	25.03	1026	220.70	21.52
	Basti	12	33733	5.92	934	92.10	9.85	944	90.00	9.53
	Sant Kabir Nr	4	6097	6.27	1760	282.80	16.07	1559	233.10	14.95
	Gorakhpur	8	34325	6.70	904	112.20	12.41	943	108.30	11.48
	Kushinagar	10	38898	8.81	1028	135.80	13.21	1053	128.90	12.24
	Deoria	5	17255	5.74	2203	354.80	16.10	1820	268.70	14.77
	Azamgarh	7	46927	10.10	821	76.50	9.31	838	75.20	8.98
	Mau	3	17766	10.48	1055	111.70	10.59	1077	107.80	10.02
	Ballia	9	57256	6.45	1083	181.50	16.76	1147	166.10	14.48
	Jaunpur	9	24611	8.14	2253	539.70	23.96	1573	323.30	20.54
	Ghazipur	14	47746	3.62	1354	143.00	10.56	1348	135.00	10.02
	Chandauli	5	7869	4.54	1822	157.10	8.62	1756	146.70	8.36
Varanasi	8	6373	10.91	1512	259.40	17.15	1506	219.80	14.59	
Sant Ravidas Nr	4	6502	7.40	1041	127.10	12.21	1086	121.60	11.20	
Mirzapur	8	21364	6.94	1575	277.60	17.63	1491	229.80	15.41	
Sonbhadra	11	17635	5.75	1155	109.60	9.49	1149	106.10	9.24	

Source: Derived from 68th Round NSSO Unit Level Data

Table 9A : Analysis Table for All Districts

District (Direct)	MPCE	Rank	CV	District (SAE)	MPCE	Rank	CV
Kaushambi	625	Low	2.66	Kaushambi	626	Low	2.65
Mainpuri	698	Low	9.68	Mainpuri	712	Low	9.37
Fatehpur	726	Low	11.88	Fatehpur	739	Low	11.45
Rampur	735	Low	7.97	Rampur	750	Low	7.74
Unnao	762	Low	11.24	Unnao	773	Low	10.87
Hamirpur	769	Low	10.42	Hamirpur	779	Low	10.11
Azamgarh	821	Low	9.31	Banda	829	Low	9.15
Banda	822	Low	9.39	Azamgarh	838	Low	8.98
Balrampur	826	Low	26.14	Balrampur	871	Medium	21.98

District (Direct)	MPCE	Rank	CV	District (SAE)	MPCE	Rank	CV
Gorakhpur	904	Medium	12.41	Jyotiba Phule Nr	932	Medium	9.26
Jyotiba Phule Nr	917	Medium	9.62	Jalaun	939	Medium	11.22
Jalaun	930	Medium	11.7	Gorakhpur	943	Medium	11.48
Basti	934	Medium	9.85	Basti	944	Medium	9.53
Kanpur Nagar	947	Medium	6.95	Kanpur Nagar	958	Medium	6.79
Mathura	972	Medium	6.56	Mahoba	978	Medium	3.08
Mahoba	978	Medium	3.09	Mathura	980	Medium	6.43
Shahjahanpur	981	Medium	5.83	Shahjahanpur	990	Medium	5.72
Etawah	996	Medium	6.66	Etawah	1002	Medium	6.53
Pratapgarh	1009	Medium	10.45	Bahraich	1015	Medium	6.03
Barabanki	1010	Medium	9.79	Barabanki	1017	Medium	9.46
Bahraich	1012	Medium	6.11	Pratapgarh	1022	Medium	9.99
Kushinagar	1028	Medium	13.21	Siddharthnagar	1026	Medium	21.52
Chitrakoot	1039	Medium	10.49	Chitrakoot	1036	Medium	10.19
Siddharthnagar	1039	Medium	25.03	Jhansi	1037	Medium	7.07
Sant Ravidas Nr	1041	Medium	12.21	Lalitpur	1041	Medium	7.74
Jhansi	1043	Medium	7.12	Kushinagar	1053	Medium	12.24
Mau	1055	Medium	10.59	Mau	1077	Medium	10.02
Lalitpur	1058	Medium	7.75	Sant Ravidas Nr	1086	Medium	11.2
Sitapur	1078	Medium	14.07	Sitapur	1102	Medium	12.92
Ballia	1083	Medium	16.76	Budaun	1109	Medium	15.67
Budaun	1101	Medium	17.31	Ballia	1147	Medium	14.48
Auraiya	1129	Medium	16.06	Auraiya	1149	Medium	14.43
Kannauj	1140	Medium	11.02	Sonbhadra	1149	Medium	9.24
Pilibhit	1141	Medium	7.8	Pilibhit	1152	Medium	7.55
Agra	1146	Medium	8.14	Kannauj	1159	Medium	10.37
Sonbhadra	1155	Medium	9.49	Agra	1163	Medium	7.82
Rae Bareli	1173	Medium	7.17	Shrawasti	1169	Medium	16.4
Bareilly	1177	Medium	11.29	Rae Bareli	1171	Medium	7.04
Kanpur Dehat	1188	Medium	9.69	Kanpur Dehat	1191	Medium	9.31
Hardoi	1202	Medium	14.33	Hardoi	1192	Medium	13.34
Lucknow	1205	Medium	7.12	Gonda	1202	Medium	15.85
Gonda	1216	Medium	17.69	Bareilly	1205	Medium	10.5
Shrawasti	1234	Medium	17.49	Lucknow	1212	Medium	6.93
Bulandshahar	1255	Medium	16.36	Bulandshahar	1278	Medium	14.37
Moradabad	1337	Medium	17.48	Kashiramnagar	1280	Medium	14.74
Kashiramnagar	1340	Medium	15.82	Mahrajganj	1305	Medium	22.04
Allahabad	1350	Medium	17.61	Allahabad	1323	Medium	15.53
Ghazipur	1354	Medium	10.56	Ghazipur	1348	Medium	10.02
Hathras	1362	Medium	8.39	Hathras	1368	Medium	8.05
Ghaziabad	1430	Medium	8.2	Moradabad	1371	Medium	14.83
Varanasi	1512	Medium	17.15	Sultanpur	1402	Medium	24.42
Bijnor	1523	Medium	27.3	Ghaziabad	1445	Medium	7.84

District (Direct)	MPCE	Rank	CV	District (SAE)	MPCE	Rank	CV
Mirzapur	1575	Medium	17.63	Mirzapur	1491	Medium	15.41
Mahrajganj	1585	Medium	25.74	Varanasi	1506	Medium	14.59
Aligarh	1591	Medium	6.97	Farrukhabad	1539	Medium	21.8
Firozabad	1598	Medium	8.86	Gautam Buddha Nr	1545	Medium	26.11
Sant Kabir Nr	1760	Medium	16.07	Sant Kabir Nr	1559	Medium	14.95
Sultanpur	1785	High	37.43	Jaunpur	1573	Medium	20.54
Saharanpur	1796	High	13.89	Bijnor	1577	Medium	18.62
Chandauli	1822	High	8.62	Aligarh	1577	Medium	6.79
Etah	1907	High	3.97	Firozabad	1585	Medium	8.46
Kheri	1942	High	6.88	Chandauli	1756	High	8.36
Muzaffarnagar	1959	High	13.82	Saharanpur	1774	High	12.18
Farrukhabad	2025	High	30.49	Faizabad	1789	High	15.28
Deoria	2203	High	16.1	Deoria	1820	High	14.77
Ambedkar Nr	2208	High	12.81	Muzaffarnagar	1839	High	12.37
Jaunpur	2253	High	23.96	Kheri	1873	High	6.78
Faizabad	2355	High	15.75	Ambedkar Nr	1874	High	12.39
Baghpat	2377	High	2.39	Etah	1885	High	3.95
Meerut	3029	High	2.43	Baghpat	2359	High	2.38
Gautam Buddha Nr				Meerut	2978	High	2.43

Source: Computed at GIDS

Table 9B: Analysis Table by Region-wise

District (Direct) (Western)	MPCE	Rank	CV	District (SAE)	MPCE	Rank	CV
Mainpuri	698	Low	9.68	Mainpuri	712	Low	9.37
Rampur	735	Low	7.97	Rampur	750	Low	7.74
Jyotiba Phule Nr	917	Medium	9.62	Jyotiba Phule Nr	932	Medium	9.26
Mathura	972	Medium	6.56	Mathura	980	Medium	6.43
Shahjahanpur	981	Medium	5.83	Shahjahanpur	990	Medium	5.72
Etawah	996	Medium	6.66	Etawah	1002	Medium	6.53
Budaun	1101	Medium	17.31	Budaun	1109	Medium	15.67
Auraiya	1129	Medium	16.06	Auraiya	1149	Medium	14.43
Kannauj	1140	Medium	11.02	Pilibhit	1152	Medium	7.55
Pilibhit	1141	Medium	7.8	Kannauj	1159	Medium	10.37
Agra	1146	Medium	8.14	Agra	1163	Medium	7.82
Bareilly	1177	Medium	11.29	Bareilly	1205	Medium	10.5
Bulandshahar	1255	Medium	16.36	Bulandshahar	1278	Medium	14.37
Moradabad	1337	Medium	17.48	Kashiramnagar	1280	Medium	14.74
Kashiramnagar	1340	Medium	15.82	Hathras	1368	Medium	8.05
Hathras	1362	Medium	8.39	Moradabad	1371	Medium	14.83
Ghaziabad	1430	Medium	8.2	Ghaziabad	1445	Medium	7.84
Bijnor	1523	Medium	27.3	Farrukhabad	1539	Medium	21.8

District (Direct) (Western)	MPCE	Rank	CV	District (SAE)	MPCE	Rank	CV
Aligarh	1591	Medium	6.97	Gautam Buddha Nr	1545	Medium	26.11
Firozabad	1598	Medium	8.86	Bijnor	1577	Medium	18.62
Saharanpur	1796	Medium	13.89	Aligarh	1577	Medium	6.79
Etah	1907	Medium	3.97	Firozabad	1585	Medium	8.46
Muzaffarnagar	1959	High	13.82	Saharanpur	1774	Medium	12.18
Farrukhabad	2025	High	30.49	Muzaffarnagar	1839	Medium	12.37
Baghpat	2377	High	2.39	Etah	1885	High	3.95
Meerut	3029	High	2.43	Baghpat	2359	High	2.38
Gautam Buddha Nr		High		Meerut	2978	High	2.43
District(Central)	MPCE	Rank	CV	District	MPCE	Rank	CV
Fatehpur	726	Low	11.88	Fatehpur	739	Low	11.45
Unnao	762	Low	11.24	Unnao	773	Low	10.87
Kanpur Nagar	947	Medium	6.95	Kanpur Nagar	958	Medium	6.79
Sitapur	1078	Medium	14.07	Sitapur	1102	Medium	12.92
Rae Bareli	1173	Medium	7.17	Rae Bareli	1171	Medium	7.04
Kanpur Dehat	1188	Medium	9.69	Kanpur Dehat	1191	Medium	9.31
Hardoi	1202	Medium	14.33	Hardoi	1192	Medium	13.34
Lucknow	1205	Medium	7.12	Lucknow	1212	Medium	6.93
Kheri	1942	High	6.88	Kheri	1873	High	6.78
District(Southern)	MPCE	Rank	CV	District	MPCE	Rank	CV
Hamirpur	769	Low	10.42	Hamirpur	779	Low	10.11
Banda	822	Low	9.39	Banda	829	Low	9.15
Jalaun	930	Medium	11.7	Jalaun	939	Medium	11.22
Mahoba	978	Medium	3.09	Mahoba	978	Medium	3.08
Chitrakoot	1039	Medium	10.49	Chitrakoot	1036	Medium	10.19
Jhansi	1043	Medium	7.12	Jhansi	1037	Medium	7.07
Lalitpur	1058	Medium	7.75	Lalitpur	1041	Medium	7.74
District (Eastern)	MPCE	Rank	CV	District	MPCE	Rank	CV
Kaushambi	625	Low	2.66	Kaushambi	626	Low	2.65
Azamgarh	821	Low	9.31	Azamgarh	838	Low	8.98
Balrampur	826	Low	26.14	Balrampur	871	Low	21.98
Gorakhpur	904	Medium	12.41	Gorakhpur	943	Medium	11.48
Basti	934	Medium	9.85	Basti	944	Medium	9.53
Pratapgarh	1009	Medium	10.45	Bahraich	1015	Medium	6.03
Barabanki	1010	Medium	9.79	Barabanki	1017	Medium	9.46
Bahraich	1012	Medium	6.11	Pratapgarh	1022	Medium	9.99
Kushinagar	1028	Medium	13.21	Siddharthnagar	1026	Medium	21.52
Siddharthnagar	1039	Medium	25.03	Kushinagar	1053	Medium	12.24
Sant Ravidas Nr	1041	Medium	12.21	Mau	1077	Medium	10.02
Mau	1055	Medium	10.59	Sant Ravidas Nr	1086	Medium	11.2
Ballia	1083	Medium	16.76	Ballia	1147	Medium	14.48
Sonbhadra	1155	Medium	9.49	Sonbhadra	1149	Medium	9.24

District (Direct) (Western)	MPCE	Rank	CV	District (SAE)	MPCE	Rank	CV
Gonda	1216	Medium	17.69	Shrawasti	1169	Medium	16.4
Shrawasti	1234	Medium	17.49	Gonda	1202	Medium	15.85
Allahabad	1350	Medium	17.61	Mahrajganj	1305	Medium	22.04
Ghazipur	1354	Medium	10.56	Allahabad	1323	Medium	15.53
Varanasi	1512	Medium	17.15	Ghazipur	1348	Medium	10.02
Mirzapur	1575	Medium	17.63	Sultanpur	1402	Medium	24.42
Mahrajganj	1585	Medium	25.74	Mirzapur	1491	Medium	15.41
Sant Kabir Nr	1760	Medium	16.07	Varanasi	1506	Medium	14.59
Sultanpur	1785	Medium	37.43	Sant Kabir Nr	1559	Medium	14.95
Chandauli	1822	Medium	8.62	Jaunpur	1573	High	20.54
Deoria	2203	High	16.1	Chandauli	1756	High	8.36
Ambedkar Nr	2208	High	12.81	Faizabad	1789	High	15.28
Jaunpur	2253	High	23.96	Deoria	1820	High	14.77
Faizabad	2355	High	15.75	Ambedkar Nr	1874	High	12.39

Source: Computed at GIDS

The above data in table 9A shows that district wise direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of Monthly per capita consumer expenditure in Rupees (MPCE) for rural LC2 areas in the state of Uttar Pradesh in 2011-12.

As per direct estimates the number of districts fallen in the low level category is 9, namely Kaushambi, Mainpuri, Faehpur, Rampur, Unnao, Hamirpur, Azamgarh, Banda, and Balrampur respectively. Their level of MPCE represents the range of Rs. 625 to 826, whereas their percentage coefficient of variation levels shows that 2.66% to 26.14%.

On the other hand as per model based small area estimates the number of districts fallen in the low level category is 8, namely Kaushambi, Mainpuri, Fatehpur, Rampur, Unnao, Hamirpur, Banda and Azamgarh respectively. Their level of MPCE represents the range of Rs. 626 to 838, whereas their percentage coefficient of variation levels shows that 2.65% to 11.45%.

Hence, the model based small area estimates percentage coefficients of variation levels are smaller and consistent than the direct estimates.

As per direct estimates the number of districts fallen in the Medium level category is 49. Their level of MPCE represents the range of Rs. 904 to 1760, whereas their percentage coefficient of variation levels shows that 6.97% to 25.74%.

On the other hand as per model based small area estimates the number of districts fallen in the medium level category is 53. Their level of MPCE represents the range of Rs. 871 to 1585, whereas their percentage coefficient of variation levels shows that 3.08% to 26.11%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

As per direct estimates the number of districts fallen in the high level category is 13, namely Sultanpur, Saharanpur, Chandauli, Etah, Kheri, Muzaffar Nagar, Farrukhabad, Deoria, Ambedkar Nagar, Jaunpur, Faizabad, Baghpat, and Meerut respectively. Their level of MPCE represents the range of Rs. 1785 to 3029, whereas their percentage coefficient of variation levels shows that 2.39% to 37.43%.

On the other hand as per model based small area estimates the number of districts fallen in the high level category is 10, namely Chandauli, Saharanpur, Faizabad, Deoria, Muzaffarnagar, Kheri, Ambedkar Nagar, Etah, Baghpat and Meerut respectively. Their level of MPCE represents the range of Rs. 1756 to 2978, whereas their percentage coefficient of variation levels shows that 2.38% to 15.28%.

Hence, overall the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

The above data in table 9B shows that Region-wise districts (4 regions) direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of Monthly per capita consumer expenditure in Rupees (MPCE) for rural areas in the state of Uttar Pradesh in 2011-12.

As per direct estimates the Western region number of districts fallen in the low level category is 2, Medium – 20, and High – 5; Central region number of districts fallen in the low category – 2, Medium – 6, and High – 1; Bundelkhand region number of districts fallen in the low category – 2 and Medium – 5; and Eastern region number of districts fallen in the low level category –3, Medium – 21 and High – 4.

On the other hand as per model based small area estimates the Western region number of districts fallen in the low level category is 2, Medium – 22, and High – 3; Central region number of districts fallen in the low category – 2, Medium – 6, and High – 1; Bundelkhand

region number of districts fallen in the low category – 2 and Medium – 5; and Eastern region number of districts fallen in the low level category – 3, Medium – 20 and High – 5.

However, the direct estimates compared with model based small area estimates indicate that the MPCE variations are marginal in Western region and CV variations are higher in Eastern region. Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent in LC2 rural areas than the direct estimates.

Table 10. District-wise sample size, estimated number of household (est. HH), average household size (HHS), direct estimates (Direct) and model-based small area estimates (SAE) along with their standard error (SE) and percentage coefficient of variations (CV) of monthly per capita consumer and expenditure in Rupees (MPCE) for rural LC 3 areas in the state of Uttar Pradesh in 2011-12.

Region	District	Sample Size	est. HH	HHS	Direct			Model Based SAE		
					MPCE	SE	CV	MPCE	SE	CV
Western	Saharanpur	14	57393	7.6	1833	155.90	8.51	1783	143.60	8.05
	Muzaffarnagar	17	51961	4.5	2223	363.40	16.35	1827	254.90	13.96
	Bijnor	8	16520	6.8	1778	142.90	8.04	1743	133.20	7.64
	Moradabad	6	7212	8.9	1217	188.30	15.48	1291	167.50	12.98
	Rampur	1	1027	6.0	1167	155.30	13.31	1218	142.90	11.73
	Jyotiba Phule Nr	9	23341	5.1	1393	81.50	5.85	1393	79.60	5.71
	Meerut	8	22663	6.9	2169	125.20	5.77	2088	118.50	5.68
	Baghpat	4	21627	9.9	2178	243.90	11.19	1930	202.00	10.46
	Ghaziabad	7	27777	10.0	1362	207.10	15.21	1381	179.70	13.02
	Gautam Buddha Nr							1469	349.30	23.78
	Bulandshahar	12	42550	9.7	1502	96.30	6.41	1492	93.10	6.24
	Aligarh	21	68114	7.1	1652	97.80	5.92	1636	94.50	5.78
	Hathras	13	27053	6.5	2511	444.20	17.69	1883	278.30	14.78
	Mathura	9	26273	6.5	1817	224.00	12.33	1693	190.30	11.24
	Agra	13	14154	9.6	1570	89.80	5.72	1566	87.30	5.57
	Firozabad	8	19831	7.9	1254	162.20	12.93	1306	148.40	11.36
	Etah	10	19730	10.8	1327	175.80	13.25	1364	158.40	11.62
	Mainpuri	3	2855	10.0	1176	171.50	14.58	1241	155.20	12.51
	Budaun	12	47902	5.6	1671	401.80	24.05	1575	267.20	16.97
	Bareilly	4	8690	7.1	1346	248.60	18.47	1400	205.00	14.64
	Pilibhit	6	9116	8.8	1424	124.50	8.74	1433	117.90	8.22
	Shahjahanpur	12	37076	10.4	984	256.70	26.10	1182	209.80	17.75
	Farrukhabad	7	19770	6.0	1189	70.80	5.96	1200	69.50	5.80
	Kannauj	6	3239	4.9	1468	39.90	2.72	1468	39.60	2.70
	Etawah	7	29376	4.4	1130	203.50	18.01	1208	177.40	14.68
Auraiya	4	2211	4.6	2012	139.30	6.92	1931	130.10	6.74	
Kashiramnagar	5	15896	6.5	1461	155.10	10.62	1450	142.70	9.84	
Central	Kheri	10	7530	6.5	1498	109.40	7.30	1495	104.90	7.01
	Sitapur	11	31673	6.4	1387	116.20	8.38	1395	110.80	7.94
	Hardoi	6	7327	6.0	1389	141.90	10.22	1396	132.20	9.48

Region	District	Sample Size	est. HH	HHS	Direct			Model Based SAE		
					MPCE	SE	CV	MPCE	SE	CV
Eastern	Unnao	9	28633	4.0	1463	107.70	7.36	1448	103.30	7.14
	Lucknow	2	3937	5.0	1933	155.30	8.03	1843	142.80	7.75
	Rae Bareli	15	15177	6.9	1495	280.70	18.77	1429	221.30	15.49
	Kanpur Dehat	7	43136	5.9	679	162.40	23.92	803	148.20	18.46
	Kanpur Nr	5	31206	7.1	1074	236.00	21.97	1155	197.60	17.10
	Fatehpur	14	46338	7.0	738	43.70	5.92	744	43.40	5.83
Southern	Jalaun	25	77213	6.2	1084	107.90	9.96	1097	103.60	9.45
	Jhansi	19	64624	7.6	955	78.90	8.26	958	77.40	8.08
	Lalitpur	8	30763	5.0	1245	106.50	8.56	1231	102.70	8.34
	Hamirpur	15	69139	6.4	1301	78.70	6.05	1292	77.10	5.96
	Banda	19	52246	4.9	1101	112.40	10.21	1109	107.60	9.70
	Chitrakoot	7	24338	9.4	478	76.80	16.05	510	75.20	14.75
Eastern	Mahoba	18	45896	6.0	1137	253.00	22.26	1117	210.30	18.82
	Mahrajganj	6	10497	6.3	1516	386.90	25.53	1372	263.20	19.18
	Pratapgarh	11	11167	9.1	1415	110.80	7.83	1417	106.10	7.48
	Kaushambi	5	6304	7.1	1801	283.40	15.73	1540	224.90	14.60
	Allahabad	5	29156	7.5	937	126.60	13.50	984	119.60	12.16
	Barabanki	13	21411	8.4	1565	91.70	5.86	1547	89.00	5.75
	Faizabad	1	959	4.0	2048	155.30	7.58	1938	142.80	7.37
	Ambedkar Nr	3	4091	6.9	1856	235.60	12.69	1722	197.30	11.46
	Sultanpur	12	52599	8.5	1460	212.50	14.56	1453	183.20	12.61
	Bahraich	12	8218	7.4	1323	279.40	21.12	1367	220.60	16.13
	Shrawasti	9	3739	7.5	1178	159.50	13.54	1198	146.20	12.20
	Balrampur	8	44149	5.4	1156	93.60	8.10	1168	90.70	7.77
	Gonda	8	6147	8.6	1502	182.60	12.15	1480	163.10	11.02
	Siddharthnagar	11	34332	5.4	4422	2606.10	58.93	1416	345.60	24.40
	Basti	8	19571	6.5	2270	737.20	32.47	1613	317.90	19.71
	Sant Kabir Nr	2	1710	10.9	1155	42.60	3.69	1160	42.30	3.65
	Gorakhpur	9	27690	7.1	1286	203.10	15.79	1351	177.60	13.14
	Kushinagar	7	11571	9.1	2427	968.50	39.91	1577	330.20	20.94
	Deoria	2	3351	13.1	1521	11.50	0.76	1521	11.50	0.76
	Azamgarh	1	1338	8.0	867	155.30	17.92	980	143.10	14.60
	Mau	4	5357	7.8	1313	253.30	19.29	1380	207.60	15.04
	Ballia	7	8011	9.0	984	143.70	14.61	1056	133.80	12.67
	Jaunpur	4	13373	12.5	1209	130.20	10.76	1241	122.60	9.88
	Ghazipur	14	21126	9.1	1492	236.00	15.82	1462	197.40	13.50
	Chandauli	3	3989	14.6	1913	130.40	6.81	1849	122.70	6.64
	Varanasi	2	741	3.0	1876	328.10	17.49	1666	241.80	14.51
	Sant Ravidas Nr	5	3681	11.4	1249	126.50	10.12	1284	119.60	9.32
Mirzapur	3	3418	9.6	2393	1310.00	54.74	1397	338.20	24.20	
Sonbhadra	7	27891	7.5	778	131.80	16.93	826	124.40	15.06	

Source: Derived from 68th Round NSSO Unit Level Data

Tab 10A: Analysis Table for All Districts

District (Direct)	MPCE	Rank	CV	District (SAE)	MPCE	Rank	CV
Chitrakoot	478	Low	16.05	Chitrakoot	510	Low	14.75
Kanpur Dehat	679	Low	23.92	Fatehpur	744	Low	5.83
Fatehpur	738	Low	5.92	Kanpur Dehat	803	Low	18.46
Sonbhadra	778	Low	16.93	Sonbhadra	826	Low	15.06
Azamgarh	867	Low	17.92	Jhansi	958	Low	8.08
Allahabad	937	Low	13.5	Azamgarh	980	Low	14.6
Jhansi	955	Medium	8.26	Allahabad	984	Low	12.16
Shahjahanpur	984	Medium	26.1	Ballia	1056	Low	12.67
Ballia	984	Medium	14.61	Jalaun	1097	Medium	9.45
Kanpur Nr	1074	Medium	21.97	Banda	1109	Medium	9.7
Jalaun	1084	Medium	9.96	Mahoba	1117	Medium	18.82
Banda	1101	Medium	10.21	Kanpur Nr	1155	Medium	17.1
Etawah	1130	Medium	18.01	Sant Kabir Nr	1160	Medium	3.65
Mahoba	1137	Medium	22.26	Balrampur	1168	Medium	7.77
Sant Kabir Nr	1155	Medium	3.69	Shahjahanpur	1182	Medium	17.75
Balrampur	1156	Medium	8.1	Shrawasti	1198	Medium	12.2
Rampur	1167	Medium	13.31	Farrukhabad	1200	Medium	5.8
Mainpuri	1176	Medium	14.58	Etawah	1208	Medium	14.68
Shrawasti	1178	Medium	13.54	Rampur	1218	Medium	11.73
Farrukhabad	1189	Medium	5.96	Lalitpur	1231	Medium	8.34
Jaunpur	1209	Medium	10.76	Mainpuri	1241	Medium	12.51
Moradabad	1217	Medium	15.48	Jaunpur	1241	Medium	9.88
Lalitpur	1245	Medium	8.56	Sant Ravidas Nr	1284	Medium	9.32
Sant Ravidas Nr	1249	Medium	10.12	Moradabad	1291	Medium	12.98
Firozabad	1254	Medium	12.93	Hamirpur	1292	Medium	5.96
Gorakhpur	1286	Medium	15.79	Firozabad	1306	Medium	11.36
Hamirpur	1301	Medium	6.05	Gorakhpur	1351	Medium	13.14
Mau	1313	Medium	19.29	Etah	1364	Medium	11.62
Bahraich	1323	Medium	21.12	Bahraich	1367	Medium	16.13
Etah	1327	Medium	13.25	Mahrajganj	1372	Medium	19.18
Bareilly	1346	Medium	18.47	Mau	1380	Medium	15.04
Ghaziabad	1362	Medium	15.21	Ghaziabad	1381	Medium	13.02
Sitapur	1387	Medium	8.38	Jyotiba Phule Nr	1393	Medium	5.71
Hardoi	1389	Medium	10.22	Sitapur	1395	Medium	7.94
Jyotiba Phule Nr	1393	Medium	5.85	Hardoi	1396	Medium	9.48
Pratapgarh	1415	Medium	7.83	Mirzapur	1397	Medium	24.2
Pilibhit	1424	Medium	8.74	Bareilly	1400	Medium	14.64
Sultanpur	1460	Medium	14.56	Siddharthnagar	1416	Medium	24.4
Kashiramnagar	1461	Medium	10.62	Pratapgarh	1417	Medium	7.48
Unnao	1463	Medium	7.36	Rae Bareli	1429	Medium	15.49
Kannauj	1468	Medium	2.72	Pilibhit	1433	Medium	8.22
Ghazipur	1492	Medium	15.82	Unnao	1448	Medium	7.14

District (Direct)	MPCE	Rank	CV	District (SAE)	MPCE	Rank	CV
Rae Bareli	1495	Medium	18.77	Kashiramnagar	1450	Medium	9.84
Kheri	1498	Medium	7.3	Sultanpur	1453	Medium	12.61
Bulandshahar	1502	Medium	6.41	Ghazipur	1462	Medium	13.5
Gonda	1502	Medium	12.15	Kannauj	1468	Medium	2.7
Mahrajganj	1516	Medium	25.53	Gautam Buddha Nr	1469	Medium	23.78
Deoria	1521	Medium	0.76	Gonda	1480	Medium	11.02
Barabanki	1565	Medium	5.86	Bulandshahar	1492	Medium	6.24
Agra	1570	Medium	5.72	Kheri	1495	Medium	7.01
Aligarh	1652	Medium	5.92	Deoria	1521	Medium	0.76
Budaun	1671	Medium	24.05	Kaushambi	1540	Medium	14.6
Bijnor	1778	Medium	8.04	Barabanki	1547	Medium	5.75
Kaushambi	1801	Medium	15.73	Agra	1566	Medium	5.57
Mathura	1817	Medium	12.33	Budaun	1575	Medium	16.97
Saharanpur	1833	Medium	8.51	Kushinagar	1577	Medium	20.94
Ambedkar Nr	1856	Medium	12.69	Basti	1613	Medium	19.71
Varanasi	1876	Medium	17.49	Aligarh	1636	Medium	5.78
Chandauli	1913	Medium	6.81	Varanasi	1666	Medium	14.51
Lucknow	1933	Medium	8.03	Mathura	1693	Medium	11.24
Auraiya	2012	Medium	6.92	Ambedkar Nr	1722	High	11.46
Faizabad	2048	Medium	7.58	Bijnor	1743	High	7.64
Meerut	2169	High	5.77	Saharanpur	1783	High	8.05
Baghpat	2178	High	11.19	Muzaffarnagar	1827	High	13.96
Muzaffarnagar	2223	High	16.35	Lucknow	1843	High	7.75
Basti	2270	High	32.47	Chandauli	1849	High	6.64
Mirzapur	2393	High	54.74	Hathras	1883	High	14.78
Kushinagar	2427	High	39.91	Baghpat	1930	High	10.46
Hathras	2511	High	17.69	Auraiya	1931	High	6.74
Siddharthnagar	4422	High	58.93	Faizabad	1938	High	7.37
Gautam Buddha Nr				Meerut	2088	High	5.68

Source: Computed at GIDS

Table 10B: Analysis Table by Region-wise

District (Direct) (Western)	MPCE	Rank	CV	District (SAE)	MPCE	Rank	CV
Shahjahanpur	984	Low	26.1	Shahjahanpur	1182	Low	17.75
Etawah	1130	Low	18.01	Farrukhabad	1200	Low	5.8
Rampur	1167	Low	13.31	Etawah	1208	Low	14.68
Mainpuri	1176	Low	14.58	Rampur	1218	Low	11.73
Farrukhabad	1189	Medium	5.96	Mainpuri	1241	Low	12.51
Moradabad	1217	Medium	15.48	Moradabad	1291	Medium	12.98
Firozabad	1254	Medium	12.93	Firozabad	1306	Medium	11.36
Etah	1327	Medium	13.25	Etah	1364	Medium	11.62
Bareilly	1346	Medium	18.47	Ghaziabad	1381	Medium	13.02
Ghaziabad	1362	Medium	15.21	Jyotiba Phule Nr	1393	Medium	5.71
Jyotiba Phule Nr	1393	Medium	5.85	Bareilly	1400	Medium	14.64
Pilibhit	1424	Medium	8.74	Pilibhit	1433	Medium	8.22
Kashiramnagar	1461	Medium	10.62	Kashiramnagar	1450	Medium	9.84
Kannauj	1468	Medium	2.72	Kannauj	1468	Medium	2.7
Bulandshahar	1502	Medium	6.41	Gautam Buddha Nr	1469	Medium	23.78
Agra	1570	Medium	5.72	Bulandshahar	1492	Medium	6.24
Aligarh	1652	Medium	5.92	Agra	1566	Medium	5.57
Budaun	1671	Medium	24.05	Budaun	1575	Medium	16.97
Bijnor	1778	Medium	8.04	Aligarh	1636	Medium	5.78
Mathura	1817	Medium	12.33	Mathura	1693	Medium	11.24
Saharanpur	1833	Medium	8.51	Bijnor	1743	Medium	7.64
Auraiya	2012	High	6.92	Saharanpur	1783	High	8.05
Meerut	2169	High	5.77	Muzaffarnagar	1827	High	13.96
Baghpat	2178	High	11.19	Hathras	1883	High	14.78
Muzaffarnagar	2223	High	16.35	Baghpat	1930	High	10.46
Hathras	2511	High	17.69	Auraiya	1931	High	6.74
Gautam Buddha Nr		High		Meerut	2088	High	5.68
District (Central)	MPCE	Rank	CV	District	MPCE	Rank	CV
Kanpur Dehat	679	Low	23.92	Fatehpur	744	Low	5.83
Fatehpur	738	Low	5.92	Kanpur Dehat	803	Low	18.46
Kanpur Nr	1074	Medium	21.97	Kanpur Nr	1155	Medium	17.1
Sitapur	1387	Medium	8.38	Sitapur	1395	Medium	7.94
Hardoi	1389	Medium	10.22	Hardoi	1396	Medium	9.48
Unnao	1463	Medium	7.36	Rae Bareli	1429	Medium	15.49
Rae Bareli	1495	Medium	18.77	Unnao	1448	Medium	7.14
Kheri	1498	Medium	7.3	Kheri	1495	Medium	7.01
Lucknow	1933	High	8.03	Lucknow	1843	High	7.75
District (Southern)	MPCE	Rank	CV	District	MPCE	Rank	CV
Chitrakoot	478	Low	16.05	Chitrakoot	510	Low	14.75
Jhansi	955	Medium	8.26	Jhansi	958	Medium	8.08

District (Direct) (Western)	MPCE	Rank	CV	District (SAE)	MPCE	Rank	CV
Jalaun	1084	Medium	9.96	Jalaun	1097	Medium	9.45
Banda	1101	Medium	10.21	Banda	1109	Medium	9.7
Mahoba	1137	Medium	22.26	Mahoba	1117	Medium	18.82
Lalitpur	1245	Medium	8.56	Lalitpur	1231	Medium	8.34
Hamirpur	1301	Medium	6.05	Hamirpur	1292	Medium	5.96
District (Eastern)	MPCE	Rank	CV	District	MPCE	Rank	CV
Sonbhadra	778	Low	16.93	Sonbhadra	826	Low	15.06
Azamgarh	867	Low	17.92	Azamgarh	980	Low	14.6
Allahabad	937	Medium	13.5	Allahabad	984	Low	12.16
Ballia	984	Medium	14.61	Ballia	1056	Low	12.67
Sant Kabir Nr	1155	Medium	3.69	Sant Kabir Nr	1160	Medium	3.65
Balrampur	1156	Medium	8.1	Balrampur	1168	Medium	7.77
Shrawasti	1178	Medium	13.54	Shrawasti	1198	Medium	12.2
Jaunpur	1209	Medium	10.76	Jaunpur	1241	Medium	9.88
Sant Ravidas Nr	1249	Medium	10.12	Sant Ravidas Nr	1284	Medium	9.32
Gorakhpur	1286	Medium	15.79	Gorakhpur	1351	Medium	13.14
Mau	1313	Medium	19.29	Bahraich	1367	Medium	16.13
Bahraich	1323	Medium	21.12	Mahrajganj	1372	Medium	19.18
Pratapgarh	1415	Medium	7.83	Mau	1380	Medium	15.04
Sultanpur	1460	Medium	14.56	Mirzapur	1397	Medium	24.2
Ghazipur	1492	Medium	15.82	Siddharthnagar	1416	Medium	24.4
Gonda	1502	Medium	12.15	Pratapgarh	1417	Medium	7.48
Mahrajganj	1516	Medium	25.53	Sultanpur	1453	Medium	12.61
Deoria	1521	Medium	0.76	Ghazipur	1462	Medium	13.5
Barabanki	1565	Medium	5.86	Gonda	1480	Medium	11.02
Kaushambi	1801	Medium	15.73	Deoria	1521	Medium	0.76
Ambedkar Nr	1856	Medium	12.69	Kaushambi	1540	Medium	14.6
Varanasi	1876	Medium	17.49	Barabanki	1547	Medium	5.75
Chandauli	1913	Medium	6.81	Kushinagar	1577	Medium	20.94
Faizabad	2048	Medium	7.58	Basti	1613	Medium	19.71
Basti	2270	Medium	32.47	Varanasi	1666	High	14.51
Mirzapur	2393	High	54.74	Ambedkar Nr	1722	High	11.46
Kushinagar	2427	High	39.91	Chandauli	1849	High	6.64
Siddharthnagar	4422	High	58.93	Faizabad	1938	High	7.37

Source: Computed at GIDS

The above data in table 10A shows that district wise direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of Monthly per capita consumer expenditure in Rupees (MPCE) for rural LC3 areas in the state of Uttar Pradesh in 2011-12.

As per direct estimates the number of districts fallen in the low level category is 6, namely Chitrakoot, Kanpur Dehat, Fatehpur, Sonbhadra, Azamgarh, and Allahabad respectively. Their level of MPCE represents the range of Rs. 478 to 937, whereas their percentage coefficient of variation levels shows that 5.92% to 23.92%.

On the other hand as per model based small area estimates the number of districts fallen in the low level category is 8, namely Chitrakoot, Fatehpur, Kanpur Dehat, Sonbhadra, Jhansi, Azamgarh, Allahabad, and Ballia respectively. Their level of MPCE represents the range of Rs. 510 to 1056, whereas their percentage coefficient of variation levels shows that 5.83% to 18.46%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

As per direct estimates the number of districts fallen in the Medium level category is 56. Their level of MPCE represents the range of Rs. 955 to 2048, whereas their percentage coefficient of variation levels shows that 0.76% to 26.1%.

On the other hand as per model based small area estimates the number of districts fallen in the medium level category is 52. Their level of MPCE represents the range of Rs. 1097 to 1693, whereas their percentage coefficient of variation levels shows that 0.76% to 24.4%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

As per direct estimates the number of districts fallen in the high level category is 8, namely Meerut, Baghpat, MuzafarNagar, Basti , Mirzapur, Khushinagar, Hathras, and Siddhartha Nagar respectively. Their level of MPCE represents the range of Rs. 2169 to 4422, whereas their percentage coefficient of variation levels shows that 5.77% to 58.93%.

On the other hand as per model based small area estimates the number of districts fallen in the high level category is 11, namely Ambedkar Nagar, Bijnor, Saharanpur, Muzaffarnagar, Lucknow, Chandouli, Hathras, Baghpat, Aurayia, Faizabad, and Meerut respectively. Their level of MPCE represents the range of Rs. 1722 to 2088, whereas their percentage coefficient of variation levels shows that 5.68% to 14.78%.

Hence, the model based small area estimates percentage coefficient of variation levels are very low and consistent than the direct estimates.

The above data in table 10B shows that Region-wise districts (4 regions) direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of Monthly per capita consumer expenditure in Rupees (MPCE) for rural LC3 areas in the state of Uttar Pradesh in 2011-12.

As per direct estimates the Western region number of districts fallen in the low level category is 4, Medium – 17, and High – 6; Central region number of districts fallen in the low category – 2, Medium – 6, and High – 1; Bundelkhand region number of districts fallen in the low category – 1 and Medium – 6; and Eastern region number of districts fallen in the low level category – 2, Medium – 23 and High – 3.

On the other hand as per model based small area estimates the Western region number of districts fallen in the low level category is 5, Medium – 16, and High – 6; Central region number of districts fallen in the low category – 2, Medium – 6, and High – 1; Bundelkhand region number of districts fallen in the low category – 1 and Medium – 6; and Eastern region number of districts fallen in the low level category – 4, Medium – 20 and High – 4.

However, the direct estimates compared with model based small area estimates indicate that the MPCE variations are high in Eastern region and CV variations are higher in Eastern region. Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

Table 11: District-wise sample size, estimated number of household (est. HH), average household size (HHS), direct estimates (Direct) and model-based small area estimates (SAE) along with their standard error (SE) and percentage coefficient of variations (CV) of monthly per capita consumer and expenditure in Rupees (MPCE) for rural SG 2 Schedule Caste areas in the state of Uttar Pradesh in 2011-12.

Region	District	Sample Size	est. HH	HHS	Direct			Model Based SAE		
					MPCE	SE	CV	MPCE	SE	CV
Western	Saharanpur	28	92395	4.74	1400	147.32	10.52	1214	99.86	8.23
	Muzaffarnagar	29	163215	4.67	1419	154.69	10.9	1252	105.27	8.41
	Bijnor	29	156844	6.41	877	40.65	4.64	892	38.97	4.37
	Moradabad	16	63207	5.1	1078	63.07	5.85	1056	56.87	5.39
	Rampur	18	97470	5.36	1063	161.37	15.18	990	100.30	10.13
	Jyotiba Phule Nr	12	23597	6.15	1063	129.09	12.14	992	91.09	9.18
	Meerut	19	143916	5.54	1883	380.70	20.22	1208	129.10	10.69
	Baghpat	4	25439	4.95	964	224.45	23.27	1061	115.90	10.93
	Ghaziabad	7	42232	5.9	1280	121.54	9.49	1199	91.14	7.6
	Gautam Buddha Nr	5	29093	3.87	1362	183.42	13.47	1158	106.75	9.22

Region	District	Sample Size	est. HH	HHS	Direct			Model Based SAE		
					MPCE	SE	CV	MPCE	SE	CV
North	Bulandshahar	23	96173	5.3	1015	63.68	6.27	1014	57.38	5.66
	Aligarh	41	214814	6.41	1045	69.89	6.69	1028	61.58	5.99
	Hathras	19	86594	5.77	1224	41.09	3.36	1195	39.22	3.28
	Mathura	18	85891	5.55	1000	67.45	6.74	984	59.80	6.08
	Agra	24	101518	5.95	984	40.86	4.15	985	39.05	3.96
	Firozabad	7	36713	6.29	671	59.77	8.9	736	54.45	7.4
	Etah	13	44377	4.48	1194	198.25	16.61	1016	108.24	10.65
	Mainpuri	13	58050	6.28	736	53.54	7.28	761	49.79	6.54
	Budaun	16	84144	5.28	902	94.32	10.46	899	77.90	8.67
	Bareilly	24	155419	4.38	1009	65.82	6.52	1004	59.05	5.88
	Pilibhit	7	20825	5.03	971	29.48	3.04	969	28.78	2.97
	Shahjahanpur	22	136019	6.71	679	33.75	4.97	699	32.71	4.68
	Farrukhabad	18	67877	4.23	900	62.87	6.99	934	57.67	6.18
	Kannauj	10	50172	5.51	961	289.33	30.1	994	117.47	11.82
	Etawah	14	50057	5.59	878	122.19	13.92	879	88.13	10.03
	Auraiya	22	86723	5.95	926	79.34	8.57	932	69.25	7.43
Kashiramnagar	6	28635	5.72	808	80.56	9.97	828	69.13	8.35	
Central	Kheri	47	252172	5.07	881	93.99	10.67	892	76.24	8.55
	Sitapur	52	321187	4.81	891	68.47	7.69	890	61.29	6.89
	Hardoi	27	119765	3.95	1099	94.29	8.58	1008	77.74	7.71
	Unnao	28	199450	4.55	817	83.34	10.2	820	71.42	8.71
	Lucknow	9	69106	3.81	908	127.07	14	959	96.86	10.1
	Rae Bareli	52	250537	4.61	812	37.79	4.65	811	36.41	4.49
	Kanpur Dehat	16	111603	5.17	784	118.05	15.05	873	89.18	10.21
	Kanpur Nr	9	71647	4.41	1197	182.22	15.22	1023	104.10	10.18
	Fatehpur	33	165335	4.89	795	69.89	8.79	806	61.51	7.63
Southern	Jalaun	13	52046	5.11	1001	161.64	16.15	937	104.07	11.11
	Jhansi	22	66428	4	1007	66.02	6.56	967	59.20	6.12
	Lalitpur	7	40867	3.1	1059	103.00	9.73	952	83.54	8.77
	Hamirpur	9	99575	2.96	941	66.59	7.08	919	59.26	6.45
	Banda	21	131541	5.32	711	62.65	8.82	738	56.41	7.65
	Chitrakoot	10	42503	6.62	562	134.89	24.02	691	97.47	14.11
	Mahoba	12	41944	6.05	807	112.23	13.91	836	84.19	10.07
Eastern	Mahrajganj	22	84420	4.58	832	79.26	9.53	805	68.94	8.56
	Pratapgarh	31	109156	5.67	633	28.60	4.52	643	27.95	4.35
	Kaushambi	26	113374	5.43	701	54.36	7.76	734	50.90	6.93
	Allahabad	35	237823	4.84	883	68.47	7.76	887	60.50	6.82
	Barabanki	22	196659	4.67	869	103.50	11.91	874	80.62	9.22
	Faizabad	15	104684	5.19	851	57.81	6.79	849	52.83	6.23
	Ambedkar Nr	37	164087	5.83	974	80.86	8.3	931	68.58	7.37
	Sultanpur	39	181473	4.85	885	86.86	9.81	872	72.07	8.27
	Bahraich	19	123188	4.72	767	79.61	10.38	781	68.40	8.76
	Shrawasti	10	31134	3.31	813	77.58	9.54	823	68.15	8.28
	Balrampur	5	32449	4.69	854	21.63	2.53	854	21.41	2.51
Gonda	17	53499	5.7	720	63.57	8.84	747	57.32	7.67	

Region	District	Sample Size	est. HH	HHS	Direct			Model Based SAE		
					MPCE	SE	CV	MPCE	SE	CV
	Siddharthnagar	14	69501	4.28	991	218.18	22.01	858	116.38	13.57
	Basti	27	110922	4.92	751	60.10	8	761	54.76	7.2
	Sant Kabir Nr	25	111367	5.28	752	60.34	8.02	755	55.03	7.29
	Gorakhpur	35	137670	5.23	895	53.76	6.01	902	50.34	5.58
	Kushinagar	19	67507	6.16	841	80.91	9.62	824	69.91	8.48
	Deoria	13	58378	7.31	1030	175.25	17.01	905	103.58	11.44
	Azamgarh	42	213978	5.17	876	68.42	7.81	868	60.54	6.97
	Mau	26	93913	4.62	1036	46.05	4.44	1013	43.44	4.29
	Ballia	26	100674	6	870	78.66	9.04	882	68.05	7.71
	Jaunpur	33	157246	5.69	844	53.53	6.34	846	49.52	5.85
	Ghazipur	44	159871	5.16	964	111.50	11.57	933	83.91	9
	Chandauli	18	62957	5.29	892	81.30	9.11	889	69.09	7.77
	Varanasi	27	70741	5.97	1008	80.87	8.02	1014	69.22	6.83
	Sant Ravidas Nr	24	69011	5.3	742	48.16	6.49	772	45.22	5.86
	Mirzapur	39	118491	6.19	807	53.70	6.65	822	49.85	6.06
	Sonbhadra	30	120657	4.09	860	68.11	7.92	841	61.15	7.27

Source: Derived from 68th Round NSSO Unit Level Data

Tab 11A: Analysis Table for All Districts

District (Direct)	MPCE	Rank	CV	District (SAE)	MPCE	Rank	CV
Chitrakoot	562	Low	24.02	Pratapgarh	643	Low	4.35
Pratapgarh	633	Low	4.52	Chitrakoot	691	Low	14.11
Firozabad	671	Low	8.9	Shahjahanpur	699	Low	4.68
Shahjahanpur	679	Low	4.97	Kaushambi	734	Low	6.93
Kaushambi	701	Low	7.76	Firozabad	736	Low	7.4
Banda	711	Low	8.82	Banda	738	Low	7.65
Gonda	720	Low	8.84	Gonda	747	Low	7.67
Mainpuri	736	Medium	7.28	Sant Kabir Nr	755	Low	7.29
Sant Ravidas Nr	742	Medium	6.49	Mainpuri	761	Low	6.54
Basti	751	Medium	8	Basti	761	Low	7.2
Sant Kabir Nr	752	Medium	8.02	Sant Ravidas Nr	772	Low	5.86
Bahraich	767	Medium	10.38	Bahraich	781	Medium	8.76
Kanpur Dehat	784	Medium	15.05	Mahrajganj	805	Medium	8.56
Fatehpur	795	Medium	8.79	Fatehpur	806	Medium	7.63
Mahoba	807	Medium	13.91	Rae Bareli	811	Medium	4.49
Mirzapur	807	Medium	6.65	Unnao	820	Medium	8.71
Kashiramnagar	808	Medium	9.97	Mirzapur	822	Medium	6.06
Rae Bareli	812	Medium	4.65	Shrawasti	823	Medium	8.28
Shrawasti	813	Medium	9.54	Kushinagar	824	Medium	8.48
Unnao	817	Medium	10.2	Kashiramnagar	828	Medium	8.35
Mahrajganj	832	Medium	9.53	Mahoba	836	Medium	10.07

District (Direct)	MPCE	Rank	CV	District (SAE)	MPCE	Rank	CV
Kushinagar	841	Medium	9.62	Sonbhadra	841	Medium	7.27
Jaunpur	844	Medium	6.34	Jaunpur	846	Medium	5.85
Faizabad	851	Medium	6.79	Faizabad	849	Medium	6.23
Balrampur	854	Medium	2.53	Balrampur	854	Medium	2.51
Sonbhadra	860	Medium	7.92	Siddharthnagar	858	Medium	13.57
Barabanki	869	Medium	11.91	Azamgarh	868	Medium	6.97
Ballia	870	Medium	9.04	Sultanpur	872	Medium	8.27
Azamgarh	876	Medium	7.81	Kanpur Dehat	873	Medium	10.21
Bijnor	877	Medium	4.64	Barabanki	874	Medium	9.22
Etawah	878	Medium	13.92	Etawah	879	Medium	10.03
Kheri	881	Medium	10.67	Ballia	882	Medium	7.71
Allahabad	883	Medium	7.76	Allahabad	887	Medium	6.82
Sultanpur	885	Medium	9.81	Chandauli	889	Medium	7.77
Sitapur	891	Medium	7.69	Sitapur	890	Medium	6.89
Chandauli	892	Medium	9.11	Bijnor	892	Medium	4.37
Gorakhpur	895	Medium	6.01	Kheri	892	Medium	8.55
Farrukhabad	900	Medium	6.99	Budaun	899	Medium	8.67
Budaun	902	Medium	10.46	Gorakhpur	902	Medium	5.58
Lucknow	908	Medium	14	Deoria	905	Medium	11.44
Auraiya	926	Medium	8.57	Hamirpur	919	Medium	6.45
Hamirpur	941	Medium	7.08	Ambedkar Nr	931	Medium	7.37
Kannauj	961	Medium	30.1	Auraiya	932	Medium	7.43
Baghpat	964	Medium	23.27	Ghazipur	933	Medium	9
Ghazipur	964	Medium	11.57	Farrukhabad	934	Medium	6.18
Pilibhit	971	Medium	3.04	Jalaun	937	Medium	11.11
Ambedkar Nr	974	Medium	8.3	Lalitpur	952	Medium	8.77
Agra	984	Medium	4.15	Lucknow	959	Medium	10.1
Siddharthnagar	991	Medium	22.01	Jhansi	967	Medium	6.12
Mathura	1000	Medium	6.74	Pilibhit	969	Medium	2.97
Jalaun	1001	Medium	16.15	Mathura	984	Medium	6.08
Jhansi	1007	Medium	6.56	Agra	985	Medium	3.96
Varanasi	1008	Medium	8.02	Rampur	990	Medium	10.13
Bareilly	1009	Medium	6.52	Jyotiba Phule Nr	992	Medium	9.18
Bulandshahar	1015	Medium	6.27	Kannauj	994	Medium	11.82
Deoria	1030	Medium	17.01	Bareilly	1004	Medium	5.88
Mau	1036	Medium	4.44	Hardoi	1008	Medium	7.71
Aligarh	1045	Medium	6.69	Mau	1013	Medium	4.29
Lalitpur	1059	Medium	9.73	Bulandshahar	1014	Medium	5.66
Rampur	1063	Medium	15.18	Varanasi	1014	Medium	6.83
Jyotiba Phule Nr	1063	Medium	12.14	Etah	1016	Medium	10.65
Moradabad	1078	Medium	5.85	Kanpur Nr	1023	Medium	10.18
Hardoi	1099	Medium	8.58	Aligarh	1028	Medium	5.99
Etah	1194	High	16.61	Moradabad	1056	High	5.39

District (Direct)	MPCE	Rank	CV	District (SAE)	MPCE	Rank	CV
Kanpur Nr	1197	High	15.22	Baghpat	1061	High	10.93
Hathras	1224	High	3.36	Gautam Buddha Nr	1158	High	9.22
Ghaziabad	1280	High	9.49	Hathras	1195	High	3.28
Gautam Buddha Nr	1362	High	13.47	Ghaziabad	1199	High	7.6
Saharanpur	1400	High	10.52	Meerut	1208	High	10.69
Muzaffarnagar	1419	High	10.9	Saharanpur	1214	High	8.23
Meerut	1883	High	20.22	Muzaffarnagar	1252	High	8.41

Source: Computed at GIDS

Tab 11B: Analysis Table by Region-wise

District (Direct) (Western)	MPCE	Rank	CV	District (SAE)	MPCE	Rank	CV
Firozabad	671	Low	8.9	Shahjahanpur	699	Low	4.68
Shahjahanpur	679	Low	4.97	Firozabad	736	Low	7.4
Mainpuri	736	Low	7.28	Mainpuri	761	Low	6.54
Kashiramnagar	808	Medium	9.97	Kashiramnagar	828	Low	8.35
Bijnor	877	Medium	4.64	Etawah	879	Medium	10.03
Etawah	878	Medium	13.92	Bijnor	892	Medium	4.37
Farrukhabad	900	Medium	6.99	Budaun	899	Medium	8.67
Budaun	902	Medium	10.46	Auraiya	932	Medium	7.43
Auraiya	926	Medium	8.57	Farrukhabad	934	Medium	6.18
Kannauj	961	Medium	30.1	Pilibhit	969	Medium	2.97
Baghpat	964	Medium	23.27	Mathura	984	Medium	6.08
Pilibhit	971	Medium	3.04	Agra	985	Medium	3.96
Agra	984	Medium	4.15	Rampur	990	Medium	10.13
Mathura	1000	Medium	6.74	Jyotiba Phule Nr	992	Medium	9.18
Bareilly	1009	Medium	6.52	Kannauj	994	Medium	11.82
Bulandshahar	1015	Medium	6.27	Bareilly	1004	Medium	5.88
Aligarh	1045	Medium	6.69	Bulandshahar	1014	Medium	5.66
Rampur	1063	Medium	15.18	Etah	1016	Medium	10.65
Jyotiba Phule Nr	1063	Medium	12.14	Aligarh	1028	Medium	5.99
Moradabad	1078	Medium	5.85	Moradabad	1056	Medium	5.39
Etah	1194	Medium	16.61	Baghpat	1061	Medium	10.93
Hathras	1224	Medium	3.36	Gautam Buddha Nr	1158	High	9.22
Ghaziabad	1280	Medium	9.49	Hathras	1195	High	3.28
Gautam Buddha Nr	1362	High	13.47	Ghaziabad	1199	High	7.6
Saharanpur	1400	High	10.52	Meerut	1208	High	10.69
Muzaffarnagar	1419	High	10.9	Saharanpur	1214	High	8.23
Meerut	1883	High	20.22	Muzaffarnagar	1252	High	8.41
District (Central)	MPCE	Rank	CV	District	MPCE	Rank	CV
Kanpur Dehat	784	Medium	15.05	Fatehpur	806	Low	7.63
Fatehpur	795	Medium	8.79	Rae Bareli	811	Low	4.49
Rae Bareli	812	Medium	4.65	Unnao	820	Medium	8.71
Unnao	817	Medium	10.2	Kanpur Dehat	873	Medium	10.21

District (Direct) (Western)	MPCE	Rank	CV	District (SAE)	MPCE	Rank	CV
Kheri	881	Medium	10.67	Sitapur	890	Medium	6.89
Sitapur	891	Medium	7.69	Kheri	892	Medium	8.55
Lucknow	908	Medium	14	Lucknow	959	Medium	10.1
Hardoi	1099	High	8.58	Hardoi	1008	High	7.71
Kanpur Nr	1197	High	15.22	Kanpur Nr	1023	High	10.18
District (Southern)	MPCE	Rank	CV	District	MPCE	Rank	CV
Chitrakoot	562	Low	24.02	Chitrakoot	691	Low	14.11
Banda	711	Medium	8.82	Banda	738	Low	7.65
Mahoba	807	Medium	13.91	Mahoba	836	Medium	10.07
Hamirpur	941	Medium	7.08	Hamirpur	919	Medium	6.45
Jalaun	1001	Medium	16.15	Jalaun	937	Medium	11.11
Jhansi	1007	Medium	6.56	Lalitpur	952	Medium	8.77
Lalitpur	1059	High	9.73	Jhansi	967	Medium	6.12
District (Eastern)	MPCE	Rank	CV	District	MPCE	Rank	CV
Pratapgarh	633	Low	4.52	Pratapgarh	643	Low	4.35
Kaushambi	701	Low	7.76	Kaushambi	734	Low	6.93
Gonda	720	Low	8.84	Gonda	747	Low	7.67
Sant Ravidas Nr	742	Low	6.49	Sant Kabir Nr	755	Low	7.29
Basti	751	Low	8	Basti	761	Low	7.2
Sant Kabir Nr	752	Low	8.02	Sant Ravidas Nr	772	Medium	5.86
Bahraich	767	Medium	10.38	Bahraich	781	Medium	8.76
Mirzapur	807	Medium	6.65	Mahrajganj	805	Medium	8.56
Shrawasti	813	Medium	9.54	Mirzapur	822	Medium	6.06
Mahrajganj	832	Medium	9.53	Shrawasti	823	Medium	8.28
Kushinagar	841	Medium	9.62	Kushinagar	824	Medium	8.48
Jaunpur	844	Medium	6.34	Sonbhadra	841	Medium	7.27
Faizabad	851	Medium	6.79	Jaunpur	846	Medium	5.85
Balrampur	854	Medium	2.53	Faizabad	849	Medium	6.23
Sonbhadra	860	Medium	7.92	Balrampur	854	Medium	2.51
Barabanki	869	Medium	11.91	Siddharthnagar	858	Medium	13.57
Ballia	870	Medium	9.04	Azamgarh	868	Medium	6.97
Azamgarh	876	Medium	7.81	Sultanpur	872	Medium	8.27
Allahabad	883	Medium	7.76	Barabanki	874	Medium	9.22
Sultanpur	885	Medium	9.81	Ballia	882	Medium	7.71
Chandauli	892	Medium	9.11	Allahabad	887	Medium	6.82
Gorakhpur	895	Medium	6.01	Chandauli	889	Medium	7.77
Ghazipur	964	High	11.57	Gorakhpur	902	Medium	5.58
Ambedkar Nr	974	High	8.3	Deoria	905	Medium	11.44
Siddharthnagar	991	High	22.01	Ambedkar Nr	931	High	7.37
Varanasi	1008	High	8.02	Ghazipur	933	High	9
Deoria	1030	High	17.01	Mau	1013	High	4.29
Mau	1036	High	4.44	Varanasi	1014	High	6.83

Source: Computed at GIDS

The above data in table 11A shows that district wise direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of Monthly per capita consumer expenditure in Rupees (MPCE) for rural areas SC category in the state of Uttar Pradesh in 2011-12.

