



Institutional dependence and social inequalities as drivers of collaborative wildfire response networks in the Pantanal wetland

André Valle Nunes^{a,*}, Francisco Chiaravalloti-Neto^b, Grazielle Soresini^c, Camila Lorenz^d, Thiago B.F. Semedo^{e,f,g}, Rafael Moraes Chiaravalloti^h, Renata Libonatiⁱ, Tiago Shizen Pacheco Toma^a, Geraldo Alves Damasceno-Junior^{k,l}, Reinaldo F.P. Lucena^m, Walfrido Moraes Tomasⁿ, Liana O. Anderson^o, Henrique Fernandes Magalhães^l, Maxwell da Rosa Oliveira^l, Alexandre de Matos Martins Pereira^{k,p}, Christian Niel Berlinck^q, Geraldo Wilson Fernandes^{a,j}, Fabio O. Roque^{a,l,r}

^a Knowledge Center for Biodiversity, Belo Horizonte, MG, 31270-901, Brazil

^b Departamento de Epidemiologia, Faculdade de Saúde Pública da Universidade de São Paulo, Av. Dr. Arnaldo 715, São Paulo, SP, 01246-904, Brazil

^c Instituto de Conservação de Animais Silvestres (ICAS), Rua Afonso Lino Barbosa, 142, Chácara Cachoeira, Campo Grande, Mato Grosso do Sul, 79040-290, Brazil

^d Instituto de Estudos Avançados da Universidade de São Paulo, R. da Praça do Relógio, 109, Butantã, São Paulo, SP, 05508-050, Brazil

^e CIBIO, Centro de Investigação em Biodiversidade e Recursos Genéticos, InBIO Laboratório Associado, Universidade do Porto, Campus de Vairão, Vairão, 4485-66, Portugal

^f Departamento de Biologia, Faculdade de Ciências, Universidade do Porto, Porto, 4099-002, Portugal

^g BIOPOLIS Program in Genomics, Biodiversity and Land Planning, CIBIO, Campus de Vairão, Vairão, 4485-661, Portugal

^h University College London, Anthropology Department, 14 Taviston Street, London, WC1H 0BW, United Kingdom

ⁱ Departamento de Meteorologia, Universidade Federal do Rio de Janeiro, Av. Athos da Silveira Ramos, 274, Cidade Universitária - Ilha do Fundão, Rio de Janeiro, Rio de Janeiro, 21941-916, Brazil

^j Evolutionary Ecology & Biodiversity (DGEE ICB) Universidade Federal de Minas Gerais, Av. Pres. Antônio Carlos, 6627, Pampulha, Belo Horizonte, Minas Gerais, 31270-901, Brazil

^k Núcleos de Estudos do Fogo em Áreas Úmidas (NEFAU), Instituto de Biociências, Universidade Federal de Mato Grosso do Sul, Campo Grande, Brazil

^l Instituto de Biociências, Universidade Federal de Mato Grosso do Sul, Cidade Universitária, Av. Costa e Silva, Pioneiros, Campo Grande, 79070-900, Brazil

^m Laboratório de Emobotânica. Setor de Botânica. Instituto de Biociências. Universidade Federal de Mato Grosso do Sul. Avenida Costa e Silva, s/n, Bairro Universitário. Campo Grande, Mato Grosso do Sul, 79070-900, Brazil

ⁿ Empresa Brasileira de Pesquisa Agropecuária (Embrapa Pantanal), Corumbá, Brazil

^o National Center for Monitoring and Early Warning of Natural Disasters (CEMADEN), São José dos Campos, SP, 12247-016, Brazil

^p Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis (IBAMA), Campo Grande, Brazil

^q Coordenação Geral de Políticas para o Manejo Integrado do Fogo, Ministério do Meio Ambiente e Mudança do Clima, Brasília, Brazil

^r Center for Tropical Environmental and Sustainability Science, James Cook University, Cairns, Australia

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ABSTRACT

Wildfires generate severe ecological, economic, and social impacts, leading societies worldwide to seek strategies that foster resilient territories, communities, and ecosystems while adapting to changing fire regimes under climate change. In the Pantanal wetland, wildfire response is especially challenging because diverse social groups coexist and depend on coordinated action and cooperation. This study examines how cattle ranchers and traditional communities interact with one another and with government institutions during wildfire response efforts. We hypothesized that cattle ranchers, due to greater access to resources, land tenure security, and socioeconomic advantages, would possess higher wildfire response capacity and rely less on public institutions. Conversely, traditional communities were expected to depend more strongly on collaborative networks and institutional support. Data were collected through semi-structured interviews with 67 cattle ranchers and 48 traditional dwellers across 16 municipalities in the Pantanal. Our findings support these expectations. Ranchers generally have greater access to equipment, labor, and financial resources, enabling them to address wildfire crises more autonomously. Being a cattle rancher reduced the likelihood of using formal institutions by 67%. Traditional communities, in contrast, showed lower access to resources and greater dependence on government

* Corresponding author.

E-mail address: tataupas@gmail.com (A.V. Nunes).

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