

## **ANNEXURE**

## ANNEXURE I

### Household Sample Survey for Estimating Out-of-School children in the age group 6-13

#### Estimation Procedure

#### *I Notations used*

The following notations have been used

- a) Subscript
- | Subscript | Description   |
|-----------|---|
| $i$       | $i$ -th district  |
| $j$       | $j$ -th PSU in the $i$ -th district   |
| $k$       | $k$ -th Sub sample of eligible HHs in the $j$ -th PSU of the $i$ -th district |
| $s$       | $s$ -th stratum for urban area in the 61 <sup>st</sup> Round of NSS           |
| $r$       | Rural area of a state   |
| $u$       | Urban area of a state   |
| $t$       | Total for rural and urban area of a state                                     |
- b) Notations for number of units and totals
- |            |  |
|------------|--|
| $y_{isjk}$ | Value of study variable for the $k$ -th sub sample of HHs of $j$ -th PSU in the $i$ -th district     |
| $y_{ijk}$  | Value of study variable for the $k$ -th sub sample of HHs of $j$ -th PSU in the $i$ -th district     |
| $P_r$      | Projected rural population for the state as on 31 July 2005  |
| $h_{ij}$   | Number of sampled habitations for the $j$ -th PSU of the $i$ -th district                            |
| $H_{ij}$   | Total number of sampled habitations for the $j$ -th PSU of the $i$ -th district                      |
| $E_{ij}$   | Number of eligible HHs amongst the listed HHs in the $j$ -th PSU of the $i$ -th district             |
| $e_{ij}$   | Sub sample of eligible HHs amongst in the $j$ -th PSU of the $i$ -th district                        |
| $Y_{ij}$   | Estimate of the study variable for the $j$ -th PSU of the $i$ -th district                           |
| $X_{ij}$   | Population of listed HHs for the $j$ -th PSU of the $i$ -th district                                 |
| $T_{ij}$   | Estimated total population for all habitations of the $j$ -th PSU of the $i$ -th district            |
| $p_{ij}$   | population of the $j$ -th village in the $i$ -th district (given in the sampling frame)              |
| $P_r$      | Projected rural population for the state as on 31 July 2005.   |
| $P_u$      | Projected urban population for the state as on 31 July 2005.   |
| $E_r$      | Estimated value of study variable for the rural area of a state                                      |
| $E_u$      | Estimated value of study variable for the urban area of a state                                      |
| $E_t$      | Estimated value of study variable for the rural + urban area of a state                              |
| $R_r$      | Estimated value of state level proportion of study variable to the total population for rural area   |
| $R_u$      | Estimated value of state level proportion of study variable to the total population for urban area   |
| $N_s$      | Number of FODs in the $s$ -th urban stratum in the sampling design of NSS 61 <sup>st</sup> Round     |
| $n_s$      | Number of sampled FODs in the $s$ -th urban stratum in sampling design of NSS 61 <sup>st</sup> Round |

- n. Total number of sampled FODs in the s-th urban stratum in sampling design of NSS 61<sup>st</sup> Round
- p<sub>i</sub>. population of rural area in the i-th district (to be procured from Census 2001)
- r<sub>i</sub> Number of rural PSUs from i-th district selected for NSS 61<sup>st</sup> Round
- u<sub>i</sub> Number of urban PSUs from i-th district selected from the sample of NSS 61<sup>st</sup> Round
- Y<sub>i</sub>. Estimate of the study variable for the i-th district
- T<sub>i</sub>. Estimated population for the i-th district

## ***II Estimator for Rural Area***

### ***a) Estimation at the PSU level***

Using the notations defined above, we have

$$Y_{ij} = \{(H_{ij} \times E_{ij}) / (h_{ij} \times e_{ij})\} \sum_{k=1} (y_{ijk})$$

$$T_{ij} = (H_{ij}/h_{ij}) \times X_{ij}$$

### ***b) Estimation at District level***

$$Y_i = \{(p_i./u_i) (\sum_{j=1} Y_{ij} / p_{ij})\}$$

$$T_i = \{(p_i./u_i) (\sum_{j=1} T_{ij} / p_{ij})\}$$

### ***c) Estimation at State Level***

$$R_r = (\sum_{i=1} Y_i) / (\sum_{i=1} T_i)$$

$$E_r = P_r \times R_r$$

## ***III Estimator for Urban Area***

The sample design of NSS 61<sup>st</sup> Round stratified urban area of a district into one stratum if the district does not have a town/city with 10 lakh or more population in 2001. Otherwise, separate strata were formed for each city having population 10 lakh or more in addition to the one comprising all the towns/cities each having population less than 10 lakh. Such districts will have two or more strata depending upon number of cities/towns with population 10 lakh or more.

