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1107-37-76   **MOUSSA DOUMBIA*** (doumbiassa@gmail.com), MD. *Malaria Incidence and Anopheles*
Mosquito Density in Irrigated and Adjacent Non-Irrigated Villages of Niono in Mali

In this paper, we extend the mathematical model framework of Dembele *et al.* and use it to study malaria disease transmission dynamics and control in irrigated and non-irrigated villages of Niono in Mali. As case studies, we use our "fitted" models to show that in support of the survey studies of Dolo *et al.*, the mosquito density in irrigated villages of Niono is much higher than that of the adjacent non-irrigated villages. Many parasitological surveys have observed higher incidence of malaria in non-irrigated villages than in adjacent irrigated areas. Our "fitted" models support these observations. That is, there are more malaria cases in non-irrigated areas than the adjacent irrigated villages. In addition, we use the extended "fitted" models to determine the drug administration protocols that lead to fewest first episode of malaria in both irrigated and adjacent non-irrigated villages of Niono during the wet season.