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Measurement of Household Socio-Economic Status*

SOCIO-economic status influences attitudes, values and behaviour of individuals within societies and in each of its strata. It, therefore, forms an important basis of social research. Measurement of socio-economic status (SES) has assumed paramount importance in recent times, especially in any work related to the study of knowledge, attitudes and practices (KAP) of people. The study of their KAP deserves to be given due importance in planning, implementation and evaluation of development. However, a problem arises relating to a viable measurement of socio-economic status. This involves the formulation of a suitable scale.

Many different scales have been formulated for the measurement of SES of individuals in a population. The items selected as the constituents of SES differ greatly among them. Even the relative importance assigned to different constituents in the scoring pattern differ from scale to scale.

The commonly used SES scales are :

Socio-economic status scale for urban families by Kuppuswamy (1962) where the three variables i.e. education, occupation and income have been given differential weights.

Socio-economic status scale for rural families by Pareek and Trivedi (1965) includes occupation, education and social participation of the head of the family, the caste of the family, their land, house, farm and material possessions, and the characterisation of family (which includes the type, size and distinctive features of the family). These items relating to both the head of the family and the family itself, have been graded.

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Six of the existing classifications of socio-economic status, including the one by Kuppuswamy, have been critically examined in the working document on socio-economic classification in research schemes (ICMR, 1966). It is seen that occupation, total family income, education and caste have been used in different scales. Further, most scales use information related to 'head of the household' or the 'respondent' in respect of education and occupation.

In a study by Nutrition Foundation of India (1984), an index for educational status of the family is used. They have considered a person with education upto secondary school level as educated and the proportion of educated adults among all adults (aged 15 years or above) in the family has been treated as an indicator of the educational status of the family. The families with not even a single educated member were said to be "low educational status families" while those with more than half educated members were termed as "high educational status families."

We have attempted to develop a socio-economic status index for the household as a unit giving due weightage to the different socio-economic attributes of individuals in the household.

However, our sample consisted of both rural and urban households and so only the aspects which were common and did not interfere in the classification of socio-economic status were taken into account and a scale was developed for the measurement of SES of households.

Sample

The sample is drawn from the rural and urban areas of union territory of Delhi, covering a total of 493 households. It was considered adequate to include about 10% of the residential households from village/area selected for the study. Further selection of the households was done by using the random numbers table. In rural areas care was taken that the sample covered all caste groups proportionately.

However, the sample selection in the present study is limited by the availability of health infrastructure and ICDS services to the rural population or the urban poor sectors and the selection of households was further restricted to the respondents/families having pre-school or primary school age children. The measurement of SES separately for the urban and the rural areas is preferable but our study required that we use one scale for both the urban and rural sample.

The sample consisted of the following groups :

(I) Rural sample belonging to Najafgarh block (131 households).

(II*) Urban sample from Nandnagri and Trilokpuri ICDS projects (221 households).

*The sample in this group was drawn from two different areas—Trilokpuri ICDS project covering 81 households from resettlement colonies and Nandnagri ICDS project covering 140 households from the urban and a urbanising village treated as census town in 1981.

(III) Rural sample belonging to Mehrauli block (60 households).
(IV) Rural sample from Alipur block covering 81 households.

Methodology

After the selection of sample, data relating to the study were collected by interview method. Initially it was proposed to include—caste, educational status of the household, occupation, per capita income and the type of house for computing the SES of households. Occupation and housing were, however, deleted because of the difficulty in their objective classification.

Regarding education, it was felt that the educational status of the family as a whole will be a better index than the educational status of only the head of the household or the respondent or respondents' husband or a combination of these. It is beyond doubt that the education of all members of the household has a greater impact on different aspects of life as compared to that of an individual member or a few members of the household. Our index, accordingly, represents the average educational status of the household based on the literacy level of all adults aged 15 years and above. Since this gives due weightage to the educational level of individual members, it is neutral to variation in their size and age structure among households.

