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## **Disturbing Constructions of Tropical Savannas and the People Who Burn Them**

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### ***Abstract***

The transition from equilibrium to non-equilibrium models of ecosystems in the biological sciences during the past several decades parallels an evolution in the ways that anthropologists understand culture. Reconceptualizations of ecosystem processes (e.g., disturbance) and units (e.g., landscapes) are apparent in fire science where they have influenced a conversion from the belief that fire is a destructive artificial force to the belief that fire is a controllable natural element. What adjustments have fire scientists made in their understandings of people who ignite fires? Even though fire science literature is voluminous, the sociocultural and biophysical relationships surrounding fire are insufficiently understood. Ethnographic data on the fire-related knowledge and skills that indigenous peoples possess are especially sparse. This paper is a case study of everyday burning practices on Sumba, Indonesia. It approaches burning as a social activity with culturally-specific meanings, political and economic components, and with implications for human well-being. This paper also examines social constructions of savannas in the Dry Monsoonal Tropics and people who use fire to manage them. Ethnographic data combined with archival information will be used to explore the linkages and disconnects between studies of disturbance fires and 21<sup>st</sup> century understandings of culture. How can we explain the scientific and development literature that differentially assesses indigenous and non-indigenous fire regimes, technical expertise, and burning authority

in Eastern Indonesia and Northern Australia? The social, historical, geographical, political, and environmental dimensions of fire produce problematic understandings of fire and fire starters.

### *Prologue*

The transition from equilibrium to non-equilibrium models of ecosystems in the biological sciences during the past several decades parallels a development in the ways that anthropologists understand culture. Reconceptualizations of ecosystem processes (e.g., disturbance) and units (e.g., landscapes) are apparent in fire science where they have influenced a conversion from the belief that fire is a destructive artificial force to the belief that fire is a controllable natural element. Nowadays, in anthropology, human-environment interactions are understood in relation to 21<sup>st</sup> century postcolonialism, negotiable identities, and multi-scale change.

Compelling evidence urges us to promote the integration of non-equilibrium theory and the study of anthropogenic fires. We can begin to integrate various systems of knowledge about fire by getting to know real people who ignite real fires on specific incidences. You, today's audience, will hear a series of vignettes that introduce you to several real-life Fire Starters. The portraits of these Fire Starters on the Indonesian island of Sumba illustrate the mutual constitution of fire, society, and landscapes. These short sketches depict the "material spatial practices, perceptions...representations," (Watts 1992:115) and relations through which Kodi people know fire as a familiar element. Fire – also a character in these vignettes – is, like Clifford's "location," an "itinerary," (Clifford 1997).

*Vignette 1: Paulina Burning Garden Weeds in Lentoro*

Paulina calls out to Rina, "Bring me a coal from the cooking fire inside the house!" Rina shouts that she is busy watching the baby.

Paulina yells back, "Is the baby asleep?"

When Rina answers, "Yes," Paulina insists that Rina leave her momentarily to bring a coal up to the garden behind the house.

After several minutes Rina arrives with a coal, complaining along the way. Paulina takes the coal from Rina, telling her, "Thank you...please go back to the house now to keep your eye on the baby."

Then, this 23-year-old mother uses the charcoal to light a pile of weeds while reprimanding her oldest of four daughters for being so stubborn. Some of the weeds in the pile did not dry out completely in yesterday's sun. Their moisture makes it difficult to light the pile so Paulina has to coax the flames by blowing on the smoldering torch. After the flames finally emerge, Paulina uses a burning stick to light other piles of brush in the garden. Paulina decides which part of her garden to weed this morning, squats down, and starts pulling small green seedlings of common garden weeds. Meanwhile, the vegetative slash produced by previous days' work transforms into ash and charcoal.

Paulina is a wife and mother who, like so many other Kоди people, routinely burns brush in the vegetable plot behind her house and, in the process, teaches her children how to handle fire. Burning is an integral component of day-to-day subsistence practices.

### *Vignette 2: Untended Burn in Ngindi Ate*

A fire burns through a fallow field. The fire is alone with its fuels. Some human started it, but no one tends it. A light breeze causes the fire to move rapidly through the garden. It burns patchily, consuming little piles of dried brush which were close enough together to carry the fire. It flares up when it catches hold of dry leaves hanging from the banana trees marking the plot's boundaries. The burn line creeps into the neighboring fallow where the alang grass is still standing but desiccated, and through the grasses growing under a cashew orchard. We walk through the burning garden looking for the burners, into a burned fallow, and crossed-paths with a party of gardeners returning home from their fields.

Kodi farmers are familiar with fire behavior, comfortable enough to let it run on its own. Fire, under the right conditions, predictably burns where it encounters fuels and extinguishes where it finds none.

