

Appendix A Estimation Procedure

A.1 Notations:

s = subscript for s-th stratum

t = subscript for t-th sub-stratum

m = subscript for sub-sample (m =1, 2, 3)

i = subscript for i-th FSU [village (panchayat ward)/ block]

d = subscript for a hamlet-group/ sub-block (d = 1, 2)

j = subscript for j-th second stage stratum in an FSU/ hg/sb [j = 1, 2 or 3]

k = subscript for k-th sample household under a particular second stage stratum within an FSU/ hg/sb

a = subscript for a-th slum (whole or part) found within the urban FSU

D = total number of hg's/ sb's formed in the sample FSU

$D^* = 0$ if $D = 1$

= (D – 1) for FSUs with $D > 1$

N = total number of FSUs in any urban sub-stratum

Z = total size of a rural sub-stratum (= sum of sizes for all the FSUs of a sub-stratum)

z = size of sample village used for selection.

n = number of sample FSUs surveyed including 'uninhabited' and 'zero cases' but excluding casualty for a particular sub-sample and sub-stratum.

L = total number of slums (whole or part) found within the sample urban FSU.

b = total number of UFS blocks intersecting the slum.

H = total number of households listed in a second-stage stratum of an FSU / hamlet-group or sub-block of sample FSU

h = number of households surveyed in a second-stage stratum of an FSU / hamlet-group or sub-block of sample FSU

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

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

Under the above symbols,

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

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

A.2 Formulae for Estimation of Aggregates for a particular sub-sample and stratum × sub-stratum:

A.3 Schedule 0.0:

A.3.1 Rural:

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