Similarly, in place of total household income, per capita monthly income has been used. In view of variation in family size, per capita income is a better measure than the total income.

It has been observed that caste also affects the knowledge, attitudes and practices to some extent especially among the families with lower income and education. Therefore, this has been included as one of the factors in the measurement of socio-economic status.

Thus, the average educational status, per capita income and caste were taken to determine SES of the households. Scores were assigned to each of these items which were merged to obtain the SES score.

Then, the range of the total scores was divided into four equal parts covering 25% of it (range) as described later. These were designated as lower SES, lower-middle SES, middle SES and upper-middle SES. While deciding these categories, care was taken that each household could be placed only under one category and that one score of none of them could be covered under more than one category. (Selltiz *et al.* 1959; Rogers, 1962; Trivedi and Pareek, 1964).

Based on the sample testing, following scoring and categorization pattern was used for computing SES of the households :

(a) *Per capita monthly income*	*Score points*
BelowRs.75/-	1
Rs. 75 < Rs. 100/-	2
Rs. 100 < Rs. 150/-	5
Rs. 150 < Rs. 200/-	7
Rs. 200 and above	9

In the present scale, the households below poverty line (the first two categories) have been given a lower score because they cannot even meet the basic necessities oflife (food, clothing and shelter) and hence their social and economic participation is limited. The next higher category (Rs. 100-150 p.m.) is assumed to maintain a certain standard of living and participate in the economic, social and development activities. Thus there is a significant gap between these two categories. Hence, a higher score has been allotted to the latter group.

(b) Caste	*Score points*
Scheduled caste	1
Lower caste	2
Artisan caste	3
Upper caste	5

Since higher prestige and social participation are associated with upper castes, these have been given a higher score in comparison to artisan and lower caste groups. In the case of Muslims, social caste grouping was done on the basis of their traditional occupation and they were placed in the groups equivalent to the corresponding caste groups in Hindus. In the case of Christians this was done on the basis of their caste before conversion. Thus the households belonging to these religions were classified under lower, artisan or upper castes.

(c) *Average educational itatus of the household*
(Members aged 15 years and above)

Total score was obtained as follows :

(i) Members, illiterate	1
(ii) Members, literate-primary	4
(iii) Members, middle school (VI-VIII)	7
(iv) Members, high/Sr. Sec. School (IX-XII)	10
(v) Members, B A. part-I and above	12

The numbers obtained for these five categories were added to obtain the total score. The average educational status of the household was obtained by dividing this total by the number of members 15+.

For the determination of social-economic status, the score points obtained for all the three, i.e., per capita monthly income, caste and average educational

status of the household members aged 15 years and above were added up. The total range i.e. 3-26, was divided into four categories using the following scale.

Categorization Scale was devised in which the difference between the minimum and the maximum scores of the said range was obtained and further divided into four equal parts. To form categories, the minimum score in the range was added to the values calculated above. Thus the following four groups of SES were obtained :

Lower SES	—	3 to 8.75
Lower-middle SES	—	8.75 to 14.50
Middle SES	—	14.50 to 20.25
Upper-middle SES	—	20.25 to 26

Findings and Discussion

In the present study, an attempt has been made to develop a scale for the measurement of SES of households using per capita income, caste and average educational status of the household members aged 15 years and above. In doing so, a differential priority has been given to these constituent factors giving the highest to education, followed by income and then by caste.

Studies show that in some of the older scales of socio-economic classification, occupation/income have been used as the lone indicators (classification of International Labour Office, 1958, adopted by Ministry of Labour and Employment, Govt. of India, 1960; Prasad B. G., 1961; and the ICMR's socio-economic classification used in studies on Growth and development of Indian infants and children). Income followed by occupation has been given the top priority in the classifications by Kuppuswamy (1962) and ICMR (SES classification by statistical section of ICMR, 1964). Education though included in both of these scales has been kept at the third place. In ICMR scale, in addition to the above three factors, caste has also been included which has been given the lowest priority.

