1147-37-267   **Miranda I Teboh-Ewungkem***, Department of Mathematics, Christams Saucon Hall, 14 East Packer Ave, Bethlehem, PA 18015, and **Gideon A Ngwa** (`akumhed@yahoo.com`), Buea, South West PO. Box 63, Cameroon. *Reproductive gains in a stage-structured model for the dynamics of malaria transmission with human treatment and adult vector demographics.*

Indirectly transmitted diseases involve interaction among various population groups. For the case of mosquito-borne diseases, these population groups are the mosquitoes responsible for transmitting the disease-causing pathogens from one human or animal to another, the pathogen that causes the disease and the human and/or animal populations impacted by the disease. Most often, the focus is on transmission of the pathogens or the pathogens themselves, with little focus on the life-style attributes and reproductive gains that accrue to the vector population as a result of their interactions with the human and animal populations. In this talk, I will highlight the important role of the vector in disease transmission, with malaria as an example, and illustrate that epidemiological models could have a greater predictive power if the models capture and measure the reproductive gains that accrue to the population of the disease transmitting vectors as a result of their interaction with the humans or animals. (Received January 15, 2019)