

Title: Human activities as a contributory factor in the creation of larval habitats for *Anopheles gambiae* in Kisian, Western Kenya

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Abstract: Larvae of *Anopheles gambiae* inhabit small water bodies that are often numerous, scattered, sunlit, turbid, temporary, and generally close to human habitations. The productivity of these habitats for adults is poorly known, moreover, little is known about human contribution to habitat existence. This study aimed at determining the impact of human activities on *An. gambiae* s.l productivity in the study area. The potential larval habitats within the study area were surveyed and mapped. A subset of them (34) was selected for daily, longitudinal sampling using maximum density area sampling and census methods, during a period of 25-days in the short rainy season. The results of this study show that larval habitats of *An. gambiae* s.l. can be located and mapped relative to land use, and their origin relative to anthropogenic activity determined. There were variations in overall mosquito production; with burrow pits being the most productive ( $\chi^2=219.03$ ,  $p<0.0001$ ) while hoof prints, although commonly occupied by larvae ( $\chi^2=21.91$ ,  $p<0.0001$ ), did not produce any single pupa during the entire study. Human activities contribute significantly in the creation of *An. gambiae* s.l larval habitats ( $\chi^2=36.37$ ,  $p<0.0001$ ), because the community has uses for the habitats and are valued. The results suggest that ovipositing females do not discriminate well among productive or stable habitats, and that larval mortality mediates pupal production. A clear understanding of the human activities in malaria endemic areas is essential in formulating larval control interventions that are acceptable to the community and sustainable.