### *Vignette 3: Nine Young Men Burning a Garden in Noha*

Twenty-year-old Marten Rangka Mone needed workers to help him clear his parent's garden. He recruited eight of his cousins from Nangga Mora village, including three brothers in one house, one boy from a second house, one man from a third house, and one man from a fourth house. They walked two hours early in the morning to get to the garden and started pulling weeds as soon as they arrived. Rangka Mone's mother, sister, and sister-in-law followed behind to prepare lunch for the boys.

Rangka Mone lit a dense patch of tall, standing *tei kapuddu* (*Eupatorium inulifolium*). The weeds were desiccated and the wind was blowing, so the fire quickly spread. Rangka Mone's cousins surrounded the fire to tend the edges with green tree branches.

In a panic, Mama Rehi Winye joined in the fire control efforts, beating back the fire line. Rehi Winye yelled “The fire is heading for the garden next door! Don’t let it burn our neighbor’s land! Those weeds were already sprayed with herbicides so they are dead and too flammable!”

Rangga Mone and two of his cousins helped Rehi Winye contain the uphill edge of the burn.

Moments later, Anita nodded towards the weakening flames, “That was a bold fire.”

Rangga Mone tried to light more brush at the bottom of the garden, but the vegetation was too green to burn. Anita told him, “Try to burn it again later this evening when the wind calms down.”

Burning activates networks of immediate and extended family members that, in some cases, also draw in friends, work mates, and hired labor. Kodi people organize themselves in relation to fires in a variety of formations, from the single individual to a network of friends and relatives. Burning is often a social activity that is playful, chaotic, scary, productive, and many other things. It can even be festive, for instance when cooperative labor parties burn grasslands to capture game. Some burns are planned and seasonal, others are spontaneous.

#### *Vignette 4: Three Men Burning Grassland in Godo Koko*

Three men prepare for a mid-day burn on the coastal plains of Bukambero. They scout the field’s boundaries to determine if the proper barriers are in place to prevent the fire from spreading. They notice that a strip was burned around an adjacent garden to buffer it from wildfires, but the vegetation has regrown enough that it might be able to carry fire.

The men chat about a tragedy, in 2002, when someone lit a grassland fire at about noon on a very windy day. The winds carried the fire quickly through the field, unpredictably

changed directions, blew the flames through Godo Koko Hamlet, before changing directions again when the wind carried the fire back out into plains. Two of the men who are preparing to burn now live in that hamlet and lost their homes. About seven houses and everything inside (food, clothes) burned to the ground.

Godo Koko was literally “hot” from the heat of the flames as well as “hot” symbolically because of the meaning of the disaster. Godo Koko’s residents were themselves so dangerously “hot” that they could not seek refuge with relatives, but had to camp in lean-tos until they could perform “cooling off” rituals. A Ritual Singer (*To Yaigho*) spent three long nights summoning the souls of the seven houses and their contents back from the Moon and Sun. The Ritual Singer successfully brought the lost souls back to Earth, ‘cooling off’ the dangerous situation.

Worried by these memories, one of the men says the vegetation in the fire break around the garden at the bottom of the field has grown up so much that the garden is now “connected” to the field they want to burn. The third man convinces the other two to burn despite their reluctance because the vegetation in the fire break is green and therefore will not burn. One of the men puts together a torch of dried grass to light the standing vegetation. The other man uses a green branch to tend the fire’s edges. The fire spreads through the field very quickly, but goes out before it reaches the garden.

People who witness the dangerous mixture of high winds, low humidity, dry fuels, and intense fire learn to use caution when executing burns. In Kodi and Bukambero, people turn their attention to the spiritual world when human-ignited fires escape their intended boundaries to become wildfires.

Fire's power severs super-animated objects from their souls. Ancestors might cause catastrophic fires, or they may prevent them. Effective ritual specialists can convince the ancestors to restore the well-being of their earthly domain.

*Vignette 5: Burned House Near Pola Karimboyo*

In a hamlet near the Pola Karimboyo River, residents used arson as a weapon in a property dispute. In this case, the members of one side of the conflict wanted to kill a man from the opposing side, but could not find him. They burned down his house instead.

Violent uses of fire signify competition for resources, passionate jealousy, or other volatile social interactions in contested spaces.

*Vignette 6: Rehi Winye's Rice Field Burned*

Anita burns a brush pile while her Great Aunt Romboh Rangga weeds her vegetable garden. They break to snack on yams and sweet potatoes with a salsa made from herbs (*ro kapal, daun kemangi*), papaya flowers, chilis, and tomatoes.

