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Anthropo-ecosystem and Change of Environment Compounding Malaria Out Break in North Lakhimpur District, Assam, Bordering Arunachal Pradesh

P. Dutta, A. M. Khan, S.A. Khan, D. Biswas, N.C. Hazarika and J. Mahanta

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ABSTRACT An investigation of malaria outbreak was carried out in North Lakhimpur district, Assam, during the month of June, 1999. The affected areas are foot-hills bordering Arunachal Pradesh. Study population are mostly landless migrants newly settled from the adjoining districts of Assam. Apart from agriculture, the people also engage in forest related activities. A total of 342 subjects were clinically examined and peripheral blood samples were taken, out of which 131 were found positive for malaria showing SPR of 38.3. *Plasmodium falciparum* was the predominant infection forming Sfr of 25.14. All the age groups and sex were found affected with malaria and the positivity was significantly high in the age group 0 to 10 yrs in comparison to other age groups. A comparison of malaria prevalence in foot-hill and non foot-hill area population depicts that prevalence of malaria is prominent in the foot-hill population. Among migrants, malaria cases are common as many of them involve in forest related activities and use to stay overnight in hutments which facilitates man vector contact immensely. In entomological survey, the recognized malaria vector, *An minimus* was detected and per trap night density was recorded to be 15.5 in Bijuli Basti and 11.0 in Gonnadi area. This vector was found breeding in slow moving streams and irrigation channels. The retrospective data analysis of NAMP reveal that the two PHCs namely, Boginadi and Nowboicha which are under current epidemic have shown high API during the preceding years (1994-98). An increasing trend of slide positivity rate has been demonstrated from January to April 1999. Due to inadequate rain fall in the previous months (March-May, 99), the streams flowing down from the Arunachal hills became very slow moving in the vicinity of the affected areas facilitating profuse breeding of vector mosquito, *An minimus* which is presumed to have compounded the factor.

Authors' Address: P. Dutta, A. M. Khan, S.A. Khan, D. Biswas, N.C. Hazarika and J. Mahanta,
Regional Medical research Centre, NE Region, (ICMR), Post Box # 105, Dibrugarh
786 001, Assam, India