

# On the Slopes of Mt. Kenya

## Doctoral graduate student Camille Washington-Ottobre describes her work in East Africa.

I am thrilled to contribute to the current PCCRC newsletter from my research site in Embu, on the slopes of Mt. Kenya (Kenya). Here are a few insights on the goals of my research as well as on my field experience in rural Africa. Dr. Bryan Pijanowski, my principal advisor, and I developed my PhD project as part of the NSF Biocomplexity of the Environment-funded project called Climate Land-Use Interaction Project (CLIP). CLIP employs a variety of methods in order to study the dynamic interactions between regional climate and land-use changes in East Africa. The goal of my research within CLIP is to analyze the effects of climate change on local agrosystems.

My PhD project focuses on East Africa because current scientific literature underlines the vulnerability to climate change of Sub-Saharan agrosystems due to a heavy reliance on subsistence agriculture and limited access to adaptation technologies. In addition, climate simulations show changing rainfall patterns and temperatures on Kenyan highlands. Using an integrated methodology, my plan is to examine the effects of climate change and variability over time (1918-2050) and across space from the household to the landscape level. My four study sites are spread over the slopes of Mt. Kenya and represent a variety of climatic conditions, from humid to semi-arid. By combining life stories interviews, archival work, key informant interviews, focus groups, surveys on social networks and participation, role-playing games, a neural network model, and an agent-based model, this work analyzes the adaptive capacity of agrosystems to climate change and variability.



David and Rose (my research assistants) and I enjoying the fresh air of the tea zone in Ndunduri.

*“After those first few months of field work, I do feel that I have acquired a solid understanding of the agrosystems on the slopes of Mt. Kenya, but I also discover new depths to the local complexity after each interaction with local farmers.”*

*-Camille*



This integrated analysis over time and across space aims to clarify adaptation processes and identify the role of land-use diversity, social networks, and local institutions in both short-term coping strategies and long-term adaptations. This work attempts to contribute to the on-going debate surrounding two of the major challenges within the field of Human Dimensions of Global Environmental Changes: uncertainty and complexity. Indeed, this research will offer an empirical study combining various methodologies and disciplinary frameworks to address the uncertainty and complexity related to the question of adaptation to climate change.

In order to put this plan into action, one of my biggest challenges was finding funding sources to finance 8 months of field work in Kenya. I was able to leave for Kenya in July, 2008 thanks to the National Science Foundation Doctoral Dissertation Research Improvement Grant, the Social Science Research Council Dissertation Proposal Development Fellowship, the Andrews Environmental Travel Grant, and the Department of Forestry and Natural Resources. I began my field experience (fortunately accompanied by my husband!) by taking a 35-hour plane-trip to Jomo Kenyatta International Airport in Nairobi. Upon our arrival, a mini-van was waiting for us; so far, the trip was perfect! However, halfway towards our destination, all the lights of the vehicle’s dashboard turned red and a large amount of smoke came out of the engine. We had to stop and wait in the cold rain for two hours until another van came to pick us up. Since then, I’ve experienced countless flat tires (including two this morning!) and other minor car problems, several days of power outage or water shortage, as well as numerous last-minute changes of plan, and other unpredicted events. However, since this first memorable day in Africa, I also have experienced the boundless generosity and

intelligence of Kenyan people, from farmers to researchers.

I stayed in Nairobi for one month at the International Livestock Research Institute (ILRI), my host institution. There, I began to learn Kiswahili and discovered the Kenyan National Library. I moved to Embu (the main town on the Eastern slopes of Mt. Kenya) and introduced myself to the local Kenyan Agricultural Research Institute (KARI). With the help of KARI, I hired four research assistants, found a vehicle, a driver, and an office. My first two weeks were devoted to introductions to the local administration in the four study sites and to the organization of public meetings (barazas) to introduce myself to the farmers. The first presentation given to a large assembly of Kenyan farmers under the village tree went rather well even if I was really intimidated by such an audience! Since then I’ve travelled 3000 km on the slopes of Mt. Kenya, and completed 30 life stories interviews to study the adaptation of coping strategies and the diffusion of innovations. I have also developed and tested a survey on social network and participation which I am about to begin to administer next week.

The days are very long and there is little time for leisure, but I love it! The interaction with Kenyan farmers and their environment has so far provided me with a much more concrete understanding of my research. After these first few months of field work, I do feel that I have acquired a solid understanding of the agrosystems on the slopes of Mt. Kenya, but I also discover new depths to the local complexity after each interaction with local farmers. Most importantly, this experience puts into perspective how different my way of life, with its false sense of protection from climate variability, is from that of the Mbeere farmers who are still hungry, waiting for the short rains to come.