However, these studies were conducted about 25 to 30 years back when the literacy level in India was very low (16.7% in 1951), particularly that of women (7.9% in 1951). The position in the rural areas was worse. Over the years the socio-economic scene in our country has undergone a rapid change. Census figures of 1981 reflect an increase in the total (36.2%) and the female (24.8%) literacy levels both in the urban and rural sectors,

Recent studies have established the importance of education over income and caste. Gopalan (1983) has compared the birth, death, infant mortality and the child mortality rates in four of the Indian states (Kerala, Punjab, Uttar

Pradesh and Bihar). The study revealed that these health indicators reflect a much better picture in Kerala (a state with high education level especially that of women but economically poor) than Punjab (a state with higher income but low education level). However, the situation was still disappointing in Uttar Pradesh and Bihar (the states low in both income and education). Importance of education is seen from studies of Jain (1985), Singh *et al.* (1985), and Pathak and Murty (1985).

Thus, based on the scoring and categorisation procedures described earlier, results of the present study have been presented in Table 1.

TABLE 1—DISTRIBUTION OF THE SAMPLE BY SOCIO-ECONOMIC STATUS (SES)

Group	*N*	*Lower SES*		*Lower-Middle SES*		*Middle SES*		*Upper-Middle SES*	
		No.	%	*No.*	%	*No.*	%	*No.*	%
I	131	27	20.6	37	28.2	49	37.4	18	13.8
II	221	55	24.9	79	35.7	68	30.8	19	8.6
III	60	15	25.0	28	46.7	14	23.3	3	5.0
IV	81	13	16.1	35	43.2	24	29.6	9	11.1
Total	493	110	22.3	179	36.3	155	31.5	49	9.9
Mean Score −13.2		S.D. −5.2		SE −0.235		χ^2 −14.39		$p < .109$	

N — refers to the sample size.

On application of Chi-square test, the differentials among the different groups were not found significant even at 10% level showing a considerable homogeneity.

A closer look at the sample showed that in Group II, a majority of the households belonged to urban resettlement colonies and urban slums and in Group III, part of the sample (about one-fourth) belonged to very low SES as majority of them were labourers in stone cutting.

Since the mean, mode and median are affected greatly by this large proportion of low SES households in the said two groups, it was felt desirable not to use the classifications which are directly influenced by these statistical norms but to carry out equal division/distribution of the range (range of scores) independent of them. However, classification of the data by Mean ± SD; Median ± SD and percentile groupings was also studied. Distribution of the total sample (*N*—493) by all the four methods of classification has been compared in Table 2. As the model value of the sample was very low (7.00), classification could not be based on this.

Personal observations during the field work and manual checking of the

TABLE 2—DISTRIBUTION OF SAMPLE BY SOCIO-ECONOMIC STATUS USING DIFFERENT METHODS OF CLASSIFICATIONS

Method of Classification	*N*	*Lower SES*		*Lower middle SES*		*Middle SES*		*Upper middle SES*	
		No.	%	*No.*	%	*No.*	%	*No.*	%
(a) *Mean and SD*									
Range of scores		3 < 8.00		8.00 < 13.2		13.2 < 18.42		18.42 to 26	
Distribution of sample	493	87	17.65	167	33.87	143	29.01	96	19.47
(b) *Median and SD*									
Range of scores		3 < 7.1		7.8 < 13.0		13.0 < 18.2		18.2 to 26	
Distribution of sample	493	87	17.65	155	31.44	152	30.83	99	20.08
(c) *Quartlies*									
Range of scores		3 < 9.00		9.00 < 13.0		13.0 < 17.27		17.27 to 26	
Distribution of sample	493	112	22.72	130	26.37	128	25.96	123	24.95
(d) *Equi-division of the range*									
Range of scores		3 < 8.75		8.75 < 14.5		14.5 < 20.25		20.25 to 26	
Distribution of sample	493	110	22.31	179	36.31	155	31.44	49	9.94
Mean -13.2	Mode -7		Median -13.0		SD -5.22				

sample households done indicated that a majority belonged to lower and lower-middle SES and only about 10 to 12% households were covered under upper-middle SES.

