

## Tanzania day 5: Internet! (ish)

Woken at 4am by mosquitoes – I left the bathroom door open, and the insect screen only works so far. None of the hotels here have mosquito nets, so I spend an hour listening and swatting before going back to sleep. I breakfast on scrambled egg and bananas: my substitute for all the bread products I keep being offered. The team is here: I watch them do a soil type analysis (using a flowchart: seeing if they can form muddy balls from the soil samples, seeing how long a ribbon of mud they can make (1cm? 2? more?) then finally rubbing in their hands to see if it's "gritty" or not. Most of the soil we collected is clay or sandy loam. It rains. Msofi and I swap British and Kiswahili words for different types of rain (we both have many of these).

I watch the team do rapid roadside assessments. In rural areas (red dirt roads), these are done every 2km; on main roads every 20km, and in LOs (regions with a large concentration of surveys) every 4km. A roadside assessment is just that: the team stands at the roadside, looks at the 50m by 50m area of land in front of them, assesses plant cover, plant types and use, and takes a panoramic photo of the area. We stop and do 4 of these assessments on a dirt road, and mark the sheet for this with the from and to village names of the road. I chat with Gervase, who is a seriously good systems thinker – he talks about how he persuaded rural people to adopt more efficient cooking stoves not because of environmental concerns: people living out here don't understand the concept of save the forest, since the forest is all around them, but do understand the concept of "your eyes won't get so red from cooking". In some areas, red eyes are seen as a sign of witchcraft, and people's grandmothers have been killed for this. I have serious respect for this guy and how he gets things done.

We go back to the hotel and go through the data entry and upload process, where data from the paper forms are entered into a tablet, then sent up to the head office servers. The team are using Samsung tablets which have slots for simcards – available from Amazon, but I'm warned that the Dubai versions have a smaller simcard slot which means cutting down larger cards. The team uses ODK Collect for its forms – these are available from the main server, but have changed many times already (mostly bug fixes, e.g. not being able to enter lat/longs ending in 0). We start with the soils form, but Joseph has the old version of the form on the tablet he's holding. He finds the right form on another tablet (internet here is still terrible), and walks me through the data entry. There are many forms (and many versions of those forms): Eplot, soils, rapid roadside assessments, water rapid assessments, water lab reports, household surveys, agriculture surveys, farm field and crop surveys, the contents all of which we will have to make comprehensible (along with satellite data, open data etc) to decision makers.

We say our goodbyes and thank yous to the field teams (all Tanzanian, all experts who play games like "name that tree" with each other) who are starting their Easter break after 40 days in the field. They've done roughly 50 of 350 Tanzania sites so far, and have much still to do.

We set out for the bright lights of Iringa, the big town in this area and a 2 hour drive away. We talk

about water sampling methods and the issues of vandalized equipment and data not getting from the basin offices to the central ministry of water. There are potatoes roadside now, and big boulders that look like glacial moraine, which confuses me – were there glaciers here? We talk about the timber lorries we pass – there's a huge need for timber across Africa; there's much construction, and the people who own woods will become rich on this. I think about the transitions between old African and new Western-style systems that I'm seeing, and think about the things that get lost in that transition. Some of these are tragic, e.g. there are many blue babies (brain damaged from lack of oxygen at birth) born here now because the traditional practice of midwives sucking on babies' noses to clear gunk has been lost in the new Western-style hospitals, but hasn't been replaced by the Western-style use of suction bulbs to do the same thing.

We reach Iringa, and start hotel-hunting: Avery knows two places in town with wifi. We try the first one: a craft shop, café and guesthouse run by disabled people. The rooms are beautiful, but their wifi is out. We hear about a guesthouse by the university, and try that – no wifi, but there's a strong signal from the nearby internet café. The five-story glass building opposite seems surreal after a week of one-story houses. Life now is all about getting wifi, and getting back to 'normal' work. It's a catholic guesthouse – we're staying amongst nuns and looking at pictures of the pope, but there's also a bar in the evening. We pick up wifi vouchers from the café (5000 ksh for 5Gb) and head off to lunch. We're in the tourist zone, and the first café we try is full of earnest young Americans, English menus and high prices. We go round the corner to a local place and eat lentils, beans, rice and salads off tables with tablecloths and matching cruets then head back to the hostel to get online. Nicky goes off to get the car fixed – the long fast drives over rough roads have damaged a pipeline and bearing. Which is painful... the bandwidth is so slow that OpenStreetMap goes to the low-bandwidth version, and I can see the titles of my emails (eventually) but not the contents. I manage a brief Skype conversation with Nairobi before giving up. Avery goes off to buy her bus ticket (she's going up-country from here for Easter), and I haggle for local fabrics (blue chickens!). Then we switch to plan b: the other hotel with wifi has a restaurant, so we head up into the hills above Iringa to a place that even my clean jeans feel a bit underdressed for, and eat Indian food with our laptops in front of us. I finally get an OpenStreetMap editor open on the area that we were lost in, and show the team how well the red dirt roads and waterways stand out against the vegetation. When I have good internet again, tracing will happen, so the field team have a small-scale map to start from next time.

We head back to bed – the hostel rooms have mosquito nets, so I sleep (in the trying-not-to-stick-anything-outside-the-net position, waking once to the sound of a frustrated mosquito in the room.