1145-97-1619   **Josephine Wairimu Kagunda*** (`jwndirangu@uonbi.ac.ke`), School of Mathematics, University of Nairobi, P.O. Box 30197-00200, Nairobi, 254, Kenya, and **Faraimunashe Chirove**, **Marilyn Chepkrui Ronoh** and **David Malonza**. *Modeling the effects of insecticides resistance on malaria vector control in endemic regions of Kenya.*

We present a model to investigate the effects of vector resistance to control strategies. The model captures the development of resistance as well as loss of resistance in mosquitoes and how these affect the progress in malaria control. Important thresholds were calculated from mathematical analysis and numerical results presented. Mathematical results reveal the existence of the disease free and endemic equilibrium whose existence and stability depends on the control reproduction number, $\mathcal{R}_c$. The disease persist when the $\mathcal{R}_c > 1$ and dies out when $\mathcal{R}_c < 1$. Control strategies use and adherence needs to be highly efficacious to thwart the effects of insecticides resistance. Moreover, it is not enough to just eradicate resistant mosquitoes. (Received September 23, 2018)