This paper employs the discrete choice experiment method to estimate the benefits of improved wastewater treatment programs to mitigate the impacts of water pollution in Nairobi, Kenya. Urban and peri-urban farmers who use wastewater for irrigation from Motoine to Ngong River in Nairobi were randomly selected for the study. A random parameter logit model was used to estimate the individual level willingness to pay for the wastewater treatment before reuse in irrigation. The results show that urban and peri-urban farmers are willing to pay significant monthly municipality taxes for treatment of wastewater. We find that the quality of treated wastewater, the quantity of treated wastewater and the riverine ecosystem restoration are significant factors of preference over alternative policy designs in reduction of water pollution.