## A-28: Malaria risk factors in an endemic area of southern Sri Lanka

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A malaria epidemiological study was conducted in eight contiguous villages in Kataragama (a malaria endemic region of southern Sri Lanka) for 18 months from January 1992 to June 1993. The study area comprised a population of 1,875, resident in 471 houses. The houses and other landmarks in the area were mapped and the malaria incidence was monitored in every resident over this period by microscopic examination of blood films by passive case detection and by 6 mass blood surveys conducted at regular intervals.

There was significant association between the malaria risk of the inhabitants and the house construction type. The risk of malaria to individuals living in houses of poor construction type (as determined by the quality of the roof and

wall) was 1.23 infections per person during the 18 month period. The risk was 2.5 fold higher than in those living in houses of good construction type (95% confidence limits - 2.19, 2.93).

The location of the two types of houses in relation to the source of water such as river, rivulets, small streams and permanent water bodies which can constitute breeding places of the vector mosquito was analysed using Geographic Information Systems. The distribution of the poor and good house types were not significantly different with respect to their distance from 'water'. Among the poorly constructed houses, the risk of malaria increased significantly as the distance from the 'water' decreased (Spearman $r = -0.33$; $p = 0.0001$).

These findings indicate that the situation of the house in relation to 'water' constitutes an additional risk for inhabitants of "poorly" constructed houses but not for those with "good" house types.