As per direct estimates the number of districts fallen in the low level category is 7, namely Chitrakoot, Pratapgarh, Firozabad, Shahjahanpur, Kaushambi, Banda, and Gonda respectively. Their level of MPCE represents the range of Rs. 562 to 720, whereas their percentage coefficient of variation levels shows that 4.52% to 24.02%.

On the other hand as per model based small area estimates the number of districts fallen in the low level category is 11, namely Pratapgarh, Chitrakoot, Shahjahanpur, Kaushambi, Firozabad, Banda, Gonda, Sant Kabir Nagar, Mainpuri, Basti and Sant Ravidas Nagar respectively. Their level of MPCE represents the range of Rs. 643 to 772, whereas their percentage coefficient of variation levels shows that 4.35% to 14.11%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

As per direct estimates the number of districts fallen in the Medium level category is 56. Their level of MPCE represents the range of Rs. 736 to 1099, whereas their percentage coefficient of variation levels shows that 3.04% to 30.1%.

On the other hand as per model based small area estimates the number of districts fallen in the medium level category is 52. Their level of MPCE represents the range of Rs. 805 to 1028, whereas their percentage coefficient of variation levels shows that 2.51% to 13.57%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

As per direct estimates the number of districts fallen in the high level category is 8, namely Etah, Kanpur Nagar, Hathras, Ghaziabad, G.B.Nagar, Sshaharanpur, MuzaffarNagar, and Meerut. Their level of MPCE represents the range of Rs. 1194 to 1883, whereas their percentage coefficient of variation levels shows that 3.36% to 20.22%.

On the other hand as per model based small area estimates the number of districts fallen in the high level category is 8, namely Moradabad, Baghpat, G.B.Nagar, Hathrus, Ghaziabad, Meerut, Saharanpur, Muzaffar Ngar respectively. Their level of MPCE represents the range

of Rs. 1056 to 1252, whereas their percentage coefficient of variation levels shows that 3.28% to 10.93%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

The above data in table 11B shows that Region-wise districts (4 regions) direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of Monthly per capita consumer expenditure in Rupees (MPCE) for rural areas in the state of Uttar Pradesh in 2011-12. As mentioned above as per direct estimate and model based small area estimate based MPCE has been categorised into 3 levels i.e. low, medium and high.

As per direct estimates the Western region number of districts fallen in the low level category is 3, Medium – 20, and High – 4; Central region number of districts fallen in the category Medium – 7, and High – 2; Bundelkhand region number of districts fallen in the low category – 1, Medium – 5 and High -1; and Eastern region number of districts fallen in the low level category – 6, Medium – 16 and High – 6.

On the other hand as per model based small area estimates the Western region number of districts fallen in the low level category is 4, Medium – 17, and High – 6; Central region number of districts fallen in the low category – 2, Medium – 5, and High – 2; Bundelkhand region- number of districts fallen in the low category – 2 and Medium – 5; and Eastern region number of districts fallen in the low level category – 5, Medium – 19 and High – 4.

However, the direct estimates compared with model based small area estimates indicate that the MPCE variations are high in Western region and CV variations are higher in Western region only Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

Table 12: District-wise sample size, sample count of poor household (Sample Count), direct estimates (Direct) and model-based small area estimates (SAE) along with their standard error (SE) and percentage coefficient of variations (CV) for poverty incidence for rural SG 2 Schedule Caste areas in the state of Uttar Pradesh in 2011-12.

Region	District	Sample Size	Sample Count	Direct			Model Based SAE		
				Poverty Incidence	SE	CV	Poverty Incidence	SE	CV
Western	Saharanpur	28	2	0.031	0.03	84.12	0.076	0.05	60.30
	Muzaffarnagar	29	0	0			0.052	0.04	68.53
	Bijnor	29	8	0.235	0.09	39.32	0.21	0.08	37.98
	Moradabad	16	3	0.09	0.06	63.25	0.145	0.07	47.83
	Rampur	18	5	0.295	0.14	47.59	0.294	0.10	32.46
	Jyotiba Phule Nr	12	1	0.113	0.11	98.03	0.188	0.09	45.91
	Meerut	19	0	0			0.061	0.04	67.59
	Baghpat	4	1	0.382	0.29	74.61	0.249	0.12	46.87
	Ghaziabad	7	0	0			0.084	0.06	65.64
	Gautam Buddha Nr	5	1	0.116	0.12	100.61	0.137	0.08	55.30
	Bulandshahar	23	3	0.18	0.10	54.66	0.178	0.07	40.16
	Aligarh	41	7	0.127	0.06	48.98	0.165	0.07	42.81
	Hathras	19	0	0			0.121	0.06	50.88
	Mathura	18	3	0.181	0.10	57.39	0.21	0.08	37.40
	Agra	24	3	0.08	0.05	67.78	0.128	0.06	47.59
	Firozabad	7	3	0.83	0.14	16.29	0.561	0.13	23.77
	Etah	13	1	0.202	0.17	86.40	0.25	0.10	38.39
	Mainpuri	13	7	0.756	0.15	19.63	0.611	0.12	18.92
	Budaun	16	3	0.257	0.19	74.68	0.311	0.11	36.16
	Bareilly	24	2	0.054	0.05	89.39	0.135	0.07	48.63
	Pilibhit	7	1	0.023	0.03	122.98	0.17	0.09	52.42
	Shahjahanpur	22	12	0.807	0.12	15.25	0.613	0.11	17.75
	Farrukhabad	18	3	0.214	0.15	71.25	0.161	0.08	50.80
	Kannauj	10	4	0.491	0.24	49.21	0.343	0.12	35.60
Etawah	14	2	0.285	0.21	74.35	0.298	0.10	35.18	
Auraiya	22	8	0.3	0.12	40.14	0.292	0.10	33.19	
Kashiramnagar	6	3	0.578	0.23	39.33	0.513	0.12	23.37	
Central	Kheri	47	14	0.364	0.12	33.84	0.371	0.09	25.07
	Sitapur	52	23	0.402	0.10	25.15	0.385	0.09	22.55
	Hardoi	27	4	0.101	0.06	59.07	0.216	0.08	38.43
	Unnao	28	15	0.668	0.12	18.49	0.607	0.10	16.02
	Lucknow	9	4	0.537	0.19	35.63	0.408	0.12	28.90
	Rae Bareli	52	21	0.452	0.09	18.92	0.446	0.08	18.23
	Kanpur Dehat	16	5	0.38	0.21	56.01	0.338	0.11	33.18
	Kanpur Nr	9	3	0.071	0.06	82.61	0.186	0.09	47.21
	Fatehpur	33	15	0.47	0.12	24.94	0.464	0.09	20.04
Southern	Jalaun	13	1	0.158	0.14	89.95	0.195	0.08	42.29
	Jhansi	22	3	0.119	0.08	65.09	0.2	0.07	37.35
	Lalitpur	7	2	0.254	0.18	71.15	0.361	0.12	33.17

Region	District	Sample Size	Sample Count	Direct			Model Based SAE		
				Poverty Incidence	SE	CV	Poverty Incidence	SE	CV
	Hamirpur	9	3	0.197	0.15	78.49	0.255	0.10	38.44
	Banda	21	10	0.576	0.15	25.41	0.539	0.10	19.34
	Chitrakoot	10	4	0.506	0.25	48.93	0.546	0.13	23.00
	Mahoba	12	2	0.496	0.27	53.83	0.427	0.12	28.06
Eastern	Mahrajganj	22	13	0.52	0.15	28.63	0.505	0.10	20.67
	Pratapgarh	31	22	0.859	0.07	7.69	0.721	0.09	12.40
	Kaushambi	26	17	0.633	0.12	18.75	0.563	0.10	17.05
	Allahabad	35	13	0.421	0.14	33.84	0.396	0.10	24.66
	Barabanki	22	8	0.485	0.17	35.75	0.438	0.11	24.81
	Faizabad	15	5	0.291	0.14	47.52	0.347	0.10	28.95
	Ambedkar Nr	37	16	0.36	0.10	27.03	0.363	0.08	23.36
	Sultanpur	39	15	0.292	0.09	32.20	0.327	0.08	25.18
	Bahraich	19	6	0.576	0.16	27.40	0.527	0.11	20.47
	Shrawasti	10	4	0.548	0.19	35.04	0.473	0.12	25.04
	Balrampur	5	1	0.052	0.06	122.99	0.181	0.10	54.33
	Gonda	17	8	0.72	0.12	16.14	0.644	0.10	15.81
	Siddharthnagar	14	5	0.249	0.13	53.08	0.293	0.10	33.49
	Basti	27	17	0.697	0.12	17.33	0.631	0.10	15.31
	Sant Kabir Nr	25	14	0.572	0.12	21.65	0.572	0.09	16.48
	Gorakhpur	35	10	0.292	0.11	37.06	0.27	0.09	31.51
	Kushinagar	19	8	0.32	0.14	43.57	0.341	0.10	29.22
	Deoria	13	4	0.383	0.17	44.03	0.378	0.10	27.40
	Azamgarh	42	17	0.335	0.10	28.65	0.365	0.09	24.41
	Mau	26	3	0.035	0.02	61.94	0.145	0.06	41.72
	Ballia	26	11	0.344	0.13	37.57	0.332	0.10	29.62
	Jaunpur	33	12	0.313	0.10	31.85	0.326	0.09	26.46
	Ghazipur	44	14	0.392	0.10	26.74	0.376	0.09	23.86
	Chandauli	18	9	0.49	0.15	30.72	0.455	0.10	22.52
	Varanasi	27	9	0.25	0.11	43.03	0.215	0.08	38.24
	Sant Ravidas Nr	24	13	0.66	0.12	18.80	0.531	0.10	19.72
	Mirzapur	39	13	0.369	0.09	24.90	0.351	0.08	23.34
Sonbhadra	30	11	0.422	0.12	28.65	0.442	0.09	21.21	

Source: Derived from 68th Round NSSO Unit Level Data

Tab 12A: Analysis Table for All Districts

District (Direct)	Poverty Incidence	Rank	CV	District (SAE)	Poverty Incidence	Rank	CV
Muzaffarnagar	0	Low		Muzaffarnagar	0.052	Low	68.53
Meerut	0	Low		Meerut	0.061	Low	67.59
Ghaziabad	0	Low		Saharanpur	0.076	Low	60.3
Hathras	0	Low		Ghaziabad	0.084	Low	65.64
Pilibhit	0.023	Low	122.98	Hathras	0.121	Low	50.88
Saharanpur	0.031	Low	84.12	Agra	0.128	Low	47.59
Mau	0.035	Low	61.94	Bareilly	0.135	Low	48.63
Balrampur	0.052	Low	122.99	Gautam Buddha Nr	0.137	Low	55.3
Bareilly	0.054	Low	89.39	Moradabad	0.145	Low	47.83
Kanpur Nr	0.071	Low	82.61	Mau	0.145	Low	41.72
Agra	0.08	Low	67.78	Farrukhabad	0.161	Low	50.8
Moradabad	0.09	Low	63.25	Aligarh	0.165	Low	42.81
Hardoi	0.101	Low	59.07	Pilibhit	0.17	Low	52.42
Jyotiba Phule Nr	0.113	Low	98.03	Bulandshahar	0.178	Medium	40.16
Gautam Buddha Nr	0.116	Low	100.61	Balrampur	0.181	Medium	54.33
Jhansi	0.119	Medium	65.09	Kanpur Nr	0.186	Medium	47.21
Aligarh	0.127	Medium	48.98	Jyotiba Phule Nr	0.188	Medium	45.91
Jalaun	0.158	Medium	89.95	Jalaun	0.195	Medium	42.29
Bulandshahar	0.18	Medium	54.66	Jhansi	0.2	Medium	37.35
Mathura	0.181	Medium	57.39	Bijnor	0.21	Medium	37.98
Hamirpur	0.197	Medium	78.49	Mathura	0.21	Medium	37.4
Etah	0.202	Medium	86.4	Varanasi	0.215	Medium	38.24
Farrukhabad	0.214	Medium	71.25	Hardoi	0.216	Medium	38.43
Bijnor	0.235	Medium	39.32	Baghpat	0.249	Medium	46.87
Siddharthnagar	0.249	Medium	53.08	Etah	0.25	Medium	38.39
Varanasi	0.25	Medium	43.03	Hamirpur	0.255	Medium	38.44
Lalitpur	0.254	Medium	71.15	Gorakhpur	0.27	Medium	31.51
Budaun	0.257	Medium	74.68	Auraiya	0.292	Medium	33.19
Etawah	0.285	Medium	74.35	Siddharthnagar	0.293	Medium	33.49
Faizabad	0.291	Medium	47.52	Rampur	0.294	Medium	32.46
Sultanpur	0.292	Medium	32.2	Etawah	0.298	Medium	35.18
Gorakhpur	0.292	Medium	37.06	Budaun	0.311	Medium	36.16
Rampur	0.295	Medium	47.59	Jaunpur	0.326	Medium	26.46
Auraiya	0.3	Medium	40.14	Sultanpur	0.327	Medium	25.18
Jaunpur	0.313	Medium	31.85	Ballia	0.332	Medium	29.62
Kushinagar	0.32	Medium	43.57	Kanpur Dehat	0.338	Medium	33.18
Azamgarh	0.335	Medium	28.65	Kushinagar	0.341	Medium	29.22
Ballia	0.344	Medium	37.57	Kannauj	0.343	Medium	35.6
Ambedkar Nr	0.36	Medium	27.03	Faizabad	0.347	Medium	28.95
Kheri	0.364	Medium	33.84	Mirzapur	0.351	Medium	23.34
Mirzapur	0.369	Medium	24.9	Lalitpur	0.361	Medium	33.17

District (Direct)	Poverty Incidence	Rank	CV	District (SAE)	Poverty Incidence	Rank	CV
Kanpur Dehat	0.38	Medium	56.01	Ambedkar Nr	0.363	Medium	23.36
Baghpat	0.382	Medium	74.61	Azamgarh	0.365	Medium	24.41
Deoria	0.383	Medium	44.03	Kheri	0.371	Medium	25.07
Ghazipur	0.392	Medium	26.74	Ghazipur	0.376	Medium	23.86
Sitapur	0.402	Medium	25.15	Deoria	0.378	Medium	27.4
Allahabad	0.421	Medium	33.84	Sitapur	0.385	Medium	22.55
Sonbhadra	0.422	Medium	28.65	Allahabad	0.396	Medium	24.66
Rae Bareli	0.452	Medium	18.92	Lucknow	0.408	Medium	28.9
Fatehpur	0.47	Medium	24.94	Mahoba	0.427	Medium	28.06
Barabanki	0.485	Medium	35.75	Barabanki	0.438	Medium	24.81
Chandauli	0.49	Medium	30.72	Sonbhadra	0.442	Medium	21.21
Kannauj	0.491	Medium	49.21	Rae Bareli	0.446	Medium	18.23
Mahoba	0.496	Medium	53.83	Chandauli	0.455	Medium	22.52
Chitrakoot	0.506	Medium	48.93	Fatehpur	0.464	Medium	20.04
Mahrajganj	0.52	Medium	28.63	Shrawasti	0.473	Medium	25.04
Lucknow	0.537	Medium	35.63	Mahrajganj	0.505	High	20.67
Shrawasti	0.548	Medium	35.04	Kashiramnagar	0.513	High	23.37
Sant Kabir Nr	0.572	High	21.65	Bahraich	0.527	High	20.47
Banda	0.576	High	25.41	Sant Ravidas Nr	0.531	High	19.72
Bahraich	0.576	High	27.4	Banda	0.539	High	19.34
Kashiramnagar	0.578	High	39.33	Chitrakoot	0.546	High	23
Kaushambi	0.633	High	18.75	Firozabad	0.561	High	23.77
Sant Ravidas Nr	0.66	High	18.8	Kaushambi	0.563	High	17.05
Unnao	0.668	High	18.49	Sant Kabir Nr	0.572	High	16.48
Basti	0.697	High	17.33	Unnao	0.607	High	16.02
Gonda	0.72	High	16.14	Mainpuri	0.611	High	18.92
Mainpuri	0.756	High	19.63	Shahjahanpur	0.613	High	17.75
Shahjahanpur	0.807	High	15.25	Basti	0.631	High	15.31
Firozabad	0.83	High	16.29	Gonda	0.644	High	15.81
Pratapgarh	0.859	High	7.69	Pratapgarh	0.721	High	12.4

Source: Computed at GIDS

Tab 12B: Analysis Table by Region-wise

District (Direct)/ (Western)	Poverty Incidence		CV	District (SAE)	Poverty Incidence		CV
Muzaffarnagar	0			Muzaffarnagar	0.052	Low	68.53
Meerut	0			Meerut	0.061	Low	67.59
Ghaziabad	0			Saharanpur	0.076	Low	60.3
Hathras	0			Ghaziabad	0.084	Medium	65.64
Pilibhit	0.023	Medium	122.98	Hathras	0.121	Medium	50.88
Saharanpur	0.031	Medium	84.12	Agra	0.128	Medium	47.59
Bareilly	0.054	Medium	89.39	Bareilly	0.135	Medium	48.63
Agra	0.08	Medium	67.78	Gautam Buddha Nr	0.137	Medium	55.3
Moradabad	0.09	Medium	63.25	Moradabad	0.145	Medium	47.83
Jyotiba Phule Nr	0.113	Medium	98.03	Farrukhabad	0.161	Medium	50.8
Gautam Buddha Nr	0.116	Medium	100.61	Aligarh	0.165	Medium	42.81
Aligarh	0.127	Medium	48.98	Pilibhit	0.17	Medium	52.42
Bulandshahar	0.18	Medium	54.66	Bulandshahar	0.178	Medium	40.16
Mathura	0.181	Medium	57.39	Jyotiba Phule Nr	0.188	Medium	45.91
Etah	0.202	Medium	86.4	Bijnor	0.21	Medium	37.98
Farrukhabad	0.214	Medium	71.25	Mathura	0.21	Medium	37.4
Bijnor	0.235	Medium	39.32	Baghpat	0.249	Medium	46.87
Budaun	0.257	Medium	74.68	Etah	0.25	Medium	38.39
Etawah	0.285	Medium	74.35	Auraiya	0.292	Medium	33.19
Rampur	0.295	Medium	47.59	Rampur	0.294	Medium	32.46
Auraiya	0.3	Medium	40.14	Etawah	0.298	Medium	35.18
Baghpat	0.382	Medium	74.61	Budaun	0.311	Medium	36.16
Kannauj	0.491	Medium	49.21	Kannauj	0.343	Medium	35.6
Kashiramnagar	0.578	High	39.33	Kashiramnagar	0.513	High	23.37
Mainpuri	0.756	High	19.63	Firozabad	0.561	High	23.77
Shahjahanpur	0.807	High	15.25	Mainpuri	0.611	High	18.92
Firozabad	0.83	High	16.29	Shahjahanpur	0.613	High	17.75
District (Central)	Poverty Incidence		CV	District	Poverty Incidence		CV
Kanpur Nr	0.071	Low	82.61	Kanpur Nr	0.186	Low	47.21
Hardoi	0.101	Low	59.07	Hardoi	0.216	Low	38.43
Kheri	0.364	Medium	33.84	Kanpur Dehat	0.338	Medium	33.18
Kanpur Dehat	0.38	Medium	56.01	Kheri	0.371	Medium	25.07
Sitapur	0.402	Medium	25.15	Sitapur	0.385	Medium	22.55
Rae Bareli	0.452	Medium	18.92	Lucknow	0.408	Medium	28.9
Fatehpur	0.47	Medium	24.94	Rae Bareli	0.446	Medium	18.23
Lucknow	0.537	Medium	35.63	Fatehpur	0.464	Medium	20.04
Unnao	0.668	High	18.49	Unnao	0.607	High	16.02
District (Southern)	Poverty Incidence		CV	District	Poverty Incidence		CV
Jhansi	0.119	Low	65.09	Jalaun	0.195		42.29
Jalaun	0.158	Medium	89.95	Jhansi	0.2	Low	37.35

District (Direct)/ (Western)	Poverty Incidence		CV	District (SAE)	Poverty Incidence		CV
Hamirpur	0.197	Medium	78.49	Hamirpur	0.255	Medium	38.44
Lalitpur	0.254	Medium	71.15	Lalitpur	0.361	Medium	33.17
Mahoba	0.496	Medium	53.83	Mahoba	0.427	Medium	28.06
Chitrakoot	0.506	Medium	48.93	Banda	0.539	High	19.34
Banda	0.576	High	25.41	Chitrakoot	0.546	High	23
District (Eastern)	Poverty Incidence		CV	District	Poverty Incidence		CV
Mau	0.035	Low	61.94	Mau	0.145	Low	41.72
Balrampur	0.052	Low	122.99	Balrampur	0.181	Low	54.33
Siddharthnagar	0.249	Medium	53.08	Varanasi	0.215	Low	38.24
Varanasi	0.25	Medium	43.03	Gorakhpur	0.27	Low	31.51
Faizabad	0.291	Medium	47.52	Siddharthnagar	0.293	Medium	33.49
Sultanpur	0.292	Medium	32.2	Jaunpur	0.326	Medium	26.46
Gorakhpur	0.292	Medium	37.06	Sultanpur	0.327	Medium	25.18
Jaunpur	0.313	Medium	31.85	Ballia	0.332	Medium	29.62
Kushinagar	0.32	Medium	43.57	Kushinagar	0.341	Medium	29.22
Azamgarh	0.335	Medium	28.65	Faizabad	0.347	Medium	28.95
Ballia	0.344	Medium	37.57	Mirzapur	0.351	Medium	23.34
Ambedkar Nr	0.36	Medium	27.03	Ambedkar Nr	0.363	Medium	23.36
Mirzapur	0.369	Medium	24.9	Azamgarh	0.365	Medium	24.41
Deoria	0.383	Medium	44.03	Ghazipur	0.376	Medium	23.86
Ghazipur	0.392	Medium	26.74	Deoria	0.378	Medium	27.4
Allahabad	0.421	Medium	33.84	Allahabad	0.396	Medium	24.66
Sonbhadra	0.422	Medium	28.65	Barabanki	0.438	Medium	24.81
Barabanki	0.485	Medium	35.75	Sonbhadra	0.442	Medium	21.21
Chandauli	0.49	Medium	30.72	Chandauli	0.455	Medium	22.52
Mahrajganj	0.52	Medium	28.63	Shrawasti	0.473	Medium	25.04
Shrawasti	0.548	Medium	35.04	Mahrajganj	0.505	Medium	20.67
Sant Kabir Nr	0.572	Medium	21.65	Bahraich	0.527	Medium	20.47
Bahraich	0.576	Medium	27.4	Sant Ravidas Nr	0.531	Medium	19.72
Kaushambi	0.633	High	18.75	Kaushambi	0.563	High	17.05
Sant Ravidas Nr	0.66	High	18.8	Sant Kabir Nr	0.572	High	16.48
Basti	0.697	High	17.33	Basti	0.631	High	15.31
Gonda	0.72	High	16.14	Gonda	0.644	High	15.81
Pratapgarh	0.859	High	7.69	Pratapgarh	0.721	High	12.4

Source: Computed at GIDS

The above data in table 12A shows that district wise direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of Incidence of Poverty proportions for rural SC category in the state of Uttar Pradesh in 2011-12.

As per direct estimates the Incidence of Poverty proportions the number of districts fallen in the low level category is 15, namely MuzaffarNagar, Meerut, Ghaziabad, Hathras, Pilibhit,

Saharnapur, Mau, Balrampur, Bareilly, Kanpur Nagar, Agra, Moradabad, Hardoi, Jyotibha Phule Nagar and Gautam Budha Nagar respectively. Their level of Incidence of Poverty proportions represents the range of 0.023 to 0.116, whereas their percentage coefficient of variation levels shows that 59.07% to 122.99%.

On the other hand as per model based small area estimates the Incidence of Poverty proportions the number of districts fallen in the low level category is 13, namely Muzaffar Nagar, Meerut, Shaharnapur, Ghaziabad, Hathras, Agra, Bareilly, G.B. Nagar, Moradabad, Mau, Farrukhabad, Aligarh, and Pilibhit respectively. Their level of incidence of poverty proportions represents the range of 0.052 to 0.17, whereas their percentage coefficient of variation levels shows that 41.72% to 68.53%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

As per direct estimates the number of districts fallen in the Medium level category is 43. Their level of incidence of poverty proportions represents the range of 0.119 to 0.548, whereas their percentage coefficient of variation levels shows that 18.92% to 89.95%.

On the other hand as per model based small area estimates the number of districts fallen in the medium level category is 43. Their level of incidence of poverty proportions represents the range of 0.178 to 0.473, whereas their percentage coefficient of variation levels shows that 18.23% to 54.33%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

As per direct estimates the number of districts fallen in the high level category is 13, namely Sant Kabir Nagar, Banda, Bahraich, Kanshiram Nagar, Kaushambi, Sant Ravidas Nagar, Unnao, Basti, Gonda, Mainpuri, Shahjahanpur, Firozabad, Pratapgarh respectively. Their level of incidence of poverty proportions represents the range of 0.572 to 0.859, whereas their percentage coefficient of variation levels shows that 7.69% to 39.33%.

On the other hand as per model based small area estimates the number of districts fallen in the high level category is 15, namely Maharajganj, Kanshiram Nagar, Bahraich, Sant Ravidas Nagar, Banda, Chitra Koot, Firozabad, Kaushambi, Sant Kabir Nagar, Unno, Mainpuri, Shahjahanpur, Basti, Gonda and Pratapgarh respectively. Their level of incidence of

poverty proportions represents the range of 0.505 to 0.721, whereas their percentage coefficient of variation levels shows that 12.4% to 23.77%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

The above data in table 12B shows that Region-wise districts (4 regions) direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of incidence of poverty proportions for rural areas in the state of Uttar Pradesh in 2011-12.

As per direct estimates the incidence of poverty proportions in Western region number of districts fallen in the category Medium – 19, and High – 4; Central region number of districts fallen in the low category – 2, Medium – 6, and High – 1; Bundelkhand region number of districts fallen in the Low – 1, Medium – 5, and High - 1; and Eastern region number of districts fallen in the low level category – 2, Medium – 21 and High – 5.

On the other hand as per model based small area estimates the incidence of poverty proportions in Western region number of districts fallen in the low level category is 3, Medium – 20, and High – 4; Central region number of districts fallen in the low category – 2, Medium – 6, and High – 1; Bundelkhand region number of districts fallen in the low category – 2, Medium – 3 and High - 2; and Eastern region number of districts fallen in the low level category – 4, Medium – 19 and High – 5.

However, the direct estimates compared with model based small area estimates indicate that the incidence of poverty proportions in rural SC category the variations are high in Western region and CV variations are higher in Eastern region also. Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

Table 13: District-wise sample size, estimated number of household (est. HH), average household size (HHS), direct estimates (Direct) and model-based small area estimates (SAE) along with their standard error (SE) and percentage coefficient of variations (CV) of monthly per capita consumer and expenditure in Rupees (MPCE) for rural SG 3 Other Backward Class areas in the state of Uttar Pradesh in 2011-12.

Region	District	Sample Size	est. HH	HHS	Direct			Model Based SAE		
					MPCE	SE	CV	MPCE	SE	CV
Western	Saharanpur	48	263685	6.6	1350	128.70	9.53	1284	100.68	7.84
	Muzaffarnagar	72	284542	5.9	1347	110.22	8.18	1315	90.50	6.88
	Bijnor	42	184095	5.5	1039	90.14	8.68	1070	78.21	7.31
	Moradabad	72	260186	6.3	1041	64.94	6.24	1048	60.20	5.74
	Rampur	35	120360	6.1	1147	110.74	9.65	1116	90.74	8.13
	Jyotiba Phule Nr	36	134513	6.1	953	92.26	9.68	990	78.92	7.97
	Meerut	18	52808	6.2	1644	189.58	11.53	1379	118.91	8.63
	Baghpat	26	141192	7.0	1995	222.91	11.17	1517	129.04	8.51
	Ghaziabad	31	107102	7.2	1265	141.72	11.20	1285	106.02	8.25
	Gautam Buddha Nr	16	77266	5.6	1285	113.67	8.85	1280	92.17	7.20
	Bulandshahar	59	281492	6.1	1276	69.49	5.45	1252	63.36	5.06
	Aligarh	28	219146	6.3	1103	174.53	15.82	1112	113.04	10.16
	Hathras	32	99155	5.4	1650	243.62	14.77	1233	125.93	10.22
	Mathura	14	75319	6.3	898	147.63	16.44	998	104.60	10.48
	Agra	32	164054	6.0	871	67.44	7.74	925	61.75	6.68
	Firozabad	52	231694	6.1	1060	93.43	8.82	1098	79.81	7.27
	Etah	42	213539	4.6	1437	138.28	9.62	1301	103.14	7.93
	Mainpuri	41	174543	5.1	885	54.24	6.13	913	51.56	5.65
	Budaun	70	372688	5.6	949	59.46	6.27	955	56.11	5.87
	Bareilly	60	278248	4.5	1220	70.31	5.76	1201	64.31	5.35
	Pilibhit	42	213979	4.8	984	77.26	7.85	1004	68.91	6.86
	Shahjahanpur	50	219572	4.6	1076	69.88	6.49	1076	63.70	5.92
	Farrukhabad	36	125409	4.6	1393	148.42	10.65	1277	106.24	8.32
Kannauj	38	132531	6.1	976	81.47	8.34	1030	72.48	7.04	
Etawah	36	110887	4.7	1065	65.17	6.12	1063	60.20	5.66	
Auraiya	27	95412	5.1	1115	76.90	6.90	1092	69.11	6.33	
Kashiramnagar	23	140628	3.7	1358	104.90	7.72	1237	86.97	7.03	
Central	Kheri	74	397934	5.0	962	109.82	11.41	966	89.57	9.27
	Sitapur	47	309609	4.6	950	79.63	8.38	940	71.60	7.62
	Hardoi	72	274320	5.9	836	43.64	5.22	843	42.17	5.00
	Unnao	54	260085	5.2	863	62.32	7.22	866	58.18	6.72
	Lucknow	46	185167	5.7	1168	132.69	11.36	1071	103.00	9.62
	Rae Bareli	37	180718	4.6	924	102.21	11.07	909	85.34	9.39
	Kanpur Dehat	38	158253	5.1	1270	76.63	6.03	1220	68.60	5.62
	Kanpur Nr	29	136207	5.2	1141	130.56	11.44	1118	98.95	8.85
	Fatehpur	55	236116	6.2	777	39.13	5.04	790	37.91	4.80
Southern	Jalaun	31	117773	5.7	903	88.33	9.79	916	76.66	8.36
	Jhansi	24	105011	4.8	1065	100.20	9.41	1021	84.07	8.23

Region	District	Sample Size	est. HH	HHS	Direct			Model Based SAE		
					MPCE	SE	CV	MPCE	SE	CV
	Lalitpur	21	140391	5.0	1039	40.88	3.94	1031	39.77	3.86
	Hamirpur	13	61764	7.2	1093	88.63	8.11	1067	76.48	7.16
	Banda	37	125553	5.9	792	67.15	8.48	825	61.41	7.44
	Chitrakoot	15	65612	3.7	1109	220.72	19.90	1008	122.66	12.17
	Mahoba	12	52373	6.0	896	95.44	10.66	918	80.65	8.78
Eastern	Mahrajganj	62	278188	4.8	1044	109.61	10.49	990	90.64	9.15
	Pratapgarh	66	276236	5.7	870	47.87	5.50	882	45.73	5.18
	Kaushambi	30	118128	4.9	780	87.83	11.26	817	78.57	9.62
	Allahabad	51	400044	5.2	1052	71.49	6.80	1049	64.65	6.16
	Barabanki	55	367698	5.0	843	47.46	5.63	854	45.38	5.31
	Faizabad	32	125632	6.3	902	141.51	15.68	940	102.54	10.90
	Ambedkar Nr	40	120796	6.4	1004	81.50	8.12	998	71.95	7.21
	Sultanpur	59	266947	5.8	1223	101.92	8.33	1147	84.53	7.37
	Bahraich	52	275652	5.4	803	44.02	5.48	813	42.55	5.23
	Shrawasti	40	186253	4.4	905	80.81	8.93	894	72.57	8.11
	Balrampur	46	268895	5.3	857	69.72	8.13	867	64.23	7.41
	Gonda	70	340040	5.0	1130	185.08	16.38	1046	116.67	11.15
	Siddharthnagar	54	227011	6.2	1240	447.13	36.07	934	144.54	15.48
	Basti	54	221770	6.1	861	110.52	12.84	899	89.70	9.98
	Sant Kabir Nr	26	97378	4.9	1165	119.92	10.29	1064	94.65	8.90
	Gorakhpur	78	403889	7.2	952	44.82	4.71	956	43.07	4.50
	Kushinagar	86	340974	5.6	1032	60.99	5.91	1023	57.18	5.59
	Deoria	66	274938	5.8	959	89.22	9.31	987	77.55	7.85
	Azamgarh	71	391457	7.1	973	59.90	6.16	974	55.80	5.73
	Mau	36	173587	6.5	962	69.77	7.25	972	63.50	6.53
	Ballia	57	252671	6.1	910	53.80	5.91	936	51.02	5.45
	Jaunpur	70	388938	5.7	1080	86.29	7.99	1066	75.12	7.05
	Ghazipur	68	238490	6.3	1037	43.63	4.21	1040	41.98	4.04
	Chandauli	34	145262	5.0	1186	123.26	10.39	1122	95.77	8.54
	Varanasi	56	210682	5.0	1149	73.55	6.40	1168	66.67	5.71
	Sant Ravidas Nr	28	81784	7.0	749	71.25	9.51	820	64.57	7.88
	Mirzapur	39	154992	5.5	1083	145.38	13.42	1041	105.29	10.12
	Sonbhadra	21	91280	4.5	1027	102.11	9.94	977	86.33	8.83

Source: Derived from 68th Round NSSO Unit Level Data

Tab 13A: Analysis Table for All Districts

District (Direct)	MPCE	Rank	CV	District (SAE)	MPCE	Rank	CV
Sant Ravidas Nr	749	Low	9.51	Fatehpur	790	Low	4.8
Fatehpur	777	Low	5.04	Bahraich	813	Low	5.23
Kaushambi	780	Low	11.26	Kaushambi	817	Low	9.62
Banda	792	Low	8.48	Sant Ravidas Nr	820	Low	7.88
Bahraich	803	Low	5.48	Banda	825	Low	7.44
Hardoi	836	Low	5.22	Hardoi	843	Low	5
Barabanki	843	Low	5.63	Barabanki	854	Low	5.31
Balrampur	857	Medium	8.13	Unnao	866	Low	6.72
Basti	861	Medium	12.84	Balrampur	867	Low	7.41
Unnao	863	Medium	7.22	Pratapgarh	882	Low	5.18
Pratapgarh	870	Medium	5.5	Shrawasti	894	Medium	8.11
Agra	871	Medium	7.74	Basti	899	Medium	9.98
Mainpuri	885	Medium	6.13	Rae Bareli	909	Medium	9.39
Mahoba	896	Medium	10.66	Mainpuri	913	Medium	5.65
Mathura	898	Medium	16.44	Jalaun	916	Medium	8.36
Faizabad	902	Medium	15.68	Mahoba	918	Medium	8.78
Jalaun	903	Medium	9.79	Agra	925	Medium	6.68
Shrawasti	905	Medium	8.93	Siddharthnagar	934	Medium	15.48
Ballia	910	Medium	5.91	Ballia	936	Medium	5.45
Rae Bareli	924	Medium	11.07	Sitapur	940	Medium	7.62
Budaun	949	Medium	6.27	Faizabad	940	Medium	10.9
Sitapur	950	Medium	8.38	Budaun	955	Medium	5.87
Gorakhpur	952	Medium	4.71	Gorakhpur	956	Medium	4.5
Jyotiba Phule Nr	953	Medium	9.68	Kheri	966	Medium	9.27
Deoria	959	Medium	9.31	Mau	972	Medium	6.53
Kheri	962	Medium	11.41	Azamgarh	974	Medium	5.73
Mau	962	Medium	7.25	Sonbhadra	977	Medium	8.83
Azamgarh	973	Medium	6.16	Deoria	987	Medium	7.85
Kannauj	976	Medium	8.34	Jyotiba Phule Nr	990	Medium	7.97
Pilibhit	984	Medium	7.85	Mahrajganj	990	Medium	9.15
Ambedkar Nr	1004	Medium	8.12	Mathura	998	Medium	10.48
Sonbhadra	1027	Medium	9.94	Ambedkar Nr	998	Medium	7.21
Kushinagar	1032	Medium	5.91	Pilibhit	1004	Medium	6.86
Ghazipur	1037	Medium	4.21	Chitrakoot	1008	Medium	12.17
Bijnor	1039	Medium	8.68	Jhansi	1021	Medium	8.23
Lalitpur	1039	Medium	3.94	Kushinagar	1023	Medium	5.59
Moradabad	1041	Medium	6.24	Kannauj	1030	Medium	7.04
Mahrajganj	1044	Medium	10.49	Lalitpur	1031	Medium	3.86
Allahabad	1052	Medium	6.8	Ghazipur	1040	Medium	4.04
Firozabad	1060	Medium	8.82	Mirzapur	1041	Medium	10.12
Etawah	1065	Medium	6.12	Gonda	1046	Medium	11.15
Jhansi	1065	Medium	9.41	Moradabad	1048	Medium	5.74

District (Direct)	MPCE	Rank	CV	District (SAE)	MPCE	Rank	CV
Shahjahanpur	1076	Medium	6.49	Allahabad	1049	Medium	6.16
Jaunpur	1080	Medium	7.99	Etawah	1063	Medium	5.66
Mirzapur	1083	Medium	13.42	Sant Kabir Nr	1064	Medium	8.9
Hamirpur	1093	Medium	8.11	Jaunpur	1066	Medium	7.05
Aligarh	1103	Medium	15.82	Hamirpur	1067	Medium	7.16
Chitrakoot	1109	Medium	19.9	Bijnor	1070	Medium	7.31
Auraiya	1115	Medium	6.9	Lucknow	1071	Medium	9.62
Gonda	1130	Medium	16.38	Shahjahanpur	1076	Medium	5.92
Kanpur Nr	1141	Medium	11.44	Auraiya	1092	Medium	6.33
Rampur	1147	Medium	9.65	Firozabad	1098	Medium	7.27
Varanasi	1149	Medium	6.4	Aligarh	1112	Medium	10.16
Sant Kabir Nr	1165	Medium	10.29	Rampur	1116	Medium	8.13
Lucknow	1168	Medium	11.36	Kanpur Nr	1118	Medium	8.85
Chandauli	1186	Medium	10.39	Chandauli	1122	Medium	8.54
Bareilly	1220	Medium	5.76	Sultanpur	1147	Medium	7.37
Sultanpur	1223	Medium	8.33	Varanasi	1168	Medium	5.71
Siddharthnagar	1240	Medium	36.07	Bareilly	1201	High	5.35
Ghaziabad	1265	Medium	11.2	Kanpur Dehat	1220	High	5.62
Kanpur Dehat	1270	Medium	6.03	Hathras	1233	High	10.22
Bulandshahar	1276	Medium	5.45	Kashiramnagar	1237	High	7.03
Gautam Buddha Nr	1285	Medium	8.85	Bulandshahar	1252	High	5.06
Muzaffarnagar	1347	High	8.18	Farrukhabad	1277	High	8.32
Saharanpur	1350	High	9.53	Gautam Buddha Nr	1280	High	7.2
Kashiramnagar	1358	High	7.72	Saharanpur	1284	High	7.84
Farrukhabad	1393	High	10.65	Ghaziabad	1285	High	8.25
Etah	1437	High	9.62	Etah	1301	High	7.93
Meerut	1644	High	11.53	Muzaffarnagar	1315	High	6.88
Hathras	1650	High	14.77	Meerut	1379	High	8.63
Baghpat	1995	High	11.17	Baghpat	1517	High	8.51

Source: Computed at GIDS

Table 13B: Analysis Table by Region-wise

District (Direct)/(western)	MPCE	Rank	CV	District (SAE)	MPCE	Rank	CV
Agra	871	Low	7.74	Mainpuri	913	Low	5.65
Mainpuri	885	Low	6.13	Agra	925	Low	6.68
Mathura	898	Low	16.44	Budaun	955	Low	5.87
Budaun	949	Medium	6.27	Jyotiba Phule Nr	990	Low	7.97
Jyotiba Phule Nr	953	Medium	9.68	Mathura	998	Medium	10.48
Kannauj	976	Medium	8.34	Pilibhit	1004	Medium	6.86
Pilibhit	984	Medium	7.85	Kannauj	1030	Medium	7.04
Bijnor	1039	Medium	8.68	Moradabad	1048	Medium	5.74
Moradabad	1041	Medium	6.24	Etawah	1063	Medium	5.66
Firozabad	1060	Medium	8.82	Bijnor	1070	Medium	7.31
Etawah	1065	Medium	6.12	Shahjahanpur	1076	Medium	5.92
Shahjahanpur	1076	Medium	6.49	Auraiya	1092	Medium	6.33
Aligarh	1103	Medium	15.82	Firozabad	1098	Medium	7.27
Auraiya	1115	Medium	6.9	Aligarh	1112	Medium	10.16
Rampur	1147	Medium	9.65	Rampur	1116	Medium	8.13
Bareilly	1220	Medium	5.76	Bareilly	1201	Medium	5.35
Ghaziabad	1265	Medium	11.2	Hathras	1233	Medium	10.22
Bulandshahar	1276	Medium	5.45	Kashiramnagar	1237	Medium	7.03
Gautam Buddha Nr	1285	Medium	8.85	Bulandshahar	1252	Medium	5.06
Muzaffarnagar	1347	Medium	8.18	Farrukhabad	1277	Medium	8.32
Saharanpur	1350	Medium	9.53	Gautam Buddha Nr	1280	Medium	7.2
Kashiramnagar	1358	Medium	7.72	Saharanpur	1284	Medium	7.84
Farrukhabad	1393	Medium	10.65	Ghaziabad	1285	Medium	8.25
Etah	1437	Medium	9.62	Etah	1301	Medium	7.93
Meerut	1644	High	11.53	Muzaffarnagar	1315	High	6.88
Hathras	1650	High	14.77	Meerut	1379	High	8.63
Baghpat	1995	High	11.17	Baghpat	1517	High	8.51
District (Central)	MPCE	Rank	CV	District	MPCE	Rank	CV
Fatehpur	777	Low	5.04	Fatehpur	790	Low	4.8
Hardoi	836	Medium	5.22	Hardoi	843	Medium	5
Unnao	863	Medium	7.22	Unnao	866	Medium	6.72
Rae Bareli	924	Medium	11.07	Rae Bareli	909	Medium	9.39
Sitapur	950	Medium	8.38	Sitapur	940	Medium	7.62
Kheri	962	Medium	11.41	Kheri	966	Medium	9.27
Kanpur Nr	1141	Medium	11.44	Lucknow	1071	Medium	9.62
Lucknow	1168	High	11.36	Kanpur Nr	1118	High	8.85
Kanpur Dehat	1270	High	6.03	Kanpur Dehat	1220	High	5.62
District (Southern)	MPCE	Rank	CV	District	MPCE	Rank	CV
Banda	792	Low	8.48	Banda	825	Low	7.44
Mahoba	896	Medium	10.66	Jalaun	916	Medium	8.36
Jalaun	903	Medium	9.79	Mahoba	918	Medium	8.78

District (Direct)/(western)	MPCE	Rank	CV	District (SAE)	MPCE	Rank	CV
Lalitpur	1039	Medium	3.94	Chitrakoot	1008	Medium	12.17
Jhansi	1065	Medium	9.41	Jhansi	1021	Medium	8.23
Hamirpur	1093	Medium	8.11	Lalitpur	1031	Medium	3.86
Chitrakoot	1109	High	19.9	Hamirpur	1067	High	7.16
District (Eastern)	MPCE	Rank	CV	District	MPCE	Rank	CV
Sant Ravidas Nr	749	Low	9.51	Bahraich	813	Low	5.23
Kaushambi	780	Low	11.26	Kaushambi	817	Low	9.62
Bahraich	803	Low	5.48	Sant Ravidas Nr	820	Low	7.88
Barabanki	843	Low	5.63	Barabanki	854	Low	5.31
Balrampur	857	Low	8.13	Balrampur	867	Low	7.41
Basti	861	Medium	12.84	Pratapgarh	882	Medium	5.18
Pratapgarh	870	Medium	5.5	Shrawasti	894	Medium	8.11
Faizabad	902	Medium	15.68	Basti	899	Medium	9.98
Shrawasti	905	Medium	8.93	Siddharthnagar	934	Medium	15.48
Ballia	910	Medium	5.91	Ballia	936	Medium	5.45
Gorakhpur	952	Medium	4.71	Faizabad	940	Medium	10.9
Deoria	959	Medium	9.31	Gorakhpur	956	Medium	4.5
Mau	962	Medium	7.25	Mau	972	Medium	6.53
Azamgarh	973	Medium	6.16	Azamgarh	974	Medium	5.73
Ambedkar Nr	1004	Medium	8.12	Sonbhadra	977	Medium	8.83
Sonbhadra	1027	Medium	9.94	Deoria	987	Medium	7.85
Kushinagar	1032	Medium	5.91	Mahrajganj	990	Medium	9.15
Ghazipur	1037	Medium	4.21	Ambedkar Nr	998	Medium	7.21
Mahrajganj	1044	Medium	10.49	Kushinagar	1023	Medium	5.59
Allahabad	1052	Medium	6.8	Ghazipur	1040	Medium	4.04
Jaunpur	1080	Medium	7.99	Mirzapur	1041	Medium	10.12
Mirzapur	1083	Medium	13.42	Gonda	1046	Medium	11.15
Gonda	1130	High	16.38	Allahabad	1049	Medium	6.16
Varanasi	1149	High	6.4	Sant Kabir Nr	1064	Medium	8.9
Sant Kabir Nr	1165	High	10.29	Jaunpur	1066	Medium	7.05
Chandauli	1186	High	10.39	Chandauli	1122	High	8.54
Sultanpur	1223	High	8.33	Sultanpur	1147	High	7.37
Siddharthnagar	1240	High	36.07	Varanasi	1168	High	5.71

Source: Computed at GIDS

The above data in table 13A shows that district wise direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of Monthly per capita consumer expenditure in Rupees (MPCE) for rural areas OBC Category in the state of Uttar Pradesh in 2011-12.

As per direct estimates the number of districts fallen in the low level category is 7, namely Sant Ravidas Nagar, Fatehpur, Kaushambi, Banda, Bahraich, Hardoi, and Barabanki respectively. Their level of MPCE represents the range of Rs. 749 to 843, whereas their percentage coefficient of variation levels shows that 5.22% to 11.26%.

On the other hand as per model based small area estimates the number of districts fallen in the low level category is 10, namely Fatehpur, Bahraich, Kaushambi, Sant Ravidas Nagar, Banda, Hardoi, Barabanki, Unnao Balrampur, and Pratapgarh respectively. Their level of MPCE represents the range of Rs. 790 to 882, whereas their percentage coefficient of variation levels shows that 4.8% to 9.62%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

As per direct estimates the number of districts fallen in the Medium level category is 56. Their level of MPCE represents the range of Rs. 857 to 1285, whereas their percentage coefficient of variation levels shows that 3.94% to 36.07%.

On the other hand as per model based small area estimates the number of districts fallen in the medium level category is 48. Their level of MPCE represents the range of Rs. 894 to 1168, whereas their percentage coefficient of variation levels shows that 3.86% to 15.48%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

As per direct estimates the number of districts fallen in the high level category is 8, namely, Muzaffarnagar, Saharanpur, Kanshiram Nagar, Farrukhabad, Etah, Meerut, Hathras and Baghpat, respectively. Their level of MPCE represents the range of Rs. 1347 to 1995, whereas their percentage coefficient of variation levels shows that 7.72% to 14.77%.

On the other hand as per model based small area estimates the number of districts fallen in the high level category is 13, namely Bareilly, Kanpur Dehat, Hathra, Kanshiram Nagar, Bulandshahr, Farrukhabad, G.B.Nagar, Shahranpur, Ghziabad, Etah, Muzafarnagar, Meerut, and Baghpat respectively. Their level of MPCE represents the range of Rs. 1201 to 1517, whereas their percentage coefficient of variation levels shows that 5.06% to 10.22%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

The above data in table 13B shows that Region-wise districts (4 regions) direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of Monthly per capita consumer expenditure in Rupees (MPCE) for rural areas in the state of Uttar Pradesh in 2011-12.

As per direct estimates the Western region number of districts fallen in the low level category is 3, Medium – 21, and High – 3; Central region number of districts fallen in the low category – 1, Medium – 6, and High – 2; Bundelkhand region number of districts fallen in the low category – 1, Medium – 5 and High - 1; and Eastern region number of districts fallen in the low level category – 5, Medium – 17 and High – 6.

On the other hand as per model based small area estimates the Western region number of districts fallen in the low level category is 4, Medium – 20, and High – 3; Central region number of districts fallen in the low category – 1, Medium – 6, and High – 2; Bundelkhand region number of districts fallen in the low category – 1 and Medium –5, and High -1; and Eastern region number of districts fallen in the low level category – 5, Medium – 20 and High – 3.

However, the direct estimates compared with model based small area estimates indicate that the MPCE variations are high in Western region and CV variations are higher in Eastern region followed by Bundelkhand region. Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

Table 14: District-wise sample size, sample count of poor household (Sample Count), direct estimates (Direct) and model-based small area estimates (SAE) along with their standard error (SE) and percentage coefficient of variations (CV) for poverty incidence for rural SG 3 Other Backward Class areas in the state of Uttar Pradesh in 2011-12.