Rehi Winye, Romboh Rangga's niece, remembers the trauma she experienced when a wildfire destroyed her garden. Two years ago, several young children were playing near the rice fields. They lit a fire and a gust of wind blew through, stoking the flames, and carrying the fire into Rehi Winye's plot. The wildfire killed three tons of rice that was nearly ready for harvest. It also burned down her garden hut. She lost everything inside: clothes, jewelry, plates, glasses, and her children's clothes. The tragedy made her so terribly sick that she spent several days in the hospital. Rehi Winye and her husband did not report the incident to the police, but they did ask for assistance from the Department of Social Affairs who neglected to

provide aide. Rehi Winye complained about corruption among DSA workers who use government money to fulfill their own desires rather than distributing it to needy people.

Burning provokes memories of previous fires and evokes emotions, of fear and loss sometimes. Burning events are forum for political commentary.

### *Epilogue*

You have just heard a series of vignettes that illustrate the multifaceted and complex character of fire. Real people – like the ones you met in these vignettes – Paulina, Margareta, the men from Godo Koko, Rangga Ede, Marcelinos, Joseph, Rangga Mone, Rehi Winye, Anita, Romboh Rangga – set specific fires with varying agendas where utilitarian, spiritual, expressive, political, economic, and social goals co-occur and overlap. Fire itself becomes a character in these vignettes, an agent of change, stochastic, fluid, meaningful.

The characters in these vignettes have lots of company, if we consider the number of people who use fire to manage their resources worldwide: ranging from subsistence farmers on neighboring Indonesian islands, to coalitions of Australian government agency staff and Aboriginal communities across the Indian Ocean from Sumba, to managers of North America's public lands. The global phenomenon of anthropogenic fires is surrounded by prolific dialogue, spoken in conversations, written in reports about specific incidents or scientific research, detected from an airplane or a lookout, viewed on television or the world wide web. A troubling aspect of this dialogue is its favoritism of professionalized Fire Managers and its prejudices against indigenous Fire Starters. The dialogue, when discussing Australia, the U.S., and Canada, portrays government employed prescribed burners as "heroes," affectionately refers to prescribed burn crew as "firebugs," and glorifies wildland firefighters as "hotshots"

(Suzuki ???). The global fire dialogue represents local people who burn, in a different light. When they consider Sumbanese at all, non-Sumbanese accuse farmers of ignorance, deforestation, and arson. Evaluations of Sumba's anthropogenic fires ignore ethnographic information about the knowledge and skills of Kodi farmers and bypass the environmental realities of dry monsoonal ecosystems.

The dialogue about fires in Indonesia intensified exponentially after the monumental 1997-98 wildfire season. Witnesses of the catastrophic wildfires on Borneo and Sumatra experienced enough fear and urgency that they jumped to premature conclusions about the causes of the fires (Vayda 2006). Ultimately, the Indonesian government responded to the dialogue about those wildfires by outlawing the use of fire to clear land everywhere in the archipelago; in fire sensitive ecosystems, such as rainforests, as well as pyrophytic ones, such as seasonal grasslands.

In this context, the continued use of fire on Sumba might be interpreted as commentary about the ineptitude of Indonesian environmental laws, the misalignment of Sumba at the periphery of the nation-state, or the desire for political autonomy. Kodi farmers together with government officials on Sumba could also, of course, be ignoring the burn ban because it is absurdly impractical in the context of a ecological setting where fire is an efficient farming technology and in a technological and economic situation where people would not eat if they could not use fire.

While Kodi fires comment on national and trans-national politics, they also comment on local politics. The Pola Karimboyo vignette is one of many examples where violent conflict emerges in response to property disputes. Recall also the vignette about the fire that escaped

into Rehi Winye's rice field: Rehi Winye is the wife of the former Village Head who was himself the subject of corruption rumors before he was voted out of office after the post-1998-Revolution transition to democracy. What does this story reveal about corruption in the emerging Indonesian democracy or about opinions of Suharto-era bureaucrats?

Efforts to define and manage fire are simultaneously attempts to claim control over resources in relation to the nation-state as well as part of the political negotiations that take place within Kodi communities.

Burn events enact spiritual, as well as political, encounters. Unexpected or destructive fires mean that the ancestors are unhappy with their descendents. Kodi people invest considerable energy seeking harmony with the spiritual world so that the ancestors will not punish them (with fire, lightning, illness, disaster). When Kodi people use fire and when they tell stories about it, they represent what Masquelier calls a "mythic topography" (Masquelier 2002:880), a cosmological order.

The vignettes that you've heard today recount burn events and stories about fire that, when considered together, demonstrate that society constructs fire through processes similar to the "social production of space" (Watts 1992:118).

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