For example, if a district has two cities/towns with population 10 lakh or more, in addition to a number of towns each with population less than 10 lakh. In this case three strata will be formed. The first stratum comprises all FODs of the towns of the district having population less than 10 lakh. The second and third stratum comprises all FODs in the respective two cities.

For estimation purpose, let us assume S strata for a district of which 1-st stratum contains those towns each having less than 10 lakh population and each of the remaining S-1 strata pertains to the S-1 towns/cities with 10 lakh or more population. Subscript s denotes the s-th stratum. N<sub>s</sub> and n<sub>s</sub> respectively denotes total FODs and NSS sample of FODs from s-th stratum.

**(a) Estimation at the PSU level**

If Y<sub>isjk</sub> is the value of the study variable for the k-th sampled hh for the j-th Survey PSU belonging to the s-th stratum for the i-th district.

$$Y_{ij} = \left\{ n \times N_s / n_s \right\} (E_{ij} / e_{ij}) \sum_{k=1} y_{isjk}$$

$$\text{Where, } n. = \sum_{s=1} n_s$$

$$T_{ij} = ( n. \times N_s / n_s ) \times X_{isj}$$

Where, X<sub>isj</sub> is the total population of the listed HHs of j-th PSU belonging to the s-th stratum.

**(b) Estimation at District level**

$$Y_i. = (1/u_i) \sum_{j=1} Y_{ij}$$

$$T_i. = (1/u_i) \sum_{j=1} T_{ij}$$

**(c) Estimation at State Level**

$$R_u = ( \sum_{i=1} Y_i. ) / ( \sum_{i=1} T_i. )$$

$$\text{ii) } E_u = P_u \times R_u$$

**IV Overall Estimates for State level**

The overall state level estimates were arrived by the sum of the estimates for urban and rural areas as follows

$$E_t = E_u + E_r$$

## **ANNEXURE II - *Population Projection***

In order to arrive at the current population for the purpose of estimation, the population of 2001, obtained from the Census of India, was projected for the year 2005. The projection was based on the decadal growth rates between 1991 and 2001. The population was projected as on date 31 July 2005. The growth rate was arrived by compounding the annual growth rate of the decadal population growth rate between 1991 and 2001. The projections were made separately for rural and urban areas of the state wise population from Census of India 2001. For states which were formed out of other states after 1991, *viz.*, Chattisgarh, Jharkhand and Uttaranchal bifurcating the states of Madhya Pradesh, Bihar and Uttar Pradesh respectively, the decadal growth rates of the parent states were taken for compounding the annual growth rates. The Projected population is given in the table D 1 below