Region	District	Sample Size	Sample Count	Direct			Model Based SAE		
				Poverty Incidence	SE	CV	Poverty Incidence	SE	CV
Western	Saharanpur	48	3	0.115	0.06	55.32	0.112	0.04	38.82
	Muzaffarnagar	72	6	0.093	0.05	58.11	0.1	0.04	39.50
	Bijnor	42	9	0.159	0.08	53.30	0.154	0.05	34.60
	Moradabad	72	10	0.141	0.06	42.38	0.166	0.05	31.59
	Rampur	35	8	0.231	0.12	52.82	0.206	0.07	31.61
	Jyotiba Phule Nr	36	9	0.339	0.12	34.39	0.276	0.07	26.55
	Meerut	18	0	0			0.076	0.03	45.77
	Baghpat	26	2	0.098	0.09	92.26	0.088	0.04	45.74
	Ghaziabad	31	2	0.051	0.04	74.65	0.074	0.03	46.62

Region	District	Sample Size	Sample Count	Direct			Model Based SAE		
				Poverty Incidence	SE	CV	Poverty Incidence	SE	CV
Central	Gautam Buddha Nr	16	0	0			0.069	0.03	46.96
	Bulandshahar	59	4	0.077	0.04	53.96	0.104	0.04	36.87
	Aligarh	28	3	0.255	0.18	70.40	0.217	0.07	31.86
	Hathras	32	2	0.032	0.03	79.03	0.122	0.05	37.47
	Mathura	14	3	0.283	0.16	55.49	0.244	0.08	30.91
	Agra	32	8	0.406	0.12	29.43	0.29	0.07	25.48
	Firozabad	52	10	0.166	0.07	42.74	0.141	0.05	34.74
	Etah	42	5	0.14	0.09	67.16	0.138	0.05	36.66
	Mainpuri	41	9	0.318	0.15	48.60	0.251	0.08	30.58
	Budaun	70	13	0.261	0.10	39.49	0.257	0.07	27.73
	Bareilly	60	3	0.051	0.04	76.15	0.101	0.04	39.73
	Pilibhit	42	5	0.203	0.11	54.33	0.208	0.06	30.60
	Shahjahanpur	50	6	0.042	0.02	54.75	0.121	0.05	38.05
	Farrukhabad	36	5	0.048	0.03	58.84	0.106	0.04	40.80
	Kannauj	38	4	0.247	0.14	56.95	0.181	0.06	34.59
	Etawah	36	3	0.04	0.03	75.06	0.148	0.06	37.44
	Auraiya	27	2	0.055	0.05	81.97	0.159	0.06	36.62
	Kashiramnagar	23	2	0.088	0.06	73.59	0.171	0.06	35.04
	Southern	Kheri	74	20	0.247	0.09	35.45	0.243	0.07
Sitapur		47	13	0.308	0.10	32.47	0.317	0.08	24.39
Hardoi		72	27	0.332	0.09	26.35	0.335	0.07	22.28
Unnao		54	20	0.511	0.10	19.92	0.449	0.08	18.00
Lucknow		46	7	0.293	0.11	38.77	0.295	0.07	25.34
Rae Bareli		37	16	0.467	0.12	25.92	0.425	0.08	19.66
Kanpur Dehat		38	2	0.018	0.01	74.77	0.122	0.05	38.71
Kanpur Nr		29	6	0.175	0.10	55.43	0.177	0.06	34.60
Eastern	Fatehpur	55	20	0.552	0.10	17.29	0.463	0.08	16.91
	Jalaun	31	5	0.278	0.12	42.68	0.288	0.08	26.38
	Jhansi	24	3	0.2	0.12	59.79	0.254	0.07	29.12
	Lalitpur	21	2	0.122	0.09	71.04	0.206	0.07	34.60
	Hamirpur	13	3	0.135	0.11	77.98	0.201	0.07	36.25
	Banda	37	15	0.418	0.14	32.86	0.358	0.08	23.69
	Chitrakoot	15	3	0.066	0.05	74.09	0.182	0.06	35.18
Eastern	Mahoba	12	2	0.345	0.25	73.60	0.312	0.09	29.58
	Mahrajganj	62	20	0.328	0.10	29.40	0.338	0.08	22.43
	Pratapgarh	66	23	0.443	0.09	21.24	0.39	0.08	19.58
	Kaushambi	30	12	0.397	0.13	33.58	0.364	0.09	24.60
	Allahabad	51	13	0.183	0.08	41.45	0.208	0.06	29.40
	Barabanki	55	18	0.533	0.12	22.04	0.439	0.08	18.99
	Faizabad	32	11	0.478	0.15	31.60	0.386	0.09	22.50
	Ambedkar Nr	40	10	0.321	0.11	33.79	0.3	0.07	24.31
	Sultanpur	59	11	0.226	0.08	35.82	0.246	0.06	25.97
Bahraich	52	18	0.49	0.12	24.82	0.429	0.09	19.85	
Shrawasti	40	13	0.265	0.11	41.82	0.303	0.08	27.07	

Region	District	Sample Size	Sample Count	Direct			Model Based SAE		
				Poverty Incidence	SE	CV	Poverty Incidence	SE	CV
	Balrampur	46	10	0.227	0.09	40.40	0.259	0.07	27.95
	Gonda	70	23	0.22	0.07	32.25	0.227	0.06	27.51
	Siddharthnagar	54	21	0.339	0.09	26.12	0.334	0.08	22.50
	Basti	54	24	0.556	0.10	17.40	0.466	0.08	16.97
	Sant Kabir Nr	26	5	0.169	0.08	48.28	0.258	0.07	28.46
	Gorakhpur	78	24	0.309	0.07	23.26	0.303	0.07	22.11
	Kushinagar	86	21	0.255	0.08	30.32	0.272	0.07	24.83
	Deoria	66	18	0.447	0.09	20.58	0.373	0.07	19.95
	Azamgarh	71	20	0.348	0.08	24.17	0.321	0.07	21.72
	Mau	36	9	0.212	0.09	43.81	0.222	0.07	30.45
	Ballia	57	15	0.269	0.10	37.25	0.218	0.07	30.18
	Jaunpur	70	12	0.168	0.06	35.66	0.197	0.06	29.16
	Ghazipur	68	14	0.166	0.06	36.12	0.177	0.05	30.00
	Chandauli	34	3	0.117	0.08	70.85	0.182	0.06	32.60
	Varanasi	56	7	0.158	0.07	41.44	0.137	0.05	34.24
	Sant Ravidas Nr	28	11	0.574	0.12	21.32	0.412	0.08	20.54
	Mirzapur	39	6	0.133	0.07	49.53	0.185	0.06	32.21
	Sonbhadra	21	2	0.241	0.14	59.33	0.304	0.08	26.87

Source: Derived from 68th Round NSSO Unit Level Data

Tab 14A: Analysis Table for All Districts

District (Direct)	Poverty Incidence	Rank	CV	District (SAE)	Poverty Incidence	Rank	CV
Meerut	0	Low		Gautam Buddha Nr	0.069	Low	46.96
Gautam Buddha Nr	0	Low		Ghaziabad	0.074	Low	46.62
Kanpur Dehat	0.018	Low	74.77	Meerut	0.076	Low	45.77
Hathras	0.032	Low	79.03	Baghpat	0.088	Low	45.74
Etawah	0.04	Low	75.06	Muzaffarnagar	0.1	Low	39.5
Shahjahanpur	0.042	Low	54.75	Bareilly	0.101	Low	39.73
Farrukhabad	0.048	Low	58.84	Bulandshahar	0.104	Low	36.87
Ghaziabad	0.051	Low	74.65	Farrukhabad	0.106	Low	40.8
Bareilly	0.051	Low	76.15	Saharanpur	0.112	Low	38.82
Auraiya	0.055	Low	81.97	Shahjahanpur	0.121	Low	38.05
Chitrakoot	0.066	Low	74.09	Hathras	0.122	Low	37.47
Bulandshahar	0.077	Low	53.96	Kanpur Dehat	0.122	Low	38.71
Kashiramnagar	0.088	Low	73.59	Varanasi	0.137	Medium	34.24
Muzaffarnagar	0.093	Medium	58.11	Etah	0.138	Medium	36.66
Baghpat	0.098	Medium	92.26	Firozabad	0.141	Medium	34.74
Saharanpur	0.115	Medium	55.32	Etawah	0.148	Medium	37.44
Chandauli	0.117	Medium	70.85	Bijnor	0.154	Medium	34.6
Lalitpur	0.122	Medium	71.04	Auraiya	0.159	Medium	36.62
Mirzapur	0.133	Medium	49.53	Moradabad	0.166	Medium	31.59
Hamirpur	0.135	Medium	77.98	Kashiramnagar	0.171	Medium	35.04

District (Direct)	Poverty Incidence	Rank	CV	District (SAE)	Poverty Incidence	Rank	CV
Etah	0.14	Medium	67.16	Kanpur Nr	0.177	Medium	34.6
Moradabad	0.141	Medium	42.38	Ghazipur	0.177	Medium	30
Varanasi	0.158	Medium	41.44	Kannauj	0.181	Medium	34.59
Bijnor	0.159	Medium	53.3	Chitrakoot	0.182	Medium	35.18
Firozabad	0.166	Medium	42.74	Chandauli	0.182	Medium	32.6
Ghazipur	0.166	Medium	36.12	Mirzapur	0.185	Medium	32.21
Jaunpur	0.168	Medium	35.66	Jaunpur	0.197	Medium	29.16
Sant Kabir Nr	0.169	Medium	48.28	Hamirpur	0.201	Medium	36.25
Kanpur Nr	0.175	Medium	55.43	Rampur	0.206	Medium	31.61
Allahabad	0.183	Medium	41.45	Lalitpur	0.206	Medium	34.6
Jhansi	0.2	Medium	59.79	Pilibhit	0.208	Medium	30.6
Pilibhit	0.203	Medium	54.33	Allahabad	0.208	Medium	29.4
Mau	0.212	Medium	43.81	Aligarh	0.217	Medium	31.86
Gonda	0.22	Medium	32.25	Ballia	0.218	Medium	30.18
Sultanpur	0.226	Medium	35.82	Mau	0.222	Medium	30.45
Balrampur	0.227	Medium	40.4	Gonda	0.227	Medium	27.51
Rampur	0.231	Medium	52.82	Kheri	0.243	Medium	27.67
Sonbhadra	0.241	Medium	59.33	Mathura	0.244	Medium	30.91
Kannauj	0.247	Medium	56.95	Sultanpur	0.246	Medium	25.97
Kheri	0.247	Medium	35.45	Mainpuri	0.251	Medium	30.58
Aligarh	0.255	Medium	70.4	Jhansi	0.254	Medium	29.12
Kushinagar	0.255	Medium	30.32	Budaun	0.257	Medium	27.73
Budaun	0.261	Medium	39.49	Sant Kabir Nr	0.258	Medium	28.46
Shrawasti	0.265	Medium	41.82	Balrampur	0.259	Medium	27.95
Ballia	0.269	Medium	37.25	Kushinagar	0.272	Medium	24.83
Jalaun	0.278	Medium	42.68	Jyotiba Phule Nr	0.276	Medium	26.55
Mathura	0.283	Medium	55.49	Jalaun	0.288	Medium	26.38
Lucknow	0.293	Medium	38.77	Agra	0.29	Medium	25.48
Sitapur	0.308	Medium	32.47	Lucknow	0.295	Medium	25.34
Gorakhpur	0.309	Medium	23.26	Ambedkar Nr	0.3	Medium	24.31
Mainpuri	0.318	Medium	48.6	Shrawasti	0.303	Medium	27.07
Ambedkar Nr	0.321	Medium	33.79	Gorakhpur	0.303	Medium	22.11
Mahrajganj	0.328	Medium	29.4	Sonbhadra	0.304	Medium	26.87
Hardoi	0.332	Medium	26.35	Mahoba	0.312	Medium	29.58
Jyotiba Phule Nr	0.339	Medium	34.39	Sitapur	0.317	Medium	24.39
Siddharthnagar	0.339	Medium	26.12	Azamgarh	0.321	Medium	21.72
Mahoba	0.345	Medium	73.6	Siddharthnagar	0.334	Medium	22.5
Azamgarh	0.348	Medium	24.17	Hardoi	0.335	Medium	22.28
Kaushambi	0.397	High	33.58	Mahrajganj	0.338	Medium	22.43
Agra	0.406	High	29.43	Banda	0.358	High	23.69
Banda	0.418	High	32.86	Kaushambi	0.364	High	24.6
Pratapgarh	0.443	High	21.24	Deoria	0.373	High	19.95
Deoria	0.447	High	20.58	Faizabad	0.386	High	22.5

District (Direct)	Poverty Incidence	Rank	CV	District (SAE)	Poverty Incidence	Rank	CV
Rae Bareli	0.467	High	25.92	Pratapgarh	0.39	High	19.58
Faizabad	0.478	High	31.6	Sant Ravidas Nr	0.412	High	20.54
Bahraich	0.49	High	24.82	Rae Bareli	0.425	High	19.66
Unnao	0.511	High	19.92	Bahraich	0.429	High	19.85
Barabanki	0.533	High	22.04	Barabanki	0.439	High	18.99
Fatehpur	0.552	High	17.29	Unnao	0.449	High	18
Basti	0.556	High	17.4	Fatehpur	0.463	High	16.91
Sant Ravidas Nr	0.574	High	21.32	Basti	0.466	High	16.97

Source: Computed at GIDS

Tab 14B: Analysis Table by Region-wise

District (Direct) (Western)	Poverty Incidence	Rank	CV	District (SAE)	Poverty Incidence	Rank	CV
Meerut	0			Gautam Buddha Nr	0.069	Low	46.96
Gautam Buddha Nr	0			Ghaziabad	0.074	Low	46.62
Hathras	0.032	Low	79.03	Meerut	0.076	Low	45.77
Etawah	0.04	Medium	75.06	Baghpat	0.088	Low	45.74
Shahjahanpur	0.042	Medium	54.75	Muzaffarnagar	0.1	Medium	39.5
Farrukhabad	0.048	Medium	58.84	Bareilly	0.101	Medium	39.73
Ghaziabad	0.051	Medium	74.65	Bulandshahar	0.104	Medium	36.87
Bareilly	0.051	Medium	76.15	Farrukhabad	0.106	Medium	40.8
Auraiya	0.055	Medium	81.97	Saharanpur	0.112	Medium	38.82
Bulandshahar	0.077	Medium	53.96	Shahjahanpur	0.121	Medium	38.05
Kashiramnagar	0.088	Medium	73.59	Hathras	0.122	Medium	37.47
Muzaffarnagar	0.093	Medium	58.11	Etah	0.138	Medium	36.66
Baghpat	0.098	Medium	92.26	Firozabad	0.141	Medium	34.74
Saharanpur	0.115	Medium	55.32	Etawah	0.148	Medium	37.44
Etah	0.14	Medium	67.16	Bijnor	0.154	Medium	34.6
Moradabad	0.141	Medium	42.38	Auraiya	0.159	Medium	36.62
Bijnor	0.159	Medium	53.3	Moradabad	0.166	Medium	31.59
Firozabad	0.166	Medium	42.74	Kashiramnagar	0.171	Medium	35.04
Pilibhit	0.203	Medium	54.33	Kannauj	0.181	Medium	34.59
Rampur	0.231	Medium	52.82	Rampur	0.206	Medium	31.61
Kannauj	0.247	Medium	56.95	Pilibhit	0.208	Medium	30.6
Aligarh	0.255	Medium	70.4	Aligarh	0.217	Medium	31.86
Budaun	0.261	High	39.49	Mathura	0.244	High	30.91
Mathura	0.283	High	55.49	Mainpuri	0.251	High	30.58
Mainpuri	0.318	High	48.6	Budaun	0.257	High	27.73
Jyotiba Phule Nr	0.339	High	34.39	Jyotiba Phule Nr	0.276	High	26.55

District (Direct) (Western)	Poverty Incidence	Rank	CV	District (SAE)	Poverty Incidence	Rank	CV
Agra	0.406	High	29.43	Agra	0.29	High	25.48
District (Central)	Poverty Incidence	Rank	CV	District	Poverty Incidence	Rank	CV
Kanpur Dehat	0.018	Low	74.77	Kanpur Dehat	0.122	Low	38.71
Kanpur Nr	0.175	Medium	55.43	Kanpur Nr	0.177	Low	34.6
Kheri	0.247	Medium	35.45	Kheri	0.243	Medium	27.67
Lucknow	0.293	Medium	38.77	Lucknow	0.295	Medium	25.34
Sitapur	0.308	Medium	32.47	Sitapur	0.317	Medium	24.39
Hardoi	0.332	Medium	26.35	Hardoi	0.335	Medium	22.28
Rae Bareli	0.467	Medium	25.92	Rae Bareli	0.425	Medium	19.66
Unnao	0.511	High	19.92	Unnao	0.449	High	18
Fatehpur	0.552	High	17.29	Fatehpur	0.463	High	16.91
District (Southern)	Poverty Incidence	Rank	CV	District	Poverty Incidence	Rank	CV
Chitrakoot	0.066	Low	74.09	Chitrakoot	0.182	Low	35.18
Lalitpur	0.122	Medium	71.04	Hamirpur	0.201	Medium	36.25
Hamirpur	0.135	Medium	77.98	Lalitpur	0.206	Medium	34.6
Jhansi	0.2	Medium	59.79	Jhansi	0.254	Medium	29.12
Jalaun	0.278	Medium	42.68	Jalaun	0.288	Medium	26.38
Mahoba	0.345	Medium	73.6	Mahoba	0.312	Medium	29.58
Banda	0.418	High	32.86	Banda	0.358	High	23.69
District (Eastern)	Poverty Incidence	Rank	CV	District	Poverty Incidence	Rank	CV
Chandauli	0.117	Low	70.85	Varanasi	0.137	Low	34.24
Mirzapur	0.133	Low	49.53	Ghazipur	0.177	Low	30
Varanasi	0.158	Low	41.44	Chandauli	0.182	Low	32.6
Ghazipur	0.166	Low	36.12	Mirzapur	0.185	Low	32.21
Jaunpur	0.168	Low	35.66	Jaunpur	0.197	Low	29.16
Sant Kabir Nr	0.169	Low	48.28	Allahabad	0.208	Medium	29.4
Allahabad	0.183	Medium	41.45	Ballia	0.218	Medium	30.18
Mau	0.212	Medium	43.81	Mau	0.222	Medium	30.45
Gonda	0.22	Medium	32.25	Gonda	0.227	Medium	27.51
Sultanpur	0.226	Medium	35.82	Sultanpur	0.246	Medium	25.97
Balrampur	0.227	Medium	40.4	Sant Kabir Nr	0.258	Medium	28.46
Sonbhadra	0.241	Medium	59.33	Balrampur	0.259	Medium	27.95
Kushinagar	0.255	Medium	30.32	Kushinagar	0.272	Medium	24.83
Shrawasti	0.265	Medium	41.82	Ambedkar Nr	0.3	Medium	24.31
Ballia	0.269	Medium	37.25	Shrawasti	0.303	Medium	27.07
Gorakhpur	0.309	Medium	23.26	Gorakhpur	0.303	Medium	22.11
Ambedkar Nr	0.321	Medium	33.79	Sonbhadra	0.304	Medium	26.87
Mahrajganj	0.328	Medium	29.4	Azamgarh	0.321	Medium	21.72

District (Direct) (Western)	Poverty Incidence	Rank	CV	District (SAE)	Poverty Incidence	Rank	CV
Siddharthnagar	0.339	Medium	26.12	Siddharthnagar	0.334	Medium	22.5
Azamgarh	0.348	Medium	24.17	Mahrajganj	0.338	Medium	22.43
Kaushambi	0.397	Medium	33.58	Kaushambi	0.364	Medium	24.6
Pratapgarh	0.443	High	21.24	Deoria	0.373	Medium	19.95
Deoria	0.447	High	20.58	Faizabad	0.386	High	22.5
Faizabad	0.478	High	31.6	Pratapgarh	0.39	High	19.58
Bahraich	0.49	High	24.82	Sant Ravidas Nr	0.412	High	20.54
Barabanki	0.533	High	22.04	Bahraich	0.429	High	19.85
Basti	0.556	High	17.4	Barabanki	0.439	High	18.99
Sant Ravidas Nr	0.574	High	21.32	Basti	0.466	High	16.97

Source: Computed at GIDS

The above data in table 14A shows that district wise direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of Incidence of Poverty proportions for rural areas OBC category in the state of Uttar Pradesh in 2011-12.

As per direct estimates the Incidence of Poverty proportions the number of districts fallen in the low level category is 13, namely Meerut, G.B.Nagar, Kanpur Dehat, Hathras, Etawah, Shahjanhanpur, Farrukhabad, Ghaziabad, Bareilly, Auraiya, Chitrakoot, and Bulandshahr respectively. Their level of Incidence of Poverty proportions represents the range of 0.018 to 0.088, whereas their percentage coefficient of variation levels shows that 53.96% to 81.97%.

On the other hand as per model based small area estimates the Incidence of Poverty proportions the number of districts fallen in the low level category is 12, namely G.B.Nagar, Ghaziabad, Meerut, Baghpat, Muzaffarnagar, Bareilly, Bulandshahr, Farrukhabad, Shahrampur, Shahjahanpur, Hathras, and Kanpur Dehat respectively. Their level of incidence of poverty proportions represents the range of 0.069 to 0.122, whereas their percentage coefficient of variation levels shows that 36.87% to 46.96%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

As per direct estimates the number of districts fallen in the Medium level category is 45. Their level of incidence of poverty proportions represents the range of 0.093 to 0.348, whereas their percentage coefficient of variation levels shows that 23.26% to 92.26%.

On the other hand as per model based small area estimates the number of districts fallen in the medium level category is 47. Their level of incidence of poverty proportions represents the range of 0.137 to 0.338, whereas their percentage coefficient of variation levels shows that 21.72% to 37.44%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

As per direct estimates the number of districts fallen in the high level category is 13, namely Kaushambi, Agra, Banda, Pratapgrh, Deoria, Raebareilly, Faizabad, Bahraich, Unnao, Barabanki, Fatehpur, Basti, and Sant Ravidas Nagar respectively. Their level of incidence of poverty proportions represents the range of 0.397 to 0.574, whereas their percentage coefficient of variation levels shows that 17.4% to 32.86%.

On the other hand as per model based small area estimates the number of districts fallen in the high level category is 12, namely Banda, Kaushambi, Deoria, Faizabad, Pratapgarh, Sant Ravidas Nagar, Rae Bareilly, Bahraich, Barabanki, Unnao, Fatehpur, and Basti respectively. Their level of incidence of poverty proportions represents the range of 0.36 to 0.466, whereas their percentage coefficient of variation levels shows that 18% to 24.6%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

The above data in table 14B shows that Region-wise districts (4 regions) direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of incidence of poverty proportions for rural areas OBC category in the state of Uttar Pradesh in 2011-12.

As per direct estimates the incidence of poverty proportions in Western region number of districts fallen in the low level category is 1, Medium – 19, and High – 5; Central region number of districts fallen in the low category – 1, Medium – 6, and High – 2; Bundelkhand region number of districts fallen in Low – 1, Medium – 5, and High - 1; and Eastern region number of districts fallen in the low level category – 6, Medium – 15 and High – 7.

On the other hand as per model based small area estimates the incidence of poverty proportions in Western region number of districts fallen in the low level category is 4, Medium – 18, and High – 5; Central region number of districts fallen in the low category – 2,

Medium – 5, and High – 2; Bundelkhand region number of districts fallen in the low category – 1, Medium – 5 and High - 1; and Eastern region number of districts fallen in the low level category – 5, Medium – 17 and High – 6.

However, the direct estimates compared with model based small area estimates indicate that the incidence of poverty proportions in rural areas the variations are high in Eastern region and CV variations are higher in Western region also. Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

Table 15. District-wise sample size, estimated total household (Est. HHs), Average Household size (HHS), direct estimates (Direct) and model-based small area estimates (SAE) along with their standard error (SE) and percentage coefficient of variations (CV) for monthly per capita consumer and expenditure in Rupees (MPCE) for Rural SG Other category in the state of Uttar Pradesh in 2011-12.

Region	District	Sample Size	est. HH	HHS	Direct			Model Based SAE		
					MPCE	SE	CV	MPCE	SE	CV
Western	Saharanpur	14	64837	5.9	1826	75.80	4.15	1815	74.85	4.12
	Muzaffarnagar	19	123465	5.7	1362	109.83	8.06	1365	106.98	7.84
	Bijnor	24	60680	5.3	1764	209.06	11.85	1703	191.00	11.21
	Moradabad	40	162232	6.1	1145	101.34	8.85	1147	99.20	8.65
	Rampur	11	29189	7.8	977	55.65	5.69	980	55.30	5.64
	Jyotiba Phule Nr	14	39800	5.4	1198	139.93	11.68	1211	134.15	11.08
	Meerut	27	118982	5.1	2230	205.84	9.23	2096	188.63	9.00
	Baghpat	2	4850	7.6	2069	22.78	1.10	2067	22.76	1.10
	Ghaziabad	25	140142	7.1	1644	260.63	15.85	1604	228.08	14.22
	Gautam Buddha Nr	5	18791	5.2	2350	210.18	8.95	2201	192.24	8.74
	Bulandshahar	14	46932	7.4	1444	174.38	12.08	1441	163.52	11.35
	Aligarh	23	86690	6.7	1438	145.38	10.11	1435	138.91	9.68
	Hathras	13	46626	5.0	1999	428.25	21.42	1747	315.24	18.05
	Mathura	32	121435	5.6	1329	132.27	9.95	1337	127.36	9.53
	Agra	39	120653	6.2	1372	150.79	10.99	1380	143.66	10.41
	Firozabad	5	10071	4.9	1323	171.30	12.94	1344	161.10	11.99
	Etah	7	41365	3.0	1850	179.98	9.73	1793	168.13	9.37
	Mainpuri	10	28193	5.4	786	56.64	7.21	797	56.25	7.06
	Budaun	10	54323	3.9	1913	350.11	18.30	1617	284.10	17.57
	Bareilly	11	48612	6.2	1310	170.07	12.98	1300	160.25	12.33
	Pilibhit	14	54087	4.8	1191	119.75	10.06	1198	116.09	9.69
	Shahjahanpur	24	85621	6.5	1035	78.92	7.63	1042	77.86	7.47
	Farrukhabad	9	34572	5.8	816	82.40	10.10	835	81.18	9.72
	Kannauj	11	20976	6.4	1017	109.14	10.74	1043	106.38	10.20
Etawah	12	53359	4.9	1193	99.16	8.31	1210	97.13	8.03	
Auraiya	14	24741	3.4	1916	282.08	14.72	1816	242.93	13.38	
Kashiramnagar	3	10536	8.4	1263	15.53	1.23	1263	15.52	1.23	

Region	District	Sample Size	est. HH	HHS	Direct			Model Based SAE		
					MPCE	SE	CV	MPCE	SE	CV
Central	Kheri	7	11530	4.3	1282	228.89	17.85	1281	205.98	16.08
	Sitapur	28	127794	5.3	1365	210.01	15.38	1350	191.90	14.21
	Hardoi	29	219912	6.0	1082	92.22	8.52	1093	90.51	8.28
	Unnao	14	47919	4.1	1048	163.11	15.56	1084	154.12	14.22
	Lucknow	8	28604	3.1	1955	165.62	8.47	1890	156.23	8.27
	Rae Bareli	38	129515	5.5	1129	62.32	5.52	1133	61.79	5.45
	Kanpur Dehat	10	28474	3.8	1572	151.43	9.63	1568	144.37	9.21
	Kanpur Nr	24	97327	5.4	1057	111.99	10.60	1083	109.04	10.07
	Fatehpur	8	43195	7.3	729	169.88	23.32	810	159.77	19.72
Southern	Jalaun	20	52908	5.9	1180	132.39	11.22	1204	127.52	10.59
	Jhansi	17	69038	6.8	1092	108.07	9.90	1111	105.36	9.48
	Lalitpur	4	10125	5.3	1357	122.14	9.00	1352	118.27	8.74
	Hamirpur	10	20214	6.1	1358	240.82	17.73	1366	214.16	15.67
	Banda	5	8926	3.6	1750	370.48	21.17	1590	289.73	18.22
	Chitrakoot	7	20494	3.8	990	125.28	12.65	1016	121.09	11.92
	Mahoba	8	16798	4.8	1822	218.70	12.01	1729	198.25	11.47
Eastern	Mahrajganj	12	34679	4.5	1179	165.59	14.04	1196	156.24	13.07
	Pratapgarh	31	105709	5.4	1123	115.59	10.29	1143	112.28	9.82
	Kaushambi	7	32597	3.9	1472	225.22	15.30	1437	203.19	14.14
	Allahabad	40	127822	5.7	1004	56.27	5.60	1011	55.88	5.53
	Barabanki	18	74655	6.7	1166	218.68	18.75	1192	198.34	16.64
	Faizabad	16	89801	2.4	4535	1281.62	28.26	1740	429.56	24.69
	Ambedkar Nr	17	41309	5.7	1477	227.73	15.42	1475	205.04	13.90
	Sultanpur	29	121274	6.3	1991	391.54	19.67	1745	299.42	17.16
	Bahraich	25	94144	3.9	1029	111.01	10.79	1033	108.39	10.49
	Shrawasti	14	50630	5.4	869	110.76	12.75	880	108.21	12.29
	Balrampur	12	25052	6.8	1218	87.48	7.18	1214	86.17	7.10
	Gonda	41	106337	5.3	1048	120.04	11.45	1061	116.42	10.97
	Siddharthnagar	26	66263	5.2	1345	204.16	15.18	1331	187.50	14.08
	Basti	15	25162	5.7	1280	216.19	16.89	1300	196.33	15.10
	Sant Kabir Nr	13	38059	6.0	1325	108.85	8.22	1328	106.06	7.99
	Gorakhpur	14	39510	6.4	1746	146.26	8.38	1714	139.69	8.15
	Kushinagar	22	93809	6.7	1521	270.20	17.76	1479	233.94	15.82
	Deoria	15	94410	4.4	1074	151.92	14.14	1112	144.62	13.00
	Azamgarh	15	77520	6.2	1625	160.86	9.90	1605	152.27	9.49
	Mau	2	7156	3.5	2045	196.53	9.61	1954	181.45	9.29
	Ballia	12	29697	4.4	1863	364.12	19.55	1699	286.99	16.90
	Jaunpur	25	99477	5.7	1679	179.71	10.70	1648	167.95	10.19
	Ghazipur	14	42620	4.1	1720	149.22	8.68	1694	142.31	8.40
	Chandauli	11	43218	4.6	1072	100.51	9.38	1090	98.32	9.02
	Varanasi	11	33467	5.8	1426	346.63	24.30	1452	278.89	19.20
	Sant Ravidas Nr	11	49077	7.4	1223	30.88	2.53	1223	30.81	2.52
Mirzapur	17	50466	6.5	1309	259.65	19.83	1333	227.03	17.04	
Sonbhadra	4	20081	5.2	1669	371.30	22.25	1513	290.78	19.22	

Source: Derived from 68th Round NSSO Unit Level Data

Tab 15A: Analysis Table for All Districts

District (Direct)	MPCE	Rank	CV	District (SAE)	MPCE	Rank	CV
Fatehpur	729	Low	23.32	Mainpuri	797	Low	7.06
Mainpuri	786	Low	7.21	Fatehpur	810	Low	19.72
Farrukhabad	816	Low	10.1	Farrukhabad	835	Low	9.72
Shrawasti	869	Low	12.75	Shrawasti	880	Low	12.29
Rampur	977	Medium	5.69	Rampur	980	Low	5.64
Chitrakoot	990	Medium	12.65	Allahabad	1011	Low	5.53
Allahabad	1004	Medium	5.6	Chitrakoot	1016	Low	11.92
Kannauj	1017	Medium	10.74	Bahraich	1033	Low	10.49
Bahraich	1029	Medium	10.79	Shahjahanpur	1042	Low	7.47
Shahjahanpur	1035	Medium	7.63	Kannauj	1043	Low	10.2
Unnao	1048	Medium	15.56	Gonda	1061	Low	10.97
Gonda	1048	Medium	11.45	Kanpur Nr	1083	Medium	10.07
Kanpur Nr	1057	Medium	10.6	Unnao	1084	Medium	14.22
Chandauli	1072	Medium	9.38	Chandauli	1090	Medium	9.02
Deoria	1074	Medium	14.14	Hardoi	1093	Medium	8.28
Hardoi	1082	Medium	8.52	Jhansi	1111	Medium	9.48
Jhansi	1092	Medium	9.9	Deoria	1112	Medium	13
Pratapgarh	1123	Medium	10.29	Rae Bareli	1133	Medium	5.45
Rae Bareli	1129	Medium	5.52	Pratapgarh	1143	Medium	9.82
Moradabad	1145	Medium	8.85	Moradabad	1147	Medium	8.65
Barabanki	1166	Medium	18.75	Barabanki	1192	Medium	16.64
Mahrajganj	1179	Medium	14.04	Mahrajganj	1196	Medium	13.07
Jalaun	1180	Medium	11.22	Pilibhit	1198	Medium	9.69
Pilibhit	1191	Medium	10.06	Jalaun	1204	Medium	10.59
Etawah	1193	Medium	8.31	Etawah	1210	Medium	8.03
Jyotiba Phule Nr	1198	Medium	11.68	Jyotiba Phule Nr	1211	Medium	11.08
Balrampur	1218	Medium	7.18	Balrampur	1214	Medium	7.1
Sant Ravidas Nr	1223	Medium	2.53	Sant Ravidas Nr	1223	Medium	2.52
Kashiramnagar	1263	Medium	1.23	Kashiramnagar	1263	Medium	1.23
Basti	1280	Medium	16.89	Kheri	1281	Medium	16.08
Kheri	1282	Medium	17.85	Bareilly	1300	Medium	12.33
Mirzapur	1309	Medium	19.83	Basti	1300	Medium	15.1
Bareilly	1310	Medium	12.98	Sant Kabir Nr	1328	Medium	7.99
Firozabad	1323	Medium	12.94	Siddharthnagar	1331	Medium	14.08
Sant Kabir Nr	1325	Medium	8.22	Mirzapur	1333	Medium	17.04
Mathura	1329	Medium	9.95	Mathura	1337	Medium	9.53
Siddharthnagar	1345	Medium	15.18	Firozabad	1344	Medium	11.99
Lalitpur	1357	Medium	9	Sitapur	1350	Medium	14.21
Hamirpur	1358	Medium	17.73	Lalitpur	1352	Medium	8.74
Muzaffarnagar	1362	Medium	8.06	Muzaffarnagar	1365	Medium	7.84
Sitapur	1365	Medium	15.38	Hamirpur	1366	Medium	15.67

District (Direct)	MPCE	Rank	CV	District (SAE)	MPCE	Rank	CV
Agra	1372	Medium	10.99	Agra	1380	Medium	10.41
Varanasi	1426	Medium	24.3	Aligarh	1435	Medium	9.68
Aligarh	1438	Medium	10.11	Kaushambi	1437	Medium	14.14
Bulandshahar	1444	Medium	12.08	Bulandshahar	1441	Medium	11.35
Kaushambi	1472	Medium	15.3	Varanasi	1452	Medium	19.2
Ambedkar Nr	1477	Medium	15.42	Ambedkar Nr	1475	Medium	13.9
Kushinagar	1521	Medium	17.76	Kushinagar	1479	Medium	15.82
Kanpur Dehat	1572	Medium	9.63	Sonbhadra	1513	Medium	19.22
Azamgarh	1625	Medium	9.9	Kanpur Dehat	1568	Medium	9.21
Ghaziabad	1644	Medium	15.85	Banda	1590	Medium	18.22
Sonbhadra	1669	Medium	22.25	Ghaziabad	1604	Medium	14.22
Jaunpur	1679	Medium	10.7	Azamgarh	1605	Medium	9.49
Ghazipur	1720	Medium	8.68	Budaun	1617	Medium	17.57
Gorakhpur	1746	Medium	8.38	Jaunpur	1648	Medium	10.19
Banda	1750	Medium	21.17	Ghazipur	1694	Medium	8.4
Bijnor	1764	Medium	11.85	Ballia	1699	Medium	16.9
Mahoba	1822	Medium	12.01	Bijnor	1703	High	11.21
Saharanpur	1826	Medium	4.15	Gorakhpur	1714	High	8.15
Etah	1850	Medium	9.73	Mahoba	1729	High	11.47
Ballia	1863	Medium	19.55	Faizabad	1740	High	24.69
Budaun	1913	Medium	18.3	Sultanpur	1745	High	17.16
Auraiya	1916	Medium	14.72	Hathras	1747	High	18.05
Lucknow	1955	Medium	8.47	Etah	1793	High	9.37
Sultanpur	1991	High	19.67	Saharanpur	1815	High	4.12
Hathras	1999	High	21.42	Auraiya	1816	High	13.38
Mau	2045	High	9.61	Lucknow	1890	High	8.27
Baghpat	2069	High	1.1	Mau	1954	High	9.29
Meerut	2230	High	9.23	Baghpat	2067	High	1.1
Gautam Buddha Nr	2350	High	8.95	Meerut	2096	High	9
Faizabad	4535	High	28.26	Gautam Buddha Nr	2201	High	8.74

Source: Computed at GIDS

Tab 15B: Analysis Table by Region-wise

District (Direct) (Western)	MPCE	Rank	CV	District (SAE)	MPCE	Rank	CV
Mainpuri	786	Low	7.21	Mainpuri	797	Low	7.06
Farrukhabad	816	Low	10.1	Farrukhabad	835	Low	9.72
Rampur	977	Low	5.69	Rampur	980	Low	5.64
Kannauj	1017	Low	10.74	Shahjahanpur	1042	Low	7.47
Shahjahanpur	1035	Low	7.63	Kannauj	1043	Low	10.2
Moradabad	1145	Medium	8.85	Moradabad	1147	Medium	8.65
Pilibhit	1191	Medium	10.06	Pilibhit	1198	Medium	9.69
Etawah	1193	Medium	8.31	Etawah	1210	Medium	8.03
Jyotiba Phule Nr	1198	Medium	11.68	Jyotiba Phule Nr	1211	Medium	11.08
Kashiramnagar	1263	Medium	1.23	Kashiramnagar	1263	Medium	1.23
Bareilly	1310	Medium	12.98	Bareilly	1300	Medium	12.33
Firozabad	1323	Medium	12.94	Mathura	1337	Medium	9.53
Mathura	1329	Medium	9.95	Firozabad	1344	Medium	11.99
Muzaffarnagar	1362	Medium	8.06	Muzaffarnagar	1365	Medium	7.84
Agra	1372	Medium	10.99	Agra	1380	Medium	10.41
Aligarh	1438	Medium	10.11	Aligarh	1435	Medium	9.68
Bulandshahar	1444	Medium	12.08	Bulandshahar	1441	Medium	11.35
Ghaziabad	1644	Medium	15.85	Ghaziabad	1604	Medium	14.22
Bijnor	1764	Medium	11.85	Budaun	1617	Medium	17.57
Saharanpur	1826	Medium	4.15	Bijnor	1703	Medium	11.21
Etah	1850	Medium	9.73	Hathras	1747	Medium	18.05
Budaun	1913	High	18.3	Etah	1793	Medium	9.37
Auraiya	1916	High	14.72	Saharanpur	1815	High	4.12
Hathras	1999	High	21.42	Auraiya	1816	High	13.38
Baghpat	2069	High	1.1	Baghpat	2067	High	1.1
Meerut	2230	High	9.23	Meerut	2096	High	9
Gautam Buddha Nr	2350	High	8.95	Gautam Buddha Nr	2201	High	8.74
District (Central)	MPCE	Rank	CV	District	MPCE	Rank	CV
Fatehpur	729	Low	23.32	Fatehpur	810	Low	19.72
Unnao	1048	Medium	15.56	Kanpur Nr	1083	Medium	10.07
Kanpur Nr	1057	Medium	10.6	Unnao	1084	Medium	14.22
Hardoi	1082	Medium	8.52	Hardoi	1093	Medium	8.28
Rae Bareli	1129	Medium	5.52	Rae Bareli	1133	Medium	5.45
Kheri	1282	Medium	17.85	Kheri	1281	Medium	16.08
Sitapur	1365	Medium	15.38	Sitapur	1350	Medium	14.21
Kanpur Dehat	1572	Medium	9.63	Kanpur Dehat	1568	Medium	9.21
Lucknow	1955	High	8.47	Lucknow	1890	High	8.27
District (Southern)	MPCE	Rank	CV	District	MPCE	Rank	CV
Chitrakoot	990	Low	12.65	Chitrakoot	1016	Low	11.92
Jhansi	1092	Medium	9.9	Jhansi	1111	Medium	9.48
Jalaun	1180	Medium	11.22	Jalaun	1204	Medium	10.59

District (Direct) (Western)	MPCE	Rank	CV	District (SAE)	MPCE	Rank	CV
Lalitpur	1357	Medium	9	Lalitpur	1352	Medium	8.74
Hamirpur	1358	Medium	17.73	Hamirpur	1366	Medium	15.67
Banda	1750	High	21.17	Banda	1590	Medium	18.22
Mahoba	1822	High	12.01	Mahoba	1729	High	11.47
District (Eastern)	MPCE	Rank	CV	District	MPCE	Rank	CV
Shrawasti	869	Medium	12.75	Shrawasti	880	Low	12.29
Allahabad	1004	Medium	5.6	Allahabad	1011	Low	5.53
Bahraich	1029	Medium	10.79	Bahraich	1033	Low	10.49
Gonda	1048	Medium	11.45	Gonda	1061	Low	10.97
Chandauli	1072	Medium	9.38	Chandauli	1090	Low	9.02
Deoria	1074	Medium	14.14	Deoria	1112	Medium	13
Pratapgarh	1123	Medium	10.29	Pratapgarh	1143	Medium	9.82
Barabanki	1166	Medium	18.75	Barabanki	1192	Medium	16.64
Mahrajganj	1179	Medium	14.04	Mahrajganj	1196	Medium	13.07
Balrampur	1218	Medium	7.18	Balrampur	1214	Medium	7.1
Sant Ravidas Nr	1223	Medium	2.53	Sant Ravidas Nr	1223	Medium	2.52
Basti	1280	Medium	16.89	Basti	1300	Medium	15.1
Mirzapur	1309	Medium	19.83	Sant Kabir Nr	1328	Medium	7.99
Sant Kabir Nr	1325	Medium	8.22	Siddharthnagar	1331	Medium	14.08
Siddharthnagar	1345	Medium	15.18	Mirzapur	1333	Medium	17.04
Varanasi	1426	Medium	24.3	Kaushambi	1437	Medium	14.14
Kaushambi	1472	Medium	15.3	Varanasi	1452	Medium	19.2
Ambedkar Nr	1477	Medium	15.42	Ambedkar Nr	1475	Medium	13.9
Kushinagar	1521	Medium	17.76	Kushinagar	1479	Medium	15.82
Azamgarh	1625	Medium	9.9	Sonbhadra	1513	Medium	19.22
Sonbhadra	1669	Medium	22.25	Azamgarh	1605	Medium	9.49
Jaunpur	1679	Medium	10.7	Jaunpur	1648	Medium	10.19
Ghazipur	1720	Medium	8.68	Ghazipur	1694	High	8.4
Gorakhpur	1746	Medium	8.38	Ballia	1699	High	16.9
Ballia	1863	Medium	19.55	Gorakhpur	1714	High	8.15
Sultanpur	1991	Medium	19.67	Faizabad	1740	High	24.69
Mau	2045	Medium	9.61	Sultanpur	1745	High	17.16
Faizabad	4535	High	28.26	Mau	1954	High	9.29

Source: Computed at GIDS

The above data in table 15A shows that district wise direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of Monthly per capita consumer expenditure in Rupees (MPCE) for rural areas Other Category in the state of Uttar Pradesh in 2011-12.

As per direct estimates the number of districts fallen in the low level category is 4, namely Fatehpur, Mainpuri, Farrukhabad, and Shrawasti respectively. Their level of MPCE represents the range of Rs. 729 to 869, whereas their percentage coefficient of variation levels shows that 7.21% to 23.32%.

On the other hand as per model based small area estimates the number of districts fallen in the low level category is 11, namely Mainpuri, Fatehpur, Farrukhabad, Shrawasti, Rampur, Allahabad, Chitrakoot, Bahraich, Shahjahanpur, Kannauj, and Gonda respectively. Their level of MPCE represents the range of Rs. 797 to 1061, whereas their percentage coefficient of variation levels shows that 5.53% to 19.72%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

As per direct estimates the number of districts fallen in the Medium level category is 60. Their level of MPCE represents the range of Rs. 977 to 1955, whereas their percentage coefficient of variation levels shows that 1.23% to 24.3%.

On the other hand as per model based small area estimates the number of districts fallen in the medium level category is 46. Their level of MPCE represents the range of Rs. 1083 to 1699, whereas their percentage coefficient of variation levels shows that 1.23% to 19.22%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

As per direct estimates the number of districts fallen in the high level category is 7, namely Sultanpur, Hathras, Mau, Baghpat, Meerut, G.B.Nagar, and Faizabad respectively. Their level of MPCE represents the range of Rs. 1991 to 4535, whereas their percentage coefficient of variation levels shows that 1.1% to 28.26%.

On the other hand as per model based small area estimates the number of districts fallen in the high level category is 14, namely Bijnor, Mahoba, Gorakhpur, Faizbad, Sultanpur, Hathras, Etah, Shahranpur, Auraiya, Lucknow, Mau, Baghpat, Meerut, and G.B.Nagar respectively. Their level of MPCE represents the range of Rs. 1703 to 2201, whereas their percentage coefficient of variation levels shows that 1.1% to 24.69%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

The above data in table 15B shows that Region-wise districts (4 regions) direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of Monthly per capita consumer expenditure in Rupees (MPCE) for rural areas in the state of Uttar Pradesh in 2011-12.

As per direct estimates the Western region number of districts fallen in the low level category is 5, Medium – 16, and High – 6; Central region number of districts fallen in the low category – 1, Medium – 7, and High – 1; Bundelkhand region number of districts fallen in the low category – 1 and Medium – 4 and High - 2; and Eastern region number of districts fallen in the category Medium – 27 and High – 1.

On the other hand as per model based small area estimates the Western region number of districts fallen in the low level category is 5, Medium – 17, and High – 5; Central region number of districts fallen in the low category – 1, Medium – 7, and High – 1; Bundelkhand region number of districts fallen in the low category – 1 and Medium – 5 and high -1; and Eastern region number of districts fallen in the low level category – 5, Medium – 17 and High – 6.

However, the direct estimates compared with model based small area estimates indicate that the MPCE variations are high in Eastern region and CV variations are higher in Eastern region. Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

Table 16; District-wise sample size, sample count of poor household (Sample Count), direct estimates (Direct) and model-based small area estimates (SAE) along with their standard error (SE) and percentage coefficient of variations (CV) for poverty incidence for rural SG Other category in the state of Uttar Pradesh in 2011-12.

Region	District	Sample Size	Sample Count	Direct			Model Based SAE		
				Poverty Incidence	SE	CV	Poverty Incidence	SE	CV
Western	Saharanpur	14	0	0			0.055	0.05	86.82
	Muzaffarnagar	19	1	0.007	0.01	103.81	0.036	0.03	77.58
	Bijnor	24	0	0			0.026	0.02	71.95
	Moradabad	40	11	0.131	0.05	38.75	0.131	0.04	26.88
	Rampur	11	2	0.097	0.09	88.20	0.151	0.10	63.49
	Jyotiba Phule Nr	14	2	0.137	0.11	82.08	0.112	0.06	56.12
	Meerut	27	1	0.004	0.00	104.58	0.023	0.02	72.75
	Baghpat	2	0	0			0.06	0.06	96.90

Region	District	Sample Size	Sample Count	Direct			Model Based SAE		
				Poverty Incidence	SE	CV	Poverty Incidence	SE	CV
	Ghaziabad	25	1	0.073	0.07	97.09	0.061	0.03	57.26
	Gautam Buddha Nr	5	0	0			0.049	0.05	96.59
	Bulandshahar	14	1	0.101	0.10	96.41	0.1	0.06	58.99
	Aligarh	23	2	0.092	0.08	85.24	0.081	0.05	56.17
	Hathras	13	0	0			0.049	0.04	88.02
	Mathura	32	2	0.113	0.10	90.52	0.11	0.05	44.35
	Agra	39	1	0.006	0.01	97.89	0.031	0.02	77.69
	Firozabad	5	1	0.138	0.14	97.99	0.093	0.07	78.35
	Etah	7	0	0			0.057	0.05	90.31
	Mainpuri	10	3	0.642	0.24	36.67	0.281	0.16	56.77
	Budaun	10	0	0			0.101	0.07	74.22
	Bareilly	11	0	0			0.082	0.06	77.23
	Pilibhit	14	2	0.147	0.11	72.36	0.154	0.09	56.61
	Shahjahanpur	24	0	0			0.055	0.04	72.50
	Farrukhabad	9	3	0.638	0.25	38.67	0.333	0.17	50.78
	Kannauj	11	2	0.18	0.14	80.50	0.13	0.08	64.54
	Etawah	12	0	0			0.034	0.03	92.07
	Auraiya	14	0	0			0.028	0.02	85.27
	Kashiramnagar	3	0	0			0.101	0.09	87.16
	Central	Kheri	7	2	0.447	0.24	52.77	0.347	0.14
Sitapur		28	4	0.182	0.12	65.82	0.18	0.08	42.46
Hardoi		29	7	0.257	0.11	41.92	0.244	0.06	25.13
Unnao		14	3	0.444	0.21	47.64	0.321	0.14	42.52
Lucknow		8	0	0			0.057	0.05	86.13
Rae Bareli		38	4	0.064	0.05	74.61	0.077	0.04	47.89
Kanpur Dehat		10	0	0			0.041	0.04	91.91
Kanpur Nr		24	2	0.068	0.05	73.37	0.07	0.04	59.93
Fatehpur		8	3	0.533	0.26	49.67	0.229	0.14	61.79
Southern	Jalaun	20	1	0.122	0.11	92.08	0.115	0.05	46.01
	Jhansi	17	0	0			0.036	0.03	80.03
	Lalitpur	4	0	0			0.086	0.07	84.25
	Hamirpur	10	1	0.137	0.13	93.91	0.118	0.07	58.41
	Banda	5	0	0			0.074	0.06	85.57
	Chitrakoot	7	2	0.018	0.02	103.83	0.075	0.06	85.58
	Mahoba	8	0	0			0.07	0.06	82.44
Eastern	Mahrajganj	12	3	0.16	0.11	71.61	0.117	0.08	68.43
	Pratapgarh	31	3	0.05	0.03	66.78	0.053	0.03	65.63

Region	District	Sample Size	Sample Count	Direct			Model Based SAE		
				Poverty Incidence	SE	CV	Poverty Incidence	SE	CV
	Kaushambi	7	0	0			0.07	0.06	79.15
	Allahabad	40	7	0.05	0.02	49.63	0.06	0.03	55.53
	Barabanki	18	3	0.395	0.19	49.20	0.337	0.11	33.56
	Faizabad	16	0	0			0.059	0.05	85.92
	Ambedkar Nr	17	3	0.084	0.06	67.63	0.074	0.04	58.59
	Sultanpur	29	1	0.057	0.06	98.28	0.072	0.04	55.90
	Bahraich	25	5	0.368	0.18	49.53	0.343	0.12	34.78
	Shrawasti	14	3	0.591	0.21	36.00	0.493	0.15	31.23
	Balrampur	12	1	0.048	0.05	112.64	0.139	0.11	77.92
	Gonda	41	6	0.224	0.14	62.90	0.209	0.06	30.64
	Siddharthnagar	26	3	0.029	0.02	69.82	0.078	0.05	61.88
	Basti	15	5	0.243	0.14	58.11	0.164	0.10	60.18
	Sant Kabir Nr	13	0	0			0.043	0.03	76.78
	Gorakhpur	14	0	0			0.043	0.03	80.56
	Kushinagar	22	0	0			0.038	0.03	73.97
	Deoria	15	3	0.018	0.01	73.10	0.044	0.04	82.57
	Azamgarh	15	2	0.152	0.10	66.24	0.118	0.05	45.40
	Mau	2	0	0			0.06	0.06	96.32
	Ballia	12	0	0			0.043	0.04	84.17
	Jaunpur	25	0	0			0.027	0.02	75.90
	Ghazipur	14	0	0			0.039	0.03	81.49
	Chandauli	11	0	0			0.045	0.04	85.78
	Varanasi	11	1	0.275	0.22	80.83	0.129	0.08	64.76
	Sant Ravidas Nr	11	1	0.148	0.14	94.15	0.097	0.07	72.46
	Mirzapur	17	6	0.28	0.13	45.59	0.233	0.08	33.52
	Sonbhadra	4	0	0			0.103	0.09	86.78

Source: Derived from 68th Round NSSO Unit Level Data

Table 16A: Analysis Table for All Districts

District (Direct)	Poverty Incidence	Rank	CV	District (SAE)	Poverty Incidence	Rank	CV
Saharanpur	0			Meerut	0.023	Medium	72.75
Bijnor	0			Bijnor	0.026	Medium	71.95
Baghpat	0			Jaunpur	0.027	Medium	75.9
Gautam Buddha Nr	0			Auraiya	0.028	Medium	85.27
Hathras	0			Agra	0.031	Medium	77.69
Etah	0			Etawah	0.034	Medium	92.07
Budaun	0			Muzaffarnagar	0.036	Medium	77.58
Bareilly	0			Jhansi	0.036	Medium	80.03
Shahjahanpur	0			Kushinagar	0.038	Medium	73.97
Etawah	0			Ghazipur	0.039	Medium	81.49
Auraiya	0			Kanpur Dehat	0.041	Medium	91.91
Kashiramnagar	0			Sant Kabir Nr	0.043	Medium	76.78
Lucknow	0			Gorakhpur	0.043	Medium	80.56
Kanpur Dehat	0			Ballia	0.043	Medium	84.17
Jhansi	0			Deoria	0.044	Medium	82.57
Lalitpur	0			Chandauli	0.045	Medium	85.78
Banda	0			Gautam Buddha Nr	0.049	Medium	96.59
Mahoba	0			Hathras	0.049	Medium	88.02
Kaushambi	0			Pratapgarh	0.053	Medium	65.63
Faizabad	0			Saharanpur	0.055	Medium	86.82
Sant Kabir Nr	0			Shahjahanpur	0.055	Medium	72.5
Gorakhpur	0			Etah	0.057	Medium	90.31
Kushinagar	0			Lucknow	0.057	Medium	86.13
Mau	0			Faizabad	0.059	Medium	85.92
Ballia	0			Baghpat	0.06	Medium	96.9
Jaunpur	0			Allahabad	0.06	Medium	55.53
Ghazipur	0			Mau	0.06	Medium	96.32
Chandauli	0			Ghaziabad	0.061	Medium	57.26
Sonbhadra	0			Kanpur Nr	0.07	Medium	59.93
Meerut	0.004	Medium	104.58	Mahoba	0.07	Medium	82.44
Agra	0.006	Medium	97.89	Kaushambi	0.07	Medium	79.15
Muzaffarnagar	0.007	Medium	103.81	Sultanpur	0.072	Medium	55.9
Chitrakoot	0.018	Medium	103.83	Banda	0.074	Medium	85.57
Deoria	0.018	Medium	73.1	Ambedkar Nr	0.074	Medium	58.59
Siddharthnagar	0.029	Medium	69.82	Chitrakoot	0.075	Medium	85.58
Balrampur	0.048	Medium	112.64	Rae Bareli	0.077	Medium	47.89
Pratapgarh	0.05	Medium	66.78	Siddharthnagar	0.078	Medium	61.88
Allahabad	0.05	Medium	49.63	Aligarh	0.081	Medium	56.17
Sultanpur	0.057	Medium	98.28	Bareilly	0.082	Medium	77.23
Rae Bareli	0.064	Medium	74.61	Lalitpur	0.086	Medium	84.25
Kanpur Nr	0.068	Medium	73.37	Firozabad	0.093	Medium	78.35

District (Direct)	Poverty Incidence	Rank	CV	District (SAE)	Poverty Incidence	Rank	CV
Ghaziabad	0.073	Medium	97.09	Sant Ravidas Nr	0.097	Medium	72.46
Ambedkar Nr	0.084	Medium	67.63	Bulandshahar	0.1	Medium	58.99
Aligarh	0.092	Medium	85.24	Budaun	0.101	Medium	74.22
Rampur	0.097	Medium	88.2	Kashiramnagar	0.101	Medium	87.16
Bulandshahar	0.101	Medium	96.41	Sonbhadra	0.103	Medium	86.78
Mathura	0.113	Medium	90.52	Mathura	0.11	Medium	44.35
Jalaun	0.122	Medium	92.08	Jyotiba Phule Nr	0.112	Medium	56.12
Moradabad	0.131	Medium	38.75	Jalaun	0.115	Medium	46.01
Jyotiba Phule Nr	0.137	Medium	82.08	Mahrajganj	0.117	Medium	68.43
Hamirpur	0.137	Medium	93.91	Hamirpur	0.118	Medium	58.41
Firozabad	0.138	Medium	97.99	Azamgarh	0.118	Medium	45.4
Pilibhit	0.147	Medium	72.36	Varanasi	0.129	Medium	64.76
Sant Ravidas Nr	0.148	Medium	94.15	Kannauj	0.13	Medium	64.54
Azamgarh	0.152	Medium	66.24	Moradabad	0.131	Medium	26.88
Mahrajganj	0.16	Medium	71.61	Balrampur	0.139	Medium	77.92
Kannauj	0.18	Medium	80.5	Rampur	0.151	Medium	63.49
Sitapur	0.182	Medium	65.82	Pilibhit	0.154	Medium	56.61
Gonda	0.224	Medium	62.9	Basti	0.164	Medium	60.18
Basti	0.243	Medium	58.11	Sitapur	0.18	Medium	42.46
Hardoi	0.257	Medium	41.92	Gonda	0.209	High	30.64
Varanasi	0.275	Medium	80.83	Fatehpur	0.229	High	61.79
Mirzapur	0.28	High	45.59	Mirzapur	0.233	High	33.52
Bahraich	0.368	High	49.53	Hardoi	0.244	High	25.13
Barabanki	0.395	High	49.2	Mainpuri	0.281	High	56.77
Unnao	0.444	High	47.64	Unnao	0.321	High	42.52
Kheri	0.447	High	52.77	Farrukhabad	0.333	High	50.78
Fatehpur	0.533	High	49.67	Barabanki	0.337	High	33.56
Shrawasti	0.591	High	36	Bahraich	0.343	High	34.78
Farrukhabad	0.638	High	38.67	Kheri	0.347	High	40.49
Mainpuri	0.642	High	36.67	Shrawasti	0.493	High	31.23

Source: Computed at GIDS

Tab 16B: Analysis Table by Region-wise

District (Direct) (Western)	Poverty Incidence	Rank	CV	District (SAE)	Poverty Incidence	Rank	CV
Saharanpur	0			Meerut	0.023	Medium	72.75
Bijnor	0			Bijnor	0.026	Medium	71.95
Baghpat	0			Auraiya	0.028	Medium	85.27
Gautam Buddha Nr	0			Agra	0.031	Medium	77.69
Hathras	0			Etawah	0.034	Medium	92.07
Etah	0			Muzaffarnagar	0.036	Medium	77.58
Budaun	0			Gautam Buddha Nr	0.049	Medium	96.59
Bareilly	0			Hathras	0.049	Medium	88.02
Shahjahanpur	0			Saharanpur	0.055	Medium	86.82
Etawah	0			Shahjahanpur	0.055	Medium	72.5
Auraiya	0			Etah	0.057	Medium	90.31
Kashiramnagar	0			Baghpat	0.06	Medium	96.9
Meerut	0.004	Medium	104.58	Ghaziabad	0.061	Medium	57.26
Agra	0.006	Medium	97.89	Aligarh	0.081	Medium	56.17
Muzaffarnagar	0.007	Medium	103.81	Bareilly	0.082	Medium	77.23
Ghaziabad	0.073	Medium	97.09	Firozabad	0.093	Medium	78.35
Aligarh	0.092	Medium	85.24	Bulandshahar	0.1	Medium	58.99
Rampur	0.097	Medium	88.2	Budaun	0.101	Medium	74.22
Bulandshahar	0.101	Medium	96.41	Kashiramnagar	0.101	Medium	87.16
Mathura	0.113	Medium	90.52	Mathura	0.11	Medium	44.35
Moradabad	0.131	Medium	38.75	Jyotiba Phule Nr	0.112	Medium	56.12
Jyotiba Phule Nr	0.137	Medium	82.08	Kannauj	0.13	Medium	64.54
Firozabad	0.138	Medium	97.99	Moradabad	0.131	Medium	26.88
Pilibhit	0.147	Medium	72.36	Rampur	0.151	Medium	63.49
Kannauj	0.18	Medium	80.5	Pilibhit	0.154	Medium	56.61
Farrukhabad	0.638	High	38.67	Mainpuri	0.281	High	56.77
Mainpuri	0.642	High	36.67	Farrukhabad	0.333	High	50.78
District (Central)	Poverty Incidence	Rank	CV	District	Poverty Incidence	Rank	CV
Lucknow	0			Kanpur Dehat	0.041	Low	91.91
Kanpur Dehat	0			Lucknow	0.057	Medium	86.13
Rae Bareli	0.064	Medium	74.61	Kanpur Nr	0.07	Medium	59.93
Kanpur Nr	0.068	Medium	73.37	Rae Bareli	0.077	Medium	47.89
Sitapur	0.182	Medium	65.82	Sitapur	0.18	Medium	42.46
Hardoi	0.257	Medium	41.92	Fatehpur	0.229	Medium	61.79
Unnao	0.444	High	47.64	Hardoi	0.244	Medium	25.13
Kheri	0.447	High	52.77	Unnao	0.321	High	42.52
Fatehpur	0.533	High	49.67	Kheri	0.347	High	40.49
District (Southern)	Poverty Incidence	Rank	CV	District	Poverty Incidence	Rank	CV
Jhansi	0			Jhansi	0.036	Low	80.03

District (Direct) (Western)	Poverty Incidence	Rank	CV	District (SAE)	Poverty Incidence	Rank	CV
Lalitpur	0			Mahoba	0.07	Medium	82.44
Banda	0			Banda	0.074	Medium	85.57
Mahoba	0			Chitrakoot	0.075	Medium	85.58
Chitrakoot	0.018	Medium	103.83	Lalitpur	0.086	Medium	84.25
Jalaun	0.122	High	92.08	Jalaun	0.115	High	46.01
Hamirpur	0.137	High	93.91	Hamirpur	0.118	High	58.41
District (Eastern)	Poverty Incidence	Rank	CV	District	Poverty Incidence	Rank	CV
Kaushambi	0			Jaunpur	0.027	Medium	75.9
Faizabad	0			Kushinagar	0.038	Medium	73.97
Sant Kabir Nr	0			Ghazipur	0.039	Medium	81.49
Gorakhpur	0			Sant Kabir Nr	0.043	Medium	76.78
Kushinagar	0			Gorakhpur	0.043	Medium	80.56
Mau	0			Ballia	0.043	Medium	84.17
Ballia	0			Deoria	0.044	Medium	82.57
Jaunpur	0			Chandauli	0.045	Medium	85.78
Ghazipur	0			Pratapgarh	0.053	Medium	65.63
Chandauli	0			Faizabad	0.059	Medium	85.92
Sonbhadra	0			Allahabad	0.06	Medium	55.53
Deoria	0.018	Medium	73.1	Mau	0.06	Medium	96.32
Siddharthnagar	0.029	Medium	69.82	Kaushambi	0.07	Medium	79.15
Balrampur	0.048	Medium	112.64	Sultanpur	0.072	Medium	55.9
Pratapgarh	0.05	Medium	66.78	Ambedkar Nr	0.074	Medium	58.59
Allahabad	0.05	Medium	49.63	Siddharthnagar	0.078	Medium	61.88
Sultanpur	0.057	Medium	98.28	Sant Ravidas Nr	0.097	Medium	72.46
Ambedkar Nr	0.084	Medium	67.63	Sonbhadra	0.103	Medium	86.78
Sant Ravidas Nr	0.148	Medium	94.15	Mahrajganj	0.117	Medium	68.43
Azamgarh	0.152	Medium	66.24	Azamgarh	0.118	Medium	45.4
Mahrajganj	0.16	Medium	71.61	Varanasi	0.129	Medium	64.76
Gonda	0.224	Medium	62.9	Balrampur	0.139	Medium	77.92
Basti	0.243	Medium	58.11	Basti	0.164	Medium	60.18
Varanasi	0.275	High	80.83	Gonda	0.209	Medium	30.64
Mirzapur	0.28	High	45.59	Mirzapur	0.233	High	33.52
Bahraich	0.368	High	49.53	Barabanki	0.337	High	33.56
Barabanki	0.395	High	49.2	Bahraich	0.343	High	34.78
Shrawasti	0.591	High	36	Shrawasti	0.493	High	31.23

Source: Computed at GIDS

The above data in table 16A shows that district wise direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of Incidence of Poverty proportions for rural areas in the state of Uttar Pradesh in 2011-12.

