7.5 AVERAGE ARTI IN INDIA

As stated in the preceding pages, the country was divided into four exclusive and exhaustive zones for the purpose of the survey, each having approximately the same population. The survey in each zone was conducted independently keeping the methodology same in all the zones. The sampling methodology as well as the sample size was decided with the objective of providing an independent estimate of prevalance of infection among children 1-9 years of age for each zone with the corresponding standard error. The estimation of prevalance of infection to compute ARTI at the national level is a post survey exercise and hence may have its inherent limitations. The national estimate of prevalance was obtained by pooling the zonal estimates by providing appropriate weights. In this context, the sampling methodology adopted for the survey on the whole approximated to a stratified sampling strategy. The four zones of the country, considered as the strata, together constituted the nation and the zones had been so formed that each one constituted a compact stratum.

The estimates of prevalence of infection from the rural areas of four zones were pooled together to obtain a national level estimate for rural areas, as under:

$$P = \sum_{i=1}^{4} w_i p_i$$

where P is the prevalence at national level, p_i is the estimated prevalence for the ith zone and w_i is the corresponding weight - proportion of the rural population in the ith zone out of the total rural population in the country. The Standard Error (S) was estimated as under:

$$S = \sqrt{\sum_{i=1}^{4} w_i^2 s_i^2}$$

where s, is the standard error for the ith zone.

The prevalence of infection with standard error in urban areas of the four zones were also estimated in the same manner.

The rural and urban estimates of prevalence of infection at the national level were similarly pooled to obtain the overall national estimate.

The estimations were carried out as above, by pooling the zonal level estimates that

	Prevalence (%)		ARTI (%)	
	Method I	Method II	Method I	Method II
Rural	7.0	6.8	1.3	1.3
	(6.2-7.8)	(5.6-7.9)	(1.2-1.5)	(1.0-1.5)
Urban	11.6	11.4	2.2	2.2
	(9.9-13.2)	(9.4-13.4)	(1.9-2.5)	(1.8-2.6)
Total	8.2	7.9	1.5	1.5
	(7.4-8.9)	(7.4-8.5)	(1.4-1.7)	(1.4-1.6)

were obtained by cut-off point method (Method I) as well as by mirror-image technique (Method II). The resultant national estimates are as under:

(): 95% confidence interval