53rd Round

53.1.0 The fifty-third round of the NSS was mainly devoted to collection of data on economic and operational characteristics of small trading units (viz. own-account trading enterprises and non-directory trading establishments) in the unorganised sector. In addition, data on consumer expenditure and employment-unemployment for its annual series were collected from a thin sample of households.

53.1.1 **Schedules of enquiry**: The following schedules were canvassed in the 53rd round:

schedule no.	description
0.0	List of households and non-agricultural enterprises
2.41.2	Non-directory Trading Establishments & Own-Account Trading Enterprises
1.0	Consumer Expenditure

53.1.2 **Geographical coverage**: The survey covered the whole of the Indian Union except (i) Ladakh and Kargil districts of J & K, (ii) 768 interior villages of Nagaland situated beyond 5 kms of the bus route and (iii) 195 villages of A & N Islands which remain inaccessible throughout the year.

53.1.3 **Period of survey and sub-division of work**: The survey period was from 1st January 1997 to 31st December 1997. It was divided into four sub-rounds, each of which was of 3 months' duration. An equal number of sample FSUs was allotted to each sub-round. Each village/block was surveyed during the sub-round to which it had been allotted. However, this restriction was not strictly adhered to in A & N Islands, Lakshadweep and in rural areas of Arunachal Pradesh and Nagaland because of difficult field conditions.

53.1.4 **Participation of States**: All the States and U.T.'s excepting A & N Islands, Dadra & Nagar Haveli and Lakshadweep participated at least on an equal-matching basis.

53.2.0 SAMPLE DESIGN

53.2.1 A stratified two-stage sampling design was adopted for the survey. The first-stage units (FSUs) were the villages (panchayat wards in case of Kerala) in the rural sector and UFS blocks in the urban sector. The second-stage units were the OATEs and NDTEs for the trade survey and households for the consumer expenditure survey.

53.2.2 **Sample size**: The total number of sampling units (i.e. villages and blocks) to be surveyed in the present round was fixed at 13,224 for the Central sample and 14,876 for the State sample.

3.2.3 **Allocation of sample FSUs between States/U.T.'s and rural & urban sectors:** The total all-India sample size of FSUs was allocated to different States/U.T.'s in proportion to the number of workers engaged in OATEs/NDTEs in the respective States/U.T.'s (estimated as number of OATE/NDTE as per EC '90 multiplied by estimated number of workers per enterprise based on NSS 46th round) subject to a minimum allocation given to the State/U.T. depending upon the total number of districts and town classes for the State/U.T. The State/U.T. level sample size was again allocated between rural and urban sectors in proportion to the number of workers.

3.2.4 **Rural sector design**

3.2.4.1 **Sampling frame:** The list of villages showing number of OATEs and NDTEs as per 990 Economic Census was used for selection of villages in the States/U.T.'s wherever such a ame was available. For Kerala, Panchayat wards were selected for survey instead of villages. ne EC-90 list of Panchayat wards giving counts of OATEs /NDTEs being used as sampling ame. For J & K, the 1981 census lists of villages formed the frames. For A & N Islands, akshadweep and 5 districts of M.P., the 1991 census list was used as the frame. For A & N lands, villages remaining inaccessible throughout the year were excluded from the frame. For agaland, only villages connected by bus or situated within 5 kms of a bus route were included the frame.

3.2.4.2 **Stratification:** Each district generally formed a broad stratum. However, for Gujarat, here NSS regions cut across district boundaries, parts of each such district formed a separate ratum. If any district (or part thereof lying in an NSS region in case of Gujarat) had a small mber of trading enterprises, it was clubbed with neighbouring districts to form a broad stratum order to ensure a minimum allocation.

3.2.4.3 To net an adequate number of NDTEs in the sample, each broad stratum was divided to two area types:

(i) Area type 1 consisting of villages having at least one NDTE.
(ii) Area type 2 consisting of the remaining villages of the broad stratum.

here population census frames were used for selection of FSUs, there was no division as ove. In such cases, all the villages were classified in area type 2.

2.4.4 **Allocation of sample villages among strata and area types:** The State/U.T. level ral sample size was allocated among the strata in proportion to workers. While allocating as ove, it was ensured that NSS-region-level allocation was a multiple of 8 and stratum-level location was at least 4 but a multiple of 2. This was done in order to allocate at least two FSUs each of the area types. The stratum-level allocation was again distributed between two area pes in proportion to number of NDTEs and OATEs taking into consideration the fact that location for each area type was in multiples of 2.

2.4.5 **Selection of FSUs:** Villages were selected in the form of two independent sub-samples m each broad stratum X area type using circular systematic sampling with probability proportional to size, the size being the number of (OATEs + NDTEs) for area type 1 and the number of

OATEs (after assigning a size of 1 to the FSUs having no trading enterprise) for area type 2. Where population census frames were used, villages were selected using circular systematic sampling with probability proportional to population.

53.2.5 Urban sector design

53.2.5.1 **Sampling frame:** The latest available list of UFS blocks was used as sampling frame for selection of FSUs's for all cities and towns.

53.2.5.2 **Stratification:** Town classes (broad strata) were formed within each district by grouping cities/towns according to population size as per 1991 census. Composition of the town classes were as follows:

town class code	composition of town class
1	all towns with population less than 1 lakh
2	all towns with population 1 lakh or more but less than 5 lakhs
3	all towns with population 5 lakhs or more but less than 10 lakhs
4/5	each city with population 10 lakhs or more

In case of Gujarat, if any district was spread over more than one NSS region, town classes were formed independently for each part of a district falling within a particular NSS region.