As per direct estimates the number of districts fallen in the Medium level category is 33. Their level of incidence of poverty proportions represents the range of 0.004 to 0.275, whereas their percentage coefficient of variation levels shows that 38.75% to 112.64%.

On the other hand as per model based small area estimates the number of districts fallen in the medium level category is 60. Their level of incidence of poverty proportions represents the range of 0.023 to 0.18, whereas their percentage coefficient of variation levels shows that 26.88% to 96.9%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

As per direct estimates the number of districts fallen in the high level category is 9, namely Mirzapur, Bahraich, Barabanki, Unnao, Kheri, Fatehpur, Shrawasti, Farrukhabad, and Mainpuri respectively. Their level of incidence of poverty proportions represents the range of 0.28 to 0.642, whereas their percentage coefficient of variation levels shows that 36% to 52.77%.

On the other hand as per model based small area estimates the number of districts fallen in the high level category is 11, namely Gonda, Fatehpur, Mirzapur, Hardoi, Mainpuri, Unnao, Farrukhabad, Barabanki, Bahraich, Kheri, and Shrawasti respectively. Their level of incidence of poverty proportions represents the range of 0.209 to 0.493, whereas their percentage coefficient of variation levels shows that 25.13% to 61.79%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

The above data in table 16B shows that Region-wise districts (4 regions) direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of incidence of poverty proportions for rural areas Other Category in the state of Uttar Pradesh in 2011-12.

As per direct estimates the incidence of poverty proportions in Western region number of districts fallen in the low level category is 0, Medium – 13, and High – 2; Central region number of districts fallen in the low category – 0, Medium – 4, and High – 3; Bundelkhand region number of districts fallen in the Medium – 1, and High - 2; and Eastern region number of districts fallen in the low level category –, Medium – 12 and High – 5.

On the other hand as per model based small area estimates the incidence of poverty proportions in Western region number of districts fallen in the low level category is 0, Medium – 25 and High – 2; Central region number of districts fallen in the low category – 1, Medium – 6, and High – 2; Bundelkhand region number of districts fallen in the low category – 1, Medium – 4 and High - 2; and Eastern region number of districts fallen in the low level category – 0, Medium – 24 and High – 4.

However, the direct estimates compared with model based small area estimates indicate that the incidence of poverty proportions in rural areas the variations are high in Western region and CV variations are higher in Eastern region also. Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

Table17: District-wise sample size, estimated total household (Est.HHs), Average Household size (HHS), direct estimates (Direct) and model-based small area estimates (SAE) along with their standard error (SE) and percentage coefficient of variations (CV) for monthly per capita consumer and expenditure in Rupees (MPCE) for urban areas in the state of Uttar Pradesh in 2011-12

Region	District Name	Sample Size	Est.HHs	HHS	Direct			Model Based SAE		
					MPCE	SE	CV	MPCE	SE	CV
Western	Saharanpur	64	107988	4.93	2118	262	12.39	2047	247	12.06
	Muzaffarnagar	64	142066	4.54	2057	184	8.95	2012	179	8.87
	Bijnor	64	123088	5.35	1405	127	9.02	1397	125	8.94
	Moradabad	64	196608	5.38	1363	94	6.89	1360	93	6.85
	Rampur	32	66190	6.8	988	69	6.99	988	69	6.96
	JyotibaPhuleNr	32	55631	5.12	2108	328	15.58	1945	300	15.44
	Meerut	96	435935	5.08	2401	225	9.35	2334	215	9.2
	Baghpat	32	56100	5.07	2290	205	8.97	2219	198	8.91
	Ghaziabad	96	604753	3.74	4180	504	12.06	3439	416	12.1
	Gautam Buddha Nr	32	171354	3.81	6453	609	9.44	4762	482	10.12
	Bulandshahar	64	137077	6.13	1803	229	12.68	1756	218	12.43
	Aligarh	64	204022	4.45	2009	173	8.61	1968	168	8.55
	Hathras	32	64769	6.11	1335	116	8.67	1336	114	8.57
	Mathura	64	128094	4.99	1445	103	7.14	1446	102	7.06
	Agra	96	378684	5.63	1714	373	21.77	1715	333	19.39
	Firozabad	64	136794	5.81	1229	87	7.07	1236	86	6.99
	Etah	32	56578	4.58	2354	320	13.6	2191	294	13.4
	Mainpuri	32	42624	4.94	1026	78	7.61	1030	78	7.54
	Budaun	32	112360	5.39	1234	80	6.49	1229	80	6.48
	Bareilly	64	282904	5.32	1311	80	6.12	1313	80	6.08
Pilibhit	32	57718	5.85	1419	164	11.58	1410	161	11.39	
Shahjahanpur	32	137392	5.06	1175	100	8.49	1175	99	8.42	
Farrukhabad	32	53114	5.52	1150	92	8.04	1157	92	7.92	

Region	District Name	Sample Size	Est.HHs	HHS	Direct			Model Based SAE			
					MPCE	SE	CV	MPCE	SE	CV	
	Kannauj	32	43036	6.07	1027	80	7.82	1035	80	7.72	
	Etawah	32	72088	5.67	1118	102	9.13	1130	101	8.96	
	Auraiya	32	38807	4.56	1401	122	8.7	1412	120	8.53	
	Kashiramnagar	32	41256	5.71	1158	90	7.77	1158	89	7.72	
Central	Kheri	32	91114	5.58	894	87	9.72	902	86	9.56	
	Sitapur	32	112426	4.27	1400	261	18.64	1410	246	17.43	
	Hardoi	32	63651	5.86	1046	78	7.45	1051	77	7.37	
	Unnao	32	85470	4.59	1273	126	9.88	1285	124	9.65	
	Lucknow	128	730364	4.79	2318	296	12.79	2296	276	12.02	
	Rae Bareli	32	58480	4.91	1742	350	20.11	1756	316	18	
	Kanpur Dehat	32	25667	5.28	1499	129	8.62	1509	127	8.43	
	Kanpur Nagar	128	552096	4.16	1956	162	8.29	1966	159	8.07	
	Fatehpur	32	44932	5.54	1214	127	10.45	1229	125	10.17	
Southern	Jalaun	32	68416	5.09	1659	174	10.47	1659	169	10.18	
	Jhansi	64	152102	4.49	2507	562	22.42	2407	451	18.74	
	Lalitpur	32	26691	5	1620	108	6.66	1629	107	6.55	
	Hamirpur	32	53228	4.55	1437	155	10.78	1457	152	10.41	
	Banda	32	50816	5.59	1120	68	6.08	1127	68	6.02	
	Chitrakoot	32	13869	6.9	791	65	8.18	796	64	8.1	
	Mahoba	32	45938	5.64	1179	87	7.39	1184	87	7.31	
Eastern	Mahrajganj	32	28556	5.29	1328	167	12.58	1335	163	12.21	
	Pratapgarh	32	30353	5.9	1458	186	12.78	1477	181	12.23	
	Kaushambi	32	20221	5.42	867	79	9.11	878	79	8.95	
	Allahabad	63	323443	3.2	3436	564	16.41	2940	450	15.3	
	Barabanki	32	60544	5.6	911	99	10.83	923	98	10.59	
	Faizabad	32	58996	3.55	1632	310	19.01	1668	286	17.13	
	Ambedkar Nagar	32	56742	7.21	868	70	8.03	875	69	7.92	
	Sultanpur	31	22424	4.82	1847	277	15	1832	260	14.17	
	Bahraich	32	41790	4.18	1313	183	13.93	1313	178	13.52	
	Shrawasti	30	7521	5.6	1224	196	16	1190	190	15.97	
	Balrampur	32	15484	5.94	1076	90	8.36	1077	89	8.29	
	Gonda	32	34778	3.76	2488	207	8.32	2414	199	8.25	
	Siddharthnagar	32	28260	3.55	1178	145	12.33	1186	143	12.02	
	Basti	32	33100	5.17	1371	159	11.62	1375	156	11.34	
	SantKabir Nagar	32	17940	5.96	1153	165	14.34	1173	161	13.74	
	Gorakhpur	64	230637	5.2	1820	172	9.45	1820	168	9.21	
	Kushinagar	32	30988	6.07	1376	180	13.09	1368	175	12.79	
	Deoria	32	58707	6.13	1306	163	12.5	1306	160	12.23	
	Azamgarh	32	52078	6.3	1734	320	18.44	1719	293	17.03	
	Mau	32	120848	2.97	1210	132	10.93	1235	130	10.54	
	Ballia	32	37905	6.02	1348	151	11.23	1361	148	10.89	
	Jaunpur	32	66519	6.02	1522	231	15.15	1513	220	14.56	
	Ghazipur	32	40882	5.1	1280	143	11.13	1288	140	10.87	
	Chandauli	32	24843	4.5	2875	377	13.13	2552	336	13.15	
	Varanasi	96	311505	5.49	1572	127	8.11	1585	126	7.93	
	SantRavidasNr.	32	39498	6.17	902	61	6.72	905	60	6.67	
	Mirzapur	32	43326	5.89	1169	157	13.41	1201	153	12.77	
	Sonbhadra	31	40016	4.37	2039	169	8.3	2021	165	8.17	
	Summary	Minimum	30	7521	2.97	791	61	6.08	796	60	6.02
		Average	44	112679	5.20	1623	185	10.97	1569	172	10.61
Maximum		128	730364	7.21	6453	609	22.42	4762	482	19.39	

Source: Derived from 68th Round NSSO Unit Level Data

Table 7A: Analysis Table for All Districts

District	Direct (MPCE)		CV	District	Model based SAE (MPCE)		CV
Chitrakoot	791	Medium	8.18	Chitrakoot	796	low	8.1
Kaushambi	867	Medium	9.11	Ambedkar Nagar	875	low	7.92
Ambedkar Nagar	868	Medium	8.03	Kaushambi	878	low	8.95
Kheri	894	Medium	9.72	Kheri	902	low	9.56
SantRavidasNr.	902	Medium	6.72	SantRavidasNr.	905	low	6.67
Barabanki	911	Medium	10.83	Barabanki	923	low	10.59
Rampur	988	Medium	6.99	Rampur	988	Medium	6.96
Mainpuri	1026	Medium	7.61	Mainpuri	1030	Medium	7.54
Kannauj	1027	Medium	7.82	Kannauj	1035	Medium	7.72
Hardoi	1046	Medium	7.45	Hardoi	1051	Medium	7.37
Balrampur	1076	Medium	8.36	Balrampur	1077	Medium	8.29
Etawah	1118	Medium	9.13	Banda	1127	Medium	6.02
Banda	1120	Medium	6.08	Etawah	1130	Medium	8.96
Farrukhabad	1150	Medium	8.04	Farrukhabad	1157	Medium	7.92
SantKabir Nagar	1153	Medium	14.34	Kashiramnagar	1158	Medium	7.72
Kashiramnagar	1158	Medium	7.77	SantKabir Nagar	1173	Medium	13.74
Mirzapur	1169	Medium	13.41	Shahjahanpur	1175	Medium	8.42
Shahjahanpur	1175	Medium	8.49	Mahoba	1184	Medium	7.31
Siddharthnagar	1178	Medium	12.33	Siddharthnagar	1186	Medium	12.02
Mahoba	1179	Medium	7.39	Shrawasti	1190	Medium	15.97
Mau	1210	Medium	10.93	Mirzapur	1201	Medium	12.77
Fatehpur	1214	Medium	10.45	Fatehpur	1229	Medium	6.48
Shrawasti	1224	Medium	16	Badaun	1229	Medium	10.17
Firozabad	1229	Medium	7.07	Mau	1235	Medium	10.54
Badaun	1234	Medium	6.49	Firozabad	1236	Medium	6.99
Unnao	1273	Medium	9.88	Unnao	1285	Medium	9.65
Ghazipur	1280	Medium	11.13	Ghazipur	1288	Medium	10.87
Deoria	1306	Medium	12.5	Deoria	1306	Medium	12.23
Bareilly	1311	Medium	6.12	Bareilly	1313	Medium	6.08
Bahraich	1313	Medium	13.93	Bahraich	1313	Medium	13.52
Mahrajganj	1328	Medium	12.58	Mahrajganj	1335	Medium	12.21
Hathras	1335	Medium	8.67	Hathras	1336	Medium	8.57
Ballia	1348	Medium	11.23	Moradabad	1360	Medium	6.85
Moradabad	1363	Medium	6.89	Ballia	1361	Medium	10.89
Basti	1371	Medium	11.62	Kushinagar	1368	Medium	12.79

District	Direct (MPCE)		CV	District	Model based SAE (MPCE)		CV
Kushinagar	1376	Medium	13.09	Basti	1375	Medium	11.34
Sitapur	1400	Medium	18.64	Bijnor	1397	Medium	8.94
Auraiya	1401	Medium	8.7	Sitapur	1410	Medium	11.39
Bijnor	1405	Medium	9.02	Pilibhit	1410	Medium	17.43
Pilibhit	1419	Medium	11.58	Auraiya	1412	Medium	8.53
Hamirpur	1437	Medium	10.78	Mathura	1446	Medium	7.06
Mathura	1445	Medium	7.14	Hamirpur	1457	Medium	10.41
Pratapgarh	1458	Medium	12.78	Pratapgarh	1477	Medium	12.23
Kanpur Dehat	1499	Medium	8.62	Kanpur Dehat	1509	Medium	8.43
Jaunpur	1522	Medium	15.15	Jaunpur	1513	Medium	14.56
Varanasi	1572	Medium	8.11	Varanasi	1585	Medium	7.93
Lalitpur	1620	Medium	6.66	Lalitpur	1629	Medium	6.55
Faizabad	1632	Medium	19.01	Jalaun	1659	Medium	10.18
Jalaun	1659	Medium	10.47	Faizabad	1668	Medium	17.13
Agra	1714	Medium	21.77	Agra	1715	Medium	19.39
Azamgarh	1734	Medium	18.44	Azamgarh	1719	Medium	17.03
Rae Bareli	1742	Medium	20.11	Rae Bareli	1756	Medium	12.43
Bulandshahar	1803	Medium	12.68	Bulandshahar	1756	Medium	18
Gorakhpur	1820	Medium	9.45	Gorakhpur	1820	Medium	9.21
Sultanpur	1847	Medium	15	Sultanpur	1832	Medium	14.17
Kanpur Nagar	1956	Medium	8.29	JyotibaPhuleNr	1945	Medium	15.44
Aligarh	2009	Medium	8.61	Kanpur Nagar	1966	Medium	8.07
Sonbhadra	2039	Medium	8.3	Aligarh	1968	Medium	8.55
Muzaffarnagar	2057	Medium	8.95	Muzaffarnagar	2012	High	8.87
JyotibaPhuleNr	2108	Medium	15.58	Sonbhadra	2021	High	8.17
Saharanpur	2118	Medium	12.39	Saharanpur	2047	High	12.06
Baghpat	2290	Medium	8.97	Etah	2191	High	13.4
Lucknow	2318	Medium	12.79	Baghpat	2219	High	8.91
Etah	2354	Medium	13.6	Lucknow	2296	High	12.02
Meerut	2401	Medium	9.35	Meerut	2334	High	9.2
Gonda	2488	High	8.32	Jhansi	2407	High	18.74
Jhansi	2507	High	22.42	Gonda	2414	High	8.25
Chandauli	2875	High	13.13	Chandauli	2552	High	13.15
Allahabad	3436	High	16.41	Allahabad	2940	High	15.3
Ghaziabad	4180	High	12.06	Ghaziabad	3439	High	12.1
Gautam Buddha Nr	6453	High	9.44	Gautam Buddha Nr	4762	High	10.12

Source: computed at GIDS

The above data in table shows that district wise direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of Monthly per capita consumer expenditure in Rupees (MPCE) for urban areas in the state of Uttar Pradesh in 2011-12. As mentioned above as per direct estimate and model based small area estimate based MPCE has been categorised into 3 levels i.e. low, medium and high.

As per direct estimates the number of districts fallen in the low level category is nil.

On the other hand as per model based small area estimates the number of districts fallen in the low level category is 6, namely Chitrakoot, Ambedkar Nagar, Kaushambi, Kheri, Sant Ravidas Nagar and Barabanki respectively. Their level of MPCE represents the range of Rs. 796 to 923, whereas their percentage coefficient of variation levels shows that 6.67% to 10.59%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

As per direct estimates the number of districts fallen in the Medium level category is 55. Their level of MPCE represents the range of Rs. 861 to 1247, whereas their percentage coefficient of variation levels shows that 4.25% to 25.35%.

On the other hand as per model based small area estimates the number of districts fallen in the medium level category is 52. Their level of MPCE represents the range of Rs. 988 to 1968, whereas their percentage coefficient of variation levels shows that 6.02% to 18.74%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

As per direct estimates the number of districts fallen in the high level category is 6, namely Gonda, Jhansi, Chandauli, Allahabad, Ghaziabad, and Gautam Budh Nagar respectively. Their level of MPCE represents the range of Rs. 2488 to 6453, whereas their percentage coefficient of variation levels shows that 8.32% to 22.42%.

On the other hand as per model based small area estimates the number of districts fallen in the high level category is 13, namely Muzaffarnagar, Sonbhadra, Saharanpur, Etah, Baghpat Lucknow, Meerut, Jhansi, Gonda, Chandauli, Allahabad, Ghaziabad and GB Nagar respectively. Their level of MPCE represents the range of Rs. 2012 to 4762, whereas their percentage coefficient of variation levels shows that 8.17% to 18.74%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

Table17B: Analysis Table by Region-wise

Region	District	Direct (MPCE)		CV	District	Model based SAE (MPCE)		CV
Western	Rampur	988	Medium	6.99	Rampur	988	Medium	6.96
	Mainpuri	1026	Medium	7.61	Mainpuri	1030	Medium	7.54
	Kannauj	1027	Medium	7.82	Kannauj	1035	Medium	7.72
	Etawah	1118	Medium	9.13	Etawah	1130	Medium	8.96
	Farrukhabad	1150	Medium	8.04	Farrukhabad	1157	Medium	7.92
	Kashiramnagar	1158	Medium	7.77	Kashiramnagar	1158	Medium	7.72
	Shahjahanpur	1175	Medium	8.49	Shahjahanpur	1175	Medium	8.42
	Firozabad	1229	Medium	7.07	Badaun	1229	Medium	6.48
	Badaun	1234	Medium	6.49	Firozabad	1236	Medium	6.99
	Bareilly	1311	Medium	6.12	Bareilly	1313	Medium	6.08
	Hathras	1335	Medium	8.67	Hathras	1336	Medium	8.57
	Moradabad	1363	Medium	6.89	Moradabad	1360	Medium	6.85
	Auraiya	1401	Medium	8.7	Bijnor	1397	Medium	8.94
	Bijnor	1405	Medium	9.02	Pilibhit	1410	Medium	11.39
	Pilibhit	1419	Medium	11.58	Auraiya	1412	Medium	8.53
	Mathura	1445	Medium	7.14	Mathura	1446	Medium	7.06
	Agra	1714	Medium	21.77	Agra	1715	Medium	19.39
	Bulandshahar	1803	Medium	12.68	Bulandshahar	1756	Medium	12.43
	Aligarh	2009	Medium	8.61	JyotibaPhuleNr	1945	Medium	15.44
	Muzaffarnagar	2057	Medium	8.95	Aligarh	1968	Medium	8.55
	JyotibaPhuleNr	2108	Medium	15.58	Muzaffarnagar	2012	Medium	8.87
	Saharanpur	2118	Medium	12.39	Saharanpur	2047	Medium	12.06
	Baghpat	2290	Medium	8.97	Etah	2191	Medium	13.4
	Etah	2354	Medium	13.6	Baghpat	2219	Medium	8.91
	Meerut	2401	Medium	9.35	Meerut	2334	Medium	9.2
	Ghaziabad	4180	High	12.06	Ghaziabad	3439	High	12.1
	Gautam Buddha Nr	6453	High	9.44	Gautam Buddha Nr	4762	High	10.12

Region	District	Direct		CV	District	Model based SAE		CV
Central	Kheri	894	Medium	9.72	Kheri	902	Medium	9.56
	Hardoi	1046	Medium	7.45	Hardoi	1051	Medium	7.37
	Fatehpur	1214	Medium	10.45	Fatehpur	1229	Medium	10.17
	Unnao	1273	Medium	9.88	Unnao	1285	Medium	9.65
	Sitapur	1400	Medium	18.64	Sitapur	1410	Medium	17.43
	Kanpur Dehat	1499	Medium	8.62	Kanpur Dehat	1509	Medium	8.43
	Rae Bareli	1742	Medium	20.11	Rae Bareli	1756	Medium	18
	Kanpur Nagar	1956	High	8.29	Kanpur Nagar	1966	High	8.07
	Lucknow	2318	High	12.79	Lucknow	2296	High	12.02
Southern (Bundelkhand)	Chitrakoot	791	low	8.18	Chitrakoot	796	low	8.1
	Banda	1120	Medium	6.08	Banda	1127	Medium	6.02
	Mahoba	1179	Medium	7.39	Mahoba	1184	Medium	7.31
	Hamirpur	1437	Medium	10.78	Hamirpur	1457	Medium	10.41
	Lalitpur	1620	Medium	6.66	Lalitpur	1629	Medium	6.55
	Jalaun	1659	Medium	10.47	Jalaun	1659	Medium	10.18
	Jhansi	2507	High	22.42	Jhansi	2407	High	18.74
Eastern (Poorvanchal)	Kaushambi	867	low	9.11	Ambedkar Nagar	875	low	7.92
	Ambedkar Nagar	868	low	8.03	Kaushambi	878	low	8.95
	SantRavidasNr.	902	low	6.72	SantRavidasNr.	905	low	6.67
	Barabanki	911	low	10.83	Barabanki	923	low	10.59
	Balrampur	1076	Medium	8.36	Balrampur	1077	Medium	8.29
	SantKabir Nagar	1153	Medium	14.34	SantKabir Nagar	1173	Medium	13.74
	Mirzapur	1169	Medium	13.41	Siddharthnagar	1186	Medium	12.02
	Siddharthnagar	1178	Medium	12.33	Shrawasti	1190	Medium	15.97
	Mau	1210	Medium	10.93	Mirzapur	1201	Medium	12.77
	Shrawasti	1224	Medium	16	Mau	1235	Medium	10.54
	Ghazipur	1280	Medium	11.13	Ghazipur	1288	Medium	10.87
	Deoria	1306	Medium	12.5	Deoria	1306	Medium	12.23
Bahraich	1313	Medium	13.93	Bahraich	1313	Medium	13.52	

Region	District	Direct		CV	District	Model based SAE		CV
	Mahrajganj	1328	Medium	12.58	Mahrajganj	1335	Medium	12.21
	Ballia	1348	Medium	11.23	Ballia	1361	Medium	10.89
	Basti	1371	Medium	11.62	Kushinagar	1368	Medium	12.79
	Kushinagar	1376	Medium	13.09	Basti	1375	Medium	11.34
	Pratapgarh	1458	Medium	12.78	Pratapgarh	1477	Medium	12.23
	Jaunpur	1522	Medium	15.15	Jaunpur	1513	Medium	14.56
	Varanasi	1572	Medium	8.11	Varanasi	1585	Medium	7.93
	Faizabad	1632	Medium	19.01	Faizabad	1668	Medium	17.13
	Azamgarh	1734	Medium	18.44	Azamgarh	1719	Medium	17.03
	Gorakhpur	1820	Medium	9.45	Gorakhpur	1820	Medium	9.21
	Sultanpur	1847	Medium	15	Sultanpur	1832	Medium	14.17
	Sonbhadra	2039	Medium	8.3	Sonbhadra	2021	High	8.17
	Gonda	2488	High	8.32	Gonda	2414	High	8.25
	Chandauli	2875	High	13.13	Chandauli	2552	High	13.15
	Allahabad	3436	High	16.41	Allahabad	2940	High	15.3

Source: computed at GIDS

The above data in table shows that Region-wise districts (4 regions) direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of Monthly per capita consumer expenditure in Rupees (MPCE) for urban areas in the state of Uttar Pradesh in 2011-12. As mentioned above as per direct estimate and model based small area estimate based MPCE has been categorised into 3 levels i.e. low, medium and high.

As per direct estimates the Western region-wise (27) number of districts fallen in the, Medium – 25, and High – 2; Central region-wise (9) number of districts fallen in the, Medium – 7, and High – 2; Bundelkhand region-wise (7) number of districts fallen in the low category – 1, Medium – 5 and High -1; and Eastern region-wise (28) number of districts fallen in the low level category – 4, Medium – 21 and High – 3.

On the other hand as per model based small area estimates the Western region-wise (27) number of districts fallen in the, Medium – 25, and High – 2; Central region-wise (9) number of districts fallen in the, Medium – 7, and High – 2; Bundelkhand region-wise (7) number of districts fallen in the low category – 1, Medium – 5 and High - 1; and Eastern region-wise (28) number of districts fallen in the low level category – 4, Medium – 20 and High – 4.

However, in urban areas low level MPCE are very less. The direct estimates compared with model based small area estimates indicate that the MPCE variations are high in Western region and CV variations are higher in Bundelkhand region. Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

Table 18:. District-wise sample size, sample count of poor household (Sample Count), direct estimates (Direct) and model-based small area estimates (SAE) along with their standard error (SE) and percentage coefficient of variations (CV) for poverty incidence for urban areas in the state of Uttar Pradesh in 2011-12

Region	District	Sample Size	Sample Count	Direct			Model based SAE		
				Poverty Incidence	SE	CV	Poverty Incidence	SE	CV
Western	Saharanpur	64	8	0.153	0.0603	39.43	0.165	0.0407	24.69
	Muzaffarnagar	64	10	0.166	0.0621	37.43	0.179	0.0407	22.76
	Bijnor	64	16	0.199	0.0614	30.85	0.206	0.0490	23.78
	Moradabad	64	13	0.231	0.0698	30.21	0.235	0.0473	20.14
	Rampur	32	8	0.576	0.1144	19.86	0.547	0.0918	16.78
	JyotibaPhuleNr	32	5	0.148	0.0678	45.83	0.175	0.0595	34.00
	Meerut	96	8	0.035	0.0184	52.68	0.050	0.0187	37.42
	Baghpat	32	6	0.068	0.0395	58.08	0.110	0.0492	44.72
	Ghaziabad	96	4	0.010	0.0063	63.25	0.023	0.0100	43.48
	Gautam Buddha Nr	32	4	0.010	0.0055	54.77	0.026	0.0138	53.02
	Bulandshahar	64	5	0.104	0.0493	47.40	0.116	0.0339	29.23
	Aligarh	64	11	0.113	0.0381	33.70	0.129	0.0392	30.42
	Hathras	32	7	0.226	0.0938	41.51	0.244	0.0683	28.01
	Mathura	64	15	0.201	0.0587	29.18	0.208	0.0382	18.37
	Agra	96	28	0.222	0.0555	25.00	0.224	0.0373	16.64
	Firozabad	64	20	0.314	0.0696	22.18	0.305	0.0424	13.91
	Etah	32	5	0.103	0.0507	49.22	0.124	0.0508	40.96
	Mainpuri	32	12	0.417	0.1053	25.24	0.401	0.0896	22.35
	Badaun	32	9	0.219	0.0764	34.89	0.256	0.0828	32.35
	Bareilly	64	6	0.114	0.0498	43.68	0.127	0.0316	24.90
	Pilibhit	32	5	0.156	0.0796	51.00	0.180	0.0663	36.81
	Shahjahanpur	32	9	0.296	0.1018	34.39	0.314	0.0841	26.78
	Farrukhabad	32	10	0.333	0.1003	30.13	0.322	0.0707	21.96
	Kannauj	32	14	0.433	0.0970	22.40	0.415	0.0625	15.07
	Etawah	32	13	0.474	0.1001	21.12	0.433	0.0756	17.47
	Auraiya	32	6	0.132	0.0570	43.19	0.134	0.0487	36.33
	Kanshiramnagar	32	10	0.399	0.1081	27.10	0.399	0.0815	20.44
	Central	Kheri	32	15	0.630	0.1039	16.50	0.579	0.0822
Sitapur		32	8	0.385	0.1321	34.30	0.344	0.0923	26.83
Hardoi		32	13	0.486	0.0999	20.57	0.466	0.0727	15.61
Unnao		32	13	0.293	0.0948	32.36	0.294	0.0713	24.24
Lucknow		128	28	0.160	0.0437	27.31	0.161	0.0253	15.71
Rae Bareli		32	10	0.329	0.1356	41.22	0.302	0.0904	29.95
Kanpur Dehat		32	9	0.158	0.0802	50.75	0.160	0.0575	35.96
Kanpur Nagar	128	24	0.102	0.0430	42.17	0.106	0.0212	20.01	

Region	District	Sample Size	Sample Count	Direct			Model based SAE			
				Poverty Incidence	SE	CV	Poverty Incidence	SE	CV	
	Fatehpur	32	8	0.365	0.1012	27.74	0.359	0.0663	18.48	
Southern	Jalaun	32	2	0.092	0.0775	84.20	0.105	0.0438	41.73	
	Jhansi	64	10	0.149	0.0497	33.36	0.146	0.0295	20.20	
	Lalitpur	32	2	0.021	0.0155	73.77	0.043	0.0221	51.48	
	Hamirpur	32	7	0.243	0.0834	34.33	0.231	0.0541	23.43	
	Banda	32	13	0.414	0.1063	25.67	0.396	0.0736	18.59	
	Chitrakoot	32	11	0.600	0.1041	17.34	0.551	0.0957	17.36	
	Mahoba	32	7	0.291	0.1002	34.43	0.284	0.0752	26.47	
Eastern	Mahrajganj	32	12	0.386	0.1033	26.77	0.373	0.0852	22.84	
	Pratapgarh	32	15	0.395	0.1098	27.80	0.377	0.0804	21.34	
	Kaushambi	32	17	0.609	0.1071	17.59	0.579	0.0692	11.95	
	Allahabad	63	17	0.121	0.0370	30.59	0.127	0.0341	26.82	
	Barabanki	32	18	0.736	0.0882	11.98	0.667	0.0802	12.03	
	Faizabad	32	8	0.188	0.0801	42.62	0.192	0.0643	33.51	
	AmbedkarNr	32	18	0.654	0.0932	14.25	0.604	0.0697	11.54	
	Sultanpur	31	7	0.212	0.0834	39.32	0.201	0.0667	33.19	
	Bahraich	32	5	0.137	0.0845	61.68	0.177	0.0656	37.05	
	Shrawasti	30	11	0.460	0.0991	21.54	0.463	0.0887	19.16	
	Balrampur	32	12	0.388	0.1064	27.43	0.387	0.0859	22.20	
	Gonda	32	2	0.015	0.0110	73.03	0.073	0.0367	50.33	
	Siddharthnagar	32	13	0.340	0.0982	28.88	0.337	0.0856	25.39	
	Basti	32	13	0.395	0.1015	25.69	0.372	0.0856	23.00	
	SantKabirNr	32	12	0.477	0.1067	22.36	0.445	0.0785	17.64	
	Gorakhpur	64	9	0.113	0.0475	42.07	0.122	0.0387	31.75	
	Kushinagar	32	13	0.504	0.1044	20.71	0.473	0.0884	18.70	
	Deoria	32	14	0.390	0.1317	33.76	0.382	0.1217	31.87	
	Azamgarh	32	8	0.249	0.0796	31.95	0.252	0.0559	22.17	
	Mau	32	12	0.301	0.0975	32.40	0.276	0.0660	23.92	
	Ballia	32	11	0.341	0.0922	27.04	0.335	0.0685	20.44	
	Jaunpur	32	11	0.271	0.0917	33.84	0.264	0.0901	34.11	
	Ghazipur	32	11	0.318	0.1020	32.07	0.295	0.0868	29.42	
	Chandauli	32	1	0.003	0.0032	105.4	0.065	0.0370	56.94	
	Varanasi	96	18	0.131	0.0407	31.10	0.132	0.0239	18.09	
	SantRavidasNr	32	19	0.640	0.0964	15.06	0.602	0.0745	12.38	
	Mirzapur	32	12	0.571	0.1061	18.58	0.537	0.0699	13.01	
	Sonbhadra	31	1	0.018	0.0184	102.4	0.073	0.0382	52.34	
	Summary	Minimum	30	1	0.003	0.0032	11.98	0.023	0.0100	11.54
		Average	44	11	0.281	0.0773	36.73	0.278	0.0610	26.57
Maximum		128	28	0.736	0.1356	105.4	0.667	0.1217	56.94	

Source: Derived from 68th Round NSSO Unit Level Data

Tab 18A : Analysis Table for All Districts

District Name	Direct		CV	District	Model based SAE		CV
	(Poverty Incidence)				(Poverty Incidence)		
Chandauli	0.003	low	105.4	Ghaziabad	0.023	low	43.48
Ghaziabad	0.01	low	63.25	Gautam Buddha Nr	0.026	low	53.02
Gautam Buddha Nr	0.01	low	54.77	Lalitpur	0.043	low	51.48
Gonda	0.015	low	73.03	Meerut	0.05	low	37.42
Sonbhadra	0.018	low	102.4	Chandauli	0.065	low	56.94
Lalitpur	0.021	low	73.77	Gonda	0.073	low	50.33
Meerut	0.035	low	52.68	Sonbhadra	0.073	low	52.34
Baghpat	0.068	low	58.08	Jalaun	0.105	low	41.73
Jalaun	0.092	low	84.2	Kanpur Nagar	0.106	low	20.01
Kanpur Nagar	0.102	Medium	42.17	Baghpat	0.11	low	44.72
Etah	0.103	Medium	49.22	Bulandshahar	0.116	low	29.23
Bulandshahar	0.104	Medium	47.4	Gorakhpur	0.122	Medium	31.75
Aligarh	0.113	Medium	33.7	Etah	0.124	Medium	40.96
Gorakhpur	0.113	Medium	42.07	Bareilly	0.127	Medium	24.9
Bareilly	0.114	Medium	43.68	Allahabad	0.127	Medium	26.82
Allahabad	0.121	Medium	30.59	Aligarh	0.129	Medium	30.42
Varanasi	0.131	Medium	31.1	Varanasi	0.132	Medium	18.09
Auraiya	0.132	Medium	43.19	Auraiya	0.134	Medium	36.33
Bahraich	0.137	Medium	61.68	Jhansi	0.146	Medium	20.2
JyotibaPhuleNr	0.148	Medium	45.83	Kanpur Dehat	0.16	Medium	35.96
Jhansi	0.149	Medium	33.36	Lucknow	0.161	Medium	15.71
Saharanpur	0.153	Medium	39.43	Saharanpur	0.165	Medium	24.69
Pilibhit	0.156	Medium	51	JyotibaPhuleNr	0.175	Medium	34
Kanpur Dehat	0.158	Medium	50.75	Bahraich	0.177	Medium	37.05
Lucknow	0.16	Medium	27.31	Muzaffarnagar	0.179	Medium	22.76
Muzaffarnagar	0.166	Medium	37.43	Pilibhit	0.18	Medium	36.81
Faizabad	0.188	Medium	42.62	Faizabad	0.192	Medium	33.51
Bijnor	0.199	Medium	30.85	Sultanpur	0.201	Medium	33.19
Mathura	0.201	Medium	29.18	Bijnor	0.206	Medium	23.78
Sultanpur	0.212	Medium	39.32	Mathura	0.208	Medium	18.37

District Name	Direct		CV	District	Model based SAE		CV
Badaun	0.219	Medium	34.89	Agra	0.224	Medium	16.64
Agra	0.222	Medium	25	Hamirpur	0.231	Medium	23.43
Hathras	0.226	Medium	41.51	Moradabad	0.235	Medium	20.14
Moradabad	0.231	Medium	30.21	Hathras	0.244	Medium	28.01
Hamirpur	0.243	Medium	34.33	Azamgarh	0.252	Medium	22.17
Azamgarh	0.249	Medium	31.95	Badaun	0.256	Medium	32.35
Jaunpur	0.271	Medium	33.84	Jaunpur	0.264	Medium	34.11
Mahoba	0.291	Medium	34.43	Mau	0.276	Medium	23.92
Unnao	0.293	Medium	32.36	Mahoba	0.284	Medium	26.47
Shahjahanpur	0.296	Medium	34.39	Unnao	0.294	Medium	24.24
Mau	0.301	Medium	32.4	Ghazipur	0.295	Medium	29.42
Firozabad	0.314	Medium	22.18	Rae Bareli	0.302	Medium	29.95
Ghazipur	0.318	Medium	32.07	Firozabad	0.305	Medium	13.91
Rae Bareli	0.329	Medium	41.22	Shahjahanpur	0.314	Medium	26.78
Farrukhabad	0.333	Medium	30.13	Farrukhabad	0.322	Medium	21.96
Siddharthnagar	0.34	Medium	28.88	Ballia	0.335	Medium	20.44
Ballia	0.341	Medium	27.04	Siddharthnagar	0.337	Medium	25.39
Fatehpur	0.365	Medium	27.74	Sitapur	0.344	Medium	26.83
Sitapur	0.385	Medium	34.3	Fatehpur	0.359	Medium	18.48
Mahrajganj	0.386	Medium	26.77	Basti	0.372	Medium	23
Balrampur	0.388	Medium	27.43	Mahrajganj	0.373	Medium	22.84
Deoria	0.39	Medium	33.76	Pratapgarh	0.377	Medium	21.34
Pratapgarh	0.395	Medium	27.8	Deoria	0.382	Medium	31.87
Basti	0.395	Medium	25.69	Balrampur	0.387	Medium	22.2
Kashiramnagar	0.399	Medium	27.1	Banda	0.396	Medium	18.59
Banda	0.414	Medium	25.67	Kashiramnagar	0.399	Medium	20.44
Mainpuri	0.417	Medium	25.24	Mainpuri	0.401	Medium	22.35
Kannauj	0.433	Medium	22.4	Kannauj	0.415	Medium	15.07
Shrawasti	0.46	Medium	21.54	Etawah	0.433	Medium	17.47
Etawah	0.474	High	21.12	SantKabirNr	0.445	High	17.64
SantKabirNr	0.477	High	22.36	Shrawasti	0.463	High	19.16
Hardoi	0.486	High	20.57	Hardoi	0.466	High	15.61
Kushinagar	0.504	High	20.71	Kushinagar	0.473	High	18.7

District Name	Direct		CV	District	Model based SAE		CV
Mirzapur	0.571	High	18.58	Mirzapur	0.537	High	13.01
Rampur	0.576	High	19.86	Rampur	0.547	High	16.78
Chitrakoot	0.6	High	17.34	Chitrakoot	0.551	High	17.36
Kaushambi	0.609	High	17.59	Kaushambi	0.579	High	14.19
Kheri	0.63	High	16.5	Kheri	0.579	High	11.95
SantRavidasNr	0.64	High	15.06	SantRavidasNr	0.602	High	12.38
AmbedkarNr	0.654	High	14.25	AmbedkarNr	0.604	High	11.54
Barabanki	0.736	High	11.98	Barabanki	0.667	High	12.03

Source: computed at GIDS

The above data in table shows that district wise direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of incidence of poverty proportions for urban areas in the state of Uttar Pradesh in 2011-12. As mentioned above as per direct estimate and model based small area estimate based incidence of poverty proportions has been categorised into 3 levels i.e. low, medium and high.

As per direct estimates the number of districts fallen in the low level category is 9, namely Chandauli, Ghaziabad, Gonda, Sonbhadra, Lalitpur, Meerut, Baghpat and Jalaun respectively. Their level of incidence of poverty proportions represents the range of 0.003 to 0.092, whereas their percentage coefficient of variation levels shows that 52.68% to 105.4%.

On the other hand as per model based small area estimates the number of districts fallen in the low level category is 11, namely Ghaziabad, GB.Nagar, Lalitpur, Meertu, Chandauli, Gonda, Sonbhadra, Jalaun, Kanpur Nagar, Baghpat, and Bulandshahar respectively. Their incidence of poverty proportions represents the range of 0.023 to 0.116, whereas their percentage coefficient of variation levels shows that 20.01% to 56.94%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

As per direct estimates the number of districts fallen in the Medium level category is 50. Their level of incidence of poverty proportions represents the range of 0.102 to 0.46, whereas their percentage coefficient of variation levels shows that 21.12% to 61.68%.

On the other hand as per model based small area estimates the number of districts fallen in the medium level category is 48. Their level of incidence of poverty proportions represents the range of 0.122 to 0.433, whereas their percentage coefficient of variation levels shows that 15.71% to 40.96%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

As per direct estimates the number of districts fallen in the high level category is 12, namely Etawah, Sant Kabir Nagar, Hardoi, Kushi Nagar, Mirzapur, Rampur, Chitrakoot, Kaushambi, Kheri, Sant Ravidas Nagar, Ambedkar Nagar and Barabanki respectively. Their level of incidence of poverty proportions represents the range of 0.474 to 0.736, whereas their percentage coefficient of variation levels shows that 11.98% to 22.36%.

On the other hand as per model based small area estimates the number of districts fallen in the high level category is 12, namely Sant Kabir Nagar, Shrawasti, Hardoi, Kushinagar, Mirzapur, Kanpur, Chitrakoot, Kaushambi, Kheri, Sant Ravidas Nagar, Ambedkar Nagar, and Barabanki respectively. Their level of incidence of poverty proportions represents the range of 0.445 to 0.667, whereas their percentage coefficient of variation levels shows that 11.54% to 19.16%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

Table18B: Analysis Table byRegion-wise.

Region	District Name	Direct		CV	District	Model based SAE (Poverty Incidence)		CV
		(Poverty Incidence)						
Western	Ghaziabad	0.01	low	63.25	Ghaziabad	0.023	low	43.48
	Gautam Buddha Nr	0.01	low	54.77	Gautam Buddha Nr	0.026	low	53.02
	Meerut	0.035	low	52.68	Meerut	0.05	low	37.42
	Baghpat	0.068	low	58.08	Baghpat	0.11	Medium	44.72
	Etah	0.103	Medium	49.22	Bulandshahar	0.116	Medium	29.23
	Bulandshahar	0.104	Medium	47.4	Etah	0.124	Medium	40.96
	Aligarh	0.113	Medium	33.7	Bareilly	0.127	Medium	24.9

Region	District Name	Direct		CV	District	Model based SAE		CV
	Bareilly	0.114	Medium	43.68	Aligarh	0.129	Medium	30.42
	Auraiya	0.132	Medium	43.19	Auraiya	0.134	Medium	36.33
	JyotibaPhuleNr	0.148	Medium	45.83	Saharanpur	0.165	Medium	24.69
	Saharanpur	0.153	Medium	39.43	JyotibaPhuleNr	0.175	Medium	34
	Pilibhit	0.156	Medium	51	Muzaffarnagar	0.179	Medium	22.76
	Muzaffarnagar	0.166	Medium	37.43	Pilibhit	0.18	Medium	36.81
	Bijnor	0.199	Medium	30.85	Bijnor	0.206	Medium	23.78
	Mathura	0.201	Medium	29.18	Mathura	0.208	Medium	18.37
	Badaun	0.219	Medium	34.89	Agra	0.224	Medium	16.64
	Agra	0.222	Medium	25	Moradabad	0.235	Medium	20.14
	Hathras	0.226	Medium	41.51	Hathras	0.244	Medium	28.01
	Moradabad	0.231	Medium	30.21	Badaun	0.256	Medium	32.35
	Shahjahanpur	0.296	Medium	34.39	Firozabad	0.305	Medium	13.91
	Firozabad	0.314	Medium	22.18	Shahjahanpur	0.314	Medium	26.78
	Farrukhabad	0.333	Medium	30.13	Farrukhabad	0.322	Medium	21.96
	Kashiramnagar	0.399	High	27.1	Kashiramnagar	0.399	High	20.44
	Mainpuri	0.417	High	25.24	Mainpuri	0.401	High	22.35
	Kannauj	0.433	High	22.4	Kannauj	0.415	High	15.07
	Etawah	0.474	High	21.12	Etawah	0.433	High	17.47
	Rampur	0.576	High	19.86	Rampur	0.547	High	16.78
Central	Kanpur Nagar	0.102	low	42.17	Kanpur Nagar	0.106	low	20.01
	Kanpur Dehat	0.158	Medium	50.75	Kanpur Dehat	0.16	Medium	35.96
	Lucknow	0.16	Medium	27.31	Lucknow	0.161	Medium	15.71
	Unnao	0.293	Medium	32.36	Unnao	0.294	Medium	24.24
	Rae Bareli	0.329	Medium	41.22	Rae Bareli	0.302	Medium	29.95
	Fatehpur	0.365	Medium	27.74	Sitapur	0.344	Medium	26.83
	Sitapur	0.385	Medium	34.3	Fatehpur	0.359	Medium	18.48
	Hardoi	0.486	Medium	20.57	Hardoi	0.466	High	15.61
	Kheri	0.63	High	16.5	Kheri	0.579	High	14.19
Southern (Bundelkhand)	Lalitpur	0.021	low	73.77	Lalitpur	0.043	low	51.48
	Jalaun	0.092	Medium	84.2	Jalaun	0.105	Medium	41.73
	Jhansi	0.149	Medium	33.36	Jhansi	0.146	Medium	20.2
	Hamirpur	0.243	Medium	34.33	Hamirpur	0.231	Medium	23.43

Region	District Name	Direct		CV	District	Model based SAE		CV
	Mahoba	0.291	Medium	34.43	Mahoba	0.284	Medium	26.47
	Banda	0.414	Medium	25.67	Banda	0.396	Medium	18.59
	Chitrakoot	0.6	High	17.34	Chitrakoot	0.551	High	17.36
Eastern (Poorvanchal)	Chandauli	0.003	low	105.4	Chandauli	0.065	low	56.94
	Gonda	0.015	low	73.03	Gonda	0.073	low	50.33
	Sonbhadra	0.018	low	102.4	Sonbhadra	0.073	low	52.34
	Gorakhpur	0.113	low	42.07	Gorakhpur	0.122	low	31.75
	Allahabad	0.121	low	30.59	Allahabad	0.127	low	26.82
	Varanasi	0.131	low	31.1	Varanasi	0.132	low	18.09
	Bahraich	0.137	Medium	61.68	Bahraich	0.177	Medium	37.05
	Faizabad	0.188	Medium	42.62	Faizabad	0.192	Medium	33.51
	Sultanpur	0.212	Medium	39.32	Sultanpur	0.201	Medium	33.19
	Azamgarh	0.249	Medium	31.95	Azamgarh	0.252	Medium	22.17
	Jaunpur	0.271	Medium	33.84	Jaunpur	0.264	Medium	34.11
	Mau	0.301	Medium	32.4	Mau	0.276	Medium	23.92
	Ghazipur	0.318	Medium	32.07	Ghazipur	0.295	Medium	29.42
	Siddharthnagar	0.34	Medium	28.88	Ballia	0.335	Medium	20.44
	Ballia	0.341	Medium	27.04	Siddharthnagar	0.337	Medium	25.39
	Mahrajganj	0.386	Medium	26.77	Basti	0.372	Medium	23
	Balrampur	0.388	Medium	27.43	Mahrajganj	0.373	Medium	22.84
	Deoria	0.39	Medium	33.76	Pratapgarh	0.377	Medium	21.34
	Pratapgarh	0.395	Medium	27.8	Deoria	0.382	Medium	31.87
	Basti	0.395	Medium	25.69	Balrampur	0.387	Medium	22.2
	Shrawasti	0.46	Medium	21.54	SantKabirNr	0.445	Medium	17.64
	SantKabirNr	0.477	Medium	22.36	Shrawasti	0.463	Medium	19.16
	Kushinagar	0.504	Medium	20.71	Kushinagar	0.473	Medium	18.7
	Mirzapur	0.571	High	18.58	Mirzapur	0.537	High	13.01
	Kaushambi	0.609	High	17.59	Kaushambi	0.579	High	11.95
	SantRavidasNr	0.64	High	15.06	SantRavidasNr	0.602	High	12.38
	AmbedkarNr	0.654	High	14.25	AmbedkarNr	0.604	High	11.54
	Barabanki	0.736	High	11.98	Barabanki	0.667	High	12.03

Source: computed at GIDS

The above data in table shows that Region-wise districts (4 regions) direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of incidence of poverty proportions for urban areas in the state of Uttar Pradesh in 2011-12. As mentioned above as per direct estimate and model based small area estimate based incidence of poverty proportions has been categorised into 3 levels i.e. low, medium and high.

As per direct estimates the incidence of poverty proportions in Western region-wise (27) number of districts fallen in the low level category is 4, Medium – 18, and High – 5; Central region-wise (9) number of districts fallen in the low category – 1, Medium – 7, and High – 1; Bundelkhand region-wise (7) number of districts fallen in the Low category – 1, Medium – 5, and High - 1; and Eastern region-wise (28) number of districts fallen in the low level category – 6, Medium – 17 and High – 5.

On the other hand as per model based small area estimates the incidence of poverty proportions in Western region-wise (27) number of districts fallen in the low level category is 3, Medium – 19, and High – 5; Central region-wise (9) number of districts fallen in the low category – 1, Medium – 6, and High – 2; Bundelkhand region-wise (7) number of districts fallen in the low category – 1, Medium – 5 and High - 1; and Eastern region-wise (28) number of districts fallen in the low level category – 6, Medium – 17 and High – 5.