**Table D1: Population Projection for 2005**

States	Population 1991			Population 2001			CAGR		Population 2005		
	All	Rural	Urban	All	Rural	Urban	Rural	Urban	All	Rural	Urban
Andhra Pradesh	66,508,008	48,620,882	17,887,126	76210007	55401067	20808940	1.31	1.52	81582111	59137883	22444227
Chandigarh	642,015	66,186	575,829	900635	92120	808515	3.36	3.45	1066723	108680	958044
Delhi	9,420,644	949,019	8,471,625	13850507	944727	12905780	-0.05	4.30	16871754	942588	15929166
Haryana	16,463,648	12,408,904	4,054,744	21144564	15029260	6115304	1.93	4.19	24050253	16540159	7510094
Himachal Pradesh	5,170,877	4,721,681	449,196	6077900	5482319	595581	1.50	2.86	6593217	5907424	685793
Jammu & Kashmir	7,718,700	5,879,300	1,839,400	10143700	7627062	2516638	2.64	3.18	11630762	8687066	2943697
Karnataka	44,977,201	31,069,413	13,907,788	52950562	34989033	17961529	1.20	2.59	57542567	37130550	20412017
Lakshadweep	51,707	22,593	29,114	60650	33683	26967	4.07	-0.76	67081	41127	25954
Punjab	20,281,969	14,288,744	5,993,225	24358999	16096488	8262511	1.20	3.26	26785873	17084398	9701475
Rajasthan	44,005,990	33,938,877	10,067,113	56507188	43292813	13214375	2.46	2.76	64035892	48896185	15139707
Gujarat	41,309,582	27,063,521	14,246,061	50671017	31740767	18930250	1.61	2.88	56195936	34374309	21821627
Daman & Diu	101,586	54,043	47,543	158204	100856	57348	6.44	1.89	200764	137779	62985
Dadra & Nagar Haveli	138,477	126,752	11,725	220490	170027	50463	2.98	15.71	301614	196924	104690
Andaman & Nicobar Islands	280,661	205,706	74,955	356152	239954	116198	1.55	4.48	403837	259160	144676
Kerala	29,098,518	21,418,224	7,680,294	31841374	23574449	8266925	0.96	0.74	33309482	24732647	8576835
Pondicherry	807,785	290,800	516,985	974345	325726	648619	1.14	2.29	1071248	344732	726517
Tamil Nadu	55,858,946	36,781,354	19,077,592	62405679	34921681	27483998	-0.52	3.72	67015566	34027407	32988159
West Bengal	68,077,965	49,370,364	18,707,601	80176197	57748946	22427251	1.58	1.83	87013113	62457260	24555853
Orissa	31,659,736	27,424,753	4,234,983	36804660	31287422	5517238	1.33	2.68	39715554	33418220	6297334
Arunachal Pradesh	864,558	753,930	110,628	1097968	870087	227881	1.44	7.49	1261775	934713	327062
Nagaland	1,209,546	1,001,323	208,223	1990036	1647249	342787	5.10	5.11	2552585	2112768	439817
Manipur	1,837,149	1,331,504	505,645	2166788	1590820	575968	1.80	1.31	2353559	1738843	614716
Mizoram	689,756	371,810	317,946	888573	447567	441006	1.87	3.33	1010437	491051	519386
Maharashtra	78,937,187	48,395,601	30,541,586	96878627	55777647	41100980	1.43	3.01	107560351	59880765	47679586
Goa	1,169,793	690,041	479,752	1347668	677091	670577	-0.19	3.41	1463509	670707	792802
Sikkim	406,457	369,451	37,006	540851	480981	59870	2.67	4.93	624951	548799	76151
Assam	22,414,322	19,926,527	2,487,795	26655528	23216288	3439240	1.54	3.29	29103326	25059556	4043770
Tripura	2,757,205	2,335,484	421,721	3199203	2653453	545750	1.28	2.61	3449158	2828321	620838
Meghalaya	1,774,778	1,444,731	330,047	2318822	1864711	454111	2.58	3.24	2651143	2118477	532666
Madhya Pradesh	66,181,170	50,842,333	15,338,837	60348023	44380878	15967145	1.84	2.77	66926091	48624041	18302050
Chattisgarh				20833803	16648056	4185747	1.84	2.77	23037578	18239742	4797837
Bihar	86,374,465	75,021,453	11,353,012	82998509	74316709	8681800	2.42	2.60	93617740	83746964	9870776
Jharkhand				26945829	20952088	5993741	2.42	2.60	30425343	23610757	6814586
Uttar Pradesh	139,112,287	111,506,372	27,605,915	166197921	131658339	34539582	2.15	2.89	186284267	146449765	39834502
Uttaranchal				8489349	6310275	2179074	2.15	2.89	9532342	7019216	2513126
<b>All India</b>	<b>846,302,688</b>	<b>628,691,676</b>	<b>217,611,012</b>	<b>1,028,710,328</b>	<b>742,590,639</b>	<b>286,119,689</b>			<b>1,137,307,502</b>	<b>808,498,983</b>	<b>328,808,519</b>

**ANNEXURE III**  
**SURVEY SCHEDULES**