

## Authors

D. Layne Coppock  
Utah State University

Dean Karlan  
Northwestern University

Dylan Groves  
Columbia University

Luke Crowley  
University of Cape Town

Julian Jamison  
University of Exeter

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### Community-based rangeland management in Namibia improves resource governance but not environmental and economic outcomes

D. Layne Coppock<sup>1</sup>, Luke Crowley<sup>2</sup>, Susan L. Durham<sup>3</sup>, Dylan Groves<sup>4</sup>, Julian C. Jamison<sup>5</sup>, Dean Karlan<sup>6</sup>,  
Brien E. Norton<sup>7</sup> & R. Douglas Ramsey<sup>7</sup>

Classic theories suggest that common pool resources are subject to overexploitation. Community-based resource management approaches may ameliorate tragedy of the commons effects. Here we use a randomized evaluation in Namibia's communal rangelands to study a comprehensive four-year program to support community-based rangeland and cattle management. We find that the program led to persistent and large improvements for eight of thirteen indices of social and behavioral outcomes. Effects on rangeland health, cattle productivity and household economics, however, were either negative or nil. Positive impacts on community resource management may have been offset by communities' inability to control grazing by non-participating herds and inhibited by an unresponsive rangeland sub-system. This juxtaposition, in which measurable improvements in community resource management did not translate into better outcomes for households or rangeland health, demonstrates the fragility of the causal pathway from program implementation to intended socioeconomic and environmental outcomes. It also points to challenges for improving climate change-adaptation strategies.

<sup>1</sup>Department of Environment and Society, Utah State University, Logan, UT 84322-5205, USA. <sup>2</sup>Innovations for Poverty Action, New Haven, CT 06510, USA. <sup>3</sup>Ecology Center, Utah State University, Logan, UT 84322-5205, USA. <sup>4</sup>Department of Political Science, Columbia University, New York City, NY 10027, USA. <sup>5</sup>Department of Economics, University of Exeter, Exeter EX44JZ, UK. <sup>6</sup>Kellogg School of Management, Northwestern University, Evanston, IL 60208, USA. <sup>7</sup>Department of Wildland Resources, Utah State University, Logan, UT 84322-5205, USA. \*Email: [carand@northwestern.edu](mailto:carand@northwestern.edu)

# Community-based rangeland management in Namibia improves resource governance but not

# environmental and economic outcomes

Classic theories suggest that common pool resources are subject to overexploitation. Community-based resource management approaches may ameliorate tragedy of the commons effects. Here we use a randomized evaluation in Namibia's communal rangelands to study a comprehensive four-year program to support community-based rangeland and cattle management. We find that the program led to persistent and large improvements for eight of thirteen indices of social and behavioral outcomes. Effects on rangeland health, cattle productivity and household economics, however, were either negative or nil. Positive impacts on community resource management may have been offset by communities' inability to control grazing by non-participating herds and inhibited by an unresponsive rangeland sub-system. This juxtaposition, in which measurable improvements in community resource management did not translate into better outcomes for households or rangeland health, demonstrates the fragility of the causal pathway from program implementation to intended socioeconomic and environmental outcomes. It also points to challenges for improving climate change-adaptation strategies.

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