However, the direct estimates compared with model based small area estimates indicate that the incidence of poverty proportions in urban the variations are marginally high in all regions and CV variations are higher in Eastern region followed by Bundelkhand region etc., also. Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

Table 19: District-wise sample size, estimated total household (Est. HHs), Average Household size (HHS), direct estimates (Direct) and model-based small area estimates (SAE) along with their standard error (SE) and percentage coefficient of variations (CV) for monthly per capita consumer and expenditure in Rupees (MPCE) for urban social group Schedule Caste areas in the state of Uttar Pradesh in 2011-12

Region	District	Sample Size	est. HH	HHS	Direct			Model Based SAE		
					MPCE	SE	CV	MPCE	SE	CV
Western	Saharanpur	15	28061	4.6	1932	260.90	13.51	1863	247.00	13.26
	Muzaffarnagar	2	8258	5.2	885	19.70	2.23	885	19.70	2.23
	Bijnor	5	8136	6.2	981	371.80	37.90	1050	333.90	31.81
	Moradabad	5	18999	4.2	2168	323.70	14.93	2028	298.00	14.69
	Rampur	2	2527	2.0	1568	140.00	8.93	1557	137.70	8.85
	Jyotiba Phule Nr	3	4575	6.6	2391	195.80	8.19	2321	189.90	8.18
	Meerut	9	74254	4.5	1481	149.00	10.06	1475	146.30	9.92
	Baghpat	3	5791	8.0	1541	69.30	4.50	1537	69.00	4.49
	Ghaziabad	23	111432	4.5	2379	410.30	17.25	2119	362.00	17.08
	Gautam Buddha Nr	1	9801	4.0	6646			1314	746.20	56.80
	Bulandshahar	4	6226	6.4	1257	191.80	15.26	1258	186.00	14.78
	Aligarh	19	43231	5.7	1119	104.80	9.36	1123	103.80	9.24
	Hathras	9	17835	6.9	1082	54.00	4.99	1083	53.80	4.97
	Mathura	6	14820	5.5	851	61.20	7.19	854	61.00	7.14
	Agra	22	123115	6.2	1084	122.20	11.27	1091	120.70	11.07
	Firozabad	19	29954	5.8	1113	144.60	12.99	1121	142.10	12.67
	Etah	6	6405	6.2	1627	462.50	28.42	1516	393.60	25.96
	Mainpuri	9	16387	5.2	932	133.90	14.37	942	131.90	14.00
	Badaun	3	6996	5.4	1156	90.50	7.83	1156	89.90	7.78
	Bareilly	8	35533	5.2	1185	169.70	14.32	1192	165.70	13.91
	Pilibhit							1244	731.70	58.84
	Shahjahanpur	2	10642	2.9	693	40.00	5.77	695	39.90	5.75
	Farrukhabad	5	8352	7.3	1038	148.20	14.28	1048	145.50	13.89
	Kannauj	2	2538	4.9	966	13.90	1.44	966	13.90	1.44
	Etawah	11	21437	5.0	1051	132.60	12.62	1058	130.70	12.34
	Auraiya	3	5228	4.6	1263	183.50	14.53	1250	178.60	14.29
	Kanshiramnagar	3	3456	4.8	1187	151.80	12.79	1187	148.80	12.54
	Central	Kheri							1244	740.50
Sitapur		5	15161	2.6	2028	148.10	7.30	1997	145.40	7.28
Hardoi		4	10094	5.0	742	87.20	11.75	748	86.60	11.58
Unnao								1177	730.80	62.10
Lucknow		9	39505	4.2	1099	124.90	11.36	1106	123.30	11.15
Rae Bareli		9	17433	6.0	925	28.70	3.11	926	28.70	3.10
Kanpur Dehat		7	4127	5.1	987	52.30	5.30	988	52.20	5.28
Kanpur Nr		13	41399	4.8	1460	369.60	25.31	1438	333.10	23.16
Southern	Fatehpur	1	956	2.0	2029			1149	732.90	63.79
	Jalaun	5	7618	5.4	1314	291.10	22.15	1295	271.80	20.99
	Jhansi	19	39703	4.7	1779	400.20	22.50	1649	353.60	21.44

Region	District	Sample Size	est. HH	HHS	Direct			Model Based SAE		
					MPCE	SE	CV	MPCE	SE	CV
	Lalitpur	1	1771	6.0	945			1170	730.20	62.38
	Hamirpur	4	5358	1.7	2906	178.30	6.13	2801	173.80	6.21
	Banda	4	10024	7.0	1082	94.00	8.68	1082	93.30	8.62
	Chitrakoot	13	7789	8.2	676	51.20	7.58	678	51.10	7.54
	Mahoba	3	3750	4.1	915	329.60	36.02	947	302.70	31.97
	Mahrajganj	6	8520	4.3	902	141.90	15.73	900	140.40	15.59
	Pratapgarh							1232	740.50	60.09
	Kaushambi	7	2800	5.1	707	27.40	3.88	708	27.40	3.87
	Allahabad	9	23238	5.5	1026	125.50	12.24	1036	123.90	11.97
	Barabanki	4	9381	3.4	715	16.30	2.28	715	16.30	2.28
	Faizabad	1	5575	1.0	1268			1289	731.50	56.75
	Ambedkar Nr	6	13767	6.8	785	78.80	10.04	789	78.40	9.93
	Sultanpur	3	2314	4.6	2059	269.70	13.10	1958	254.20	12.98
	Bahraich	3	2438	3.9	630	216.30	34.34	679	208.00	30.65
	Shrawasti							1308	753.70	57.64
	Balrampur							1219	752.70	61.73
	Gonda	6	7732	3.9	3547	417.30	11.76	2970	364.80	12.28
	Siddharthnagar	5	4815	2.8	1074	193.10	17.98	1072	187.60	17.50
	Basti	6	6075	4.9	725	79.10	10.92	731	78.70	10.76
	Sant Kabir Nr	2	1706	6.6	747	29.40	3.93	747	29.30	3.93
	Gorakhpur	8	24224	5.9	831	67.20	8.09	835	67.00	8.02
	Kushinagar	6	6588	5.9	786	68.00	8.65	789	67.80	8.58
	Deoria	9	10739	5.4	1230	82.10	6.68	1229	81.70	6.64
	Azamgarh	3	5644	6.7	1681	440.90	26.23	1563	381.10	24.38
	Mau							1255	744.30	59.33
	Ballia							1173	735.20	62.67
	Jaunpur	2	4036	6.5	960	98.00	10.21	964	97.20	10.09
	Ghazipur	6	4730	3.7	754	102.20	13.55	764	101.30	13.26
	Chandauli	4	1388	2.4	5170	1498.90	28.99	1989	659.70	33.17
	Varanasi	14	24936	5.5	877	146.20	16.68	894	143.70	16.07
	Sant Ravidas Nr	8	11908	5.8	908	109.30	12.03	915	108.20	11.82
	Mirzapur	6	13180	6.4	659	66.00	10.01	664	65.70	9.89
Eastern	Sonbhadra	3	2104	6.8	1132	99.50	8.79	1135	98.70	8.69

Source: Derived from 68th Round NSSO Unit Level Data

Tab 19A: Analysis Table for All Districts

District (Direct)	MPCE	Rank	CV	District (SAE)	MPCE	Rank	CV
Bahraich	630	Medium	34.34	Mirzapur	664	Low	9.89
Mirzapur	659	Medium	10.01	Chitrakoot	678	Low	7.54
Chitrakoot	676	Medium	7.58	Bahraich	679	Low	30.65
Shahjahanpur	693	Medium	5.77	Shahjahanpur	695	Low	5.75
Kaushambi	707	Medium	3.88	Kaushambi	708	Low	3.87
Barabanki	715	Medium	2.28	Barabanki	715	Low	2.28
Basti	725	Medium	10.92	Basti	731	Low	10.76
Hardoi	742	Medium	11.75	Sant Kabir Nr	747	Low	3.93
Sant Kabir Nr	747	Medium	3.93	Hardoi	748	Low	11.58
Ghazipur	754	Medium	13.55	Ghazipur	764	Medium	13.26
Ambedkar Nr	785	Medium	10.04	Ambedkar Nr	789	Medium	9.93
Kushinagar	786	Medium	8.65	Kushinagar	789	Medium	8.58
Gorakhpur	831	Medium	8.09	Gorakhpur	835	Medium	8.02
Mathura	851	Medium	7.19	Mathura	854	Medium	7.14
Varanasi	877	Medium	16.68	Muzaffarnagar	885	Medium	2.23
Muzaffarnagar	885	Medium	2.23	Varanasi	894	Medium	16.07
Mahrajganj	902	Medium	15.73	Mahrajganj	900	Medium	15.59
Sant Ravidas Nr	908	Medium	12.03	Sant Ravidas Nr	915	Medium	11.82
Mahoba	915	Medium	36.02	Rae Bareli	926	Medium	3.1
Rae Bareli	925	Medium	3.11	Mainpuri	942	Medium	14
Mainpuri	932	Medium	14.37	Mahoba	947	Medium	31.97
Lalitpur	945	Medium		Jaunpur	964	Medium	10.09
Jaunpur	960	Medium	10.21	Kannauj	966	Medium	1.44
Kannauj	966	Medium	1.44	Kanpur Dehat	988	Medium	5.28
Bijnor	981	Medium	37.9	Allahabad	1036	Medium	11.97
Kanpur Dehat	987	Medium	5.3	Farrukhabad	1048	Medium	13.89
Allahabad	1026	Medium	12.24	Bijnor	1050	Medium	31.81
Farrukhabad	1038	Medium	14.28	Etawah	1058	Medium	12.34
Etawah	1051	Medium	12.62	Siddharthnagar	1072	Medium	17.5
Siddharthnagar	1074	Medium	17.98	Banda	1082	Medium	8.62
Hathras	1082	Medium	4.99	Hathras	1083	Medium	4.97
Banda	1082	Medium	8.68	Agra	1091	Medium	11.07
Agra	1084	Medium	11.27	Lucknow	1106	Medium	11.15
Lucknow	1099	Medium	11.36	Firozabad	1121	Medium	12.67
Firozabad	1113	Medium	12.99	Aligarh	1123	Medium	9.24
Aligarh	1119	Medium	9.36	Sonbhadra	1135	Medium	8.69
Sonbhadra	1132	Medium	8.79	Fatehpur	1149	Medium	63.79
Badaun	1156	Medium	7.83	Badaun	1156	Medium	7.78
Bareilly	1185	Medium	14.32	Lalitpur	1170	Medium	62.38
Kanshiramnagar	1187	Medium	12.79	Ballia	1173	Medium	62.67

District (Direct)	MPCE	Rank	CV	District (SAE)	MPCE	Rank	CV
Deoria	1230	Medium	6.68	Unnao	1177	Medium	62.1
Bulandshahar	1257	Medium	15.26	Kanshiramnagar	1187	Medium	12.54
Auraiya	1263	Medium	14.53	Bareilly	1192	Medium	13.91
Faizabad	1268	Medium		Balrampur	1219	Medium	61.73
Jalaun	1314	Medium	22.15	Deoria	1229	Medium	6.64
Kanpur Nr	1460	Medium	25.31	Pratapgarh	1232	Medium	60.09
Meerut	1481	Medium	10.06	Pilibhit	1244	Medium	58.84
Baghpat	1541	Medium	4.5	Kheri	1244	Medium	59.53
Rampur	1568	Medium	8.93	Auraiya	1250	Medium	14.29
Etah	1627	Medium	28.42	Mau	1255	Medium	59.33
Azamgarh	1681	Medium	26.23	Bulandshahar	1258	Medium	14.78
Jhansi	1779	Medium	22.5	Faizabad	1289	Medium	56.75
Saharanpur	1932	Medium	13.51	Jalaun	1295	Medium	20.99
Sitapur	2028	Medium	7.3	Shrawasti	1308	Medium	57.64
Fatehpur	2029	Medium		Gautam Buddha Nr	1314	Medium	56.8
Sultanpur	2059	Medium	13.1	Kanpur Nr	1438	Medium	23.16
Moradabad	2168	Medium	14.93	Meerut	1475	Medium	9.92
Ghaziabad	2379	Medium	17.25	Etah	1516	Medium	25.96
Jyotiba Phule Nr	2391	Medium	8.19	Baghpat	1537	Medium	4.49
Hamirpur	2906	High	6.13	Rampur	1557	Medium	8.85
Gonda	3547	High	11.76	Azamgarh	1563	Medium	24.38
Chandauli	5170	High	28.99	Jhansi	1649	Medium	21.44
Gautam Buddha Nr	6646	High		Saharanpur	1863	High	13.26
Pilibhit				Sultanpur	1958	High	12.98
Kheri				Chandauli	1989	High	33.17
Unnao				Sitapur	1997	High	7.28
Pratapgarh				Moradabad	2028	High	14.69
Shrawasti				Ghaziabad	2119	High	17.08
Balrampur				Jyotiba Phule Nr	2321	High	8.18
Mau				Hamirpur	2801	High	6.21
Ballia				Gonda	2970	High	12.28

Source: Computed at GIDS

Tab 19B: Analysis Table by Region Wise

District (Direct) (Western)	MPCE	Rank	CV	District (SAE)	MPCE	Rank	CV
Shahjahanpur	693	Medium	5.77	Shahjahanpur	695	Low	5.75
Mathura	851	Medium	7.19	Mathura	854	Low	7.14
Muzaffarnagar	885	Medium	2.23	Muzaffarnagar	885	Low	2.23
Mainpuri	932	Medium	14.37	Mainpuri	942	Medium	14
Kannauj	966	Medium	1.44	Kannauj	966	Medium	1.44
Bijnor	981	Medium	37.9	Farrukhabad	1048	Medium	13.89
Farrukhabad	1038	Medium	14.28	Bijnor	1050	Medium	31.81
Etawah	1051	Medium	12.62	Etawah	1058	Medium	12.34

District (Direct) (Western)	MPCE	Rank	CV	District (SAE)	MPCE	Rank	CV
Hathras	1082	Medium	4.99	Hathras	1083	Medium	4.97
Agra	1084	Medium	11.27	Agra	1091	Medium	11.07
Firozabad	1113	Medium	12.99	Firozabad	1121	Medium	12.67
Aligarh	1119	Medium	9.36	Aligarh	1123	Medium	9.24
Badaun	1156	Medium	7.83	Badaun	1156	Medium	7.78
Bareilly	1185	Medium	14.32	Kanshiramnagar	1187	Medium	12.54
Kanshiramnagar	1187	Medium	12.79	Bareilly	1192	Medium	13.91
Bulandshahar	1257	Medium	15.26	Pilibhit	1244	Medium	58.84
Auraiya	1263	Medium	14.53	Auraiya	1250	Medium	14.29
Meerut	1481	Medium	10.06	Bulandshahar	1258	Medium	14.78
Baghpat	1541	Medium	4.5	Gautam Buddha Nr	1314	Medium	56.8
Rampur	1568	Medium	8.93	Meerut	1475	Medium	9.92
Etah	1627	Medium	28.42	Etah	1516	Medium	25.96
Saharanpur	1932	Medium	13.51	Baghpat	1537	Medium	4.49
Moradabad	2168	Medium	14.93	Rampur	1557	Medium	8.85
Ghaziabad	2379	Medium	17.25	Saharanpur	1863	High	13.26
Jyotiba Phule Nr	2391	Medium	8.19	Moradabad	2028	High	14.69
Gautam Buddha Nr	6646	High		Ghaziabad	2119	High	17.08
Pilibhit				Jyotiba Phule Nr	2321	High	8.18
District (Central)	MPCE	Rank	CV	District	MPCE	Rank	CV
Hardoi	742	Medium	11.75	Hardoi	748	Low	11.58
Rae Bareli	925	Medium	3.11	Rae Bareli	926	Medium	3.1
Kanpur Dehat	987	Medium	5.3	Kanpur Dehat	988	Medium	5.28
Lucknow	1099	Medium	11.36	Lucknow	1106	Medium	11.15
Kanpur Nr	1460	Medium	25.31	Fatehpur	1149	Medium	63.79
Sitapur	2028	High	7.3	Unnao	1177	Medium	62.1
Fatehpur	2029	High		Kheri	1244	Medium	59.53
Unnao				Kanpur Nr	1438	Medium	23.16
Kheri				Sitapur	1997	High	7.28
District (Southern)	MPCE	Rank	CV	District	MPCE	Rank	CV
Chitrakoot	676	Medium	7.58	Chitrakoot	678	Low	7.54
Mahoba	915	Medium	36.02	Mahoba	947	Medium	31.97
Lalitpur	945	Medium		Banda	1082	Medium	8.62
Banda	1082	Medium	8.68	Lalitpur	1170	Medium	62.38
Jalaun	1314	Medium	22.15	Jalaun	1295	Medium	20.99
Jhansi	1779	Medium	22.5	Jhansi	1649	Medium	21.44
Hamirpur	2906	High	6.13	Hamirpur	2801	High	6.21
District (Eastern)	MPCE	Rank	CV	District	MPCE	Rank	CV
Bahraich	630	Medium	34.34	Mirzapur	664	Medium	9.89
Mirzapur	659	Medium	10.01	Bahraich	679	Medium	30.65
Kaushambi	707	Medium	3.88	Kaushambi	708	Medium	3.87
Barabanki	715	Medium	2.28	Barabanki	715	Medium	2.28

District (Direct) (Western)	MPCE	Rank	CV	District (SAE)	MPCE	Rank	CV
Basti	725	Medium	10.92	Basti	731	Medium	10.76
Sant Kabir Nr	747	Medium	3.93	Sant Kabir Nr	747	Medium	3.93
Ghazipur	754	Medium	13.55	Ghazipur	764	Medium	13.26
Ambedkar Nr	785	Medium	10.04	Ambedkar Nr	789	Medium	9.93
Kushinagar	786	Medium	8.65	Kushinagar	789	Medium	8.58
Gorakhpur	831	Medium	8.09	Gorakhpur	835	Medium	8.02
Varanasi	877	Medium	16.68	Varanasi	894	Medium	16.07
Mahrajganj	902	Medium	15.73	Mahrajganj	900	Medium	15.59
Sant Ravidas Nr	908	Medium	12.03	Sant Ravidas Nr	915	Medium	11.82
Jaunpur	960	Medium	10.21	Jaunpur	964	Medium	10.09
Allahabad	1026	Medium	12.24	Allahabad	1036	Medium	11.97
Siddharthnagar	1074	Medium	17.98	Siddharthnagar	1072	Medium	17.5
Sonbhadra	1132	Medium	8.79	Sonbhadra	1135	Medium	8.69
Deoria	1230	Medium	6.68	Ballia	1173	Medium	62.67
Faizabad	1268	Medium		Balrampur	1219	Medium	61.73
Azamgarh	1681	Medium	26.23	Deoria	1229	Medium	6.64
Sultanpur	2059	Medium	13.1	Pratapgarh	1232	Medium	60.09
Gonda	3547	High	11.76	Mau	1255	Medium	59.33
Chandauli	5170	High	28.99	Faizabad	1289	Medium	56.75
Pratapgarh				Shrawasti	1308	Medium	57.64
Shrawasti				Azamgarh	1563	Medium	24.38
Balrampur				Sultanpur	1958	High	12.98
Mau				Chandauli	1989	High	33.17
Ballia				Gonda	2970	High	12.28

Source: Computed at GIDS

The above data in table 19A shows that district wise direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of Monthly per capita consumer expenditure in Rupees (MPCE) for Urban areas SC Category in the state of Uttar Pradesh in 2011-12.

On the other hand as per model based small area estimates the number of districts fallen in the low level category is 9, namely Mirzapur, Chitrakoot, Bahraich, Shahjahanpur, Kaushambi, Barabanki, Basti, Sant Kabir Nagar, and Hardoi respectively. Their level of MPCE represents the range of Rs. 664 to 748, whereas their percentage coefficient of variation levels shows that 2.28% to 30.65%.

As per direct estimates the number of districts fallen in the Medium level category is 59. Their level of MPCE represents the range of Rs. 630 to 2391, whereas their percentage coefficient of variation levels shows that 1.44% to 37.9%.

On the other hand as per model based small area estimates the number of districts fallen in the medium level category is 53. Their level of MPCE represents the range of Rs. 764 to 1649, whereas their percentage coefficient of variation levels shows that 1.44% to 63.79%.

Hence, the model based small area estimates percentage coefficient of variation levels is higher than the direct estimates.

As per direct estimates the number of districts fallen in the high level category is 4, namely Hamirpur, Gonda, Chandauli and G.B.Nagar respectively. Their level of MPCE represents the range of Rs. 2906 to 6646, whereas their percentage coefficient of variation levels shows that 6.13% to 28.99%.

On the other hand as per model based small area estimates the number of districts fallen in the high level category is 9, namely Shahrampur, Sultanpur, Chandauli, Sitapur, Moradabad, Ghaziabad, Jyotibhapule Nagar, and Hamirpur respectively. Their level of MPCE represents the range of Rs. 1863 to 2970, whereas their percentage coefficient of variation levels shows that 6.21% to 33.17%.

Hence, the model based small area estimates percentage coefficient of variation levels are higher than the direct estimates.

The above data in table 19B shows that Region-wise districts (4 regions) direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of Monthly per capita consumer expenditure in Rupees (MPCE) for rural areas in the state of Uttar Pradesh in 2011-12. As mentioned above as per direct estimate and model based small area estimate based MPCE has been categorised into 3 levels i.e. low, medium and high.

As per direct estimates the Western region number of districts fallen in the low level category is 0, Medium – 25, and High – 1; Central region number of districts fallen in the low category – 0, Medium – 5, and High – 2; Bundelkhand region number of districts fallen in the low category – 0 and Medium – 6; and High – 1; and Eastern region number of districts fallen in the low level category – 0, Medium – 21 and High – 2.

On the other hand as per model based small area estimates the Western region-wise (27) number of districts fallen in the low level category is 3, Medium – 20, and High – 4; Central region-wise (9) number of districts fallen in the low category – 1, Medium – 7, and High – 1; Bundelkhand region-wise (7) number of districts fallen in the low category – 1 and Medium – 5, and High - 1; and Eastern region-wise (28) number of districts fallen in the low level category – 0, Medium – 25 and High – 3.

However, the direct estimates compared with model based small area estimates indicate that the MPCE variations are high in Western region and CV variations are higher in Western region. Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

Table 20: District-wise sample size, estimated total household (Est. HHs), Average Household size (HHS), direct estimates (Direct) and model-based small area estimates (SAE) along with their standard error (SE) and percentage coefficient of variations (CV) for monthly per capita consumer and expenditure in Rupees (MPCE) for urban social group other backward classes (OBC) areas in the state of Uttar Pradesh in 2011-12

Region	District	Sample Size	est. HH	HHS	Direct			Model Based SAE		
					MPCE	SE	CV	MPCE	SE	CV
Western	Saharanpur	29	47877	4.4	2494	530.26	21.26	1922	364.54	18.97
	Muzaffarnagar	27	50020	4.9	1562	223.73	14.32	1509	204.49	13.55
	Bijnor	33	60334	5.5	1352	195.32	14.45	1345	182.45	13.57
	Moradabad	32	107379	5.6	1117	72.55	6.49	1120	71.87	6.41
	Rampur	18	50978	6.9	903	55.75	6.17	905	55.47	6.13
	Jyotiba Phule Nagar	23	42159	5.2	1845	325.30	17.63	1679	275.52	16.41
	Meerut	42	175577	4.9	1847	197.29	10.68	1788	183.99	10.29
	Baghpat	17	29113	4.8	2236	234.48	10.49	2018	213.52	10.58
	Ghaziabad	16	83141	5.9	1968	126.57	6.43	1940	122.93	6.34
	Gautam Buddha Nagar	14	50052	4.1	4972	1281.17	25.77	2003	468.04	23.37
	Bulandshahar	27	79796	7.1	1419	169.39	11.94	1404	160.71	11.44
	Aligarh	23	64967	3.8	2208	472.99	21.42	1759	344.69	19.60
	Hathras	12	24826	5.9	1256	146.07	11.63	1260	140.35	11.14
	Mathura	17	37247	5.3	1157	110.02	9.51	1167	107.52	9.21
	Agra	23	99402	5.6	1038	57.37	5.53	1043	57.01	5.47
	Firozabad	31	71236	5.9	1070	79.97	7.48	1077	79.02	7.33
	Etah	12	31438	4.1	2491	584.07	23.45	1831	377.72	20.63
	Mainpuri	15	19718	4.1	1184	120.21	10.15	1197	116.98	9.77
Badaun	13	51875	5.5	1256	139.89	11.13	1231	135.44	11.00	

Region	District	Sample Size	est. HH	HHS	Direct			Model Based SAE		
					MPCE	SE	CV	MPCE	SE	CV
	Bareilly	44	201692	5.7	1232	81.04	6.58	1231	80.09	6.51
	Pilibhit	9	15416	4.4	1807	347.00	19.21	1589	286.67	18.04
	Shahjahanpur	21	89678	5.9	1189	126.42	10.63	1190	122.81	10.32
	Farrukhabad	18	30602	5.4	1109	95.99	8.65	1119	94.32	8.43
	Kannauj	9	13906	6.5	1195	136.55	11.43	1200	131.84	10.99
	Etawah	16	40338	5.8	1058	134.66	12.72	1091	130.27	11.94
	Auraiya	21	23254	4.8	1313	152.07	11.58	1312	146.23	11.15
	Kanshiramnagar	23	33021	5.9	1104	95.04	8.61	1104	93.47	8.46
Central	Kheri	15	45849	4.7	945	116.90	12.37	963	113.90	11.82
	Sitapur	17	60295	5.0	908	141.20	15.55	940	136.01	14.46
	Hardoi	19	40646	6.6	979	68.55	7.00	983	67.94	6.91
	Unnao	16	50082	4.5	1241	134.21	10.81	1243	129.72	10.44
	Lucknow	54	321866	4.9	1385	121.13	8.75	1395	117.97	8.46
	Rae Bareli	13	18141	4.5	1488	195.58	13.14	1479	182.45	12.34
	Kanpur Dehat	14	12201	5.4	1474	162.50	11.02	1457	154.85	10.63
	Kanpur Nagar	51	232241	4.4	1671	155.89	9.33	1664	149.40	8.98
Southern	Fatehpur	19	30054	5.5	1077	149.32	13.86	1092	143.25	13.12
	Jalaun	10	24099	6.2	1386	231.88	16.74	1372	210.67	15.36
	Jhansi	27	61165	5.5	1380	94.65	6.86	1382	93.07	6.73
	Lalitpur	13	11100	5.0	1476	129.29	8.76	1469	125.35	8.53
	Hamirpur	16	24534	5.3	1064	171.11	16.08	1078	162.37	15.06
	Banda	23	35507	5.3	1137	91.42	8.04	1140	90.04	7.90
	Chitrakoot	13	4522	5.3	965	107.52	11.14	975	105.26	10.80
Eastern	Mahoba	22	31474	5.6	1103	97.93	8.88	1105	96.20	8.71
	Mahrajganj	19	14378	5.4	1490	256.64	17.23	1375	234.01	17.02
	Pratapgarh	26	23908	6.0	1336	218.50	16.35	1347	200.58	14.89
	Kaushambi	10	6359	5.3	809	123.17	15.22	824	119.87	14.55
	Allahabad	36	168559	3.5	2864	784.62	27.40	1944	425.89	21.91
	Barabanki	23	42515	5.9	842	61.73	7.33	846	61.29	7.24
	Faizabad	23	47901	3.7	1513	340.01	22.47	1503	282.16	18.77
	Ambedkar Nagar	24	41302	7.4	900	92.73	10.31	913	91.22	9.99
	Sultanpur	18	12059	5.9	1321	259.09	19.61	1356	231.02	17.04
	Bahraich	12	16816	4.6	962	226.85	23.58	1007	207.01	20.56
	Shrawasti	26	6500	5.1	1006	95.61	9.51	1014	94.04	9.28
	Balrampur	16	8330	6.0	1038	133.57	12.87	1047	129.25	12.35
Gonda	12	11027	4.8	1891	104.88	5.55	1867	102.70	5.50	
Siddharthnagar	17	15761	3.8	1133	209.84	18.52	1120	194.69	17.38	

Region	District	Sample Size	est. HH	HHS	Direct			Model Based SAE		
					MPCE	SE	CV	MPCE	SE	CV
	Basti	18	19300	5.8	1240	138.00	11.13	1259	133.27	10.59
	Sant Kabir Nagar	23	12616	5.4	1024	121.94	11.91	1030	118.73	11.53
	Gorakhpur	32	122411	5.0	1436	161.83	11.27	1445	154.39	10.68
	Kushinagar	20	20069	5.8	1424	257.73	18.10	1384	229.43	16.58
	Deoria	14	24003	7.0	1164	235.97	20.28	1200	213.89	17.82
	Azamgarh	21	34373	6.7	1381	336.45	24.36	1385	279.32	20.17
	Mau	30	113997	2.8	1095	102.69	9.38	1108	100.65	9.08
	Ballia	18	22302	7.4	918	42.76	4.66	921	42.61	4.63
	Jaunpur	24	41088	6.6	1416	261.29	18.46	1407	232.09	16.50
	Ghazipur	20	31728	5.6	1185	114.45	9.66	1199	111.67	9.31
	Chandauli	17	11056	4.6	1705	180.68	10.60	1665	170.13	10.22
	Varanasi	49	195982	6.1	1251	73.87	5.90	1256	73.11	5.82
	Sant Ravidas Nagar Bhadohi	22	26751	6.4	890	74.04	8.32	899	73.26	8.15
	Mirzapur	17	21598	5.7	1287	247.53	19.23	1319	222.46	16.87
	Sonbhadra	12	21157	4.3	2015	256.39	12.73	1921	229.87	11.96

Source: Derived from 68th Round NSSO Unit Level Data

Tab 20A: Analysis Table for All Districts

District (Direct)	MPCE	Rank	CV	District (SAE)	MPCE	Rank	CV
Kaushambi	809	Medium	15.22	Kaushambi	824	Low	14.55
Barabanki	842	Medium	7.33	Barabanki	846	Low	7.24
Sant Ravidas Nagar Bhadohi	890	Medium	8.32	Sant Ravidas Nagar Bhadohi	899	Low	8.15
Ambedkar Nagar	900	Medium	10.31	Rampur	905	Low	6.13
Rampur	903	Medium	6.17	Ambedkar Nagar	913	Low	9.99
Sitapur	908	Medium	15.55	Ballia	921	Low	4.63
Ballia	918	Medium	4.66	Sitapur	940	Low	14.46
Kheri	945	Medium	12.37	Kheri	963	Low	11.82
Bahraich	962	Medium	23.58	Chittrakoot	975	Low	10.8
Chittrakoot	965	Medium	11.14	Hardoi	983	Low	6.91
Hardoi	979	Medium	7	Bahraich	1007	Medium	20.56
Shrawasti	1006	Medium	9.51	Shrawasti	1014	Medium	9.28
Sant Kabir Nagar	1024	Medium	11.91	Sant Kabir Nagar	1030	Medium	11.53
Agra	1038	Medium	5.53	Agra	1043	Medium	5.47
Balrampur	1038	Medium	12.87	Balrampur	1047	Medium	12.35
Etawah	1058	Medium	12.72	Firozabad	1077	Medium	7.33
Hamirpur	1064	Medium	16.08	Hamirpur	1078	Medium	15.06

District (Direct)	MPCE	Rank	CV	District (SAE)	MPCE	Rank	CV
Firozabad	1070	Medium	7.48	Etawah	1091	Medium	11.94
Fatehpur	1077	Medium	13.86	Fatehpur	1092	Medium	13.12
Mau	1095	Medium	9.38	Kanshiramnagar	1104	Medium	8.46
Mahoba	1103	Medium	8.88	Mahoba	1105	Medium	8.71
Kanshiramnagar	1104	Medium	8.61	Mau	1108	Medium	9.08
Farrukhabad	1109	Medium	8.65	Farrukhabad	1119	Medium	8.43
Moradabad	1117	Medium	6.49	Moradabad	1120	Medium	6.41
Siddharthnagar	1133	Medium	18.52	Siddharthnagar	1120	Medium	17.38
Banda	1137	Medium	8.04	Banda	1140	Medium	7.9
Mathura	1157	Medium	9.51	Mathura	1167	Medium	9.21
Deoria	1164	Medium	20.28	Shahjahanpur	1190	Medium	10.32
Mainpuri	1184	Medium	10.15	Mainpuri	1197	Medium	9.77
Ghazipur	1185	Medium	9.66	Ghazipur	1199	Medium	9.31
Shahjahanpur	1189	Medium	10.63	Kannauj	1200	Medium	10.99
Kannauj	1195	Medium	11.43	Deoria	1200	Medium	17.82
Bareilly	1232	Medium	6.58	Badaun	1231	Medium	11
Basti	1240	Medium	11.13	Bareilly	1231	Medium	6.51
Unnao	1241	Medium	10.81	Unnao	1243	Medium	10.44
Varanasi	1251	Medium	5.9	Varanasi	1256	Medium	5.82
Hathras	1256	Medium	11.63	Basti	1259	Medium	10.59
Badaun	1256	Medium	11.13	Hathras	1260	Medium	11.14
Mirzapur	1287	Medium	19.23	Auraiya	1312	Medium	11.15
Auraiya	1313	Medium	11.58	Mirzapur	1319	Medium	16.87
Sultanpur	1321	Medium	19.61	Bijnor	1345	Medium	13.57
Pratapgarh	1336	Medium	16.35	Pratapgarh	1347	Medium	14.89
Bijnor	1352	Medium	14.45	Sultanpur	1356	Medium	17.04
Jhansi	1380	Medium	6.86	Jalaun	1372	Medium	15.36
Azamgarh	1381	Medium	24.36	Mahrajganj	1375	Medium	17.02
Lucknow	1385	Medium	8.75	Jhansi	1382	Medium	6.73
Jalaun	1386	Medium	16.74	Kushinagar	1384	Medium	16.58
Jaunpur	1416	Medium	18.46	Azamgarh	1385	Medium	20.17
Bulandshahar	1419	Medium	11.94	Lucknow	1395	Medium	8.46
Kushinagar	1424	Medium	18.1	Bulandshahar	1404	Medium	11.44
Gorakhpur	1436	Medium	11.27	Jaunpur	1407	Medium	16.5
Kanpur Dehat	1474	Medium	11.02	Gorakhpur	1445	Medium	10.68
Lalitpur	1476	Medium	8.76	Kanpur Dehat	1457	Medium	10.63
Rae Bareli	1488	Medium	13.14	Lalitpur	1469	Medium	8.53
Mahrajganj	1490	Medium	17.23	Rae Bareli	1479	Medium	12.34

District (Direct)	MPCE	Rank	CV	District (SAE)	MPCE	Rank	CV
Faizabad	1513	Medium	22.47	Faizabad	1503	Medium	18.77
Muzaffarnagar	1562	Medium	14.32	Muzaffarnagar	1509	Medium	13.55
Kanpur Nagar	1671	Medium	9.33	Pilibhit	1589	Medium	18.04
Chandauli	1705	Medium	10.6	Kanpur Nagar	1664	High	8.98
Pilibhit	1807	Medium	19.21	Chandauli	1665	High	10.22
Jyotiba Phule Nagar	1845	Medium	17.63	Jyotiba Phule Nagar	1679	High	16.41
Meerut	1847	Medium	10.68	Aligarh	1759	High	19.6
Gonda	1891	Medium	5.55	Meerut	1788	High	10.29
Ghaziabad	1968	Medium	6.43	Etah	1831	High	20.63
Sonbhadra	2015	High	12.73	Gonda	1867	High	5.5
Aligarh	2208	High	21.42	Sonbhadra	1921	High	11.96
Baghpat	2236	High	10.49	Saharanpur	1922	High	18.97
Etah	2491	High	23.45	Ghaziabad	1940	High	6.34
Saharanpur	2494	High	21.26	Allahabad	1944	High	21.91
Allahabad	2864	High	27.4	Gautam Buddha Nagar	2003	High	23.37
Gautam Buddha Nagar	4972	High	25.77	Baghpat	2018	High	10.58

Source: Computed at GIDS

Tab 20B: Analysis Table by Region-wise

District(Direct) (Western)	MPCE	Rank	CV	District (SAE)	MPCE	Rank	CV
Rampur	903	Medium	6.17	Rampur	905	Low	6.13
Agra	1038	Medium	5.53	Agra	1043	Low	5.47
Etawah	1058	Medium	12.72	Firozabad	1077	Medium	7.33
Firozabad	1070	Medium	7.48	Etawah	1091	Medium	11.94
Kanshiramnagar	1104	Medium	8.61	Kanshiramnagar	1104	Medium	8.46
Farrukhabad	1109	Medium	8.65	Farrukhabad	1119	Medium	8.43
Moradabad	1117	Medium	6.49	Moradabad	1120	Medium	6.41
Mathura	1157	Medium	9.51	Mathura	1167	Medium	9.21
Mainpuri	1184	Medium	10.15	Shahjahanpur	1190	Medium	10.32
Shahjahanpur	1189	Medium	10.63	Mainpuri	1197	Medium	9.77
Kannauj	1195	Medium	11.43	Kannauj	1200	Medium	10.99
Bareilly	1232	Medium	6.58	Badaun	1231	Medium	11
Hathras	1256	Medium	11.63	Bareilly	1231	Medium	6.51
Badaun	1256	Medium	11.13	Hathras	1260	Medium	11.14
Auraiya	1313	Medium	11.58	Auraiya	1312	Medium	11.15
Bijnor	1352	Medium	14.45	Bijnor	1345	Medium	13.57
Bulandshahar	1419	Medium	11.94	Bulandshahar	1404	Medium	11.44
Muzaffarnagar	1562	Medium	14.32	Muzaffarnagar	1509	Medium	13.55
Pilibhit	1807	Medium	19.21	Pilibhit	1589	Medium	18.04
Jyotiba Phule Nagar	1845	Medium	17.63	Jyotiba Phule Nagar	1679	Medium	16.41

District(Direct) (Western)	MPCE	Rank	CV	District (SAE)	MPCE	Rank	CV
Meerut	1847	Medium	10.68	Aligarh	1759	High	19.6
Ghaziabad	1968	Medium	6.43	Meerut	1788	High	10.29
Aligarh	2208	Medium	21.42	Etah	1831	High	20.63
Baghpat	2236	Medium	10.49	Saharanpur	1922	High	18.97
Etah	2491	High	23.45	Ghaziabad	1940	High	6.34
Saharanpur	2494	High	21.26	Gautam Buddha Nagar	2003	High	23.37
Gautam Buddha Nagar	4972	High	25.77	Baghpat	2018	High	10.58
District (Central)	MPCE	Rank	CV	District	MPCE	Rank	CV
Sitapur	908	Low	15.55	Sitapur	940	Low	14.46
Kheri	945	Low	12.37	Kheri	963	Low	11.82
Hardoi	979	Medium	7	Hardoi	983	Medium	6.91
Fatehpur	1077	Medium	13.86	Fatehpur	1092	Medium	13.12
Unnao	1241	Medium	10.81	Unnao	1243	Medium	10.44
Lucknow	1385	Medium	8.75	Lucknow	1395	Medium	8.46
Kanpur Dehat	1474	Medium	11.02	Kanpur Dehat	1457	Medium	10.63
Rae Bareli	1488	Medium	13.14	Rae Bareli	1479	Medium	12.34
Kanpur Nagar	1671	High	9.33	Kanpur Nagar	1664	High	8.98
District (Southern)	MPCE	Rank	CV	District	MPCE	Rank	CV
Chitrakoot	965	Low	11.14	Chitrakoot	975	Low	10.8
Hamirpur	1064	Medium	16.08	Hamirpur	1078	Medium	15.06
Mahoba	1103	Medium	8.88	Mahoba	1105	Medium	8.71
Banda	1137	Medium	8.04	Banda	1140	Medium	7.9
Jhansi	1380	Medium	6.86	Jalaun	1372	Medium	15.36
Jalaun	1386	Medium	16.74	Jhansi	1382	Medium	6.73
Lalitpur	1476	High	8.76	Lalitpur	1469	High	8.53
District (Eastern)	MPCE	Rank	CV	District	MPCE	Rank	CV
Kaushambi	809	Low	15.22	Kaushambi	824	Low	14.55
Barabanki	842	Low	7.33	Barabanki	846	Low	7.24
Sant Ravidas Nagar Bhadohi	890	Medium	8.32	Sant Ravidas Nagar Bhadohi	899	Low	8.15
Ambedkar Nagar	900	Medium	10.31	Ambedkar Nagar	913	Low	9.99
Ballia	918	Medium	4.66	Ballia	921	Low	4.63
Bahraich	962	Medium	23.58	Bahraich	1007	Medium	20.56
Shrawasti	1006	Medium	9.51	Shrawasti	1014	Medium	9.28
Sant Kabir Nagar	1024	Medium	11.91	Sant Kabir Nagar	1030	Medium	11.53
Balrampur	1038	Medium	12.87	Balrampur	1047	Medium	12.35
Mau	1095	Medium	9.38	Mau	1108	Medium	9.08
Siddharthnagar	1133	Medium	18.52	Siddharthnagar	1120	Medium	17.38
Deoria	1164	Medium	20.28	Ghazipur	1199	Medium	9.31
Ghazipur	1185	Medium	9.66	Deoria	1200	Medium	17.82
Basti	1240	Medium	11.13	Varanasi	1256	Medium	5.82
Varanasi	1251	Medium	5.9	Basti	1259	Medium	10.59
Mirzapur	1287	Medium	19.23	Mirzapur	1319	Medium	16.87

District(Direct) (Western)	MPCE	Rank	CV	District (SAE)	MPCE	Rank	CV
Sultanpur	1321	Medium	19.61	Pratapgarh	1347	Medium	14.89
Pratapgarh	1336	Medium	16.35	Sultanpur	1356	Medium	17.04
Azamgarh	1381	Medium	24.36	Mahrajganj	1375	Medium	17.02
Jaunpur	1416	Medium	18.46	Kushinagar	1384	Medium	16.58
Kushinagar	1424	Medium	18.1	Azamgarh	1385	Medium	20.17
Gorakhpur	1436	Medium	11.27	Jaunpur	1407	Medium	16.5
Mahrajganj	1490	Medium	17.23	Gorakhpur	1445	Medium	10.68
Faizabad	1513	Medium	22.47	Faizabad	1503	Medium	18.77
Chandauli	1705	Medium	10.6	Chandauli	1665	High	10.22
Gonda	1891	High	5.55	Gonda	1867	High	5.5
Sonbhadra	2015	High	12.73	Sonbhadra	1921	High	11.96
Allahabad	2864	High	27.4	Allahabad	1944	High	21.91

Source: Computed at GIDS

The above data in table 20A shows that district wise direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of Monthly per capita consumer expenditure in Rupees (MPCE) for Urban OBC Category in the state of Uttar Pradesh in 2011-12.

On the other hand as per model based small area estimates the number of districts fallen in the low level category is 10, namely Kaushambi, Barabanki, Sant Ravidas Nagar, Rampur, Ambedkar Nagar, Ballia, Sitapur, Kheri, Chitarakoot, and Hardoi respectively. Their level of MPCE represents the range of Rs. 824 to 983, whereas their percentage coefficient of variation levels shows that 4.63% to 14.55%.

As per direct estimates the number of districts fallen in the Medium level category is 64. Their level of MPCE represents the range of Rs. 809 to 1968, whereas their percentage coefficient of variation levels shows that 4.66% to 24.36%.

On the other hand as per model based small area estimates the number of districts fallen in the medium level category is 48. Their level of MPCE represents the range of Rs. 1007 to 1589, whereas their percentage coefficient of variation levels shows that 5.47% to 20.56%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

As per direct estimates the number of districts fallen in the high level category is 7, namely Sonbhadra, Aligarh, Baghpat, Etah, Shahrampur, Allahabad, and G.B.Nagar, respectively.

Their level of MPCE represents the range of Rs. 2015 to 4972, whereas their percentage coefficient of variation levels shows that 10.49% to 25.77%.

On the other hand as per model based small area estimates the number of districts fallen in the high level category is 13, namely Kanpur Nagar, Chandauli, Jyotibah pule Nagar, Aligarh, Meerut, Etah, Gonda, Sonbhadra, Shahrampur, Ghaziabad, Allhabad, G.B.Nagar, and Baghpatt respectively. Their level of MPCE represents the range of Rs. 1664 to 2018, whereas their percentage coefficient of variation levels shows that 5.5% to 23.37%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

The above data in table 20B shows that Region-wise districts (4 regions) direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of Monthly per capita consumer expenditure in Rupees (MPCE) for rural areas in the state of Uttar Pradesh in 2011-12. As mentioned above as per direct estimate and model based small area estimate based MPCE has been categorised into 3 levels i.e. low, medium and high.

As per direct estimates the Western region-wise (27) number of districts fallen in the low level category is 0, Medium – 24, and High – 3; Central region-wise (9) number of districts fallen in the low category – 2, Medium – 6, and High – 1; Bundelkhand region-wise (7) number of districts fallen in the low category – 1 and Medium – 5 and High – 1;; and Eastern region-wise (28) number of districts fallen in the low level category – 2, Medium – 23 and High – 3.

On the other hand as per model based small area estimates the Western region-wise (27) number of districts fallen in the low level category is 2, Medium – 18, and High – 7; Central region-wise (9) number of districts fallen in the low category – 2, Medium – 6, and High – 1; Bundelkhand region-wise (7) number of districts fallen in the low category – 1 and Medium – 5 and High – 1;; and Eastern region-wise (28) number of districts fallen in the low level category – 5, Medium – 19 and High – 4.

However, the direct estimates compared with model based small area estimates indicate that the MPCE variations are high in Western region and CV variations are higher in Eastern region. Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

Table 21: District-wise sample size, sample count of poor household (Sample Count), direct estimates (Direct) and model-based small area estimates (SAE) along with their standard error (SE) and percentage coefficient of variations (CV) for poverty incidence for urban social group other backward class (OBC) areas in the state of Uttar Pradesh in 2011-12

Region	District	Sample Size	Sample Count	Direct			Model Based SAE		
				Poverty Incidence	SE	CV	Poverty Incidence	SE	CV
Western	Saharanpur	29	3	0.107	0.07	64.68	0.114	0.04	35.20
	Muzaffarnagar	27	5	0.248	0.12	46.56	0.232	0.06	26.54
	Bijnor	33	10	0.247	0.09	38.10	0.241	0.07	27.15
	Moradabad	32	8	0.32	0.11	34.40	0.305	0.07	23.23
	Rampur	18	7	0.686	0.12	17.61	0.585	0.09	15.50
	Jyotiba Phule Nr	23	4	0.186	0.09	47.13	0.21	0.07	31.69
	Meerut	42	5	0.055	0.03	62.76	0.077	0.03	38.31
	Baghpat	17	3	0.016	0.01	70.72	0.12	0.05	45.72
	Ghaziabad	16	0	0			0.059	0.03	52.24
	Gautam Buddha Nr	14	4	0.035	0.02	60.17	0.058	0.03	53.97
	Bulandshahar	27	4	0.167	0.08	48.90	0.186	0.06	31.90
	Aligarh	23	4	0.098	0.06	57.17	0.172	0.07	38.91
	Hathras	12	3	0.331	0.17	51.76	0.314	0.09	28.05
	Mathura	17	7	0.373	0.13	34.72	0.332	0.08	24.10
	Agra	23	10	0.229	0.10	45.35	0.238	0.08	32.60
	Firozabad	31	13	0.361	0.10	28.40	0.355	0.09	23.95
	Etah	12	2	0.105	0.07	69.87	0.179	0.07	39.46
	Mainpuri	15	5	0.427	0.16	36.95	0.366	0.10	26.99
	Badaun	13	4	0.183	0.10	55.29	0.304	0.11	34.72
	Bareilly	44	4	0.101	0.05	51.64	0.156	0.05	33.43
	Pilibhit	9	2	0.171	0.14	82.11	0.241	0.10	39.54
	Shahjahanpur	21	6	0.215	0.10	45.82	0.227	0.07	31.55
	Farrukhabad	18	6	0.348	0.13	38.03	0.295	0.07	25.09
	Kannauj	9	4	0.374	0.18	47.37	0.357	0.11	30.65
Etawah	16	7	0.558	0.13	23.85	0.455	0.09	18.94	
Auraiya	21	4	0.144	0.08	52.86	0.174	0.06	36.39	
Kanshiramnagar	23	9	0.483	0.13	26.07	0.47	0.10	20.25	
Central	Kheri	15	5	0.547	0.16	28.44	0.456	0.09	20.36
	Sitapur	17	7	0.602	0.16	26.75	0.513	0.10	20.37
	Hardoi	19	9	0.55	0.12	22.38	0.48	0.09	18.22
	Unnao	16	7	0.296	0.13	45.35	0.277	0.08	28.90
	Lucknow	54	15	0.247	0.09	34.43	0.216	0.05	24.23
	Rae Bareli	13	4	0.219	0.11	49.57	0.215	0.08	35.33
	Kanpur Dehat	14	3	0.122	0.10	84.08	0.139	0.06	42.86
	Kanpur Nr	51	12	0.046	0.02	43.53	0.05	0.02	40.00
	Fatehpur	19	7	0.512	0.13	25.00	0.446	0.09	20.77

Region	District	Sample Size	Sample Count	Direct			Model Based SAE		
				Poverty Incidence	SE	CV	Poverty Incidence	SE	CV
Southern	Jalaun	10	1	0.234	0.19	82.02	0.225	0.08	35.97
	Jhansi	27	3	0.138	0.08	56.35	0.131	0.05	35.72
	Lalitpur	13	0	0			0.096	0.05	49.52
	Hamirpur	16	7	0.527	0.13	25.25	0.474	0.10	20.97
	Banda	23	10	0.403	0.12	30.27	0.36	0.09	24.45
	Chitrakoot	13	3	0.37	0.19	52.26	0.381	0.11	28.52
	Mahoba	22	6	0.361	0.12	34.45	0.363	0.09	25.44
Eastern	Mahrajganj	19	6	0.26	0.11	43.91	0.364	0.11	30.03
	Pratapgarh	26	15	0.502	0.13	25.95	0.48	0.10	20.64
	Kaushambi	10	4	0.724	0.15	21.23	0.678	0.12	18.29
	Allahabad	36	11	0.166	0.06	36.51	0.162	0.06	36.83
	Barabanki	23	12	0.691	0.12	16.90	0.583	0.10	17.03
	Faizabad	23	8	0.232	0.10	42.25	0.21	0.07	31.84
	Ambedkar Nr	24	13	0.631	0.11	17.52	0.572	0.09	15.82
	Sultanpur	18	7	0.395	0.13	33.98	0.336	0.09	26.44
	Bahraich	12	2	0.24	0.18	76.60	0.301	0.10	33.90
	Shrawasti	26	10	0.484	0.11	21.98	0.466	0.08	18.20
	Balrampur	16	7	0.44	0.15	33.96	0.409	0.10	24.61
	Gonda	12	2	0.047	0.04	76.26	0.148	0.06	43.79
	Siddharthnagar	17	8	0.283	0.12	40.86	0.421	0.11	26.77
	Basti	18	7	0.377	0.13	34.96	0.361	0.09	25.87
	Sant Kabir Nr	23	9	0.457	0.12	26.85	0.476	0.10	20.86
	Gorakhpur	32	3	0.089	0.06	71.76	0.133	0.06	41.80
	Kushinagar	20	8	0.502	0.13	26.89	0.477	0.10	21.16
	Deoria	14	8	0.558	0.22	39.21	0.462	0.13	27.63
	Azamgarh	21	8	0.378	0.11	29.20	0.422	0.10	23.01
	Mau	30	12	0.32	0.10	32.36	0.365	0.10	26.70
	Ballia	18	11	0.58	0.12	21.52	0.532	0.10	18.55
	Jaunpur	24	9	0.328	0.12	36.69	0.353	0.10	27.67
	Ghazipur	20	7	0.297	0.12	39.18	0.3	0.09	30.31
	Chandauli	17	1	0.006	0.01	105.67	0.137	0.06	44.94
	Varanasi	49	7	0.118	0.05	44.30	0.125	0.04	32.40
	Sant Ravidas Nr	22	14	0.639	0.11	17.96	0.583	0.09	15.47
	Mirzapur	17	7	0.556	0.15	26.31	0.455	0.10	21.23
	Sonbhadra	12	0	0			0.069	0.04	52.65

Source: Derived from 68th Round NSSO Unit Level Data

Tab 21A: Analysis Table for All Districts

District(Direct)	Poverty Incidence	Rank	CV	District(SAE)	Poverty Incidence	Rank	CV
Ghaziabad	0			Kanpur Nr	0.05	Low	40
Lalitpur	0			Gautam Buddha Nr	0.058	Low	53.97
Sonbhadra	0			Ghaziabad	0.059	Low	52.24
Chandauli	0.006	Low	105.67	Sonbhadra	0.069	Low	52.65
Baghpat	0.016	Low	70.72	Meerut	0.077	Low	38.31
Gautam Buddha Nr	0.035	Low	60.17	Lalitpur	0.096	Low	49.52
Kanpur Nr	0.046	Low	43.53	Saharanpur	0.114	Low	35.2
Gonda	0.047	Low	76.26	Baghpat	0.12	Low	45.72
Meerut	0.055	Low	62.76	Varanasi	0.125	Low	32.4
Gorakhpur	0.089	Low	71.76	Jhansi	0.131	Low	35.72
Aligarh	0.098	Low	57.17	Gorakhpur	0.133	Low	41.8
Bareilly	0.101	Low	51.64	Chandauli	0.137	Low	44.94
Etah	0.105	Low	69.87	Kanpur Dehat	0.139	Low	42.86
Saharanpur	0.107	Low	64.68	Gonda	0.148	Low	43.79
Varanasi	0.118	Medium	44.3	Bareilly	0.156	Medium	33.43
Kanpur Dehat	0.122	Medium	84.08	Allahabad	0.162	Medium	36.83
Jhansi	0.138	Medium	56.35	Aligarh	0.172	Medium	38.91
Auraiya	0.144	Medium	52.86	Auraiya	0.174	Medium	36.39
Allahabad	0.166	Medium	36.51	Etah	0.179	Medium	39.46
Bulandshahar	0.167	Medium	48.9	Bulandshahar	0.186	Medium	31.9
Pilibhit	0.171	Medium	82.11	Jyotiba Phule Nr	0.21	Medium	31.69
Badaun	0.183	Medium	55.29	Faizabad	0.21	Medium	31.84
Jyotiba Phule Nr	0.186	Medium	47.13	Rae Bareli	0.215	Medium	35.33
Shahjahanpur	0.215	Medium	45.82	Lucknow	0.216	Medium	24.23
Rae Bareli	0.219	Medium	49.57	Jalaun	0.225	Medium	35.97
Agra	0.229	Medium	45.35	Shahjahanpur	0.227	Medium	31.55
Faizabad	0.232	Medium	42.25	Muzaffarnagar	0.232	Medium	26.54
Jalaun	0.234	Medium	82.02	Agra	0.238	Medium	32.6
Bahraich	0.24	Medium	76.6	Bijnor	0.241	Medium	27.15
Bijnor	0.247	Medium	38.1	Pilibhit	0.241	Medium	39.54
Lucknow	0.247	Medium	34.43	Unnao	0.277	Medium	28.9
Muzaffarnagar	0.248	Medium	46.56	Farrukhabad	0.295	Medium	25.09
Mahrajganj	0.26	Medium	43.91	Ghazipur	0.3	Medium	30.31
Siddharthnagar	0.283	Medium	40.86	Bahraich	0.301	Medium	33.9
Unnao	0.296	Medium	45.35	Badaun	0.304	Medium	34.72
Ghazipur	0.297	Medium	39.18	Moradabad	0.305	Medium	23.23
Moradabad	0.32	Medium	34.4	Hathras	0.314	Medium	28.05
Mau	0.32	Medium	32.36	Mathura	0.332	Medium	24.1
Jaunpur	0.328	Medium	36.69	Sultanpur	0.336	Medium	26.44
Hathras	0.331	Medium	51.76	Jaunpur	0.353	Medium	27.67

District(Direct)	Poverty Incidence	Rank	CV	District(SAE)	Poverty Incidence	Rank	CV
Farrukhabad	0.348	Medium	38.03	Firozabad	0.355	Medium	23.95
Firozabad	0.361	Medium	28.4	Kannauj	0.357	Medium	30.65
Mahoba	0.361	Medium	34.45	Banda	0.36	Medium	24.45
Chitrakoot	0.37	Medium	52.26	Basti	0.361	Medium	25.87
Mathura	0.373	Medium	34.72	Mahoba	0.363	Medium	25.44
Kannauj	0.374	Medium	47.37	Mahrajganj	0.364	Medium	30.03
Basti	0.377	Medium	34.96	Mau	0.365	Medium	26.7
Azamgarh	0.378	Medium	29.2	Mainpuri	0.366	Medium	26.99
Sultanpur	0.395	Medium	33.98	Chitrakoot	0.381	Medium	28.52
Banda	0.403	Medium	30.27	Balrampur	0.409	Medium	24.61
Mainpuri	0.427	Medium	36.95	Siddharthnagar	0.421	Medium	26.77
Balrampur	0.44	Medium	33.96	Azamgarh	0.422	Medium	23.01
Sant Kabir Nr	0.457	Medium	26.85	Fatehpur	0.446	Medium	20.77
Kanshiramnagar	0.483	Medium	26.07	Etawah	0.455	Medium	18.94
Shrawasti	0.484	Medium	21.98	Mirzapur	0.455	Medium	21.23
Pratapgarh	0.502	Medium	25.95	Kheri	0.456	Medium	20.36
Kushinagar	0.502	Medium	26.89	Deoria	0.462	Medium	27.63
Fatehpur	0.512	High	25	Shrawasti	0.466	High	18.2
Hamirpur	0.527	High	25.25	Kanshiramnagar	0.47	High	20.25
Kheri	0.547	High	28.44	Hamirpur	0.474	High	20.97
Hardoi	0.55	High	22.38	Sant Kabir Nr	0.476	High	20.86
Mirzapur	0.556	High	26.31	Kushinagar	0.477	High	21.16
Etawah	0.558	High	23.85	Hardoi	0.48	High	18.22
Deoria	0.558	High	39.21	Pratapgarh	0.48	High	20.64
Ballia	0.58	High	21.52	Sitapur	0.513	High	20.37
Sitapur	0.602	High	26.75	Ballia	0.532	High	18.55
Ambedkar Nr	0.631	High	17.52	Ambedkar Nr	0.572	High	15.82
Sant Ravidas Nr	0.639	High	17.96	Barabanki	0.583	High	17.03
Rampur	0.686	High	17.61	Sant Ravidas Nr	0.583	High	15.47
Barabanki	0.691	High	16.9	Rampur	0.585	High	15.5
Kaushambi	0.724	High	21.23	Kaushambi	0.678	High	18.29

Source: Computed at GIDS

Tab 21B: Analysis Table by Region-wise

District (Direct) (Western)	Poverty Incidence	Rank	CV	District(SAE)	Poverty Incidence	Rank	CV
Ghaziabad	0			Gautam Buddha Nr	0.058	Low	53.97
Baghpat	0.016	Low	70.72	Ghaziabad	0.059	Low	52.24
Gautam Buddha Nr	0.035	Low	60.17	Meerut	0.077	Low	38.31
Meerut	0.055	Low	62.76	Saharanpur	0.114	Low	35.2
Aligarh	0.098	Medium	57.17	Baghpat	0.12	Low	45.72
Bareilly	0.101	Medium	51.64	Bareilly	0.156	Medium	33.43
Etah	0.105	Medium	69.87	Aligarh	0.172	Medium	38.91
Saharanpur	0.107	Medium	64.68	Auraiya	0.174	Medium	36.39
Auraiya	0.144	Medium	52.86	Etah	0.179	Medium	39.46
Bulandshahar	0.167	Medium	48.9	Bulandshahar	0.186	Medium	31.9
Pilibhit	0.171	Medium	82.11	Jyotiba Phule Nr	0.21	Medium	31.69
Badaun	0.183	Medium	55.29	Shahjahanpur	0.227	Medium	31.55
Jyotiba Phule Nr	0.186	Medium	47.13	Muzaffarnagar	0.232	Medium	26.54
Shahjahanpur	0.215	Medium	45.82	Agra	0.238	Medium	32.6
Agra	0.229	Medium	45.35	Bijnor	0.241	Medium	27.15
Bijnor	0.247	Medium	38.1	Pilibhit	0.241	Medium	39.54
Muzaffarnagar	0.248	Medium	46.56	Farrukhabad	0.295	Medium	25.09
Moradabad	0.32	Medium	34.4	Badaun	0.304	Medium	34.72
Hathras	0.331	Medium	51.76	Moradabad	0.305	Medium	23.23
Farrukhabad	0.348	Medium	38.03	Hathras	0.314	Medium	28.05
Firozabad	0.361	Medium	28.4	Mathura	0.332	Medium	24.1
Mathura	0.373	Medium	34.72	Firozabad	0.355	Medium	23.95
Kannauj	0.374	Medium	47.37	Kannauj	0.357	Medium	30.65
Mainpuri	0.427	High	36.95	Mainpuri	0.366	Medium	26.99
Kanshiramnagar	0.483	High	26.07	Etawah	0.455	High	18.94
Etawah	0.558	High	23.85	Kanshiramnagar	0.47	High	20.25
Rampur	0.686	High	17.61	Rampur	0.585	High	15.5
District (Central)	Poverty Incidence	Rank	CV	District	Poverty Incidence	Rank	CV
Kanpur Nr	0.046	Low	43.53	Kanpur Nr	0.05	Low	40
Kanpur Dehat	0.122	Low	84.08	Kanpur Dehat	0.139	Low	42.86
Rae Bareli	0.219	Medium	49.57	Rae Bareli	0.215	Medium	35.33
Lucknow	0.247	Medium	34.43	Lucknow	0.216	Medium	24.23
Unnao	0.296	Medium	45.35	Unnao	0.277	Medium	28.9
Fatehpur	0.512	Medium	25	Fatehpur	0.446	Medium	20.77
Kheri	0.547	Medium	28.44	Kheri	0.456	Medium	20.36
Hardoi	0.55	Medium	22.38	Hardoi	0.48	High	18.22
Sitapur	0.602	High	26.75	Sitapur	0.513	High	20.37
District(Southern)	Poverty Incidence	Rank	CV	District	Poverty Incidence	Rank	CV
Lalitpur	0			Lalitpur	0.096	Low	49.52

District (Direct) (Western)	Poverty Incidence	Rank	CV	District(SAE)	Poverty Incidence	Rank	CV
Jhansi	0.138	Medium	56.35	Jhansi	0.131	Low	35.72
Jalaun	0.234	Medium	82.02	Jalaun	0.225	Medium	35.97
Mahoba	0.361	Medium	34.45	Banda	0.36	Medium	24.45
Chitrakoot	0.37	Medium	52.26	Mahoba	0.363	Medium	25.44
Banda	0.403	Medium	30.27	Chitrakoot	0.381	Medium	28.52
Hamirpur	0.527	High	25.25	Hamirpur	0.474	High	20.97
District (Eastern)	Poverty Incidence	Rank	CV	District	Poverty Incidence	Rank	CV
Sonbhadra	0			Sonbhadra	0.069	Low	52.65
Chandauli	0.006	Low	105.67	Varanasi	0.125	Low	32.4
Gonda	0.047	Low	76.26	Gorakhpur	0.133	Low	41.8
Gorakhpur	0.089	Low	71.76	Chandauli	0.137	Low	44.94
Varanasi	0.118	Low	44.3	Gonda	0.148	Low	43.79
Allahabad	0.166	Medium	36.51	Allahabad	0.162	Low	36.83
Faizabad	0.232	Medium	42.25	Faizabad	0.21	Medium	31.84
Bahraich	0.24	Medium	76.6	Ghazipur	0.3	Medium	30.31
Mahrajganj	0.26	Medium	43.91	Bahraich	0.301	Medium	33.9
Siddharthnagar	0.283	Medium	40.86	Sultanpur	0.336	Medium	26.44
Ghazipur	0.297	Medium	39.18	Jaunpur	0.353	Medium	27.67
Mau	0.32	Medium	32.36	Basti	0.361	Medium	25.87
Jaunpur	0.328	Medium	36.69	Mahrajganj	0.364	Medium	30.03
Basti	0.377	Medium	34.96	Mau	0.365	Medium	26.7
Azamgarh	0.378	Medium	29.2	Balrampur	0.409	Medium	24.61
Sultanpur	0.395	Medium	33.98	Siddharthnagar	0.421	Medium	26.77
Balrampur	0.44	Medium	33.96	Azamgarh	0.422	Medium	23.01
Sant Kabir Nr	0.457	Medium	26.85	Mirzapur	0.455	Medium	21.23
Shrawasti	0.484	Medium	21.98	Deoria	0.462	Medium	27.63
Pratapgarh	0.502	Medium	25.95	Shrawasti	0.466	Medium	18.2
Kushinagar	0.502	Medium	26.89	Sant Kabir Nr	0.476	Medium	20.86
Mirzapur	0.556	Medium	26.31	Kushinagar	0.477	Medium	21.16
Deoria	0.558	Medium	39.21	Pratapgarh	0.48	Medium	20.64
Ballia	0.58	High	21.52	Ballia	0.532	Medium	18.55
Ambedkar Nr	0.631	High	17.52	Ambedkar Nr	0.572	High	15.82
Sant Ravidas Nr	0.639	High	17.96	Barabanki	0.583	High	17.03
Barabanki	0.691	High	16.9	Sant Ravidas Nr	0.583	High	15.47
Kaushambi	0.724	High	21.23	Kaushambi	0.678	High	18.29

Source: Computed at GIDS

The above data in table 21A shows that district wise direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of Incidence of Poverty proportions for OBC in Urban areas in the state of Uttar Pradesh in 2011-12.