A clearer picture is reflected by method (d) (Equi-division of the range) wherein around 59% of the population falls under lower and lower-middle SES groups and about 41% under middle and upper-middle SES groups, of which only 9.9% fall in the upper-middle SES group. Thus through method

(d), the findings perfectly matched with the estimates (approximately 10-12%) and this method was therefore used in the present study. Analysis of the data through methods (a), (b) and (c) reflected a much different picture than the actual estimates/observations and were hence discarded.

The method adopted was further tested through a detailed study of the two extreme categories i.e. the low SES and the upper middle SES. The data clearly indicate apparent discriminations between these two categories as a whole and within the sample from different groups of study. Similar differences were observed in each of the constituent factor of SES, i.e., education, income and caste.

When 't' test was applied for the households from the lower and upper-middle SES categories, it indicated a highly significant difference ($p < ,001$) in respect of overall SES and all the constituent factors, indicating th at this classification has a discriminating power between the SES of households.

Hence this method can be tried for socio-economic classification of households in research studies, especially in case of KAP studies. However, this is just an exploratory attempt for the purpose of the present study and we need to further standardise these procedures by studying a larger sample.

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References

1. Census of India, 1981, Progress of Literacy 1901-1981, Census of India 1981, series I, paper 2 of 1983, Registrar General and Census Commiisioner, Govt. of India, p. 15.
2. Gopalan, C., 1983, Development and deprivation—the Indian experience, Paper presented at the Fourth Asian Congress of Nutrition,'Bangkok, also published in Nutrition and Health Care—Problems and Policies, special publication series I, Nutrition Foundation of India, New Delhi, p. 33-50.
3. I.C.M.R., 1966, Working Document on Socio-Economic Classification in Research Schemes, Indian Council of Medical Research, New Delhi (Mimeographed).
4. Jain, Anrudh, 1985, Determinants of regional variations in infant mortality in rural India, Population Studies (printed in Great Britain), 39, 407-424.
5. Kuppuswamy, B., 1962, Mannual of Socio-Economic Status Scale (Urban), Publ. Manasayan, Delhi, 16 pp.
6. Nutrition Foundation of India, 1984, Infant feeding practices with special reference to the use of commercial infant foods, NFl Scientific report—4, p. 12.
7. Pareek, Udai and Trivedi, G., 1965, Manual of Socio-Economic Status Scale (Rural), Publ. Manasayan, Delhi, 24 pp.

8. Pathak, K. B. and Murty, P. K., 1985, Socio-economic determinants of fertility and mortality decline in India, *Demography India*, **14** (1), 17-32.
9. Planning Commission, 1981, *Sixth Five Year Plan*, Planning Commission of India, Govt. of India.
10. Prasad, B. G., 1961, *Working Document on Socio-Economic Classification in Research Schemes*, Indian Council of Medical Research, New Delhi (Mimeographed).
11. Rogers, E. V., 1962, *Diffusion of Innovations*, New York, c.f. Trivedi G. and Pareek, Udai, 1964, Categorization of rural socio-economic groups, *Indian Journal of Social Work*, 24(4), 297-304.
12. Selltiz, *et al.*, 1959, *Research Methods in Social Relations*, New York, c.f. Trivedi, G. and Pareek, Udai, 1964, Categorization of rural socio-economic groups, *Indian Journal of Social Work*, 24(4), 297-304.
13. Singh, S. N., Singh, B. N. and Singh, R. B., 1985, Some socio-economic characteristics of fertility, *Demography India*, 14(2), 204.212.
14. Trivedi, G. and Pareek, Udai, 1964, Categorization of rural socio-economic groups, *Indian Journal of Social Work*, 24(4), 297-304.