53.2.5.3 To get an adequate number of trading enterprises in the sample, each town class was divided into two area types. Area type 1 consisted of the UFS blocks designated as 'bazar area' and area type 2, the remaining blocks of the town class.

53.2.5.4 **Allocation of sample blocks among districts, town classes and area types:** T State/U.T. level urban allocation was done among the districts and town classes in proportion the number of workers. It was, however, ensured that NSS region-level allocations were multiples of 8 and town-class-level allocations were at least 4 and were in multiples of 2. Tc class level allocations were further made between two area types in such a way that UFS blc of area type 1 got completely surveyed (Central and State samples combined) subject t maximum of 50% of allocation at town class level. Area-type-wise allocations were in multi of 2.

53.2.5.5 **Selection of blocks**: For both area types, sample blocks were selected circ systematically in the form of two independent sub-samples with equal probabilities.

53.2.5.6 The allotted numbers of sample first stage units (FSUs) along with surveyed F hoseholds and persons are shown in Table 53S by state and sector.

Table 53S: Number of villages/blocks allotted and surveyed and number of sample households and persons surveyed

State/u.t.	number of				number of surveyed			
	villages		blocks		households		persons	
	allotted	surveyed	allotted	surveyed	rural	urban	rural	urban
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Andhra Pradesh	488	478	450	450	1877	1798	7674	7818
Assam	224	218	160	156	854	620	4453	2731
Bihar	536	531	456	456	2022	1823	10619	9509
Gujarat	216	215	378	378	843	1512	4121	7363
Haryana	112	111	200	200	444	787	2440	3883
Karnataka	318	318	372	372	1257	1486	6239	6821
Kerala	*315	314	185	185	1255	740	5842	3525
M.P.	464	463	520	520	1806	2061	9145	10491
Maharashtra	390	385	768	768	1535	3065	7411	14503
Orissa	392	392	256	256	1499	1023	7066	4633
Punjab	144	144	312	311	554	1236	2985	5777
Rajasthan	296	296	384	384	1167	1528	6302	7760
Tamil Nadu	488	483	624	624	1828	2488	7147	10075
U.P.	744	743	1120	1118	2928	4464	15881	24258
West Bengal	512	503	384	384	1987	1533	9710	6644
North-eastern	216	212	208	200	832	793	3896	3541
North-western	136	121	304	288	459	1110	2192	4688
Southern	64	64	88	87	248	348	1217	1458
All-India	6055	5991	7169	7137	23395	28415	114340	135478

*Figures denote number of panchayat wards

53.2.6 **Sampling of households**: Four households were selected from each FSU for Schedule 1.0. All the households of the selected village/block were first arranged according to their means of livelihood and then 4 of them were selected circular systematically with equal probability. Sch. 1.0, type 1, was canvassed in the households selected from the FSUs with odd sample FSU nos.(i.e. odd order of selection nos.) and sch 1.0, type 2, was canvassed in the households selected from FSUs with even sample FSU number (i.e. even order of selection).

53.3.0 Estimation procedure

53.3.1 Notation:

s = subscript for stratum.
t = subscript for area type ; t= 1,2.
b = subscript for sub-sample ; b= 1,2.
i = subscript for sample village/block (FSU).
Z = total size for an area type (or for a stratum when there is no area type formation).
z = village/block size used for selection.

n = number of sample villages/blocks surveyed including uninhabited and zero cases and excluding casualty and other not received cases (used for tabulation).

H = total number of households listed in a village/block.

h = number of households surveyed (used for tabulation) in a village/block.

y = value of any character under estimation in a sample village/block/enterprise /household.

$\hat{Y}$ = estimate of population total of the character Y.

53.3.2 **Formulae for estimation**

53.3.2.1 For both schedule types,

$$\hat{Y}_{sb} = \sum_{t} \frac{Z_{st}}{n_{stb}} \sum_{i=1}^{n_{stb}} \frac{1}{z_{stbi}} \frac{H_{stbi}}{h_{stbi}} \sum_{k=1}^{h_{stbi}} y_{tbik}$$

Note:

1) For rural sector, $\hat{Y}_{sb}$ is the estimate at the district level and for urban sector, $\hat{Y}_{sb}$ is the estimate at the town class level based on sub-sample b.

2) Value of z_{stbi} =1 for urban sector and for rural sector of Jammu & Kashmir, and of Andaman & Nicobar Islands.

53.3.2.2 **Estimate for the aggregate:** Pooled estimate $\hat{Y}_s$ based on two sub-samples was obtained as

$$\hat{Y}_s = \frac{1}{2} \sum_{b=1}^{2} \hat{Y}_{sb}.$$

The pooled estimate $\hat{Y}$, at the region/State/U.T./all-India level, may be obtained by summing the stratum estimates $\hat{Y}_s$ over all the strata for the region/State/U.T./all-India.

53.3.2.3 **Ratio estimates:** The estimate of the ratio $R = \frac{Y}{X}$ (where X = the population total of an auxiliary variable) was given by $\hat{R} = \frac{\hat{Y}}{\hat{X}}$. The ratio was computed at the last step after separately estimating X and Y.

53.3.2.4 **Formulae used for calculating RSEs**: Same as 52.4.8.