As per direct estimates the Incidence of Poverty proportions the number of districts fallen in the low level category is 11, namely Chandauli, Baghpat, G.B.Nagar, Kanpur Nagar, Gonda, Meerut, Gorakpur, Aligarh, Bareilly, Etah, Shahrampur respectively. Their level of Incidence of Poverty proportions represents the range of 0.006 to 0.107, whereas their percentage coefficient of variation levels shows that 43.53% to 105.67%.

On the other hand as per model based small area estimates the Incidence of Poverty proportions the number of districts fallen in the low level category is 14, namely Kanpur Nagar, G.B.Nagar, Ghaziabad, Sonbhadra, Meerut, Lalitpur, Shahrampur, Baghpat, Varanasi, Jhansi, Gorokhpur, Chandauli, Kanpur Dehat, and Gonda respectively. Their level of incidence of poverty proportions represents the range of 0.05 to 0.148, whereas their percentage coefficient of variation levels shows that 32.4% to 53.97%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

As per direct estimates the number of districts fallen in the Medium level category is 43. Their level of incidence of poverty proportions represents the range of 0.118 to 0.502, whereas their percentage coefficient of variation levels shows that 21.98% to 84.08%.

On the other hand as per model based small area estimates the number of districts fallen in the medium level category is 43. Their level of incidence of poverty proportions represents the range of 0.156 to 0.462, whereas their percentage coefficient of variation levels shows that 18.94% to 39.54%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

As per direct estimates the number of districts fallen in the high level category is 14, namely Fatehpur, Hamirpur, Kheri, Hardoi, Mirzapur, Etawah, Deoria, Ballia, Sitapur, Ambedkarnagar, Sant Ravidas Nagar, Rampur, Barabanki and Kaushambi respectively. Their level of incidence of poverty proportions represents the range of 0.512 to 0.724, whereas their percentage coefficient of variation levels shows that 16.9% to 39.21%.

On the other hand as per model based small area estimates the number of districts fallen in the high level category is 14, namely Shrawasti, Kanshiramnagar, Hamirpur, Santkabirnagar, Khushinagar, Hardoi, Pratapgarh, Sitapur, Ballia, Ambedkarnagar, Barabanki, Sant Ravidas

Nagar, Rampur and Kaushambi respectively. Their level of incidence of poverty proportions represents the range of 0.466 to 0.678, whereas their percentage coefficient of variation levels shows that 15.5% to 20.97%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

The above data in table 21B shows that Region-wise districts (4 regions) direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of incidence of poverty proportions for rural areas in the state of Uttar Pradesh in 2011-12.

As per direct estimates the incidence of poverty proportions in Western region-wise (27) number of districts fallen in the low level category is 3, Medium – 19, and High – 4; Central region-wise (9) number of districts fallen in the low category – 2, Medium – 6, and High – 1; Bundelkhand region-wise (7) number of districts fallen in the Medium – 5, and High - 1; and Eastern region-wise (28) number of districts fallen in the low level category – 4, Medium – 18 and High – 5.

On the other hand as per model based small area estimates the incidence of poverty proportions in Western region number of districts fallen in the low level category is 5, Medium – 19, and High – 3; Central region number of districts fallen in the low category – 2, Medium – 5, and High – 2; Bundelkhand region number of districts fallen in the low category – 2, Medium – 4 and High - 1; and Eastern region number of districts fallen in the low level category – 6, Medium – 18 and High – 4.

However, the direct estimates compared with model based small area estimates indicate that the incidence of poverty proportions in rural areas the variations are high in Eastern region and CV variations are higher in Eastern region also. Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

Table 22: District-wise sample size, estimated total household (Est. HHs), Average Household size (HHS), direct estimates (Direct) and model-based small area estimates (SAE) along with their standard error (SE) and percentage coefficient of variations (CV) for monthly per capita consumer and expenditure in Rupees (MPCE) for urban social group Other areas in the state of Uttar Pradesh in 2011-12

Region	District	Sample Size	est. HH	HHS	Direct			Model Based SAE		
					MPCE	SE	CV	MPCE	SE	CV
Western	Saharanpur	20	32050	6.0	1826	367.00	20.10	1921	344.00	17.91
	Muzaffarnagar	34	81757	4.2	2592	235.00	9.07	2563	229.00	8.92
	Bijnor	26	54618	5.1	1546	172.00	11.10	1553	169.00	10.88
	Moradabad	27	70230	5.4	1585	135.00	8.54	1593	134.00	8.43
	Rampur	12	12685	7.2	1279	161.00	12.56	1281	159.00	12.40
	Jyotiba Phule Nr	5	6790	3.5	4593	1809.00	39.39	2584	863.00	33.38
	Meerut	45	186104	5.4	3178	484.00	15.22	3095	434.00	14.03
	Baghpat	12	21197	4.7	2713	419.00	15.44	2607	393.00	15.06
	Ghaziabad	54	394712	3.1	5768	870.00	15.08	4632	654.00	14.11
	Gautam Buddha Nr	17	111502	3.7	7184	713.00	9.92	5944	593.00	9.98
	Bulandshahar	32	50587	4.6	2817	525.00	18.63	2612	462.00	17.69
	Aligarh	21	94968	4.3	2417	185.00	7.66	2407	182.00	7.56
	Hathras	11	22108	5.8	1670	313.00	18.75	1664	299.00	17.95
	Mathura	41	76027	4.7	1740	150.00	8.59	1760	148.00	8.40
	Agra	50	155584	5.2	2774	803.00	28.94	2811	623.00	22.15
	Firozabad	14	35604	5.6	1673	242.00	14.47	1733	235.00	13.58
	Etah	13	16920	4.9	2474	280.00	11.33	2456	270.00	10.99
	Mainpuri	8	6518	6.6	911	106.00	11.68	926	106.00	11.43
	Budaun	16	53490	5.3	1221	95.00	7.82	1214	95.00	7.83
	Bareilly	11	36464	4.5	1954	326.00	16.71	1974	311.00	15.76
	Pilibhit	23	42303	6.4	1322	169.00	12.79	1328	167.00	12.55
	Shahjahanpur	8	35659	3.6	1191	93.00	7.83	1194	93.00	7.77
	Farrukhabad	8	10375	4.9	1441	308.00	21.39	1524	294.00	19.29
	Kannauj	20	25680	5.9	950	100.00	10.48	960	99.00	10.32
	Etawah	4	9096	6.2	1512	414.00	27.35	1672	382.00	22.85
Auraiya	7	8305	3.9	1895	273.00	14.38	1910	264.00	13.80	
Kashiramnagar	6	4779	4.8	1591	287.00	18.03	1557	276.00	17.71	
Central	Kheri	17	45264	6.5	856	125.00	14.58	877	124.00	14.13
	Sitapur	10	36970	3.7	2297	651.00	28.33	2230	540.00	24.21
	Hardoi	9	12912	4.1	1675	230.00	13.76	1679	224.00	13.36
	Unnao	15	30190	5.2	1319	252.00	19.12	1377	244.00	17.73
	Lucknow	65	368993	4.7	3277	529.00	16.14	3332	469.00	14.08
	Rae Bareli	9	22297	4.4	2836	611.00	21.53	2685	519.00	19.31
	Kanpur Dehat	11	9339	5.2	1754	237.00	13.49	1762	230.00	13.07
	Kanpur Nr	62	257144	4.0	2273	312.00	13.70	2403	298.00	12.41

Region	District	Sample Size	est. HH	HHS	Direct			Model Based SAE		
					MPCE	SE	CV	MPCE	SE	CV
	Fatehpur	12	13922	5.8	1477	144.00	9.76	1485	143.00	9.60
Southern	Jalaun	17	36698	4.3	2011	197.00	9.79	2000	193.00	9.65
	Jhansi	13	46232	3.1	6376	1169.00	18.33	4230	761.00	18.00
	Lalitpur	18	13820	4.9	1844	143.00	7.74	1858	141.00	7.61
	Hamirpur	12	23336	4.4	1773	124.00	7.02	1775	123.00	6.96
	Banda	5	5285	4.4	1101	216.00	19.60	1168	211.00	18.11
	Chitrakoot	6	1558	4.9	1209	106.00	8.75	1217	105.00	8.65
	Mahoba	7	10714	6.4	1431	206.00	14.39	1436	202.00	14.05
Eastern	Mahrajganj	5	3520	6.0	2009	553.00	27.54	1668	494.00	29.62
	Pratapgarh	6	6445	5.5	1946	269.00	13.84	1995	260.00	13.02
	Kaushambi	15	11062	5.6	936	129.00	13.79	936	128.00	13.70
	Allahabad	18	131645	2.5	5398	909.00	16.83	4462	673.00	15.08
	Barabanki	5	8648	6.6	1321	482.00	36.48	1339	434.00	32.41
	Faizabad	8	5521	4.5	2583	517.00	20.03	2609	458.00	17.55
	Ambedkar Nr	2	1673	5.4	652	43.00	6.65	654	43.00	6.62
	Sultanpur	10	8052	3.3	3156	559.00	17.72	2997	487.00	16.23
	Bahraich	17	22537	3.9	1702	118.00	6.95	1701	118.00	6.91
	Shrawasti	4	1021	8.6	2054	908.00	44.21	1551	685.00	44.17
	Balrampur	16	7154	5.8	1122	124.00	11.08	1127	123.00	10.95
	Gonda	13	14632	3.0	2533	292.00	11.54	2504	280.00	11.18
	Siddharthnagar	9	6851	3.5	1231	254.00	20.64	1204	247.00	20.48
	Basti	8	7725	3.7	2543	476.00	18.72	2470	432.00	17.49
	Sant Kabir Nr	7	3617	7.6	1636	350.00	21.40	1713	335.00	19.53
	Gorakhpur	24	84001	5.3	2675	305.00	11.41	2696	292.00	10.82
	Kushinagar	6	4331	7.4	1923	72.00	3.73	1920	72.00	3.72
	Deoria	9	23965	5.6	1519	315.00	20.73	1538	301.00	19.58
	Azamgarh	8	12061	5.0	3121	966.00	30.96	2792	681.00	24.39
	Mau	2	6851	5.8	2135	15.00	0.68	2135	15.00	0.68
	Ballia	14	15603	4.1	2460	301.00	12.24	2406	288.00	11.96
	Jaunpur	6	21395	4.8	1943	501.00	25.80	2037	449.00	22.06
	Ghazipur	6	4424	3.0	3227	1328.00	41.15	2556	788.00	30.83
	Chandauli	8	9327	4.9	3955	674.00	17.03	3372	555.00	16.44
	Varanasi	33	90586	4.2	2828	379.00	13.40	2880	355.00	12.31
	Sant Ravidas Nr	1	152	2.0	5033	0.00	0.00	5033	0.00	0.00
	Mirzapur	9	8548	5.7	1747	245.00	14.01	1808	238.00	13.15
	Sonbhadra	14	15291	4.0	2431	174.00	7.17	2442	172.00	7.04

Source: Derived from 68th Round NSSO Unit Level Data

Tab 22A : Analysis Table for All Districts

District (Direct)	MPCE	Rank	CV	District (SAE)	MPCE	Rank	CV
Ambedkar Nr	652	Low	6.65	Ambedkar Nr	654	Low	6.62
Kheri	856	Low	14.58	Kheri	877	Low	14.13
Mainpuri	911	Low	11.68	Mainpuri	926	Low	11.43
Kaushambi	936	Low	13.79	Kaushambi	936	Low	13.7
Kannauj	950	Low	10.48	Kannauj	960	Low	10.32
Banda	1101	Medium	19.6	Balrampur	1127	Low	10.95
Balrampur	1122	Medium	11.08	Banda	1168	Medium	18.11
Shahjahanpur	1191	Medium	7.83	Shahjahanpur	1194	Medium	7.77
Chitrakoot	1209	Medium	8.75	Siddharthnagar	1204	Medium	20.48
Budaun	1221	Medium	7.82	Budaun	1214	Medium	7.83
Siddharthnagar	1231	Medium	20.64	Chitrakoot	1217	Medium	8.65
Rampur	1279	Medium	12.56	Rampur	1281	Medium	12.4
Unnao	1319	Medium	19.12	Pilibhit	1328	Medium	12.55
Barabanki	1321	Medium	36.48	Barabanki	1339	Medium	32.41
Pilibhit	1322	Medium	12.79	Unnao	1377	Medium	17.73
Mahoba	1431	Medium	14.39	Mahoba	1436	Medium	14.05
Farrukhabad	1441	Medium	21.39	Fatehpur	1485	Medium	9.6
Fatehpur	1477	Medium	9.76	Farrukhabad	1524	Medium	19.29
Etawah	1512	Medium	27.35	Deoria	1538	Medium	19.58
Deoria	1519	Medium	20.73	Shrawasti	1551	Medium	44.17
Bijnor	1546	Medium	11.1	Bijnor	1553	Medium	10.88
Moradabad	1585	Medium	8.54	Kashiramnagar	1557	Medium	17.71
Kashiramnagar	1591	Medium	18.03	Moradabad	1593	Medium	8.43
Sant Kabir Nr	1636	Medium	21.4	Hathras	1664	Medium	17.95
Hathras	1670	Medium	18.75	Mahrajganj	1668	Medium	29.62
Firozabad	1673	Medium	14.47	Etawah	1672	Medium	22.85
Hardoi	1675	Medium	13.76	Hardoi	1679	Medium	13.36
Bahraich	1702	Medium	6.95	Bahraich	1701	Medium	6.91
Mathura	1740	Medium	8.59	Sant Kabir Nr	1713	Medium	19.53
Mirzapur	1747	Medium	14.01	Firozabad	1733	Medium	13.58
Kanpur Dehat	1754	Medium	13.49	Mathura	1760	Medium	8.4
Hamirpur	1773	Medium	7.02	Kanpur Dehat	1762	Medium	13.07
Saharanpur	1826	Medium	20.1	Hamirpur	1775	Medium	6.96
Lalitpur	1844	Medium	7.74	Mirzapur	1808	Medium	13.15
Auraiya	1895	Medium	14.38	Lalitpur	1858	Medium	7.61
Kushinagar	1923	Medium	3.73	Auraiya	1910	Medium	13.8
Jaunpur	1943	Medium	25.8	Kushinagar	1920	Medium	3.72
Pratapgarh	1946	Medium	13.84	Saharanpur	1921	Medium	17.91
Bareilly	1954	Medium	16.71	Bareilly	1974	Medium	15.76
Mahrajganj	2009	Medium	27.54	Pratapgarh	1995	Medium	13.02
Jalaun	2011	Medium	9.79	Jalaun	2000	Medium	9.65
Shrawasti	2054	Medium	44.21	Jaunpur	2037	Medium	22.06

District (Direct)	MPCE	Rank	CV	District (SAE)	MPCE	Rank	CV
Mau	2135	Medium	0.68	Mau	2135	Medium	0.68
Kanpur Nr	2273	Medium	13.7	Sitapur	2230	Medium	24.21
Sitapur	2297	Medium	28.33	Kanpur Nr	2403	Medium	12.41
Aligarh	2417	Medium	7.66	Ballia	2406	Medium	11.96
Sonbhadra	2431	Medium	7.17	Aligarh	2407	Medium	7.56
Ballia	2460	Medium	12.24	Sonbhadra	2442	Medium	7.04
Etah	2474	Medium	11.33	Etah	2456	Medium	10.99
Gonda	2533	Medium	11.54	Basti	2470	Medium	17.49
Basti	2543	Medium	18.72	Gonda	2504	Medium	11.18
Faizabad	2583	Medium	20.03	Ghazipur	2556	Medium	30.83
Muzaffarnagar	2592	Medium	9.07	Muzaffarnagar	2563	Medium	8.92
Gorakhpur	2675	Medium	11.41	Jyotiba Phule Nr	2584	Medium	33.38
Baghpat	2713	Medium	15.44	Baghpat	2607	Medium	15.06
Agra	2774	Medium	28.94	Faizabad	2609	Medium	17.55
Bulandshahar	2817	Medium	18.63	Bulandshahar	2612	Medium	17.69
Varanasi	2828	Medium	13.4	Rae Bareli	2685	Medium	19.31
Rae Bareli	2836	Medium	21.53	Gorakhpur	2696	Medium	10.82
Azamgarh	3121	Medium	30.96	Azamgarh	2792	Medium	24.39
Sultanpur	3156	Medium	17.72	Agra	2811	Medium	22.15
Meerut	3178	Medium	15.22	Varanasi	2880	Medium	12.31
Ghazipur	3227	Medium	41.15	Sultanpur	2997	Medium	16.23
Lucknow	3277	Medium	16.14	Meerut	3095	Medium	14.03
Chandauli	3955	High	17.03	Lucknow	3332	High	14.08
Jyotiba Phule Nr	4593	High	39.39	Chandauli	3372	High	16.44
Sant Ravidas Nr	5033	High	0	Jhansi	4230	High	18
Allahabad	5398	High	16.83	Allahabad	4462	High	15.08
Ghaziabad	5768	High	15.08	Ghaziabad	4632	High	14.11
Jhansi	6376	High	18.33	Sant Ravidas Nr	5033	High	0
Gautam Buddha Nr	7184	High	9.92	Gautam Buddha Nr	5944	High	9.98

Source: Computed at GIDS

Tab 22B: Analysis Table by Region-wise

District (Direct) (Western)	MPCE	Rank	CV	District (SAE)	MPCE	Rank	CV
Mainpuri	911	Medium	11.68	Mainpuri	926	Low	11.43
Kannauj	950	Medium	10.48	Kannauj	960	Low	10.32
Shahjahanpur	1191	Medium	7.83	Shahjahanpur	1194	Medium	7.77
Budaun	1221	Medium	7.82	Budaun	1214	Medium	7.83
Rampur	1279	Medium	12.56	Rampur	1281	Medium	12.4
Pilibhit	1322	Medium	12.79	Pilibhit	1328	Medium	12.55
Farrukhabad	1441	Medium	21.39	Farrukhabad	1524	Medium	19.29
Etawah	1512	Medium	27.35	Bijnor	1553	Medium	10.88
Bijnor	1546	Medium	11.1	Kashiramnagar	1557	Medium	17.71
Moradabad	1585	Medium	8.54	Moradabad	1593	Medium	8.43
Kashiramnagar	1591	Medium	18.03	Hathras	1664	Medium	17.95
Hathras	1670	Medium	18.75	Etawah	1672	Medium	22.85
Firozabad	1673	Medium	14.47	Firozabad	1733	Medium	13.58
Mathura	1740	Medium	8.59	Mathura	1760	Medium	8.4
Saharanpur	1826	Medium	20.1	Auraiya	1910	Medium	13.8
Auraiya	1895	Medium	14.38	Saharanpur	1921	Medium	17.91
Bareilly	1954	Medium	16.71	Bareilly	1974	Medium	15.76
Aligarh	2417	Medium	7.66	Aligarh	2407	Medium	7.56
Etah	2474	Medium	11.33	Etah	2456	Medium	10.99
Muzaffarnagar	2592	Medium	9.07	Muzaffarnagar	2563	Medium	8.92
Baghpat	2713	Medium	15.44	Jyotiba Phule Nr	2584	Medium	33.38
Agra	2774	Medium	28.94	Baghpat	2607	Medium	15.06
Bulandshahar	2817	Medium	18.63	Bulandshahar	2612	Medium	17.69
Meerut	3178	Medium	15.22	Agra	2811	Medium	22.15
Jyotiba Phule Nr	4593	High	39.39	Meerut	3095	Medium	14.03
Ghaziabad	5768	High	15.08	Ghaziabad	4632	High	14.11
Gautam Buddha Nr	7184	High	9.92	Gautam Buddha Nr	5944	High	9.98
District(Central)	MPCE	Rank	CV	District	MPCE	Rank	CV
Kheri	856	Low	14.58	Kheri	877	Low	14.13
Unnao	1319	Medium	19.12	Unnao	1377	Medium	17.73
Fatehpur	1477	Medium	9.76	Fatehpur	1485	Medium	9.6
Hardoi	1675	Medium	13.76	Hardoi	1679	Medium	13.36
Kanpur Dehat	1754	Medium	13.49	Kanpur Dehat	1762	Medium	13.07
Kanpur Nr	2273	Medium	13.7	Sitapur	2230	Medium	24.21
Sitapur	2297	Medium	28.33	Kanpur Nr	2403	Medium	12.41
Rae Bareli	2836	High	21.53	Rae Bareli	2685	Medium	19.31
Lucknow	3277	High	16.14	Lucknow	3332	High	14.08
District (Southern)	MPCE	Rank	CV	District	MPCE	Rank	CV
Banda	1101	Medium	19.6	Banda	1168	Medium	18.11
Chitrakoot	1209	Medium	8.75	Chitrakoot	1217	Medium	8.65
Mahoba	1431	Medium	14.39	Mahoba	1436	Medium	14.05

District (Direct) (Western)	MPCE	Rank	CV	District (SAE)	MPCE	Rank	CV
Hamirpur	1773	Medium	7.02	Hamirpur	1775	Medium	6.96
Lalitpur	1844	Medium	7.74	Lalitpur	1858	Medium	7.61
Jalaun	2011	Medium	9.79	Jalaun	2000	Medium	9.65
Jhansi	6376	High	18.33	Jhansi	4230	High	18
District (Eastern)	MPCE	Rank	CV	District	MPCE	Rank	CV
Ambedkar Nr	652	Low	6.65	Ambedkar Nr	654	Low	6.62
Kaushambi	936	Low	13.79	Kaushambi	936	Low	13.7
Balrampur	1122	Low	11.08	Balrampur	1127	Low	10.95
Siddharthnagar	1231	Low	20.64	Siddharthnagar	1204	Low	20.48
Barabanki	1321	Medium	36.48	Barabanki	1339	Medium	32.41
Deoria	1519	Medium	20.73	Deoria	1538	Medium	19.58
Sant Kabir Nr	1636	Medium	21.4	Shrawasti	1551	Medium	44.17
Bahraich	1702	Medium	6.95	Mahrajganj	1668	Medium	29.62
Mirzapur	1747	Medium	14.01	Bahraich	1701	Medium	6.91
Kushinagar	1923	Medium	3.73	Sant Kabir Nr	1713	Medium	19.53
Jaunpur	1943	Medium	25.8	Mirzapur	1808	Medium	13.15
Pratapgarh	1946	Medium	13.84	Kushinagar	1920	Medium	3.72
Mahrajganj	2009	Medium	27.54	Pratapgarh	1995	Medium	13.02
Shrawasti	2054	Medium	44.21	Jaunpur	2037	Medium	22.06
Mau	2135	Medium	0.68	Mau	2135	Medium	0.68
Sonbhadra	2431	Medium	7.17	Ballia	2406	Medium	11.96
Ballia	2460	Medium	12.24	Sonbhadra	2442	Medium	7.04
Gonda	2533	Medium	11.54	Basti	2470	Medium	17.49
Basti	2543	Medium	18.72	Gonda	2504	Medium	11.18
Faizabad	2583	Medium	20.03	Ghazipur	2556	Medium	30.83
Gorakhpur	2675	Medium	11.41	Faizabad	2609	Medium	17.55
Varanasi	2828	Medium	13.4	Gorakhpur	2696	Medium	10.82
Azamgarh	3121	Medium	30.96	Azamgarh	2792	Medium	24.39
Sultanpur	3156	Medium	17.72	Varanasi	2880	Medium	12.31
Ghazipur	3227	Medium	41.15	Sultanpur	2997	Medium	16.23
Chandauli	3955	High	17.03	Chandauli	3372	High	16.44
Sant Ravidas Nr	5033	High	0	Allahabad	4462	High	15.08
Allahabad	5398	High	16.83	Sant Ravidas Nr	5033	High	0

Source: Computed at GIDS

The above data in table 22A shows that district wise direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of Monthly per capita consumer expenditure in Rupees (MPCE) for Other Category in Urban areas in the state of Uttar Pradesh in 2011-12.

As per direct estimates the number of districts fallen in the low level category is 5, namely Ambedkar Nagar, Kheri, Mainpuri, Kaushambi, and Kannuj respectively. Their level of MPCE represents the range of Rs. 652 to 950, whereas their percentage coefficient of variation levels shows that 6.65% to 14.58%.

On the other hand as per model based small area estimates the number of districts fallen in the low level category is 6, namely Ambedkar Nagar, Kheri, Mainpuri, Kaushambi, Kannau, Balrampur respectively. Their level of MPCE represents the range of Rs. 654 to 1127, whereas their percentage coefficient of variation levels shows that 6.62% to 14.43%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

As per direct estimates the number of districts fallen in the Medium level category is 59. Their level of MPCE represents the range of Rs. 1101 to 3277, whereas their percentage coefficient of variation levels shows that 0.68% to 44.21%.

On the other hand as per model based small area estimates the number of districts fallen in the medium level category is 58. Their level of MPCE represents the range of Rs. 1168 to 3095, whereas their percentage coefficient of variation levels shows that 0.68% to 44.17%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

As per direct estimates the number of districts fallen in the high level category is 7, namely Jyothibapulenagar, Chandauli, Sant Ravidas nagar, Allahabad, Ghaziabad, Jhansi, and G.B.Nagar respectively. Their level of MPCE represents the range of Rs. 3955 to 7184, whereas their percentage coefficient of variation levels shows that 9.92% to 39.39%.

On the other hand as per model based small area estimates the number of districts fallen in the high level category is 7, namely Lucknow, Chandauli, Jhansi, Allahabad, Ghaziabad, Sant Ravi das Nagar, and G.B.Nagar respectively. Their level of MPCE represents the range of Rs. 3332 to 5944, whereas their percentage coefficient of variation levels shows that 9.98% to 16.44%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

The above data in table 22B shows that Region-wise districts (4 regions) direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of Monthly per capita consumer expenditure in Rupees (MPCE) for Other Caste Category in Urban areas in the state of Uttar Pradesh in 2011-12.

As per direct estimates the Western region number of districts fallen in the low level category is 0, Medium – 24, and High – 3; Central region number of districts fallen in the low category – 1, Medium – 6, and High – 2; Bundelkhand (Southern) region number of districts fallen in the low category – 0 and Medium – 6 and High - 1; and Eastern region number of districts fallen in the low level category – 4, Medium – 21 and High – 3.

On the other hand as per model based small area estimates the Western region number of districts fallen in the low level category is 2, Medium – 23, and High – 2; Central region number of districts fallen in the low category – 1, Medium – 7, and High – 1; Bundelkhand(Southern)region number of districts fallen in the category Medium – 6 and High -1; and Eastern region number of districts fallen in the low level category – 4, Medium – 21 and High – 3.

However, the direct estimates compared with model based small area estimates indicate that the MPCE variations are high in Eastern region and CV variations are higher in Eastern region followed by Bundelkhand region. Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

Table 23;. District-wise sample size, sample count of poor household (Sample Count), direct estimates (Direct) and model-based small area estimates (SAE) along with their standard error (SE) and percentage coefficient of variations (CV) for poverty incidence for urban social group Other areas in the state of Uttar Pradesh in 2011-12

Region	District	Sample Size	Sample Count	Direct			Model Based SAE		
				Poverty Incidence	SE	CV	Poverty Incidence	SE	CV
Western	Saharanpur	20	2	0.224	0.13	59.91	0.203	0.07	34.52
	Muzaffarnagar	34	3	0.036	0.03	71.16	0.048	0.02	48.41
	Bijnor	26	3	0.06	0.04	73.06	0.074	0.04	49.84
	Moradabad	27	4	0.141	0.08	54.59	0.143	0.05	31.97
	Rampur	12	1	0.248	0.20	80.22	0.251	0.11	45.79
	Jyotiba Phule Nr	5	0	0			0.063	0.07	108.24
	Meerut	45	0	0			0.013	0.01	84.27
	Baghpat	12	2	0.145	0.10	69.63	0.145	0.08	56.03
	Ghaziabad	54	2	0.014	0.01	70.74	0.018	0.01	58.27
	Gautam Buddha Nr	17	0	0			0.013	0.01	97.30
	Bulandshahar	32	1	0.018	0.02	99.57	0.028	0.02	64.88
	Aligarh	21	0	0			0.026	0.02	85.14
	Hathras	11	1	0.181	0.16	88.34	0.134	0.08	60.86
	Mathura	41	5	0.034	0.02	48.59	0.036	0.02	44.79
	Agra	50	11	0.122	0.06	46.95	0.115	0.04	37.80
	Firozabad	14	2	0.122	0.09	77.81	0.123	0.06	51.68
	Etah	13	0	0			0.028	0.03	95.16
	Mainpuri	8	4	0.635	0.20	31.14	0.491	0.14	28.24
	Budaun	16	5	0.284	0.12	43.65	0.272	0.10	35.59
	Bareilly	11	0	0			0.057	0.05	92.17
Pilibhit	23	3	0.15	0.10	64.08	0.136	0.06	43.19	
Shahjahanpur	8	2	0.339	0.22	65.21	0.301	0.14	47.45	
Farrukhabad	8	3	0.314	0.18	55.92	0.265	0.14	51.08	
Kannauj	20	9	0.488	0.12	25.36	0.462	0.07	16.08	
Etawah	4	1	0.401	0.28	70.01	0.219	0.16	71.41	
Auraiya	7	1	0.064	0.07	101.65	0.093	0.07	79.67	
Kashiramnagar	6	0	0			0.083	0.07	89.43	
Central	Kheri	17	10	0.714	0.15	20.38	0.651	0.10	14.88
	Sitapur	10	1	0.189	0.17	91.51	0.185	0.11	62.03
	Hardoi	9	1	0.011	0.01	109.66	0.057	0.05	91.50
	Unnao	15	6	0.339	0.14	42.47	0.291	0.10	34.55
	Lucknow	65	9	0.074	0.03	44.58	0.066	0.02	36.49
	Rae Bareli	9	0	0			0.039	0.04	109.39
	Kanpur Dehat	11	2	0.198	0.16	82.30	0.19	0.10	51.24
	Kanpur Nr	62	6	0.123	0.08	65.35	0.109	0.03	30.29
Fatehpur	12	1	0.073	0.07	97.50	0.099	0.06	58.38	
Southern	Jalaun	17	0	0			0.026	0.02	86.00
	Jhansi	13	0	0			0.028	0.03	101.02
	Lalitpur	18	2	0.041	0.03	73.41	0.04	0.03	72.46

Region	District	Sample Size	Sample Count	Direct			Model Based SAE		
				Poverty Incidence	SE	CV	Poverty Incidence	SE	CV
	Hamirpur	12	0	0			0.046	0.04	88.57
	Banda	5	1	0.624	0.29	45.91	0.239	0.20	81.68
	Chitrakoot	6	1	0.14	0.14	97.68	0.173	0.13	74.94
	Mahoba	7	0	0			0.091	0.09	98.04
Eastern	Mahrajanj	5	0	0			0.119	0.11	92.05
	Pratapgarh	6	0	0			0.041	0.04	107.98
	Kaushambi	15	6	0.443	0.15	34.96	0.422	0.11	25.02
	Allahabad	18	2	0.025	0.02	93.54	0.035	0.03	83.30
	Barabanki	5	2	0.67	0.21	31.79	0.512	0.20	39.72
	Faizabad	8	0	0			0.025	0.03	104.31
	Ambedkar Nr	2	1	0.885	0.14	16.26	0.273	0.23	84.16
	Sultanpur	10	0	0			0.025	0.03	105.07
	Bahraich	17	1	0.018	0.02	100.43	0.033	0.03	81.87
	Shrawasti	4	1	0.306	0.25	82.16	0.189	0.15	76.77
	Balrampur	16	5	0.327	0.15	44.60	0.308	0.10	31.07
	Gonda	13	0	0			0.029	0.03	92.53
	Siddharthnagar	9	2	0.213	0.15	69.38	0.169	0.12	68.67
	Basti	8	1	0.055	0.06	103.84	0.028	0.03	111.80
	Sant Kabir Nr	7	1	0.302	0.24	79.17	0.31	0.17	55.42
	Gorakhpur	24	0	0			0.014	0.01	98.46
	Kushinagar	6	1	0.028	0.03	108.40	0.063	0.06	98.62
	Deoria	9	3	0.328	0.20	60.59	0.263	0.14	51.38
	Azamgarh	8	0	0			0.031	0.03	99.43
	Mau	2	0	0			0.051	0.06	117.65
	Ballia	14	0	0			0.033	0.03	90.40
	Jaunpur	6	1	0.144	0.14	98.18	0.111	0.09	84.22
	Ghazipur	6	0	0			0.036	0.04	110.41
	Chandauli	8	0	0			0.035	0.04	101.42
	Varanasi	33	3	0.022	0.01	60.76	0.023	0.02	72.75
	Sant Ravidas Nr	1	0	0			0.084	0.10	114.37
	Mirzapur	9	0	0			0.031	0.03	104.03
	Sonbhadra	14	0	0			0.015	0.02	105.41

Source: Derived from 68th Round NSSO Unit Level Data

Table 23A: Analysis Table for All Districts

District (Direct)	Poverty Incidence	Rank	CV	District (SAE)	Poverty Incidence	Rank	CV
Jyotiba Phule Nr	0			Meerut	0.013	Medium	84.27
Meerut	0			Gautam Buddha Nr	0.013	Medium	97.3
Gautam Buddha Nr	0			Gorakhpur	0.014	Medium	98.46
Aligarh	0			Sonbhadra	0.015	Medium	105.41
Etah	0			Ghaziabad	0.018	Medium	58.27
Bareilly	0			Varanasi	0.023	Medium	72.75
Kashiramnagar	0			Faizabad	0.025	Medium	104.31
Rae Bareli	0			Sultanpur	0.025	Medium	105.07
Jalaun	0			Aligarh	0.026	Medium	85.14
Jhansi	0			Jalaun	0.026	Medium	86
Hamirpur	0			Bulandshahar	0.028	Medium	64.88
Mahoba	0			Etah	0.028	Medium	95.16
Mahrajganj	0			Jhansi	0.028	Medium	101.02
Pratapgarh	0			Basti	0.028	Medium	111.8
Faizabad	0			Gonda	0.029	Medium	92.53
Sultanpur	0			Azamgarh	0.031	Medium	99.43
Gonda	0			Mirzapur	0.031	Medium	104.03
Gorakhpur	0			Bahraich	0.033	Medium	81.87
Azamgarh	0			Ballia	0.033	Medium	90.4
Mau	0			Allahabad	0.035	Medium	83.3
Ballia	0			Chandauli	0.035	Medium	101.42
Ghazipur	0			Mathura	0.036	Medium	44.79
Chandauli	0			Ghazipur	0.036	Medium	110.41
Sant Ravidas Nr	0			Rae Bareli	0.039	Medium	109.39
Mirzapur	0			Lalitpur	0.04	Medium	72.46
Sonbhadra	0			Pratapgarh	0.041	Medium	107.98
Hardoi	0.011	Medium	109.66	Hamirpur	0.046	Medium	88.57
Ghaziabad	0.014	Medium	70.74	Muzaffarnagar	0.048	Medium	48.41
Bulandshahar	0.018	Medium	99.57	Mau	0.051	Medium	117.65
Bahraich	0.018	Medium	100.43	Bareilly	0.057	Medium	92.17
Varanasi	0.022	Medium	60.76	Hardoi	0.057	Medium	91.5
Allahabad	0.025	Medium	93.54	Jyotiba Phule Nr	0.063	Medium	108.24
Kushinagar	0.028	Medium	108.4	Kushinagar	0.063	Medium	98.62
Mathura	0.034	Medium	48.59	Lucknow	0.066	Medium	36.49
Muzaffarnagar	0.036	Medium	71.16	Bijnor	0.074	Medium	49.84
Lalitpur	0.041	Medium	73.41	Kashiramnagar	0.083	Medium	89.43
Basti	0.055	Medium	103.84	Sant Ravidas Nr	0.084	Medium	114.37
Bijnor	0.06	Medium	73.06	Mahoba	0.091	Medium	98.04
Auraiya	0.064	Medium	101.65	Auraiya	0.093	Medium	79.67
Fatehpur	0.073	Medium	97.5	Fatehpur	0.099	Medium	58.38
Lucknow	0.074	Medium	44.58	Kanpur Nr	0.109	Medium	30.29

District (Direct)	Poverty Incidence	Rank	CV	District (SAE)	Poverty Incidence	Rank	CV
Agra	0.122	Medium	46.95	Jaunpur	0.111	Medium	84.22
Firozabad	0.122	Medium	77.81	Agra	0.115	Medium	37.8
Kanpur Nr	0.123	Medium	65.35	Mahrajganj	0.119	Medium	92.05
Chitrakoot	0.14	Medium	97.68	Firozabad	0.123	Medium	51.68
Moradabad	0.141	Medium	54.59	Hathras	0.134	Medium	60.86
Jaunpur	0.144	Medium	98.18	Pilibhit	0.136	Medium	43.19
Baghpat	0.145	Medium	69.63	Moradabad	0.143	Medium	31.97
Pilibhit	0.15	Medium	64.08	Baghpat	0.145	Medium	56.03
Hathras	0.181	Medium	88.34	Siddharthnagar	0.169	Medium	68.67
Sitapur	0.189	Medium	91.51	Chitrakoot	0.173	Medium	74.94
Kanpur Dehat	0.198	Medium	82.3	Sitapur	0.185	Medium	62.03
Siddharthnagar	0.213	Medium	69.38	Shrawasti	0.189	Medium	76.77
Saharanpur	0.224	Medium	59.91	Kanpur Dehat	0.19	Medium	51.24
Rampur	0.248	Medium	80.22	Saharanpur	0.203	Medium	34.52
Budaun	0.284	Medium	43.65	Etawah	0.219	Medium	71.41
Sant Kabir Nr	0.302	Medium	79.17	Banda	0.239	Medium	81.68
Shrawasti	0.306	Medium	82.16	Rampur	0.251	Medium	45.79
Farrukhabad	0.314	Medium	55.92	Deoria	0.263	Medium	51.38
Balrampur	0.327	Medium	44.6	Farrukhabad	0.265	Medium	51.08
Deoria	0.328	Medium	60.59	Budaun	0.272	High	35.59
Shahjahanpur	0.339	Medium	65.21	Ambedkar Nr	0.273	High	84.16
Unnao	0.339	Medium	42.47	Unnao	0.291	High	34.55
Etawah	0.401	High	70.01	Shahjahanpur	0.301	High	47.45
Kaushambi	0.443	High	34.96	Balrampur	0.308	High	31.07
Kannauj	0.488	High	25.36	Sant Kabir Nr	0.31	High	55.42
Banda	0.624	High	45.91	Kaushambi	0.422	High	25.02
Mainpuri	0.635	High	31.14	Kannauj	0.462	High	16.08
Barabanki	0.67	High	31.79	Mainpuri	0.491	High	28.24
Kheri	0.714	High	20.38	Barabanki	0.512	High	39.72
Ambedkar Nr	0.885	High	16.26	Kheri	0.651	High	14.88

Source: Computed at GIDS

Table 23B: Analysis Table by Region-wise

District (Direct)/(Western)	Poverty Incidence	Rank	CV	District(SAE)	Poverty Incidence	Rank	CV
Jyotiba Phule Nr	0			Meerut	0.013	Low	84.27
Meerut	0			Gautam Buddha Nr	0.013	Low	97.3
Gautam Buddha Nr	0			Ghaziabad	0.018	Medium	58.27
Aligarh	0			Aligarh	0.026	Medium	85.14
Etah	0			Bulandshahar	0.028	Medium	64.88
Bareilly	0			Etah	0.028	Medium	95.16
Kashiramnagar	0			Mathura	0.036	Medium	44.79
Ghaziabad	0.014	Medium	70.74	Muzaffarnagar	0.048	Medium	48.41
Bulandshahar	0.018	Medium	99.57	Bareilly	0.057	Medium	92.17
Mathura	0.034	Medium	48.59	Jyotiba Phule Nr	0.063	Medium	108.24
Muzaffarnagar	0.036	Medium	71.16	Bijnor	0.074	Medium	49.84
Bijnor	0.06	Medium	73.06	Kashiramnagar	0.083	Medium	89.43
Auraiya	0.064	Medium	101.65	Auraiya	0.093	Medium	79.67
Agra	0.122	Medium	46.95	Agra	0.115	Medium	37.8
Firozabad	0.122	Medium	77.81	Firozabad	0.123	Medium	51.68
Moradabad	0.141	Medium	54.59	Hathras	0.134	Medium	60.86
Baghpat	0.145	Medium	69.63	Pilibhit	0.136	Medium	43.19
Pilibhit	0.15	Medium	64.08	Moradabad	0.143	Medium	31.97
Hathras	0.181	Medium	88.34	Baghpat	0.145	Medium	56.03
Saharanpur	0.224	Medium	59.91	Saharanpur	0.203	Medium	34.52
Rampur	0.248	Medium	80.22	Etawah	0.219	Medium	71.41
Budaun	0.284	Medium	43.65	Rampur	0.251	Medium	45.79
Farrukhabad	0.314	Medium	55.92	Farrukhabad	0.265	Medium	51.08
Shahjahanpur	0.339	High	65.21	Budaun	0.272	High	35.59
Etawah	0.401	High	70.01	Shahjahanpur	0.301	High	47.45
Kannauj	0.488	High	25.36	Kannauj	0.462	High	16.08
Mainpuri	0.635	High	31.14	Mainpuri	0.491	High	28.24
District (Central)	Poverty Incidence	Rank	CV	District	Poverty Incidence	Rank	CV
Rae Bareli	0			Rae Bareli	0.039	Medium	109.39
Hardoi	0.011	Medium	109.66	Hardoi	0.057	Medium	91.5
Fatehpur	0.073	Medium	97.5	Lucknow	0.066	Medium	36.49
Lucknow	0.074	Medium	44.58	Fatehpur	0.099	Medium	58.38
Kanpur Nr	0.123	Medium	65.35	Kanpur Nr	0.109	Medium	30.29
Sitapur	0.189	Medium	91.51	Sitapur	0.185	Medium	62.03
Kanpur Dehat	0.198	Medium	82.3	Kanpur Dehat	0.19	Medium	51.24
Unnao	0.339	Medium	42.47	Unnao	0.291	Medium	34.55
Kheri	0.714	High	20.38	Kheri	0.651	High	14.88
District (Southern)	Poverty Incidence	Rank	CV	District	Poverty Incidence	Rank	CV
Jalaun	0			Jalaun	0.026	Medium	86

District (Direct)/(Western)	Poverty Incidence	Rank	CV	District(SAE)	Poverty Incidence	Rank	CV
Jhansi	0			Jhansi	0.028	Medium	101.02
Hamirpur	0			Lalitpur	0.04	Medium	72.46
Mahoba	0			Hamirpur	0.046	Medium	88.57
Lalitpur	0.041	Medium	73.41	Mahoba	0.091	Medium	98.04
Chitrakoot	0.14	Medium	97.68	Chitrakoot	0.173	Medium	74.94
Banda	0.624	High	45.91	Banda	0.239	High	81.68
District (Eastern)	Poverty Incidence	Rank	CV	District	Poverty Incidence	Rank	CV
Mahrajganj	0			Gorakhpur	0.014	Medium	98.46
Pratapgarh	0			Sonbhadra	0.015	Medium	105.41
Faizabad	0			Varanasi	0.023	Medium	72.75
Sultanpur	0			Faizabad	0.025	Medium	104.31
Gonda	0			Sultanpur	0.025	Medium	105.07
Gorakhpur	0			Basti	0.028	Medium	111.8
Azamgarh	0			Gonda	0.029	Medium	92.53
Mau	0			Azamgarh	0.031	Medium	99.43
Ballia	0			Mirzapur	0.031	Medium	104.03
Ghazipur	0			Bahraich	0.033	Medium	81.87
Chandauli	0			Ballia	0.033	Medium	90.4
Sant Ravidas Nr	0			Allahabad	0.035	Medium	83.3
Mirzapur	0			Chandauli	0.035	Medium	101.42
Sonbhadra	0			Ghazipur	0.036	Medium	110.41
Bahraich	0.018	Medium	100.43	Pratapgarh	0.041	Medium	107.98
Varanasi	0.022	Medium	60.76	Mau	0.051	Medium	117.65
Allahabad	0.025	Medium	93.54	Kushinagar	0.063	Medium	98.62
Kushinagar	0.028	Medium	108.4	Sant Ravidas Nr	0.084	Medium	114.37
Basti	0.055	Medium	103.84	Jaunpur	0.111	Medium	84.22
Jaunpur	0.144	Medium	98.18	Mahrajganj	0.119	Medium	92.05
Siddharthnagar	0.213	Medium	69.38	Siddharthnagar	0.169	Medium	68.67
Sant Kabir Nr	0.302	Medium	79.17	Shrawasti	0.189	Medium	76.77
Shrawasti	0.306	Medium	82.16	Deoria	0.263	High	51.38
Balrampur	0.327	Medium	44.6	Ambedkar Nr	0.273	High	84.16
Deoria	0.328	Medium	60.59	Balrampur	0.308	High	31.07
Kaushambi	0.443	High	34.96	Sant Kabir Nr	0.31	High	55.42
Barabanki	0.67	High	31.79	Kaushambi	0.422	High	25.02
Ambedkar Nr	0.885	High	16.26	Barabanki	0.512	High	39.72

Source: Computed at GIDS

The above data in table 23A shows that district wise direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of Incidence of Poverty proportions for Other Category in Urban areas in the state of Uttar Pradesh in 2011-12.

As per direct estimates the number of districts fallen in the Medium level category is 37. Their level of incidence of poverty proportions represents the range of 0.011 to 0.339, whereas their percentage coefficient of variation levels shows that 42.47% to 109.66%.

On the other hand as per model based small area estimates the number of districts fallen in the medium level category is 60. Their level of incidence of poverty proportions represents the range of 0.013 to 0.265, whereas their percentage coefficient of variation levels shows that 3.29% to 117.65%.

Hence, the model based small area estimates percentage coefficient of variation levels is higher than the direct estimates.

As per direct estimates the number of districts fallen in the high level category is 8, namely Etawah, Kaushambi, Kannauj, Banda, Mainpuri, Barabanki, Kheri, Ambedkar nagar respectively. Their level of incidence of poverty proportions represents the range of 0.401 to 0.885, whereas their percentage coefficient of variation levels shows that 16.26% to 70.01%.

On the other hand as per model based small area estimates the number of districts fallen in the high level category is 11, namely Badaun, Ambedkarnagar, Unnao, Shahjahanpur, Balrampur, Sant Kabirnagar, Kaushambi, Kannuj, Mainuri, Barabanki, Kheri respectively. Their level of incidence of poverty proportions represents the range of 0.272 to 0.651, whereas their percentage coefficient of variation levels shows that 14.88% to 84.16%.

Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

The above data in table 23B shows that Region-wise districts (4 regions) direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of incidence of poverty proportions for Other Category in Urban areas in the state of Uttar Pradesh in 2011-12.

As per direct estimates the incidence of poverty proportions in Western region number of districts fallen in the low level category is 0, Medium – 16, and High – 4; Central region number of districts fallen in the low category – 0, Medium – 7, and High – 1; Bundelkhand (Southern) region number of districts fallen in the Medium – 2, and High - 1; and Eastern region number of districts fallen in the low level category – 0, Medium – 11 and High – 3.

On the other hand as per model based small area estimates the incidence of poverty proportions in Western region number of districts fallen in the low level category is 2, Medium – 21, and High – 4; Central region number of districts fallen in the low category – 0, Medium – 8, and High – 1; Bundelkhand(Southern) region number of districts fallen in the low category – 0, Medium – 6 and High - 1; and Eastern region number of districts fallen in the low level category – 0, Medium – 22 and High – 6.

However, the direct estimates compared with model based small area estimates indicate that the incidence of poverty proportions in rural areas the variations are high in Eastern region and CV variations are higher in Central region. Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

Chapter 5

District-wise Employment and Unemployment Estimation in Uttar Pradesh

Employment Scenario

Employment generation and income expansion is key to the development process of an economy. The unemployment rate in the state stands at around 8.2 per cent (2010) which is better in comparison to the national average of 9.4 per cent. The state has performed better in comparison to other big states like Rajasthan, Punjab, Haryana at 18 per cent, 10.5 and 8.7 per cent respectively. The performance of the state on the front of employment generation is described as (1) As per NSS 61st round 2004-05 proportion of casual workers declined during 1999-00 and 2004-05. (2) Share of self employed increased significantly. (3) Share of public sector employees in the organized sector declined from 80 per cent in 1991 to 76 per cent in 2008. Table 3.15 reveals that the employment opportunities were continuously declining in public as well as private sectors in the state. However, there has been a marginal increase in private sector employment since 2007, but the organized sector revealed a declining trend.

Unemployment Scenario

The unemployment rate is defined as the number of persons/person days *unemployed* per thousand persons/person days in the labour force (which includes both the employed and the unemployed).⁴⁹ Although, unemployment rate in the state stands at 8.2 percent (FY 2010), which is better in comparison to the national level of 9.4 percent, but still there remains a lot to be done to reduce it. The unemployment rates are distinctly higher in the urban areas as compared to the rural areas. For females, unemployment rates are significantly lower as compared to male workers in the rural areas. But in urban areas, unemployment rate of women is higher than that for male workers. The unemployment rate among the youth (15-29 years) is lower for females in rural areas than males whereas in urban areas males have lower unemployment rate on the basis of current weekly and daily status.

UP Government has started a scheme to give unemployment allowances of 1,000 per month to unemployed youth. SGSY to bring the assisted *Swarojgaris* above the poverty line

providing them income-generating assets through bank credits and government subsidies, MGNREGA guarantees employment of minimum of 100 days per year for poor rural families, Prime Minister's Employment Generation Programme (PMEGP) to bring together widely dispersed traditional artisans and provide them self-employment opportunities, *Rashtriya Swasthya Bima Yojana* (RSBY) for BPL families in unorganised sector to provide Smart Card based cashless insurance of ₹ 30,000 per annum per family to the beneficiary, etc. are the employment generation programmes in the state. The central government enacted Unorganised Workers' Social Security Act, 2008 for constitution of National Social Security Board at the Central level and State Social Security Board at the State level which shall recommend formulation of social security schemes for unorganised workers. The creation of additional employment generation opportunities to 8.3 mn persons is one of the important goals of Twelfth FYP.

(49 *Manual on Labour Statistics (I) - 2012*, Ministry of Statistics and Programme Implementation, GoI.)

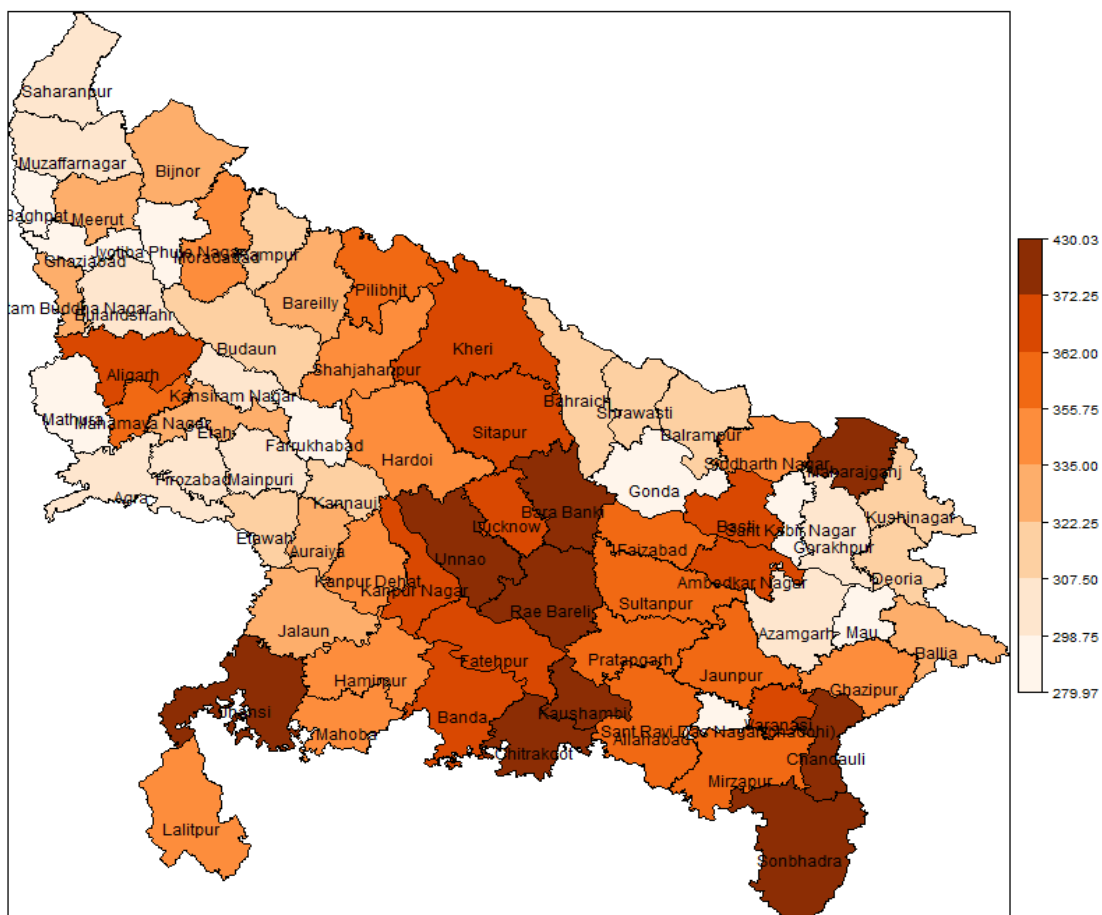
District Level Estimation and Spatial Mapping of worker population and Unemployment rates in Uttar Pradesh

The analysis presented in this chapter is based on the employment and unemployment survey data conducted in the 68th round of NSS during July 2011 to June 2012. The survey enumerated 49513 persons (33738 in rural areas and 15775 in urban areas). In particular, district level estimates of employed work force and unemployed for both rural and urban sectors using small area estimation technique have generated. The small area estimation technique combined the employment and unemployment survey data with population Census 2011 to produce precise estimates.

