

News from the Field:

Sean Denny

Tanzania, Amani Nature Reserve: Agricultural Burning Practices

Sean Denny conducted an investigation into the factors driving agricultural burning practices bordering Amani Nature Reserve, Tanzania, as part of his MSc in Conservation Science at Imperial College.

My Masters research and TAAF award took me to the Eastern Arc Mountains (EAM) of Tanzania, where I investigated the threat of agricultural burning practices to forest within Amani Nature Reserve (hereafter referred to as 'Amani'). Not only are Amani's forests home to some of the highest densities of endemic plants and vertebrates on Earth, they also provide water, hydropower, and favourable climatic conditions for tens of thousands of subsistence farmers. Through my research I sought to better understand the most prominent threat to these forests: fires emanating from the bordering agricultural communities that surround the reserve. Every February and March, many (but not all) subsistence farmers living at the edge of Amani burn their agricultural fields to clear them for cultivation. Often, these fires are poorly managed and, as a consequence, they sometimes spread into the reserve, destroying large swathes of forest and preventing the regeneration of previously burned areas.

The aim of my study was to determine whether certain social, economic, and demographic factors, as well as particular beliefs or attitudes among villagers, are related to whether a subsistence farmer chooses to burn his or her farm, and, if so, by which of two methods. In doing so, conservation efforts aimed at improving fire management in villages surrounding Amani can be better targeted to certain individuals, groups, or even villages that are particularly prone to fire use and poor fire management.

Two months of field work involving household surveys and focus groups revealed that normative beliefs—specifically whether or not a farmer perceived other farmers in the village to be burning farmland, and, also, whether village leaders approved of such practices—were highly related to whether a farmer burned his or her own farmland.

Wealth was also found to be related to agricultural burning practices, with the poorest households burning farmland most often and disproportionately employing the more destructive of the two burning methods. Such findings can be used in future conservation and development efforts to improve fire management and the overall sustainability of agricultural practices around Amani Nature Reserve for the betterment of both globally-important biodiversity and tens of thousands of farmers reliant on Amani's forests for their livelihoods.

(Sean Denny)

Fire on border of Amani Nature Reserve

