

AITo Update, September 2015: Spitting on Forest Fires

First a disclaimer: I know nothing about fighting forest fires. I've never been involved with one--not even a controlled burn like some of my ecologist colleagues. And although like most of my countrymen, I've listened with dismay to the reports of recent fires in the Western US--even in my home state of Washington--I have to admit that my ears tend to glaze over at the listing of X thousand acres aflame, Y % contained, Z number of people evacuated. It's not that it's irrelevant, but fires are very rare in the tropical forests where I work, and in the rest of the world, I've been glad to know that, whether I attend to them or not, there are huge, well-funded teams of highly trained, energetic folks who carefully track the weather, toil for weeks on the ground, jump from helicopters, and otherwise handle the growing problem of what to do with unwanted wildland fires in a warming world.

But on my recent arrival in Tompotika, I was greeted with this particular news from a warming world: forest fires are burning in Tompotika's tropical rainforest. In a time of year when rain usually comes frequently, there has been none for months, and the vegetation is tinder-dry. Fires have broken out in the forest that connects to both of AITo's protected maleo nesting grounds, and one of these fires is threatening the corridor that leads to the largest nesting ground at Taima. This is serious: that corridor is the lifeline that connects maleos' non-breeding habitat to the place where they can safely breed--nowadays the largest maleo nesting ground anywhere. If it is burned and that connection is destroyed, there would be no way for the birds to reach the place where they've bred for generations. And then there is the nesting ground itself. It all could be disastrous.

But in Tompotika, those well-trained firefighting teams simply do not exist--not even for house fires, much less forest fires. No designated people, engines, hoses, pumps, protective clothing, fire axes, nothing. When fires break out, I'm told, unless it's directly threatening their homes, people pretty much just let them burn themselves out. If we, the AITo team, were concerned about the forest fire threatening the maleo corridor, it would be up to us to try to do something about it.



So, for the last five days, we have been fighting fires. The fires have been sweeping downhill toward the maleo nesting ground from the hills a mile or so away. This corridor is mostly made up of secondary, shrubby vegetation about 8-10 ft tall, dotted with larger trees here and there. The area is frequented by goats, who eat out most of the diverse natural understory such that what's left is a very thorny, dense shrub and an equally thorny small vine, which together make for a wickedly impenetrable understory of vegetation if you're a bipedal human (though it's been pretty good for maleos!). On top of the soil underneath this

nearly-solid wall of thorns is a layer of leaf litter an inch or two deep, and it is this which burns most quickly.

Here is what it has been like. Our team, consisting of about 7 AITo staff plus whatever locals we could recruit to join us, would rise in the morning with smoke in our throats (our camp is less than a mile from the fire line) and go out to assess the night's burn. Our tools have consisted of machetes, three 5-gallon backpack sprayers (readily available around here for spraying pesticides), and an array of plastic jugs for refilling the sprayers. A couple of



mattocks turned out to be useless--digging on a fire line was far too time-consuming to be worthwhile. I grabbed the camp broom as well. We had bandanas as smoke masks, and eventually we got ahold of a dozen pairs of cotton gloves.

The first day we tried to make a firebreak line, but even the 5-6 foot wide bare line we cleared-- with considerable difficulty in the dense thorny brush--turned out to be insufficient to hold back the fires in most places. It was advancing not as a solid front, but as numerous spot-fires

gradually growing and advancing downslope deeper into the corridor, seemingly influenced mostly by topography and soil characteristics.

And, it appeared, by us--at least a little. Most of the time, the flames were low to the ground--below knee-height, and I found that my boots and broom could stamp out most of the leading edge of fire if I could get access to it. We worked in teams: Ipan with a machete would open a little tunnel in the thorns for me to get through and stamp; villager Anggang followed me with a backpack sprayer to wet down the fire's smoldering edge. Ahmad ran back and forth with plastic jugs to where a motorbike was parked, rode off to fill them dipping buckets by hand from the dwindling well some distance away, then ran back to refill Anggang's backpack.

The nylon bristles of my broom soon melted down to just a grimy nub on a crosspiece, but it was still useful. (A nice leafy green branch would have been ideal, but that didn't exist after this drought.) Cut, stamp, spray...our team would get into a rhythm, and we'd hear Agus, Pandji and the others yelling to each other in the next team on the adjacent slope. Then the teams would shift, and we'd all just keep going, resting and spelling each other as we were able. On one day, the Village Head of Taima village, *Pak Hasdin*, showed up to help combat the fires. *Pak Hasdin* is a quiet man, and has not always been vocal in advocating for conservation as have most other village Heads we have worked with. But there we were, the Head of Taima village and the AI To Director, side by side: filthy, sweating, bleeding from the thorns, stamping and whacking and doing what we could together to quell the fire to protect the maleo corridor. Bonding comes in strange forms.



In most places, the fire burned off the ground-level leaf litter, but didn't completely consume the shrubs and trees above it. At times we were able to slow or change the direction of the fire's path, but overall, the black-and-gray burned line we faced kept advancing. It was clear: we were not going to be able to stop this fire from burning at least portions of the corridor area. But we could try to reduce the overall burned area, and beyond this we hoped to keep it as much as possible out of one crucial ravine that maleos use to travel through the corridor; if even just this one ravine could be spared, the birds would have uninterrupted cover and vegetation to move through.

We would work through the morning until noon or so, take a rest, then come back. We came to fear the wind: winds off the coast would tend to pick up in the afternoons, and each gust would fan the flames up higher, making roman candles of taller bushes and trees, and advancing the frontline that much faster. On the other hand, those winds would bring a cooling breeze, and some oh-so-sweet fresh air to our smoke-choked lungs.

Often, it was necessary to go into the burned zone to extinguish a smoldering log or root ball. On one of these ventures into the ashes, I looked over at our friend, villager Roma, who had to dash in and out of the burned zone quickly, because his thin rubber boots were literally melting under his feet. My own were protected by thick-soled vibrams from REI and barely felt the heat; in my country, we buffer ourselves thoroughly from nature. Anggang, with the sprayer, wore flip-flops.



At times the backpack sprayers clogged up, or weren't around. Then the watering had to be very strategic, using as little water as possible, and targeting it very carefully. We discovered that you can spit a spray of water a lot more precisely than you can pour or toss it--on the underside of a burning branch, for example. So, there we were: spitting and running back and forth on hot coals, and, yes--giggling uproariously. What are you gonna do? Nature rules. No matter how hard we worked, with our little band of hardy souls, machetes and a few jugs of water, we had no illusions that we were in control of these fires. The best we could hope for would be to have some small, positive influence on the huge force around us--perhaps to make things just a little better than they would have been without us. And, just maybe, that was as it should be.

As of today, day six, the story is not over. The fires have now largely passed our area and are moving west; they are not contained, but unless things re-ignite, the maleo corridor itself is now likely past the worst. A good portion of it has indeed been burned, though the lower parts nearest the nesting ground have been spared, and although we were not able to keep the fire entirely out of the important ravine, much of that also seems only lightly affected. And in fact, though this will certainly disrupt maleo travels for the short term, in the long run the fires may not be a bad thing: not intense enough to entirely destroy the vegetation, they may actually help improve vegetative composition and soil fertility.

And the truth is, it has been an awesome and inspiring experience. Our AITo team, which had been feeling a bit frayed around the edges, feels regathered and energized. Local villagers, who saw us jump to protect their coconut groves as well as the maleo corridor, found renewed goodwill for AITo. New teams, new bonds were forged. The fires have been teaching us anew, every day: when Nature is in charge, we are challenged, stretched and ultimately healed.

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