In case of work force (or employed), two different estimates of the employed have been obtained. (i) Number of persons employed according to the usual status (ps+ss) i.e. by considering usual principal status (ps) and subsidiary status (ss) activity together. (ii) The number of persons/person-days employed per 1000 persons/ person-days is referred to as worker-population ratio (WPR) or work-force participation rates (WFPR). The work force in the usual status (ps+ss) includes (a) the persons who worked for a relatively long part of the 365 days preceding the date of survey and (b) the persons from among the remaining population who had worked at least for 30 days during the reference period of 365 days preceding the date of survey. Worker Population Ratio (WPR): $1000 \times (\text{no of employed persons} / \text{total population})$

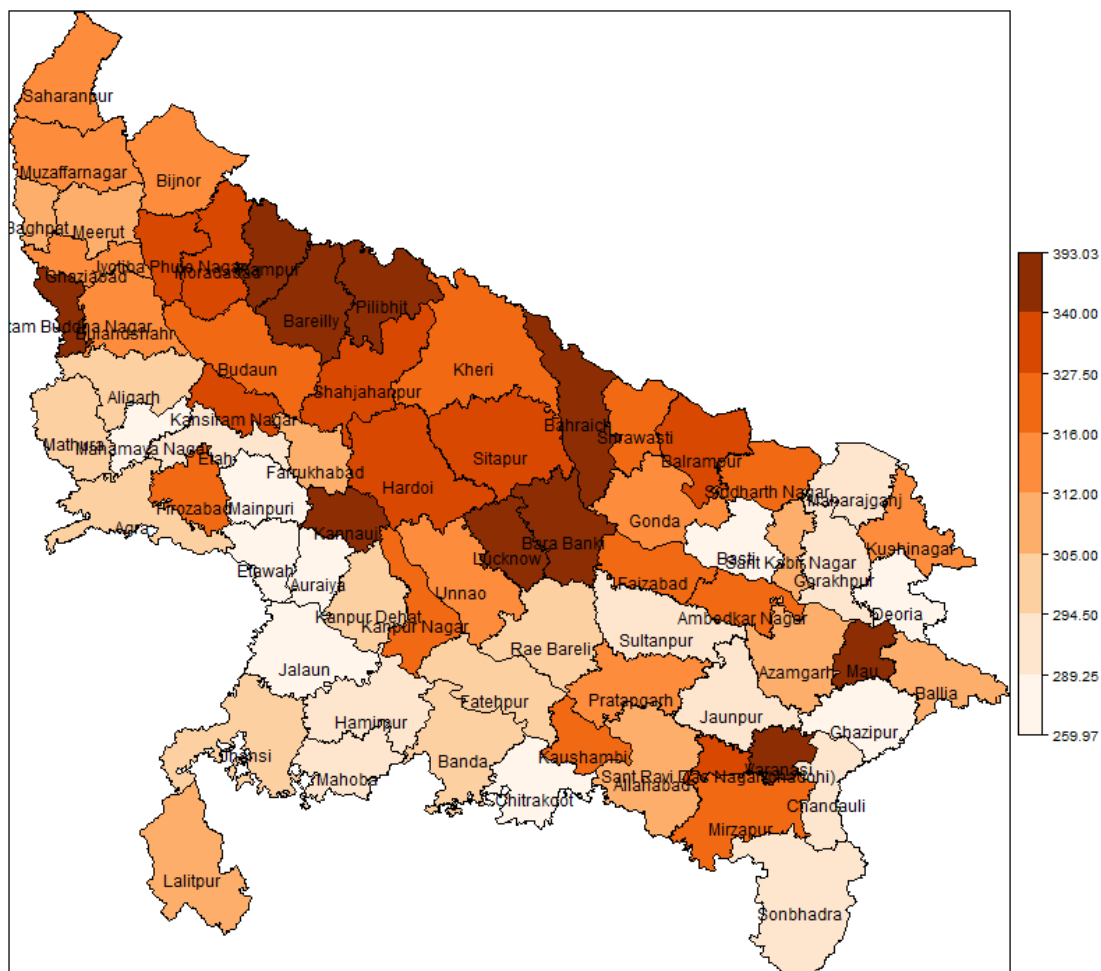
Unemployment rate (UR) is defined as the number of persons/person-days unemployed per 1000 persons/person-days in the labour force. This, in effect, gives the unutilized portion of the labour force. Thus, it is a more refined indicator of the unemployment situation in a population than the proportion unemployed, which is merely the number of the unemployed per thousand persons in the population as a whole. Labour force, or in others words, the ‘economically active’ population, refers to the population which supplies or seeks to supply labour for production and, therefore, includes both ‘employed’ and ‘unemployed’ persons. The labour force according to the usual status (ps+ss) has been obtained by considering the usual principal status and the subsidiary status together. The estimate of the labour force in the usual status (ps+ss) includes (a) the persons who either worked or were available for work for a relatively long part of the 365 days preceding the date of survey and (b) also those persons from among the remaining population who had worked at least for 30 days during the reference period of 365 days preceding the date of survey.

Figure.5.1: District-wise map of worker population ratio for rural area in the state of Uttar Pradesh generated by small area estimation method, 2011-12.



As seen from the above figure shows that the District-wise map of worker population ratio for rural area in the state of Uttar Pradesh generated by small area estimation method, 2011-12. According to Small area estimation method the worker population ratio is very low (279.97 to 298.75) in the districts of Jyothibhaphule nagar, Farrukhabad, Gonda, Sant Ravidas Nagar, Sant Kabir Nagar, and Mau during 2011-12. On the othr hand, the worker population ratio is very high (372.25 to 430.03) in Jhansi, Chitrakoot, Kaushambi, Chandauli, Sonbhadra, Maharajganj, Rae Bareli, Unnao and Barabanki districts.

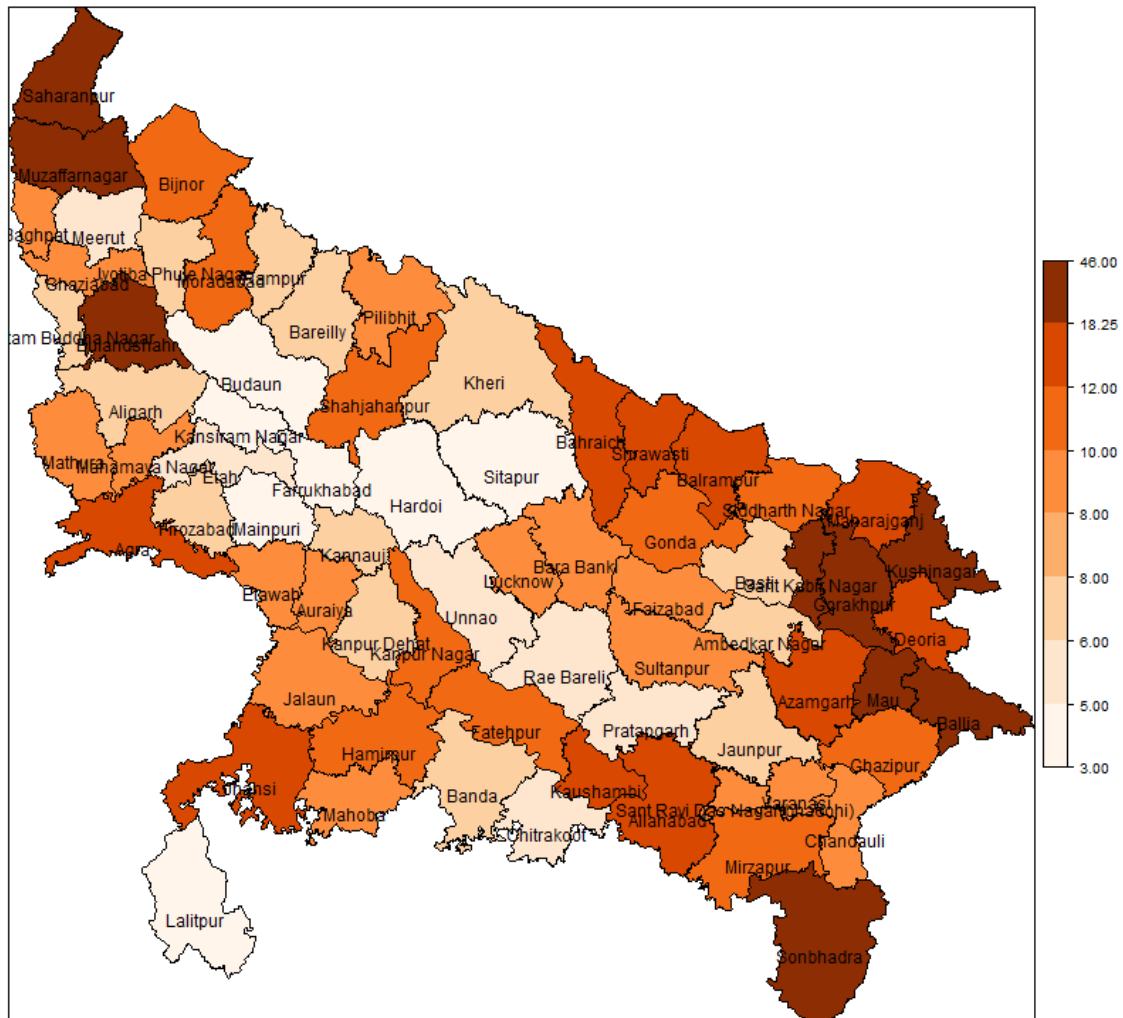
Figure. 5.2: District-wise map of worker population ratio for urban area in the state of Uttar Pradesh generated by small area estimation method, 2011-12.



As seen from the above figure shows that the District-wise map of worker population ratio for urban area in the state of Uttar Pradesh generated by small area estimation method, 2011-12. According to Small area estimation method the worker population ratio is very low (269.97 to 289.25) in the districts of Hathras, Mainpuri, Etawah, Auraiya, Jalaun, Basti, and Deoria during 2011-12. On the othr hand, the worker population ratio is very high (340.00 to

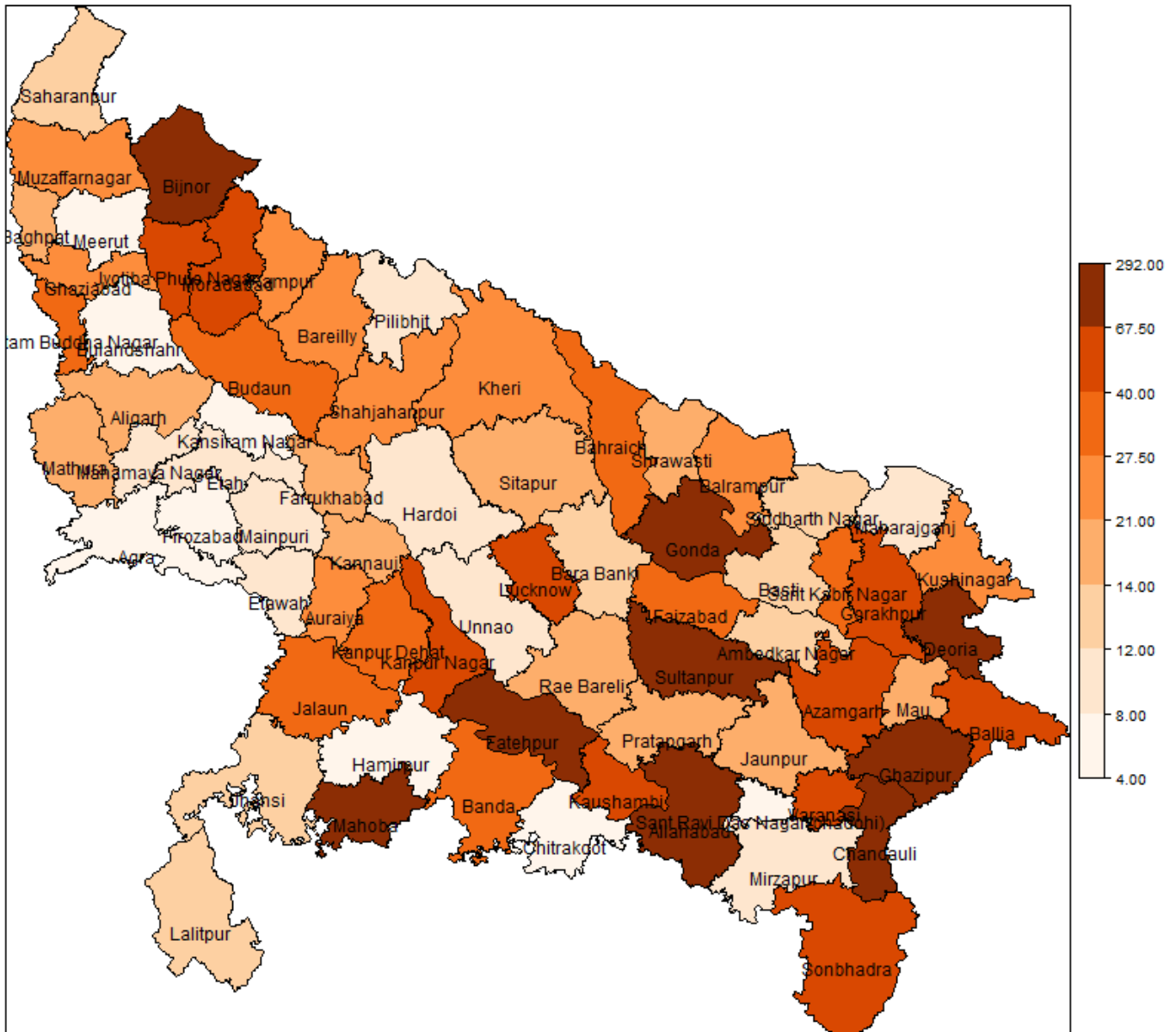
393.03) in G.B.Nagar, Rampur, Bareilly, Pilibhit, Bahraich, Barabanki, Lucknow, Kannauj, Mau and Varanasi districts.

Figure.5.3: District-wise map of unemployment rate for rural area in the state of Uttar Pradesh generated by small area estimation method, 2011-12.



As seen from the above figure shows that the District-wise map of Unemployment rate for rural area in the state of Uttar Pradesh generated by small area estimation method, 2011-12. According to Small area estimation method the unemployment rate is very low (3.00 to 5.00) in the districts of Badaun, Kanshiram Nagar, Farrukhabad, Mainpuri, Hardoi, and Sitapur during 2011-12. On the other hand, the Unemployment rate is very high (18.25 to 46.00) in Saharanpur, Muzaffarnagar, Bulandshahr, Sant Kabir Nagar, Gorakhpur, Kushinagar, Mau, Ballia, and Sonbhadra districts.

Figure. 5.4: District-wise map of unemployment rate for urban area in the state of Uttar Pradesh generated by small area estimation method, 2011-12.



As seen from the above figure shows that the District-wise map of Unemployment rate for Urban area in the state of Uttar Pradesh generated by small area estimation method, 2011-12. According to Small area estimation method the unemployment rate is very low (4.00 to 8.00) in the districts of Hamirpur, Chitrakoot, Sant Ravidas Nagar, Meerut, and Bulandshahr during 2011-12. On the other hand, the Unemployment rate is very high (67.50 to 292.00) in Bijnor, Gonda, Sultanpur, Fatehpur, Mahoba, Allahabad, Ghazipur, Chandauli and Deoria districts.

Table 5.1: District wise estimated number of person in population (Est. Person), number of persons in sample (sample size), direct estimates (Direct) and model-based small area estimates (SAE) along with their standard error (SE) and percentage coefficient of variations (%CV) for worker population ratio (the number of persons employed per thousand persons) according to usual status (ps+ss) of rural area of state of Uttar Pradesh during 2011–2012.

Region	District	Est. Person	Sample size	Direct estimates			SAE estimates		
				WPR	SE	%CV	WPR	SE	%CV
Western	Saharanpur	2500981	557	287	29.65	10.33	307	23.02	7.50
	Muzaffarnagar	3686997	785	291	25.08	8.62	303	20.49	6.76
	Bijnor	2241972	557	321	30.99	9.66	327	23.66	7.24
	Moradabad	2795700	768	343	24.19	7.05	335	20.49	6.12
	Rampur	1432862	407	321	34.27	10.68	317	24.70	7.79
	Jyotiba Phule Nr.	1246268	365	260	34.02	13.09	296	24.49	8.28
	Meerut	1729680	354	349	37.80	10.83	333	25.69	7.71
	Baghpat	923124	184	224	48.55	21.68	280	28.46	10.16
	Ghaziabad	1774799	392	272	34.56	12.71	298	24.49	8.22
	Gautam Buddha Nr.	825805	171	360	50.61	14.06	323	28.98	8.97
	Bulandshahar	2065890	500	272	26.15	9.61	303	21.21	7.00
	Aligarh	2901021	536	399	38.81	9.73	363	26.65	7.34
	Hathras	1100070	348	413	42.74	10.35	357	28.28	7.92
	Mathura	1805106	412	249	31.07	12.48	291	23.24	7.99
	Agra	2269813	582	297	29.04	9.78	307	22.14	7.21
	Firozabad	1789512	379	286	34.30	11.99	299	24.49	8.19
	Etah	1541895	346	366	42.11	11.51	328	27.02	8.24
	Mainpuri	1544037	387	274	43.95	16.04	301	27.20	9.04
	Budaun	2799434	539	323	35.71	11.06	322	25.30	7.86
	Bareilly	2487154	515	341	33.11	9.71	328	24.90	7.59
	Pilibhit	1552078	349	432	44.95	10.41	358	28.64	8.00
	Shahjahanpur	1888341	541	355	39.04	11.00	335	26.65	7.95
	Farrukhabad	1295092	400	252	36.51	14.49	290	25.69	8.86
	Kannauj	1228271	379	328	43.88	13.38	320	27.57	8.62
Etawah	1205200	334	294	43.13	14.67	320	27.57	8.62	
Auraiya	1088800	315	294	39.09	13.30	323	27.57	8.54	
Kashiramnagar	1182272	205	282	44.25	15.69	306	27.39	8.95	
Central	Kheri	3434172	686	363	34.33	9.46	364	26.83	7.37
	Sitapur	3948791	701	359	28.38	7.90	366	24.08	6.58
	Hardoi	3402498	727	343	27.67	8.07	355	23.24	6.55
	Unnao	2278224	470	475	36.25	7.63	430	27.57	6.41
	Lucknow	1474956	350	373	36.53	9.79	369	28.11	7.62
	Rae Bareli	2914528	700	377	26.45	7.01	377	22.58	5.99
	Kanpur Dehat	1330665	283	350	51.15	14.61	347	29.66	8.55
	Kanpur Nr	1543694	299	396	46.09	11.64	369	29.15	7.90
Fatehpur	1889165	445	340	33.62	9.89	362	26.27	7.26	

Region	District	Est. Person	Sample size	Direct estimates			SAE estimates		
				WPR	SE	%CV	WPR	SE	%CV
Southern	Jalaun	1268492	349	277	34.91	12.60	325	26.08	8.02
	Jhansi	1082174	286	409	42.21	10.32	402	30.66	7.63
	Lalitpur	730322	134	324	63.01	19.45	353	34.21	9.69
	Hamirpur	961558	160	308	63.02	20.46	350	33.47	9.56
	Banda	1446724	390	378	44.12	11.67	367	28.98	7.90
	Chitrakoot	564709	145	507	66.83	13.18	398	34.35	8.63
	Mahoba	424522	145	423	79.24	18.73	378	36.06	9.54
Eastern	Mahrajganj	1931512	549	360	32.45	9.01	355	24.90	7.01
	Pratapgarh	2593963	765	369	30.08	8.15	356	23.02	6.47
	Kaushambi	1291233	308	373	40.06	10.74	380	29.33	7.72
	Allahabad	4246948	745	351	30.60	8.72	359	24.70	6.88
	Barabanki	3070527	595	395	37.95	9.61	383	27.20	7.10
	Faizabad	1585194	345	386	41.20	10.67	357	27.39	7.67
	Ambedkar Nr.	1558545	546	381	28.85	7.57	362	22.80	6.30
	Sultanpur	2994110	708	371	26.19	7.06	361	21.68	6.01
	Bahraich	2276211	488	281	36.15	12.86	310	26.65	8.60
	Shrawasti	1391679	317	270	42.64	15.79	308	27.75	9.01
	Balrampur	1628993	310	300	43.37	14.46	314	27.93	8.89
	Gonda	2558425	705	255	27.93	10.95	289	22.36	7.74
	Siddharthnagar	2064667	541	350	30.69	8.77	337	23.87	7.08
	Basti	1870957	534	410	32.60	7.95	371	24.29	6.55
	Sant Kabir Nr.	1525035	394	265	30.10	11.36	291	22.80	7.84
	Gorakhpur	3472761	777	286	23.12	8.08	301	20.25	6.73
	Kushinagar	2573238	727	314	27.07	8.62	317	22.14	6.98
	Deoria	2526157	584	328	30.45	9.28	316	22.80	7.22
	Azamgarh	4474560	896	290	22.18	7.65	304	20.49	6.74
	Mau	1476688	374	261	31.35	12.01	294	24.90	8.47
	Ballia	2393123	630	333	33.79	10.15	324	24.70	7.62
	Jaunpur	3583147	796	376	26.43	7.03	361	22.14	6.13
	Ghazipur	2692472	816	364	24.76	6.80	354	20.74	5.86
	Chandauli	1383100	395	420	37.56	8.94	373	26.65	7.14
	Varanasi	1857734	636	410	28.27	6.89	372	22.58	6.07
	Sant Ravidas Nr.	1308400	467	265	29.50	11.13	288	23.45	8.14
	Mirzapur	1851312	566	360	27.94	7.76	358	22.80	6.37
Sonbhadra	1357588	347	400	36.46	9.11	383	27.02	7.05	

Table 5.1 A: District-wise Analysis Table

District	WPR	Rank	%CV	District	WPR	Rank	%CV
Baghpat	224	Low	21.68	Baghpat	280	Low	10.16
Mathura	249	Low	12.48	Sant Ravidas Nr.	288	Low	8.14
Farrukhabad	252	Low	14.49	Gonda	289	Low	7.74
Gonda	255	Low	10.95	Farrukhabad	290	Low	8.86
Jyotiba Phule Nr.	260	Low	13.09	Mathura	291	Low	7.99
Mau	261	Low	12.01	Sant Kabir Nr.	291	Low	7.84
Sant Kabir Nr.	265	Low	11.36	Mau	294	Low	8.47
Sant Ravidas Nr.	265	Low	11.13	Jyotiba Phule Nr.	296	Low	8.28
Shrawasti	270	Low	15.79	Ghaziabad	298	Low	8.22
Ghaziabad	272	Low	12.71	Firozabad	299	Low	8.19
Bulandshahar	272	Low	9.61	Mainpuri	301	Low	9.04
Mainpuri	274	Low	16.04	Gorakhpur	301	Low	6.73
Jalaun	277	Low	12.6	Muzaffarnagar	303	Low	6.76
Bahraich	281	Medium	12.86	Bulandshahar	303	Low	7
Kashiramnagar	282	Medium	15.69	Azamgarh	304	Medium	6.74
Firozabad	286	Medium	11.99	Kashiramnagar	306	Medium	8.95
Gorakhpur	286	Medium	8.08	Saharanpur	307	Medium	7.5
Saharanpur	287	Medium	10.33	Agra	307	Medium	7.21
Azamgarh	290	Medium	7.65	Shrawasti	308	Medium	9.01
Muzaffarnagar	291	Medium	8.62	Bahraich	310	Medium	8.6
Etawah	294	Medium	14.67	Balrampur	314	Medium	8.89
Auraiya	294	Medium	13.3	Deoria	316	Medium	7.22
Agra	297	Medium	9.78	Rampur	317	Medium	7.79
Balrampur	300	Medium	14.46	Kushinagar	317	Medium	6.98
Hamirpur	308	Medium	20.46	Kannauj	320	Medium	8.62
Kushinagar	314	Medium	8.62	Etawah	320	Medium	8.62
Bijnor	321	Medium	9.66	Budaun	322	Medium	7.86
Rampur	321	Medium	10.68	Gautam Buddha Nr.	323	Medium	8.97
Budaun	323	Medium	11.06	Auraiya	323	Medium	8.54
Lalitpur	324	Medium	19.45	Ballia	324	Medium	7.62
Kannauj	328	Medium	13.38	Jalaun	325	Medium	8.02
Deoria	328	Medium	9.28	Bijnor	327	Medium	7.24
Ballia	333	Medium	10.15	Etah	328	Medium	8.24
Fatehpur	340	Medium	9.89	Bareilly	328	Medium	7.59
Bareilly	341	Medium	9.71	Meerut	333	Medium	7.71
Moradabad	343	Medium	7.05	Moradabad	335	Medium	6.12
Hardoi	343	Medium	8.07	Shahjahanpur	335	Medium	7.95
Meerut	349	Medium	10.83	Siddharthnagar	337	Medium	7.08
Kanpur Dehat	350	Medium	14.61	Kanpur Dehat	347	Medium	8.55
Siddharthnagar	350	Medium	8.77	Hamirpur	350	Medium	9.56

District	WPR	Rank	%CV	District	WPR	Rank	%CV
Allahabad	351	Medium	8.72	Lalitpur	353	Medium	9.69
Shahjahanpur	355	Medium	11	Ghazipur	354	Medium	5.86
Sitapur	359	Medium	7.9	Hardoi	355	Medium	6.55
Gautam Buddha Nr.	360	Medium	14.06	Mahrajganj	355	Medium	7.01
Mahrajganj	360	Medium	9.01	Pratapgarh	356	Medium	6.47
Mirzapur	360	Medium	7.76	Hathras	357	Medium	7.92
Kheri	363	Medium	9.46	Faizabad	357	Medium	7.67
Ghazipur	364	Medium	6.8	Pilibhit	358	Medium	8
Etah	366	Medium	11.51	Mirzapur	358	Medium	6.37
Pratapgarh	369	Medium	8.15	Allahabad	359	Medium	6.88
Sultanpur	371	Medium	7.06	Sultanpur	361	Medium	6.01
Lucknow	373	Medium	9.79	Jaunpur	361	Medium	6.13
Kaushambi	373	Medium	10.74	Fatehpur	362	Medium	7.26
Jaunpur	376	Medium	7.03	Ambedkar Nr.	362	Medium	6.3
Rae Bareli	377	Medium	7.01	Aligarh	363	Medium	7.34
Banda	378	Medium	11.67	Kheri	364	Medium	7.37
Ambedkar Nr.	381	Medium	7.57	Sitapur	366	Medium	6.58
Faizabad	386	Medium	10.67	Banda	367	Medium	7.9
Barabanki	395	Medium	9.61	Lucknow	369	Medium	7.62
Kanpur Nr	396	Medium	11.64	Kanpur Nr	369	Medium	7.9
Aligarh	399	High	9.73	Basti	371	High	6.55
Sonbhadra	400	High	9.11	Varanasi	372	High	6.07
Jhansi	409	High	10.32	Chandauli	373	High	7.14
Basti	410	High	7.95	Rae Bareli	377	High	5.99
Varanasi	410	High	6.89	Mahoba	378	High	9.54
Hathras	413	High	10.35	Kaushambi	380	High	7.72
Chandauli	420	High	8.94	Barabanki	383	High	7.1
Mahoba	423	High	18.73	Sonbhadra	383	High	7.05
Pilibhit	432	High	10.41	Chitrakoot	398	High	8.63
Unnao	475	High	7.63	Jhansi	402	High	7.63
Chitrakoot	507	High	13.18	Unnao	430	High	6.41

Table 5.1B: Zone-wise Analysis Table

WZ							
District	WPR	Level	%CV	District	WPR	Level	%CV
Baghpat	224	Low	21.68	Baghpat	280	Low	10.16
Mathura	249	Low	12.48	Farrukhabad	290	Low	8.86
Farrukhabad	252	Low	14.49	Mathura	291	Low	7.99
Jyotiba Phule Nr.	260	Low	13.09	Jyotiba Phule Nr.	296	Low	8.28
Ghaziabad	272	Medium	12.71	Ghaziabad	298	Medium	8.22
Bulandshahar	272	Medium	9.61	Firozabad	299	Medium	8.19
Mainpuri	274	Medium	16.04	Mainpuri	301	Medium	9.04
Kashiramnagar	282	Medium	15.69	Muzaffarnagar	303	Medium	6.76
Firozabad	286	Medium	11.99	Bulandshahar	303	Medium	7
Saharanpur	287	Medium	10.33	Kashiramnagar	306	Medium	8.95
Muzaffarnagar	291	Medium	8.62	Saharanpur	307	Medium	7.5
Etawah	294	Medium	14.67	Agra	307	Medium	7.21
Auraiya	294	Medium	13.3	Rampur	317	Medium	7.79
Agra	297	Medium	9.78	Kannauj	320	Medium	8.62
Bijnor	321	Medium	9.66	Etawah	320	Medium	8.62
Rampur	321	Medium	10.68	Budaun	322	Medium	7.86
Budaun	323	Medium	11.06	Gautam Buddha Nr.	323	Medium	8.97
Kannauj	328	Medium	13.38	Auraiya	323	Medium	8.54
Bareilly	341	Medium	9.71	Bijnor	327	Medium	7.24
Moradabad	343	Medium	7.05	Etah	328	Medium	8.24
Meerut	349	Medium	10.83	Bareilly	328	Medium	7.59
Shahjahanpur	355	Medium	11	Meerut	333	Medium	7.71
Gautam Buddha Nr.	360	Medium	14.06	Moradabad	335	Medium	6.12
Etah	366	Medium	11.51	Shahjahanpur	335	Medium	7.95
Aligarh	399	High	9.73	Hathras	357	High	7.92
Hathras	413	High	10.35	Pilibhit	358	High	8
Pilibhit	432	High	10.41	Aligarh	363	High	7.34
CZ							
District	WPR	Level	%CV	District	WPR	Level	%CV
Fatehpur	340	Medium	9.89	Kanpur Dehat	347	Medium	8.55
Hardoi	343	Medium	8.07	Hardoi	355	Medium	6.55
Kanpur Dehat	350	Medium	14.61	Fatehpur	362	Medium	7.26
Sitapur	359	Medium	7.9	Kheri	364	Medium	7.37
Kheri	363	Medium	9.46	Sitapur	366	Medium	6.58
Lucknow	373	Medium	9.79	Lucknow	369	Medium	7.62
Rae Bareli	377	Medium	7.01	Kanpur Nr	369	Medium	7.9
Kanpur Nr	396	Medium	11.64	Rae Bareli	377	Medium	5.99
Unnao	475	High	7.63	Unnao	430	High	6.41

SZ							
District	WPR	Level	%CV	District	WPR	Level	%CV
Jalaun	277	Low	12.6	Jalaun	325	Low	8.02
Hamirpur	308	Medium	20.46	Hamirpur	350	Medium	9.56
Lalitpur	324	Medium	19.45	Lalitpur	353	Medium	9.69
Banda	378	Medium	11.67	Banda	367	Medium	7.9
Jhansi	409	Medium	10.32	Mahoba	378	Medium	9.54
Mahoba	423	Medium	18.73	Chitrakoot	398	High	8.63
Chitrakoot	507	High	13.18	Jhansi	402	High	7.63
EZ							
District	WPR	Level	%CV	District	WPR	Level	%CV
Gonda	255	Low	10.95	Sant Ravidas Nr.	288	Low	8.14
Mau	261	Low	12.01	Gonda	289	Low	7.74
Sant Kabir Nr.	265	Low	11.36	Sant Kabir Nr.	291	Low	7.84
Sant Ravidas Nr.	265	Low	11.13	Mau	294	Low	8.47
Shrawasti	270	Low	15.79	Gorakhpur	301	Low	6.73
Bahraich	281	Low	12.86	Azamgarh	304	Low	6.74
Gorakhpur	286	Low	8.08	Shrawasti	308	Medium	9.01
Azamgarh	290	Medium	7.65	Bahraich	310	Medium	8.6
Balrampur	300	Medium	14.46	Balrampur	314	Medium	8.89
Kushinagar	314	Medium	8.62	Deoria	316	Medium	7.22
Deoria	328	Medium	9.28	Kushinagar	317	Medium	6.98
Ballia	333	Medium	10.15	Ballia	324	Medium	7.62
Siddharthnagar	350	Medium	8.77	Siddharthnagar	337	Medium	7.08
Allahabad	351	Medium	8.72	Ghazipur	354	Medium	5.86
Mahrajganj	360	Medium	9.01	Mahrajganj	355	Medium	7.01
Mirzapur	360	Medium	7.76	Pratapgarh	356	Medium	6.47
Ghazipur	364	Medium	6.8	Faizabad	357	Medium	7.67
Pratapgarh	369	Medium	8.15	Mirzapur	358	Medium	6.37
Sultanpur	371	Medium	7.06	Allahabad	359	Medium	6.88
Kaushambi	373	Medium	10.74	Sultanpur	361	Medium	6.01
Jaunpur	376	Medium	7.03	Jaunpur	361	Medium	6.13
Ambedkar Nr.	381	Medium	7.57	Ambedkar Nr.	362	Medium	6.3
Faizabad	386	Medium	10.67	Basti	371	High	6.55
Barabanki	395	High	9.61	Varanasi	372	High	6.07
Sonbhadra	400	High	9.11	Chandauli	373	High	7.14
Basti	410	High	7.95	Kaushambi	380	High	7.72
Varanasi	410	High	6.89	Barabanki	383	High	7.1
Chandauli	420	High	8.94	Sonbhadra	383	High	7.05

The above data in table 5.1A shows that district wise direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of Worker Population Ratio in rural areas in the state of Uttar Pradesh in 2011-12.

As per direct estimates the worker population ratio in rural areas, the number of districts fallen in the low level category is 13. Their names are Baghpat, Mathura, Farrukhabad, Gonda, Jyotibhapule nagar, Mau, Sant Kabir Nagar, Sant Ravidas Nagar, Shrawasti, Ghaziabad, Bulandshahar, Mainpuri and Jalaun. The percentage coefficient of variation levels shows that 9.61 to 21.68%.

On the other hand as per model based small area estimates the number of districts fallen in the low level category is 14. Their names are Baghpat, Sant Ravidas Nagar, Gonda, Farrukhabad, Mathura, Sant Kabir Nagar, Mau, Jyotiba Phule Nagar, Ghaziabad, Firozabad, Mainuri, Gorakhpur, Muzaffar nagar and Bulandshahar. The percentage coefficient of variation levels shows that 6.73 to 10.16%.

Hence, the model based small area estimates percentage coefficient of variation levels are very much smaller than the direct estimates.

As per direct estimates the number of districts fallen in the Medium level category is 47. Their level of worker population ratio represents the range of 281 to 396, whereas their percentage coefficient of variation levels shows that 6.8% to 20.46%.

On the other hand as per model based small area estimates the number of districts fallen in the medium level category is 46. Their level of worker population ratio represents the range of 304 to 369, whereas their percentage coefficient of variation levels shows that 5.86% to 9.69%.

Hence, the model based small area estimates percentage coefficient of variation levels are much smaller than the direct estimates.

As per direct estimates the number of districts fallen in the high level category is 11, namely Aligarh, Sonbhadra, Jhansi, Bsti, Vranasi, Hathras, Chandauli, Mahoba, Pilibhit, Unnao and Chitrakoot respectively. Their level of worker population ratio proportions represents the range of 399 to 507, whereas their percentage coefficient of variation levels shows that 6.89% to 18.73%.

On the other hand as per model based small area estimates the number of districts fallen in the high level category is 11, namely Basti, Varanasi, Chandauli, Rae Bareli, Mahoba, Kaushambi, Barabanki, Sonbhadra, Chitrakoot, Jhansi and Unnao respectively. Their level of

worker population ratio proportions represents the range of 371 to 430, whereas their percentage coefficient of variation levels shows that 5.99% to 9.54%.

Hence, the model based small area estimates percentage coefficient of variation levels are much smaller and consistent than the direct estimates.

The above data in table 5.1B shows that Region-wise districts (4 regions) direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of worker population ratio proportions for rural areas in the state of Uttar Pradesh in 2011-12.

As per direct estimates the worker population ratio proportions in Western region number of districts fallen in the low level category is - 4, Medium – 20, and High – 3; Central region number of districts fallen in the low category – 0, Medium – 8, and High – 1; Bundelkhand (Southern) region number of districts fallen in Low – 1, Medium – 5, and High - 1; and Eastern region number of districts fallen in the low level category – 7, Medium – 16 and High – 5.

On the other hand as per model based small area estimates the worker population ratio proportions in Western region number of districts fallen in the low level category is 4, Medium – 20, and High – 3; Central region number of districts fallen in the low category – 0, Medium – 8, and High – 1; Bundelkhand(Southern) region number of districts fallen in the low category – 1, Medium – 4 and High - 2; and Eastern region number of districts fallen in the low level category – 6, Medium – 16 and High – 6.

However, the direct estimates compared with model based small area estimates indicate that the worker population ratio proportions in rural areas the variations are high in Eastern region and CV variations are higher in Central region. Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

Table 5.2: District wise estimated number of person in population (Est. Person), number of persons in sample (sample size), direct estimates (Direct) and model-based small area estimates (SAE) along with their standard error (SE) and percentage coefficient of variations (%CV) for worker population ratio (the number of persons employed per thousand persons) according to usual status (ps+ss) of Urban area of state of Uttar Pradesh during 2011–2012.

Region	District	Est. Person	Sample size	Direct estimates			SAE estimates		
				WPR	SE	%CV	WPR	SE	%CV
Western	Saharanpur	497516	298	332	34.90	10.51	313	18.71	5.98
	Muzaffarnagar	723833	322	294	30.04	10.22	315	18.97	6.02
	Bijnor	713678	354	281	31.08	11.06	313	19.49	6.23
	Moradabad	1098442	349	302	29.97	9.92	330	20.25	6.14
	Rampur	363935	171	473	54.68	11.56	393	26.83	6.83
	Jyotiba Phule Nr.	269693	163	336	44.27	13.18	337	20.98	6.22
	Meerut	2089643	470	296	30.56	10.32	305	18.44	6.05
	Baghpat	192206	126	268	47.82	17.84	311	19.75	6.35
	Ghaziabad	2467529	402	321	30.59	9.53	312	18.97	6.08
	Gautam Buddha Nr.	559912	117	309	52.71	17.06	350	27.02	7.72
	Bulandshahar	702677	289	322	32.38	10.06	314	19.24	6.13
	Aligarh	989774	339	247	31.45	12.73	296	19.24	6.50
	Hathras	393812	194	315	39.27	12.47	287	20.74	7.23
	Mathura	678486	336	294	28.56	9.71	302	18.17	6.02
	Agra	2074083	509	298	30.20	10.13	295	20.98	7.11
	Firozabad	861551	390	303	28.53	9.42	317	19.49	6.15
	Etah	279205	159	321	43.45	13.54	294	19.24	6.54
	Mainpuri	202373	151	306	44.39	14.51	270	20.25	7.50
	Budaun	635741	194	247	38.66	15.65	316	22.36	7.08
	Bareilly	1503114	315	390	35.20	9.03	377	23.02	6.11
	Pilibhit	306816	183	368	46.58	12.66	346	21.45	6.20
	Shahjahanpur	770332	170	334	45.43	13.60	334	20.98	6.28
	Farrukhabad	333166	199	261	35.81	13.72	305	18.71	6.13
	Kannauj	239159	191	386	39.50	10.23	346	20.49	5.92
Etawah	366866	161	261	38.46	14.74	274	18.97	6.92	
Auraiya	179501	148	226	38.16	16.88	260	19.49	7.50	
Kashiramnagar	241029	186	391	42.69	10.92	338	20.98	6.21	
Central	Kheri	570521	190	302	40.70	13.48	323	19.75	6.11
	Sitapur	555951	160	367	56.16	15.30	329	20.00	6.08
	Hardoi	300076	151	394	44.86	11.39	329	19.75	6.00
	Unnao	415287	158	313	46.56	14.88	312	19.24	6.17
	Lucknow	3252629	656	367	30.46	8.30	340	20.49	6.03
	Rae Bareli	285583	152	304	56.98	18.74	303	19.24	6.35
	Kanpur Dehat	118150	159	339	50.02	14.75	299	19.24	6.43
	Kanpur Nr.	2469878	548	308	30.54	9.92	320	20.00	6.25
	Fatehpur	263647	174	247	35.13	14.22	297	18.44	6.21

Region	District	Est. Person	Sample size	Direct estimates			SAE estimates		
				WPR	SE	%CV	WPR	SE	%CV
Southern	Jalaun	309957	157	275	44.29	16.10	276	20.25	7.34
	Jhansi	618896	272	311	35.65	11.46	302	21.45	7.10
	Lalitpur	129662	163	262	39.92	15.24	305	19.75	6.47
	Hamirpur	211324	134	270	42.39	15.70	294	20.25	6.89
	Banda	209517	125	288	49.17	17.07	297	19.24	6.48
	Chitrakoot	71723	153	286	46.58	16.29	274	20.49	7.48
	Mahoba	212380	143	264	45.44	17.21	294	19.24	6.54
Eastern	Mahrajganj	170195	162	298	44.59	14.96	290	19.24	6.63
	Pratapgarh	174666	187	330	46.89	14.21	315	19.75	6.27
	Kaushambi	107442	154	311	47.11	15.15	322	21.91	6.80
	Allahabad	1012621	267	259	35.20	13.59	309	20.49	6.63
	Barabanki	326319	154	344	51.86	15.08	342	20.98	6.13
	Faizabad	251275	166	335	51.88	15.49	319	20.25	6.35
	Ambedkar Nr.	387616	201	328	36.72	11.19	318	19.24	6.05
	Sultanpur	110806	176	269	40.93	15.22	294	20.00	6.80
	Bahraich	222955	161	338	48.61	14.38	340	21.45	6.31
	Shrawasti	40500	155	270	37.74	13.98	316	22.58	7.15
	Balrampur	80874	168	328	44.89	13.69	335	21.45	6.40
	Gonda	136503	125	280	47.65	17.02	315	20.49	6.51
	Siddharthnagar	121748	152	392	50.02	12.76	326	19.75	6.06
	Basti	162300	162	304	43.75	14.39	272	20.49	7.53
	Sant Kabir Nr.	99489	158	285	41.50	14.56	305	18.97	6.22
	Gorakhpur	1130086	344	242	33.07	13.66	293	19.24	6.56
	Kushinagar	165798	179	359	41.52	11.57	315	20.98	6.66
	Deoria	314253	177	222	47.75	21.51	276	21.21	7.69
	Azamgarh	318968	202	293	34.59	11.80	305	18.71	6.13
	Mau	562311	168	402	51.15	12.72	342	21.45	6.27
	Ballia	233336	192	293	36.41	12.43	310	19.49	6.29
	Jaunpur	391577	205	311	45.03	14.48	294	20.74	7.05
	Ghazipur	263173	192	266	39.16	14.72	287	19.75	6.88
	Chandauli	114984	166	300	46.43	15.48	290	19.24	6.63
	Varanasi	1787879	541	372	27.93	7.51	352	20.25	5.75
	Sant Ravidas Nr.	243403	179	487	42.23	8.67	338	20.00	5.92
Mirzapur	209192	157	299	44.96	15.04	320	20.00	6.25	
Sonbhadra	156252	144	319	44.26	13.88	290	20.25	6.98	

Table 5.2 A: District-wise Analysis Table

District	WPR	Level	%CV	District	WPR	Level	%CV
Deoria	222	Low	21.51	Auraiya	260	Low	7.5
Auraiya	226	Low	16.88	Mainpuri	270	Low	7.5
Gorakhpur	242	Low	13.66	Basti	272	Low	7.53
Aligarh	247	Low	12.73	Etawah	274	Low	6.92
Budaun	247	Low	15.65	Chitrakoot	274	Low	7.48
Fatehpur	247	Low	14.22	Jalaun	276	Low	7.34
Allahabad	259	Low	13.59	Deoria	276	Low	7.69
Farrukhabad	261	Low	13.72	Hathras	287	Low	7.23
Etawah	261	Low	14.74	Ghazipur	287	Low	6.88
Lalitpur	262	Medium	15.24	Mahrajganj	290	Medium	6.63
Mahoba	264	Medium	17.21	Chandauli	290	Medium	6.63
Ghazipur	266	Medium	14.72	Sonbhadra	290	Medium	6.98
Baghpat	268	Medium	17.84	Gorakhpur	293	Medium	6.56
Sultanpur	269	Medium	15.22	Etah	294	Medium	6.54
Hamirpur	270	Medium	15.7	Hamirpur	294	Medium	6.89
Shrawasti	270	Medium	13.98	Mahoba	294	Medium	6.54
Jalaun	275	Medium	16.1	Sultanpur	294	Medium	6.8
Gonda	280	Medium	17.02	Jaunpur	294	Medium	7.05
Bijnor	281	Medium	11.06	Agra	295	Medium	7.11
Sant Kabir Nr.	285	Medium	14.56	Aligarh	296	Medium	6.5
Chitrakoot	286	Medium	16.29	Fatehpur	297	Medium	6.21
Banda	288	Medium	17.07	Banda	297	Medium	6.48
Azamgarh	293	Medium	11.8	Kanpur Dehat	299	Medium	6.43
Ballia	293	Medium	12.43	Mathura	302	Medium	6.02
Muzaffarnagar	294	Medium	10.22	Jhansi	302	Medium	7.1
Mathura	294	Medium	9.71	Rae Bareli	303	Medium	6.35
Meerut	296	Medium	10.32	Meerut	305	Medium	6.05
Agra	298	Medium	10.13	Farrukhabad	305	Medium	6.13
Mahrajganj	298	Medium	14.96	Lalitpur	305	Medium	6.47
Mirzapur	299	Medium	15.04	Sant Kabir Nr.	305	Medium	6.22
Chandauli	300	Medium	15.48	Azamgarh	305	Medium	6.13
Moradabad	302	Medium	9.92	Allahabad	309	Medium	6.63
Kheri	302	Medium	13.48	Ballia	310	Medium	6.29
Firozabad	303	Medium	9.42	Baghpat	311	Medium	6.35
Rae Bareli	304	Medium	18.74	Ghaziabad	312	Medium	6.08
Basti	304	Medium	14.39	Unnao	312	Medium	6.17
Mainpuri	306	Medium	14.51	Saharanpur	313	Medium	5.98
Kanpur Nr.	308	Medium	9.92	Bijnor	313	Medium	6.23
Gautam Buddha Nr.	309	Medium	17.06	Bulandshahar	314	Medium	6.13

District	WPR	Level	%CV	District	WPR	Level	%CV
Jhansi	311	Medium	11.46	Muzaffarnagar	315	Medium	6.02
Kaushambi	311	Medium	15.15	Pratapgarh	315	Medium	6.27
Jaunpur	311	Medium	14.48	Gonda	315	Medium	6.51
Unnao	313	Medium	14.88	Kushinagar	315	Medium	6.66
Hathras	315	Medium	12.47	Budaun	316	Medium	7.08
Sonbhadra	319	Medium	13.88	Shrawasti	316	Medium	7.15
Ghaziabad	321	Medium	9.53	Firozabad	317	Medium	6.15
Etah	321	Medium	13.54	Ambedkar Nr.	318	Medium	6.05
Bulandshahar	322	Medium	10.06	Faizabad	319	Medium	6.35
Ambedkar Nr.	328	Medium	11.19	Kanpur Nr.	320	Medium	6.25
Balrampur	328	Medium	13.69	Mirzapur	320	Medium	6.25
Pratapgarh	330	Medium	14.21	Kaushambi	322	Medium	6.8
Saharanpur	332	Medium	10.51	Kheri	323	Medium	6.11
Shahjahanpur	334	Medium	13.6	Siddharthnagar	326	Medium	6.06
Faizabad	335	Medium	15.49	Sitapur	329	Medium	6.08
Jyotiba Phule Nr.	336	Medium	13.18	Hardoi	329	Medium	6
Bahraich	338	Medium	14.38	Moradabad	330	Medium	6.14
Kanpur Dehat	339	Medium	14.75	Shahjahanpur	334	Medium	6.28
Barabanki	344	Medium	15.08	Balrampur	335	Medium	6.4
Kushinagar	359	Medium	11.57	Jyotiba Phule Nr.	337	High	6.22
Sitapur	367	High	15.3	Kashiramnagar	338	High	6.21
Lucknow	367	High	8.3	Sant Ravidas Nr.	338	High	5.92
Pilibhit	368	High	12.66	Lucknow	340	High	6.03
Varanasi	372	High	7.51	Bahraich	340	High	6.31
Kannauj	386	High	10.23	Barabanki	342	High	6.13
Bareilly	390	High	9.03	Mau	342	High	6.27
Kashiramnagar	391	High	10.92	Pilibhit	346	High	6.2
Siddharthnagar	392	High	12.76	Kannauj	346	High	5.92
Hardoi	394	High	11.39	Gautam Buddha Nr.	350	High	7.72
Mau	402	High	12.72	Varanasi	352	High	5.75
Rampur	473	High	11.56	Bareilly	377	High	6.11
Sant Ravidas Nr.	487	High	8.67	Rampur	393	High	6.83

Table 5.2 B : Zone-wise Analysis Table

WZ							
District	WPR	Level	%CV	District	WPR	Level	%CV
Auraiya	226	Low	16.88	Auraiya	260	Low	7.5
Aligarh	247	Low	12.73	Mainpuri	270	Low	7.5
Budaun	247	Low	15.65	Etawah	274	Low	6.92
Farrukhabad	261	Medium	13.72	Hathras	287	Medium	7.23
Etawah	261	Medium	14.74	Etah	294	Medium	6.54
Baghpat	268	Medium	17.84	Agra	295	Medium	7.11
Bijnor	281	Medium	11.06	Aligarh	296	Medium	6.5
Muzaffarnagar	294	Medium	10.22	Mathura	302	Medium	6.02
Mathura	294	Medium	9.71	Meerut	305	Medium	6.05
Meerut	296	Medium	10.32	Farrukhabad	305	Medium	6.13
Agra	298	Medium	10.13	Baghpat	311	Medium	6.35
Moradabad	302	Medium	9.92	Ghaziabad	312	Medium	6.08
Firozabad	303	Medium	9.42	Saharanpur	313	Medium	5.98
Mainpuri	306	Medium	14.51	Bijnor	313	Medium	6.23
Gautam Buddha Nr.	309	Medium	17.06	Bulandshahar	314	Medium	6.13
Hathras	315	Medium	12.47	Muzaffarnagar	315	Medium	6.02
Ghaziabad	321	Medium	9.53	Budaun	316	Medium	7.08
Etah	321	Medium	13.54	Firozabad	317	Medium	6.15
Bulandshahar	322	Medium	10.06	Moradabad	330	Medium	6.14
Saharanpur	332	Medium	10.51	Shahjahanpur	334	Medium	6.28
Shahjahanpur	334	Medium	13.6	Jyotiba Phule Nr.	337	Medium	6.22
Jyotiba Phule Nr.	336	Medium	13.18	Kashiramnagar	338	Medium	6.21
Pilibhit	368	High	12.66	Pilibhit	346	Medium	6.2
Kannauj	386	High	10.23	Kannauj	346	Medium	5.92
Bareilly	390	High	9.03	Gautam Buddha Nr.	350	High	7.72
Kashiramnagar	391	High	10.92	Bareilly	377	High	6.11
Rampur	473	High	11.56	Rampur	393	High	6.83
CZ							
District	WPR	Level	%CV	District	WPR	Level	%CV
Fatehpur	247	Low	14.22	Fatehpur	297	Low	6.21
Kheri	302	Medium	13.48	Kanpur Dehat	299	Low	6.43
Rae Bareli	304	Medium	18.74	Rae Bareli	303	Medium	6.35
Kanpur Nr.	308	Medium	9.92	Unnao	312	Medium	6.17
Unnao	313	Medium	14.88	Kanpur Nr.	320	Medium	6.25
Kanpur Dehat	339	Medium	14.75	Kheri	323	Medium	6.11
Sitapur	367	Medium	15.3	Sitapur	329	Medium	6.08
Lucknow	367	Medium	8.3	Hardoi	329	Medium	6
Hardoi	394	High	11.39	Lucknow	340	High	6.03
SZ							
District	WPR	Level	%CV	District	WPR	Level	%CV

Lalitpur	262	Medium	15.24	Chitrakoot	274	Low	7.48
Mahoba	264	Medium	17.21	Jalaun	276	Low	7.34
Hamirpur	270	Medium	15.7	Hamirpur	294	Medium	6.89
Jalaun	275	Medium	16.1	Mahoba	294	Medium	6.54
Chitrakoot	286	Medium	16.29	Banda	297	Medium	6.48
Banda	288	Medium	17.07	Jhansi	302	Medium	7.1
Jhansi	311	High	11.46	Lalitpur	305	High	6.47
EZ							
District	WPR	Level	%CV	District	WPR	Level	%CV
Deoria	222	Low	21.51	Basti	272	Low	7.53
Gorakhpur	242	Low	13.66	Deoria	276	Low	7.69
Allahabad	259	Low	13.59	Ghazipur	287	Low	6.88
Ghazipur	266	Medium	14.72	Mahrajganj	290	Low	6.63
Sultanpur	269	Medium	15.22	Chandauli	290	Low	6.63
Shrawasti	270	Medium	13.98	Sonbhadra	290	Low	6.98
Gonda	280	Medium	17.02	Gorakhpur	293	Medium	6.56
Sant Kabir Nr.	285	Medium	14.56	Sultanpur	294	Medium	6.8
Azamgarh	293	Medium	11.8	Jaunpur	294	Medium	7.05
Ballia	293	Medium	12.43	Sant Kabir Nr.	305	Medium	6.22
Mahrajganj	298	Medium	14.96	Azamgarh	305	Medium	6.13
Mirzapur	299	Medium	15.04	Allahabad	309	Medium	6.63
Chandauli	300	Medium	15.48	Ballia	310	Medium	6.29
Basti	304	Medium	14.39	Pratapgarh	315	Medium	6.27
Kaushambi	311	Medium	15.15	Gonda	315	Medium	6.51
Jaunpur	311	Medium	14.48	Kushinagar	315	Medium	6.66
Sonbhadra	319	Medium	13.88	Shrawasti	316	Medium	7.15
Ambedkar Nr.	328	Medium	11.19	Ambedkar Nr.	318	Medium	6.05
Balrampur	328	Medium	13.69	Faizabad	319	Medium	6.35
Pratapgarh	330	Medium	14.21	Mirzapur	320	Medium	6.25
Faizabad	335	Medium	15.49	Kaushambi	322	Medium	6.8
Bahraich	338	Medium	14.38	Siddharthnagar	326	Medium	6.06
Barabanki	344	Medium	15.08	Balrampur	335	High	6.4
Kushinagar	359	Medium	11.57	Sant Ravidas Nr.	338	High	5.92
Varanasi	372	High	7.51	Bahraich	340	High	6.31
Siddharthnagar	392	High	12.76	Barabanki	342	High	6.13
Mau	402	High	12.72	Mau	342	High	6.27
Sant Ravidas Nr.	487	High	8.67	Varanasi	352	High	5.75

The above data in table 5.2 A shows that district wise direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of Worker Population Ratio in urban areas in the state of Uttar Pradesh in 2011-12.

As per direct estimates the worker population ratio in urban areas, the number of districts fallen in the low level category is 9. Their names are Deoria, Auraiya, Gorakhpur, Aligarh,

Badaun, Fatehpur, Allahabad, Farrukhabad and Etawah respectively. The worker population ratio proportion ranges from 222 to 261. The percentage coefficient of variation levels shows that 12.73 to 21.51%.

On the other hand as per model based small area estimates the number of districts fallen in the low level category is 9. Their names are Auraiya, Mainpuri, Basti, Etawah, Chitrakoot, Jalaun, Deoria, Hathras and Ghazipur respectively. The worker population ratio proportion ranges from 260 to 287. The percentage coefficient of variation levels shows that 6.88 to 7.69%.

Hence, the model based small area estimates percentage coefficient of variation levels are very much smaller than the direct estimates.

As per direct estimates the number of districts fallen in the Medium level category is 49. Their level of worker population ratio represents the range of 262 to 359 whereas their percentage coefficient of variation levels shows that 9.42% to 18.74%.

On the other hand as per model based small area estimates the number of districts fallen in the medium level category is 48. Their level of worker population ratio represents the range of 290 to 335, whereas their percentage coefficient of variation levels shows that 5.98% to 7.15%.

Hence, the model based small area estimates percentage coefficient of variation levels are much smaller than the direct estimates.

As per direct estimates the number of districts fallen in the high level category is 12, namely Sitapur, Lucknow, Pilibhit, Varanasi, Kannauj, Bareilly, Kanshiram nagar, Siddhartha nagar, Hardoi, Mau, Rampur and SantRavidas Nagar respectively. Their level of worker population ratio proportions represents the range of 367 to 487, whereas their percentage coefficient of variation levels shows that 7.51% to 12.72%.

On the other hand as per model based small area estimates the number of districts fallen in the high level category is 13, namely Jyotiba Phule nagar, Kanshiramnagar, Sant Ravidas nagar, Lucknow, Bahraich, Barabanki, Mau, Pilibhit, Kannauj, G.B.Nagr, Varanasi, Bareilly, and Rampur respectively. Their level of worker population ratio proportions represents the range of 337 to 393, whereas their percentage coefficient of variation levels shows that 5.75% to 7.72%.

Hence, the model based small area estimates percentage coefficient of variation levels are much smaller and consistent than the direct estimates.

The above data in table 5.2 B shows that Region-wise districts (4 regions) direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of worker population ratio proportions for Urban areas in the state of Uttar Pradesh in 2011-12.

As per direct estimates the worker population ratio proportions in Western region number of districts fallen in the low level category is - 3, Medium – 19, and High – 5; Central region number of districts fallen in the low category – 1, Medium – 7, and High – 1; Bundelkhand (Southern) region number of districts fallen in Low – 0, Medium – 6, and High - 1; and Eastern region number of districts fallen in the low level category – 3, Medium – 21 and High – 4.

On the other hand as per model based small area estimates the worker population ratio proportions in Western region number of districts fallen in the low level category is 3, Medium – 21, and High – 3; Central region number of districts fallen in the low category – 2, Medium – 6, and High – 1; Bundelkhand(Southern) region number of districts fallen in the low category – 2, Medium – 4 and High - 1; and Eastern region number of districts fallen in the low level category – 6, Medium – 16 and High – 6.

However, the direct estimates compared with model based small area estimates indicate that the worker population ratio proportions in rural areas the variations are high in Eastern region and CV variations are higher in Central region. Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

Table 5.3 : District wise estimated number of person in labour force (Est. LFPerson), number of persons in sample (sample size), direct estimates (Direct) and model-based small area estimates (SAE) along with their standard error (SE) and percentage coefficient of variations (%CV) for unemployment rates (UR) (the number of persons unemployed per thousand persons in the labour force) according to usual status (ps+ss) of rural area of state of Uttar Pradesh during 2011–2012.

Region	District	Est. LFPerson	Sample size	Direct estimates			SAE estimates		
				UR	SE	%CV	UR	SE	%CV
Western	Saharanpur	759522	167	54	26.49	49.05	27	10.49	38.84
	Muzaffarnagar	1095268	226	22	12.64	57.44	20	7.75	38.73
	Bijnor	735722	167	22	20.38	92.63	11	5.48	49.79
	Moradabad	958373	268	1	0.37	37.32	10	4.47	44.72
	Rampur	459477	130	0			7	4.47	63.89
	Jyotiba Phule Nr.	334436	103	32	31.55	98.60	6	4.47	74.54
	Meerut	604508	119	0			5	3.16	63.25
	Baghpat	206922	41	0			8	5.48	68.47
	Ghaziabad	487806	103	9	9.22	102.39	9	5.48	60.86
	Gautam Buddha Nr.	297045	58	0			6	4.47	74.54
	Bulandshahar	577015	153	27	14.01	51.88	20	8.94	44.72
	Aligarh	1157927	203	0			6	3.16	52.70
	Hathras	454525	131	0			8	4.47	55.90
	Mathura	461316	103	26	25.50	98.06	8	4.47	55.90
	Agra	691613	169	27	22.65	83.88	13	6.32	48.65
	Firozabad	511076	103	0			7	4.47	63.89
	Etah	564401	122	0			5	3.16	63.25
	Mainpuri	423503	98	0			4	3.16	79.06
	Budaun	904763	174	0			4	3.16	79.06
	Bareilly	848521	176	0			6	3.16	52.70
	Pilibhit	670006	150	0			8	4.47	55.90
	Shahjahanpur	671978	167	2	1.71	85.35	10	5.48	54.77
	Farrukhabad	326244	110	0	0.00		4	3.16	79.06
	Kannauj	402315	116	0	0.00		6	3.16	52.70
	Etawah	355048	94	2	1.86	93.00	9	5.48	60.86
Auraiya	322193	98	7	6.73	96.17	8	4.47	55.90	
Kashiramnagar	333157	60	0	0.00		3	3.16	105.41	
Central	Kheri	1246932	252	1	0.68	68.26	7	3.16	45.18
	Sitapur	1417233	266	0			4	3.16	79.06
	Hardoi	1167670	257	0			4	3.16	79.06
	Unnao	1083669	219	1	0.81	81.20	5	3.16	63.25
	Lucknow	564865	135	25	24.08	96.33	8	5.48	68.47
	Rae Bareli	1098841	286	0	0.00		5	3.16	63.25
	Kanpur Dehat	465810	103	0	0.00		7	4.47	63.89
	Kanpur Nr.	612123	104	1	1.10	110.33	11	6.32	57.50

Region	District	Est. LFPerson	Sample size	Direct estimates			SAE estimates		
				UR	SE	%CV	UR	SE	%CV
	Fatehpur	652335	155	15	14.10	94.03	11	6.32	57.50
Southern	Jalaun	351654	105	0	0.00		8	4.47	55.90
	Jhansi	454691	112	26	15.13	58.20	15	7.75	51.64
	Lalitpur	236890	46	0	0.00		4	3.16	79.06
	Hamirpur	295990	53	0	0.00		11	7.07	64.28
	Banda	547120	128	0	0.00		6	3.16	52.70
	Chitrakoot	286298	62	0	0.00		5	3.16	63.25
	Mahoba	179881	55	1	1.27	127.16	12	7.75	64.55
Eastern	Mahrajganj	696206	188	0	0.00		8	4.47	55.90
	Pratapgarh	958080	256	0	0.00		5	3.16	63.25
	Kaushambi	485417	105	7	6.58	94.07	13	7.75	59.58
	Allahabad	1495073	238	4	2.01	50.27	12	5.48	45.64
	Barabanki	1215387	220	2	1.34	66.87	8	4.47	55.90
	Faizabad	614013	140	3	3.30	109.91	8	4.47	55.90
	Ambedkar Nr.	594585	188	0	0.00		6	3.16	52.70
	Sultanpur	1115922	257	5	4.55	90.98	9	4.47	49.69
	Bahraich	645413	148	11	8.99	81.75	14	7.07	50.51
	Shrawasti	380147	94	11	8.03	72.99	18	9.49	52.70
	Balrampur	489650	98	1	1.26	125.83	12	7.07	58.93
	Gonda	660097	187	10	8.18	81.84	10	5.48	54.77
	Siddharthnagar	725469	181	3	2.41	80.17	11	5.48	49.79
	Basti	778465	185	13	13.30	102.35	7	4.47	63.89
	Sant Kabir Nr.	450479	113	104	38.33	36.85	46	17.03	37.02
	Gorakhpur	1027168	241	31	13.37	43.13	25	8.94	35.78
	Kushinagar	819333	236	13	5.71	43.94	22	8.37	38.03
	Deoria	846126	174	19	9.78	51.49	16	7.75	48.41
	Azamgarh	1322386	273	19	11.48	60.40	14	5.48	39.12
	Mau	397037	107	30	20.01	66.69	21	10.49	49.94
	Ballia	844257	203	56	33.17	59.24	21	8.37	39.84
	Jaunpur	1352819	276	4	2.55	63.79	6	3.16	52.70
	Ghazipur	985220	293	4	2.26	56.57	11	4.47	40.66
	Chandauli	580429	141	0	0.00		8	4.47	55.90
	Varanasi	765336	235	4	3.31	82.81	8	4.47	55.90
	Sant Ravidas Nr.	347302	134	0	0.13		8	4.47	55.90
	Mirzapur	674192	201	12	10.51	87.60	11	5.48	49.79
Sonbhadra	548279	148	10	6.77	67.70	19	8.94	47.08	

Table 5.3.A :District-wise Analysis Table

District	UR		%CV	District	UR		%CV
Rampur	0			Kashiramnagar	3	Low	105.41
Meerut	0			Mainpuri	4	Medium	79.06
Baghpat	0			Budaun	4	Medium	79.06
Gautam Buddha Nr.	0			Farrukhabad	4	Medium	79.06
Aligarh	0			Sitapur	4	Medium	79.06
Hathras	0			Hardoi	4	Medium	79.06
Firozabad	0			Lalitpur	4	Medium	79.06
Etah	0			Meerut	5	Medium	63.25
Mainpuri	0			Etah	5	Medium	63.25
Budaun	0			Unnao	5	Medium	63.25
Bareilly	0			Rae Bareli	5	Medium	63.25
Pilibhit	0			Chitrakoot	5	Medium	63.25
Farrukhabad	0			Pratapgarh	5	Medium	63.25
Kannauj	0			Jyotiba Phule Nr.	6	Medium	74.54
Kashiramnagar	0			Gautam Buddha Nr.	6	Medium	74.54
Sitapur	0			Aligarh	6	Medium	52.7
Hardoi	0			Bareilly	6	Medium	52.7
Rae Bareli	0			Kannauj	6	Medium	52.7
Kanpur Dehat	0			Banda	6	Medium	52.7
Jalaun	0			Ambedkar Nr.	6	Medium	52.7
Lalitpur	0			Jaunpur	6	Medium	52.7
Hamirpur	0			Rampur	7	Medium	63.89
Banda	0			Firozabad	7	Medium	63.89
Chitrakoot	0			Kheri	7	Medium	45.18
Mahrajganj	0			Kanpur Dehat	7	Medium	63.89
Pratapgarh	0			Basti	7	Medium	63.89
Ambedkar Nr.	0			Baghpat	8	Medium	68.47
Chandauli	0			Hathras	8	Medium	55.9
Sant Ravidas Nr.	0			Mathura	8	Medium	55.9
Moradabad	1	Medium	37.32	Pilibhit	8	Medium	55.9
Kheri	1	Medium	68.26	Auraiya	8	Medium	55.9
Unnao	1	Medium	81.2	Lucknow	8	Medium	68.47
Kanpur Nr.	1	Medium	110.33	Jalaun	8	Medium	55.9
Mahoba	1	Medium	127.16	Mahrajganj	8	Medium	55.9
Balrampur	1	Medium	125.83	Barabanki	8	Medium	55.9
Shahjahanpur	2	Medium	85.35	Faizabad	8	Medium	55.9
Etawah	2	Medium	93	Chandauli	8	Medium	55.9
Barabanki	2	Medium	66.87	Varanasi	8	Medium	55.9
Faizabad	3	Medium	109.91	Sant Ravidas Nr.	8	Medium	55.9
Siddharthnagar	3	Medium	80.17	Ghaziabad	9	Medium	60.86

District	UR		%CV	District	UR		%CV
Allahabad	4	Medium	50.27	Etawah	9	Medium	60.86
Jaunpur	4	Medium	63.79	Sultanpur	9	Medium	49.69
Ghazipur	4	Medium	56.57	Moradabad	10	Medium	44.72
Varanasi	4	Medium	82.81	Shahjahanpur	10	Medium	54.77
Sultanpur	5	Medium	90.98	Gonda	10	Medium	54.77
Auraiya	7	Medium	96.17	Bijnor	11	Medium	49.79
Kaushambi	7	Medium	94.07	Kanpur Nr.	11	Medium	57.5
Ghaziabad	9	Medium	102.39	Fatehpur	11	Medium	57.5
Gonda	10	Medium	81.84	Hamirpur	11	Medium	64.28
Sonbhadra	10	Medium	67.7	Siddharthnagar	11	Medium	49.79
Bahraich	11	Medium	81.75	Ghazipur	11	Medium	40.66
Shrawasti	11	Medium	72.99	Mirzapur	11	Medium	49.79
Mirzapur	12	Medium	87.6	Mahoba	12	Medium	64.55
Basti	13	Medium	102.35	Allahabad	12	Medium	45.64
Kushinagar	13	Medium	43.94	Balrampur	12	Medium	58.93
Fatehpur	15	Medium	94.03	Agra	13	Medium	48.65
Deoria	19	Medium	51.49	Kaushambi	13	Medium	59.58
Azamgarh	19	Medium	60.4	Bahraich	14	Medium	50.51
Muzaffarnagar	22	Medium	57.44	Azamgarh	14	Medium	39.12
Bijnor	22	Medium	92.63	Jhansi	15	Medium	51.64
Lucknow	25	Medium	96.33	Deoria	16	Medium	48.41
Mathura	26	Medium	98.06	Shrawasti	18	High	52.7
Jhansi	26	Medium	58.2	Sonbhadra	19	High	47.08
Bulandshahar	27	High	51.88	Muzaffarnagar	20	High	38.73
Agra	27	High	83.88	Bulandshahar	20	High	44.72
Mau	30	High	66.69	Mau	21	High	49.94
Gorakhpur	31	High	43.13	Ballia	21	High	39.84
Jyotiba Phule Nr.	32	High	98.6	Kushinagar	22	High	38.03
Saharanpur	54	High	49.05	Gorakhpur	25	High	35.78
Ballia	56	High	59.24	Saharanpur	27	High	38.84
Sant Kabir Nr.	104	High	36.85	Sant Kabir Nr.	46	High	37.02

Table 5.3 B : Zone-wise Analysis Table

WZ							
District	UR		%CV	District	UR		%CV
Rampur	0			Kashiramnagar	3	Low	105.41
Meerut	0			Mainpuri	4	Medium	79.06
Baghpat	0			Budaun	4	Medium	79.06
Gautam Buddha Nr.	0			Farrukhabad	4	Medium	79.06
Aligarh	0			Meerut	5	Medium	63.25
Hathras	0			Etah	5	Medium	63.25
Firozabad	0			Jyotiba Phule Nr.	6	Medium	74.54
Etah	0			Gautam Buddha Nr.	6	Medium	74.54
Mainpuri	0			Aligarh	6	Medium	52.7
Budaun	0			Bareilly	6	Medium	52.7
Bareilly	0			Kannauj	6	Medium	52.7
Pilibhit	0			Rampur	7	Medium	63.89
Farrukhabad	0			Firozabad	7	Medium	63.89
Kannauj	0			Baghpat	8	Medium	68.47
Kashiramnagar	0			Hathras	8	Medium	55.9
Moradabad	1	Medium	37.32	Mathura	8	Medium	55.9
Shahjahanpur	2	Medium	85.35	Pilibhit	8	Medium	55.9
Etawah	2	Medium	93	Auraiya	8	Medium	55.9
Auraiya	7	Medium	96.17	Ghaziabad	9	Medium	60.86
Ghaziabad	9	Medium	102.39	Etawah	9	Medium	60.86
Muzaffarnagar	22	Medium	57.44	Moradabad	10	Medium	44.72
Bijnor	22	Medium	92.63	Shahjahanpur	10	Medium	54.77
Mathura	26	High	98.06	Bijnor	11	Medium	49.79
Bulandshahar	27	High	51.88	Agra	13	Medium	48.65
Agra	27	High	83.88	Muzaffarnagar	20	High	38.73
Jyotiba Phule Nr.	32	High	98.6	Bulandshahar	20	High	44.72
Saharanpur	54	High	49.05	Saharanpur	27	High	38.84
CZ							
District	UR		%CV	District	UR		%CV
Sitapur	0			Sitapur	4	Medium	79.06
Hardoi	0			Hardoi	4	Medium	79.06
Rae Bareli	0			Unnao	5	Medium	63.25
Kanpur Dehat	0			Rae Bareli	5	Medium	63.25
Kheri	1	Medium	68.26	Kheri	7	Medium	45.18
Unnao	1	Medium	81.2	Kanpur Dehat	7	Medium	63.89
Kanpur Nr.	1	Medium	110.33	Lucknow	8	Medium	68.47
Fatehpur	15	High	94.03	Kanpur Nr.	11	High	57.5
Lucknow	25	High	96.33	Fatehpur	11	High	57.5

SZ							
District	UR		%CV	District	UR		%CV
Jalaun	0			Lalitpur	4	Low	79.06
Lalitpur	0			Chitrakoot	5	Medium	63.25
Hamirpur	0			Banda	6	Medium	52.7
Banda	0			Jalaun	8	Medium	55.9
Chitrakoot	0			Hamirpur	11	Medium	64.28
Mahoba	1	Medium	127.16	Mahoba	12	Medium	64.55
Jhansi	26	High	58.2	Jhansi	15	High	51.64
EZ							
District	UR		%CV	District	UR		%CV
Mahrajganj	0			Pratapgarh	5	Medium	63.25
Pratapgarh	0			Ambedkar Nr.	6	Medium	52.7
Ambedkar Nr.	0			Jaunpur	6	Medium	52.7
Chandauli	0			Basti	7	Medium	63.89
Sant Ravidas Nr.	0			Mahrajganj	8	Medium	55.9
Balrampur	1	Medium	125.83	Barabanki	8	Medium	55.9
Barabanki	2	Medium	66.87	Faizabad	8	Medium	55.9
Faizabad	3	Medium	109.91	Chandauli	8	Medium	55.9
Siddharthnagar	3	Medium	80.17	Varanasi	8	Medium	55.9
Allahabad	4	Medium	50.27	Sant Ravidas Nr.	8	Medium	55.9
Jaunpur	4	Medium	63.79	Sultanpur	9	Medium	49.69
Ghazipur	4	Medium	56.57	Gonda	10	Medium	54.77
Varanasi	4	Medium	82.81	Siddharthnagar	11	Medium	49.79
Sultanpur	5	Medium	90.98	Ghazipur	11	Medium	40.66
Kaushambi	7	Medium	94.07	Mirzapur	11	Medium	49.79
Gonda	10	Medium	81.84	Allahabad	12	Medium	45.64
Sonbhadra	10	Medium	67.7	Balrampur	12	Medium	58.93
Bahraich	11	Medium	81.75	Kaushambi	13	Medium	59.58
Shrawasti	11	Medium	72.99	Bahraich	14	Medium	50.51
Mirzapur	12	Medium	87.6	Azamgarh	14	Medium	39.12
Basti	13	Medium	102.35	Deoria	16	Medium	48.41
Kushinagar	13	Medium	43.94	Shrawasti	18	Medium	52.7
Deoria	19	Medium	51.49	Sonbhadra	19	Medium	47.08
Azamgarh	19	Medium	60.4	Mau	21	Medium	49.94
Mau	30	Medium	66.69	Ballia	21	Medium	39.84
Gorakhpur	31	Medium	43.13	Kushinagar	22	Medium	38.03
Ballia	56	High	59.24	Gorakhpur	25	High	35.78
Sant Kabir Nr.	104	High	36.85	Sant Kabir Nr.	46	High	37.02

The above data in table 5.3 A shows that district wise direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of Unemployment Rate in rural areas in the state of Uttar Pradesh in 2011-12.

As per direct estimates the Unemployment rate in rural areas, the number of districts fallen in the low level category is 0. Their names are Rampur, Meerut, Baghpat, GBNagar, Aligarh, Hathras, Firozabad, Etah, Mainpuri, Badaun, Bareilly, Pilibhit, Farrukhabad, Kannauj, Kanshiram nagar, Sitapur, Hardoi, Rae Bareily, Kanpur Dehat, Jalaun, Lalitpur, Hamirpur, Banda, Chitrakoot, Mahrajganj, Pratapgarh, Ambedkar Nagar, Chandauli and Sant Ravidas Nagar respectively. The unemployment rate is 0. The percentage coefficient of variation levels are also 0%.

On the other hand as per model based small area estimates the number of districts fallen in the low level category is 1. The name of district is Kanshiram Nagar only. The unemployment rate is 3. The percentage coefficient of variation level is 105.41%.

Hence, the model based small area estimates percentage coefficient of variation level is higher than the direct estimates.

As per direct estimates the number of districts fallen in the Medium level category is 34. Their level of unemployment rate represents the range of 1 to 26 whereas their percentage coefficient of variation levels shows that 37.32% to 127.16%.

On the other hand as per model based small area estimates the number of districts fallen in the medium level category is 60. Their level of Unemployment rate represents the range of 4 to 16, whereas their percentage coefficient of variation levels shows that 39.12% to 79.06%.

Hence, the model based small area estimates percentage coefficient of variation levels are much smaller than the direct estimates.

As per direct estimates the number of districts fallen in the high level category is 8, namely Bulandshahar, Agra, Mau, Gorakhpur, Jyotibhapule nagar, Shaharanpur, Ballia and Sant Kabir Nagar respectively. Their level of unemployment rate represents the range of 27 to 104, whereas their percentage coefficient of variation levels shows that 36.85% to 98.6%.

On the other hand as per model based small area estimates the number of districts fallen in the high level category is 10, namely Shrawasti, Sonbhadra, Muzaffarnagar, Bulandshahr, Mau, Ballia, Kushinagar, Gorakhpur, Saharanpur and Sant Kabir Nagar respectively. Their level of unemployment rate represents the range of 18 to 46, whereas their percentage coefficient of variation levels shows that 35.78% to 52.7%.

Hence, the model based small area estimates percentage coefficient of variation levels are much smaller and consistent than the direct estimates.

The above data in table 5.3 B shows that Region-wise districts (4 regions) direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of unemployment rate for rural areas in the state of Uttar Pradesh in 2011-12.

As per direct estimates the worker population ratio proportions in Western region number of districts fallen in the low level category is 15, Medium – 7, and High – 5; Central region number of districts fallen in the low category – 4, Medium – 3, and High – 2; Bundelkhand (Southern) region number of districts fallen in Low – 5, Medium – 1, and High - 1; and Eastern region number of districts fallen in the low level category – 5, Medium – 21 and High – 2.

On the other hand as per model based small area estimates the unemployment rate in Western region number of districts fallen in the low level category is 1, Medium – 23, and High – 3; Central region number of districts fallen in the low category – Nil, Medium – 7, and High – 2; Bundelkhand(Southern) region number of districts fallen in the low category – 1, Medium – 5 and High - 1; and Eastern region number of districts fallen in the low level category – Nil, Medium – 26 and High – 2.

However, the direct estimates compared with model based small area estimates indicate that the unemployment rate in rural areas the variations are high in Eastern region and CV variations are higher in Central region. Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

Table 5.4 : District wise estimated number of person in labour force (Est. LFPerson), number of persons in sample (sample size), direct estimates (Direct) and model-based small area estimates (SAE) along with their standard error (SE) and percentage coefficient of variations (%CV) for unemployment rates (UR) (the number of persons unemployed per thousand persons in the labour force) according to usual status (ps+ss) of urban area of state of Uttar Pradesh during 2011–2012.

Region	District	Est. LF Person	Sample size	Direct estimates			SAE estimates		
				UR	SE	%CV	UR	SE	%CV
Western	Saharanpur	166395	106	7	4.06	58.03	13	8.37	64.36
	Muzaffarnagar	219175	103	28	16.10	57.50	26	13.04	50.15
	Bijnor	239580	113	164	47.24	28.81	151	32.56	21.56
	Moradabad	347079	115	44	20.71	47.07	40	13.78	34.46
	Rampur	177620	78	30	19.18	63.93	25	15.81	63.25
	Jyotiba Phule Nr.	97535	51	71	46.28	65.19	54	23.87	44.21
	Meerut	619317	139	0			6	4.47	74.54
	Baghpat	51452	34	0			18	15.17	84.25
	Ghaziabad	807546	128	19	9.78	51.45	21	10.49	49.94
	Gautam Buddha Nr.	172768	32	0			29	24.08	83.05
	Bulandshahar	226507	96	0			5	4.47	89.44
	Aligarh	248878	95	19	18.75	98.69	18	10.00	55.56
	Hathras	125236	64	10	10.49	104.93	11	7.07	64.28
	Mathura	202162	104	14	7.07	50.52	14	7.75	55.33
	Agra	620355	157	3	2.72	90.57	4	3.16	79.06
	Firozabad	262019	120	4	3.88	96.88	6	4.47	74.54
	Etah	89723	50	0	0.00		11	8.94	81.31
	Mainpuri	61954	48	0	0.00		9	7.75	86.07
	Badaun	165420	55	52	50.11	96.37	36	18.44	51.22
	Bareilly	601701	120	25	18.23	72.94	25	11.83	47.33
	Pilibhit	113286	65	3	3.19	106.23	10	7.75	77.46
	Shahjahanpur	264141	68	27	21.42	79.33	25	15.17	60.66
	Farrukhabad	88218	54	13	13.29	102.26	15	10.49	69.92
	Kannauj	93888	71	17	17.14	100.82	18	10.49	58.27
	Etawah	95825	42	0	0.00		11	8.94	81.31
Auraiya	41166	34	13	12.90	99.20	23	17.32	75.31	
Kanshiramnagar	94284	75	0	0.00		7	5.48	78.25	
Central	Kheri	174001	60	10	9.90	99.00	21	14.14	67.34
	Sitapur	204172	58	0	0.00		14	11.83	84.52
	Hardoi	118164	60	0	0.00		8	6.32	79.06
	Unnao	131093	50	7	7.15	102.20	10	8.37	83.67
	Lucknow	1278086	245	67	32.07	47.87	62	19.75	31.85
	Rae Bareli	86717	48	0	0.00		14	11.83	84.52
	Kanpur Dehat	41392	52	32	31.14	97.32	28	17.32	61.86
	Kanpur Nagar	805611	184	55	26.16	47.56	50	19.24	38.47

Region	District	Est. LF Person	Sample size	Direct estimates			SAE estimates		
				UR	SE	%CV	UR	SE	%CV
	Fatehpur	71371	52	87	50.45	57.99	73	27.39	37.52
Southern	Jalaun	89218	42	46	27.13	58.98	33	17.03	51.60
	Jhansi	194545	87	11	10.70	97.29	13	7.75	59.58
	Lalitpur	33934	45	0	0.00		13	10.49	80.68
	Hamirpur	57158	38	0	0.00		6	5.48	91.29
	Banda	62825	37	38	37.20	97.90	34	21.68	63.76
	Chitrakoot	20547	49	3	3.28	109.21	6	5.48	91.29
	Mahoba	56042	41	0	0.00		8	6.32	79.06
Eastern	Mahrajganj	60595	55	164	69.08	42.12	133	43.01	32.34
	Pratapgarh	57607	51	0	0.00		17	14.14	83.19
	Kaushambi	36241	49	78	46.41	59.49	63	23.24	36.89
	Allahabad	386774	99	322	77.76	24.15	292	52.73	18.06
	Barabanki	112129	57	0	0.00		13	10.95	84.27
	Faizabad	85680	61	17	12.46	73.27	32	23.02	71.94
	Ambedkar Nr.	126962	65	0	0.00		12	8.94	74.54
	Sultanpur	32301	52	77	57.06	74.10	78	40.74	52.23
	Bahraich	76516	54	16	12.05	75.32	29	20.25	69.82
	Shrawasti	10935	49	0	0.00		14	11.83	84.52
	Balrampur	26962	50	15	15.40	102.69	26	18.17	69.87
	Gonda	49215	45	224	88.49	39.51	182	64.34	35.35
	Siddharthnagar	47722	58	0	0.00		12	9.49	79.06
	Basti	49350	49	0	0.00		13	10.49	80.68
	Sant Kabir Nr.	29172	49	27	19.36	71.69	30	18.17	60.55
	Gorakhpur	294720	100	71	31.23	43.98	66	30.66	46.45
	Kushinagar	60680	65	19	13.96	73.48	26	17.03	65.50
	Deoria	81484	44	146	98.15	67.23	116	63.80	55.00
	Azamgarh	97714	59	43	24.81	57.70	41	19.24	46.92
	Mau	226909	61	5	4.99	99.84	15	12.25	81.65
	Ballia	72203	60	52	27.86	53.58	46	23.45	50.98
	Jaunpur	121781	63	0	0.00		20	15.81	79.06
	Ghazipur	78723	60	109	52.69	48.34	94	39.75	42.29
	Chandauli	37793	52	87	57.58	66.18	72	32.09	44.57
	Varanasi	693795	194	42	20.54	48.91	40	15.17	37.91
	Sant Ravidas Nr.	118581	79	0	0.00		7	5.48	78.25
	Mirzapur	62966	52	7	7.30	104.27	11	8.94	81.31
Sonbhadra	53406	44	67	38.76	57.85	61	32.09	52.61	

Table 5.4 A: District-wise Analysis Table

District	UR		%CV	District	UR		%CV
Meerut	0			Agra	4	Medium	79.06
Baghpat	0			Bulandshahar	5	Medium	89.44
Gautam Buddha Nr.	0			Meerut	6	Medium	74.54
Bulandshahar	0			Firozabad	6	Medium	74.54
Etah	0			Hamirpur	6	Medium	91.29
Mainpuri	0			Chitrakoot	6	Medium	91.29
Etawah	0			Kanshiramnagar	7	Medium	78.25
Kanshiramnagar	0			Sant Ravidas Nr.	7	Medium	78.25
Sitapur	0			Hardoi	8	Medium	79.06
Hardoi	0			Mahoba	8	Medium	79.06
Rae Bareli	0			Mainpuri	9	Medium	86.07
Lalitpur	0			Pilibhit	10	Medium	77.46
Hamirpur	0			Unnao	10	Medium	83.67
Mahoba	0			Hathras	11	Medium	64.28
Pratapgarh	0			Etah	11	Medium	81.31
Barabanki	0			Etawah	11	Medium	81.31
Ambedkar Nr.	0			Mirzapur	11	Medium	81.31
Shrawasti	0			Ambedkar Nr.	12	Medium	74.54
Siddharthnagar	0			Siddharthnagar	12	Medium	79.06
Basti	0			Saharanpur	13	Medium	64.36
Jaunpur	0			Jhansi	13	Medium	59.58
Sant Ravidas Nr.	0			Lalitpur	13	Medium	80.68
Agra	3	Medium	90.57	Barabanki	13	Medium	84.27
Pilibhit	3	Medium	106.23	Basti	13	Medium	80.68
Chitrakoot	3	Medium	109.21	Mathura	14	Medium	55.33
Firozabad	4	Medium	96.88	Sitapur	14	Medium	84.52
Mau	5	Medium	99.84	Rae Bareli	14	Medium	84.52
Saharanpur	7	Medium	58.03	Shrawasti	14	Medium	84.52
Unnao	7	Medium	102.2	Farrukhabad	15	Medium	69.92
Mirzapur	7	Medium	104.27	Mau	15	Medium	81.65
Hathras	10	Medium	104.93	Pratapgarh	17	Medium	83.19
Kheri	10	Medium	99	Baghpat	18	Medium	84.25
Jhansi	11	Medium	97.29	Aligarh	18	Medium	55.56
Farrukhabad	13	Medium	102.26	Kannauj	18	Medium	58.27
Auraiya	13	Medium	99.2	Jaunpur	20	Medium	79.06
Mathura	14	Medium	50.52	Ghaziabad	21	Medium	49.94
Balrampur	15	Medium	102.69	Kheri	21	Medium	67.34
Bahraich	16	Medium	75.32	Auraiya	23	Medium	75.31
Kannauj	17	Medium	100.82	Rampur	25	Medium	63.25
Faizabad	17	Medium	73.27	Bareilly	25	Medium	47.33
Ghaziabad	19	Medium	51.45	Shahjahanpur	25	Medium	60.66
Aligarh	19	Medium	98.69	Muzaffarnagar	26	Medium	50.15

District	UR		%CV	District	UR		%CV
Kushinagar	19	Medium	73.48	Balrampur	26	Medium	69.87
Bareilly	25	Medium	72.94	Kushinagar	26	Medium	65.5
Shahjahanpur	27	Medium	79.33	Kanpur Dehat	28	Medium	61.86
Sant Kabir Nr.	27	Medium	71.69	Gautam Buddha Nr.	29	Medium	83.05
Muzaffarnagar	28	Medium	57.5	Bahraich	29	Medium	69.82
Rampur	30	Medium	63.93	Sant Kabir Nr.	30	Medium	60.55
Kanpur Dehat	32	Medium	97.32	Faizabad	32	Medium	71.94
Banda	38	Medium	97.9	Jalaun	33	Medium	51.6
Varanasi	42	Medium	48.91	Banda	34	Medium	63.76
Azamgarh	43	Medium	57.7	Badaun	36	Medium	51.22
Moradabad	44	Medium	47.07	Moradabad	40	Medium	34.46
Jalaun	46	Medium	58.98	Varanasi	40	Medium	37.91
Badaun	52	Medium	96.37	Azamgarh	41	Medium	46.92
Ballia	52	Medium	53.58	Ballia	46	Medium	50.98
Kanpur Nagar	55	Medium	47.56	Kanpur Nagar	50	Medium	38.47
Lucknow	67	Medium	47.87	Jyotiba Phule Nr.	54	Medium	44.21
Sonbhadra	67	Medium	57.85	Sonbhadra	61	Medium	52.61
Jyotiba Phule Nr.	71	Medium	65.19	Lucknow	62	Medium	31.85
Gorakhpur	71	Medium	43.98	Kaushambi	63	Medium	36.89
Sultanpur	77	Medium	74.1	Gorakhpur	66	Medium	46.45
Kaushambi	78	Medium	59.49	Chandauli	72	Medium	44.57
Fatehpur	87	Medium	57.99	Fatehpur	73	Medium	37.52
Chandauli	87	Medium	66.18	Sultanpur	78	Medium	52.23
Ghazipur	109	High	48.34	Ghazipur	94	High	42.29
Deoria	146	High	67.23	Deoria	116	High	55
Bijnor	164	High	28.81	Mahrajganj	133	High	32.34
Mahrajganj	164	High	42.12	Bijnor	151	High	21.56
Gonda	224	High	39.51	Gonda	182	High	35.35
Allahabad	322	High	24.15	Allahabad	292	High	18.06

Table 5.4 B: Zone-wise Analysis Table

WZ							
District	UR		%CV	District	UR		%CV
Meerut	0			Agra	4	Medium	79.06
Baghpat	0			Bulandshahar	5	Medium	89.44
Gautam Buddha Nr.	0			Meerut	6	Medium	74.54
Bulandshahar	0			Firozabad	6	Medium	74.54
Etah	0			Kanshiramnagar	7	Medium	78.25
Mainpuri	0			Mainpuri	9	Medium	86.07
Etawah	0			Pilibhit	10	Medium	77.46
Kanshiramnagar	0			Hathras	11	Medium	64.28
Agra	3	Medium	90.57	Etah	11	Medium	81.31
Pilibhit	3	Medium	106.23	Etawah	11	Medium	81.31
Firozabad	4	Medium	96.88	Saharanpur	13	Medium	64.36
Saharanpur	7	Medium	58.03	Mathura	14	Medium	55.33
Hathras	10	Medium	104.93	Farrukhabad	15	Medium	69.92
Farrukhabad	13	Medium	102.26	Baghpat	18	Medium	84.25
Auraiya	13	Medium	99.2	Aligarh	18	Medium	55.56
Mathura	14	Medium	50.52	Kannauj	18	Medium	58.27
Kannauj	17	Medium	100.82	Ghaziabad	21	Medium	49.94
Ghaziabad	19	Medium	51.45	Auraiya	23	Medium	75.31
Aligarh	19	Medium	98.69	Rampur	25	Medium	63.25
Bareilly	25	Medium	72.94	Bareilly	25	Medium	47.33
Shahjahanpur	27	Medium	79.33	Shahjahanpur	25	Medium	60.66
Muzaffarnagar	28	Medium	57.5	Muzaffarnagar	26	Medium	50.15
Rampur	30	Medium	63.93	Gautam Buddha Nr.	29	Medium	83.05
Moradabad	44	Medium	47.07	Badaun	36	Medium	51.22
Badaun	52	Medium	96.37	Moradabad	40	Medium	34.46
Jyotiba Phule Nr.	71	Medium	65.19	Jyotiba Phule Nr.	54	High	44.21
Bijnor	164	Medium	28.81	Bijnor	151	High	21.56
CZ							
District	UR		%CV	District	UR		%CV
Sitapur	0			Hardoi	8	Medium	79.06
Hardoi	0			Unnao	10	Medium	83.67
Rae Bareli	0			Sitapur	14	Medium	84.52
Unnao	7	Medium	102.2	Rae Bareli	14	Medium	84.52
Kheri	10	Medium	99	Kheri	21	Medium	67.34
Kanpur Dehat	32	Medium	97.32	Kanpur Dehat	28	Medium	61.86
Kanpur Nagar	55	Medium	47.56	Kanpur Nagar	50	Medium	38.47
Lucknow	67	High	47.87	Lucknow	62	High	31.85
Fatehpur	87	High	57.99	Fatehpur	73	High	37.52

SZ							
District	UR		%CV	District	UR		%CV
Lalitpur	0			Hamirpur	6	Medium	91.29
Hamirpur	0			Chitrakoot	6	Medium	91.29
Mahoba	0			Mahoba	8	Medium	79.06
Chitrakoot	3	Medium	109.21	Jhansi	13	Medium	59.58
Jhansi	11	Medium	97.29	Lalitpur	13	Medium	80.68
Banda	38	High	97.9	Jalaun	33	High	51.6
Jalaun	46	High	58.98	Banda	34	High	63.76
EZ							
District	UR		%CV	District	UR		%CV
Pratapgarh	0			Sant Ravidas Nr.	7	Medium	78.25
Barabanki	0			Mirzapur	11	Medium	81.31
Ambedkar Nr.	0			Ambedkar Nr.	12	Medium	74.54
Shrawasti	0			Siddharthnagar	12	Medium	79.06
Siddharthnagar	0			Barabanki	13	Medium	84.27
Basti	0			Basti	13	Medium	80.68
Jaunpur	0			Shrawasti	14	Medium	84.52
Sant Ravidas Nr.	0			Mau	15	Medium	81.65
Mau	5	Medium	99.84	Pratapgarh	17	Medium	83.19
Mirzapur	7	Medium	104.27	Jaunpur	20	Medium	79.06
Balrampur	15	Medium	102.69	Balrampur	26	Medium	69.87
Bahraich	16	Medium	75.32	Kushinagar	26	Medium	65.5
Faizabad	17	Medium	73.27	Bahraich	29	Medium	69.82
Kushinagar	19	Medium	73.48	Sant Kabir Nr.	30	Medium	60.55
Sant Kabir Nr.	27	Medium	71.69	Faizabad	32	Medium	71.94
Varanasi	42	Medium	48.91	Varanasi	40	Medium	37.91
Azamgarh	43	Medium	57.7	Azamgarh	41	Medium	46.92
Ballia	52	Medium	53.58	Ballia	46	Medium	50.98
Sonbhadra	67	Medium	57.85	Sonbhadra	61	Medium	52.61
Gorakhpur	71	Medium	43.98	Kaushambi	63	Medium	36.89
Sultanpur	77	Medium	74.1	Gorakhpur	66	Medium	46.45
Kaushambi	78	Medium	59.49	Chandauli	72	Medium	44.57
Chandauli	87	Medium	66.18	Sultanpur	78	Medium	52.23
Ghazipur	109	Medium	48.34	Ghazipur	94	Medium	42.29
Deoria	146	High	67.23	Deoria	116	Medium	55
Mahrajganj	164	High	42.12	Mahrajganj	133	High	32.34
Gonda	224	High	39.51	Gonda	182	High	35.35
Allahabad	322	High	24.15	Allahabad	292	High	18.06

The above data in table 5.4 A shows that district wise direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of unemployment rate in urban areas in the state of Uttar Pradesh in 2011-12.

As per direct estimates the unemployment rate in urban areas, the number of districts fallen in the low level category is 22. Their names are Meerut, Baghpat, GBNagar, Bulandshahr, Etah, Mainpuri, Etawah, Kanshiram nagar, Sitapur, Hardoi, Raebareli, Lalitpur, Hamirpur, Mahoba, Pratapgarh, Barabanki, Ambedkarnagar, Shrawasti, Siddharthanagar, Basti, Jaunpur, sant Ravidas nagar respectively. The unemployment rate is Nil. The percentage coefficient of variation levels are Nil.

On the other hand as per model based small area estimates the number of districts fallen in the low level category is Nil.

As per direct estimates the number of districts fallen in the Medium level category is 43. Their level of unemployment rate in the range of 3 to 87, whereas their percentage coefficient of variation levels shows that 43.98% to 109.21%.

On the other hand as per model based small area estimates the number of districts fallen in the medium level category is 65. Their level of unemployment rate represents the range of 4 to 78, whereas their percentage coefficient of variation levels shows that 31.85% to 91.29%.

Hence, the model based small area estimates percentage coefficient of variation levels are much smaller than the direct estimates.

As per direct estimates the number of districts fallen in the high level category is 6, namely Ghazipur, Deoria, Bijnor, Maharajganj, Gonda and Allhabad respectively. Their level of unemployment rate represents the range of 109 to 322, whereas their percentage coefficient of variation levels shows that 24.15% to 67.23%.

On the other hand as per model based small area estimates the number of districts fallen in the high level category is 6, namely Ghazipur, Deoria, Maharajganj, Bijnor, Gonda and Allhabad respectively. Their level of unemployment rate represents the range of 94 to 292, whereas their percentage coefficient of variation levels shows that 18.06% to 55%.

Hence, the model based small area estimates percentage coefficient of variation levels are much smaller and consistent than the direct estimates.

The above data in table 5.4 B shows that Region-wise districts (4 regions) direct estimates and model based small area estimates along with percentage coefficient of variations (CV) of unemployment rate for Urban areas in the state of Uttar Pradesh in 2011-12.

As per direct estimates the unemployment rate in Western region number of districts fallen in the low level category is - 8, Medium – 19, and High – Nil; Central region number of districts fallen in the low category – 3, Medium – 4, and High – 2; Bundelkhand (Southern) region number of districts fallen in Low – 3, Medium – 2, and High - 2; and Eastern region number of districts fallen in the low level category – 8, Medium – 16 and High – 4.

On the other hand as per model based small area estimates the worker population ratio proportions in Western region number of districts fallen in the low level category is Nil, Medium – 25, and High – 2; Central region number of districts fallen in the low category – Nil, Medium – 7, and High – 2; Bundelkhand(Southern) region number of districts fallen in the low category – Nil, Medium – 5 and High - 2; and Eastern region number of districts fallen in the low level category – Nil, Medium – 25 and High – 3.

However, the direct estimates compared with model based small area estimates indicate that the unemployment rate in urban areas the variations are high in Eastern region and CV variations are higher in Central region. Hence, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates.

Chapter 6

Gross Value Added Estimation in UP

The main objective of the unincorporated non-agricultural enterprise surveys conducted by NSSO was to get estimates of various economic and operational characteristics of unincorporated non-agricultural enterprises in manufacturing, trade and other service sector (excluding construction) at national and State level. The survey was designed to estimate value of key characteristics per enterprise like average no. of workers, fixed assets, outstanding loans, total receipts, total operating expenses and gross value added separately for 'Own Account Enterprises (OAEs)' and 'establishments'. Information on various operational characteristics like ownership, nature of operation, location, status of registration etc., were also collected to have an insight into economic scenario of the unincorporated non-agricultural enterprises in the country. These economic and operational indicators are required for planning, policy and decision making at various levels, both within the government and outside. These aspects of the unorganised enterprise sector are captured in detail in the present NSS survey and estimates are generated.

The enterprises covered in NSS 67th round were divided into three broad industry groups, viz. (i) manufacturing, (ii) trade and (iii) other service sector enterprises. Under the above sectoral coverage, enterprises were categorised into two types, the first type being Own Account Enterprises (OAE) i.e. those enterprises that do not employ hired workers on a fairly regular basis in the reference year and the second type being Establishments employing at least one hired worker on a fairly regular basis in the reference year. The eligibility criteria for an enterprise to be covered in the survey was at least 30 days of operation (15 days of operation for seasonal enterprises / SHGs) in the reference year i.e. "last 365 days preceding the date of survey".

Aggregated Annual Gross Value Added by the un-incorporated non-agricultural enterprises was estimated as Rs. 628356 crores. Manufacturing Sector contributed Rs. 154720 crores, Trading Sector contributed Rs. 243725 crores and enterprises engaged in other services contributed Rs. 229911 crores. At state level contribution of Maharashtra was Rs. 76864 crores followed by Uttar Pradesh (Rs. 65841 crores). At All India level Annual Gross Value Added per enterprise in un-incorporated non-agricultural sector was Rs. 108951. The same for

rural India was Rs. 64114 and for urban Indian was Rs. 160667. At All India level Annual Gross Value Added per worker in un-incorporated non-agricultural sector was Rs. 58193. For rural India the same was Rs. 37241 and the corresponding estimate for urban areas was Rs. 78527. At all India level highest Annual Gross Value Added per worker for enterprise engaged in trading was estimated at Rs. 71412.

Annual emoluments per hired worker at All India level was estimated at Rs. 47016. Annual emoluments per hired worker in rural areas was Rs. 36354 and the same in urban areas was Rs. 51602. Value of own fixed assets per enterprise at All India level was Rs. 203364. Enterprises engaged in other services had recorded the value of own fixed asset per enterprise as Rs. 281590 which was higher than manufacturing (Rs. 144501) and Trading (Rs. 177872). The survey revealed that the Annual Rent Payable per enterprise was Rs. 5821. For manufacturing, trading and other services enterprises, the Annual Rent Payable per enterprise were estimated at Rs. 5486, Rs. 3006, Rs. 9078 respectively.

Major Limitation of the Study:

This is one of the objectives of this report. The other two objectives we have achieved the results and submitted in this report. The third objective of the study is to estimate GVA for districtwise in Uttar Pradesh. On the basis of 67th round Uttar Pradesh districts Gross Value Added data is under process. Small area estimation model has to be applied for this data. GVA calculated as per formula given in 67th Round NSSO Report is like this: (total receipts – total operating expenses – distributive expenses). As per this formula for the data is not matching up to the results which were published in reports.

It will be taking some time to match the data. We are taking some help from DPD, MOSPI and Kolkata. In view of this at present we are not able to provide the results of Gross Value added of Uttar Pradesh Districts on the basis of Small Area Estimation Technique. Very Soon, we will achieve the results and then we will submit those results as supplementary to this report. Please consider our request.

Chapter 7

Summary and Conclusions

7.1 Monthly Percapita Consumption Expenditure and Incidence of Poverty:

To achieve the objective of estimation of incidence of poverty at the district level of Uttar Pradesh, we have employed the Small Area Estimation Technique on the 68th round NSSO data. Based on the available data, we have calculated the incidence of poverty in five dimensions. The five dimensions are as follows:

1. District-wise Rural Households
2. District-wise Land Category Households (Marginal LC1, Small LC2 and Others LC3) in Rural areas
3. District-wise Social Caste Groups in Rural areas (SC, ST, OBC, and Others)
4. District-wise Social Caste Groups in Urban areas (Sc, OBC, and Others)
5. District-wise Urban Households

Among these five dimensions we found large variations within each category of households in between districts of Uttar Pradesh. However, Broadly the Small Area Estimation technique is more suitable and appropriate to estimate the incidence of poverty in the districts of Uttar Pradesh. In sum, the incidences of poverty proportion levels of Small Area Estimation technique values are lower and consistent as compared to direct estimation method.

The direct estimation of MPCE for land holding category 1 of rural area of the state of UP is very much higher fluctuations as compared to the Small Area Estimation of district wise MPCE levels which are very much less fluctuated during this period. It also clearly shows that very high fluctuations have taken place in direct estimation of MPCE for land holding category 1 of some of the rural districts in Uttar Pradesh. Direct estimation CV levels are higher than small area estimation CV Levels of land holding category 1 in rural areas of UP during this period.

As per small area estimation of MPCE for land holding category 1 of rural area of the state of UP is very low (Rs. 666) in districts like Banda, Fatehpur, Kaushambi, Pratapgarh, Raebareli, Basti, Maharajganj, Bahraich, and Shrawasti. It also clearly shows that very high (Rs. 1403) in Saharanpur, Muzafar Nagar, Baghpat, Meerut, Ghaziabad, Gautam Budh Nagar,

Bulandshahr, Mahamaya Nagar and Etah districts. However, small area estimation of MPCE for land holding category 1 of rural districts of the UP state values are lower than direct estimation levels of the same category. In the rural areas, land category wise farmers data reveals that inverse relationship has taken place between MPCE and Incidence of Poverty proportions. The number of districts are also more in low MPCE category of small area estimation as compared with the direct estimation as mentioned above.

In the rural areas, Caste category data reveals that less variations exists among SC, OBC and ST's as compared to Others category's of direct estimation of MPCE. The incidence of poverty proportion levels is also higher among SC, OBC and ST's as compared to Other category. As per direct estimation, CV of ST's are very much higher than SC, OBC and also Other category households. In case of incidence of poverty proportions, CV of ST is again higher than Others, SC and OBCs.

As per small area estimation of MPCE for district-wise rural area of the state of UP is very much low (Rs.791) in Banda, Chitrakoot, Kaushambi, Fatehpur, Unnao, Pratapgarh, Sant Ravidas Nagar, Basti, Bahraich and Mainpuri districts. It also clearly shows that very high (Rs. 1558) in Saharanpur, Muzafar Nagar, Baghpat, Meerut, Ghaziabad, Gautam Budh Nagar, Bulandshahr, Mahamaya Nagar and Etah districts.

The direct estimation of MPCE for rural area of the state of UP is very much marginally higher fluctuations as compared to the Small Area Estimation of district wise MPCE levels which are very much less fluctuated during this period.

All households' data in rural areas, average monthly per capita consumption expenditure figures are lower than the urban areas. The percentage coefficient of variation also shows very less variation in rural areas which is marginally spreaded than the Urban areas. As a whole, the incidence of poverty's percentage coefficient of variation spread in rural areas is comparatively lower than urban areas.

According to Small Area Estimation technique the incidence of poverty proportion levels are high in Rural areas among:

1. Marginal farmers (LC1) in rural area districts are Bahraich, Basti, Barabanki, Banda, Pratapgarh, Maharajganj, Rae Bareilly, Sant Ravidas Nagar and Unnao.
2. SC Households in rural area districts are Shahjhanpur, Firozabad, Minpuri, Unnao, Gonda, Basti, Pratapgarh, and Kaushambi
3. OBC Households in rural area districts are Bahraich, Barabanki, Faizabad, Basti, Rae Bareilly, Pratapgarh, Fatehpur, Unnao, Sant Ravidas Nagar

4. Other Households in rural area districts are Kheri, Bahraich, Shrawasti, Hardoi, Farrukhabad, Mainpuri, Unnao, Barabanki, Mirzapur.
5. All Rural Households point of view the districts are Bahraich, Basti, Barabanki, Banda, Fatehpur, Kaushambi, Pratapgarh, Sonbhadra, and Unnao.

In the Urban areas, Caste category data reveals that less variations exists among SC and OBC as compared to ST's and Others category's of direct estimation of MPCE. The incidence of poverty proportion levels is also higher among SC and OBC as compared to ST's and Other category households. As per direct estimation, CV of ST's are very much higher than SC, OBC and also Other category households. In case of incidence of poverty, CV of ST is again higher than Others, SC and OBCs.

The direct estimation of incidence of poverty in urban area of the state of UP is very much higher and large fluctuations as compared to the Small Area Estimation of district wise incidence of poverty levels which are very much lower and large fluctuations found between the districts during this period. It also clearly shows that very high fluctuations have taken place in direct estimation of incidence of poverty levels in some of the urban districts in Uttar Pradesh. However, in the urban areas incidence of poverty levels are very high and CV levels are also high as per direct estimation, whereas the incidence of poverty levels according to Small Area Estimation CV Levels in urban areas are very low and less fluctuations among the districts of UP during this period.

As per small area estimation of incidence of poverty in urban area of the state of UP is relatively low (0.02) and less number of districts like Gonda, Jalaun, and Kanpur Nagar. It also clearly shows that very high (0.67) in Rampur, Kheri, Barabanki, Khushinagar, Ambedkar Nagar, Kaushambi, Mirzapur, and Chitrakoot districts. However, small area estimation of incidence of poverty in urban area districts of the UP state values are comparatively higher.

According to small Area Estimation technique the incidence of poverty proportion levels are high in Urban areas among:

1. OBC Households in urban area districts are Rampur, Sitapur, Hardoi, Barabanki, Ambedkar Nagar, Pratapgarh, Kaushambi, Ballia, Sant Ravidas Nagar
2. Other Households in urban area districts are Shahjahanpur, Kheri, Mainpuri, Kannauj, Unnao, Barabanki, Kaushambi, Balrampur, and Sant Kabir Nagar.
3. All Urban Households point of view the districts are Rampur, Kheri, Barabanki, Khushi nagar, Ambedkar Nagar, Kaushambi, Mirzapur and Chitrakoot.

According to this study, we conclude that the above mentioned districts need to be concentrated to reduce the incidence of poverty in rural and urban areas. In addition to the other districts there is an urgent need to reduce the incidence of poverty among rural and urban areas households of the above districts.

The entire data related to rural and urban areas, MPCE and incidence of poverty levels as per direct estimate and small area estimation calculations reveals that, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates. Hence, Small Area Estimation process is more useful to estimate poverty levels in all the districts of the State.

7.2 Worker Population Ratio and Unemployment Rate:

To achieve the objective of estimation of worker population ratio and unemployment rate at the district level of Uttar Pradesh, we have employed the Small Area Estimation Technique on the 68th round NSSO data. Based on the available data, we have computed the worker population ratio and unemployment rate in two dimensions. The two dimensions are as follows:

1. Rural worker population ratio and unemployment rate
2. Urban worker population ratio and unemployment rate

The most important aspect is worker population ratio which has to be increased at a higher level in rural areas of Uttar Pradesh. According to the small area estimates the number of districts fallen in the low level category is 14, which means out of 75 districts; these 14 districts worker population ratio is very low. In addition to the above, there will be a need to enhance the worker population ratio in the medium level of worker population ratio proportions districts. There is a need to enhance the worker population ratio in the following districts like Baghpat, Sant Ravidas Nagar, Gonda, Farrukhabad, Mathura, Sant Kabir Nagar, Mau, Jyotiba Phule Nagar, Ghaziabad, Firozabad, Mainuri, Gorakhpur, Muzaffar nagar and Bulandshahar.

On the other hand, according to small area estimates the number of districts fallen in the high level unemployment rate in rural category is 10 districts, namely Shrawasti, Sonbhadra, Muzaffarnagar, Bulandshahr, Mau, Ballia, Kushinagar, Gorakhpur, Saharanpur and Sant Kabir Nagar respectively. In addition to the above, there will be a need to reduce the unemployment rate in the medium level of unemployment districts. Hence, there is a need to create employment opportunities for the population in the above districts, then they will

become workers and unemployment rate will go down and worker population ratio will increase in these districts respectively.

Secondly, in case of worker population ratio has to be increased at a higher level in urban areas of Uttar Pradesh. According to the small area estimates the number of districts fallen in the low level category is 9, which means out of 75 districts; these 9 districts worker population ratio is very low. In addition to the above, there will be a need to enhance the worker population ratio in the medium level of worker population ratio proportions districts. There is a need to enhance the worker population ratio in the following districts like Auraiya, Mainpuri, Basti, Etawah, Chitrakoot, Jalaun, Deoria, Hathras and Ghazipur respectively.

On the other hand, according to small area estimates the number of districts fallen in the high level unemployment rate in urban category is 6 districts, namely Ghazipur, Deoria, Maharajganj, Bijnor, Gonda and Allhabad respectively. In addition to the above, there will be a need to reduce the unemployment rate in the medium level of unemployment districts. Hence, there is a need to create employment opportunities for the population in the above districts, then they will become workers and unemployment rate will go down and worker population ratio will increase in these districts respectively.

According to this study, we conclude that the above mentioned districts need to be concentrated to enhance the worker population ratio in rural and urban areas. In addition to the other districts (in the medium level category) there is an urgent need to enhance the worker population ratio among rural and urban areas households of the above districts.

The entire data related to rural and urban areas, worker population ratio and unemployment rate levels as per direct estimate and small area estimation calculations reveals that, the model based small area estimates percentage coefficient of variation levels is smaller and consistent than the direct estimates. Hence, Small Area Estimation process is more useful to estimate worker population ratio and unemployment rate levels in all the districts of the State.

ⁱChandra, H., & Chandra, G. (2020). Small Area Estimation for Total Basal Cover in the State of Maharashtra in India. In *Statistical Methods and Applications in Forestry and Environmental Sciences* (pp. 255-266). Springer, Singapore.