



# Land for mitigation, biodiversity, food, water, and fiber: how can we do it all?



## The Land Use Imperative in a Nutshell

“We need to feed a projected population of 9–10 billion by 2050, rising to approximately 12 billion by 2100. At the same time, we need to reduce the climate impact of agriculture, forestry and other land use, and we almost certainly need to deliver land-based greenhouse gas removal for additional climate change mitigation. In addition, we need to deliver progress towards meeting the United Nations Sustainable Development Goals, all without compromising the many ecosystem services provided by land and without exceeding planetary boundaries.”

- Smith P. 2018. Managing the global land resource. *Proc. R. Soc. B*



# The pressure is on...

## Protected land globally

Today

14.7%

<https://data.worldbank.org/indicator/ER.LND.PTLD.ZS>

SDG target or Half earth

2050

17-50%

## Percentage of cropland and pastureland globally

38.6%

<https://www.nationalgeographic.com/foodfeatures/feeding-9-billion/>

## Percentage of cropland and pastureland globally

39-45%

Calculated using Schmitz et al. 2013

## Percentage of land for bioenergy globally (2011)

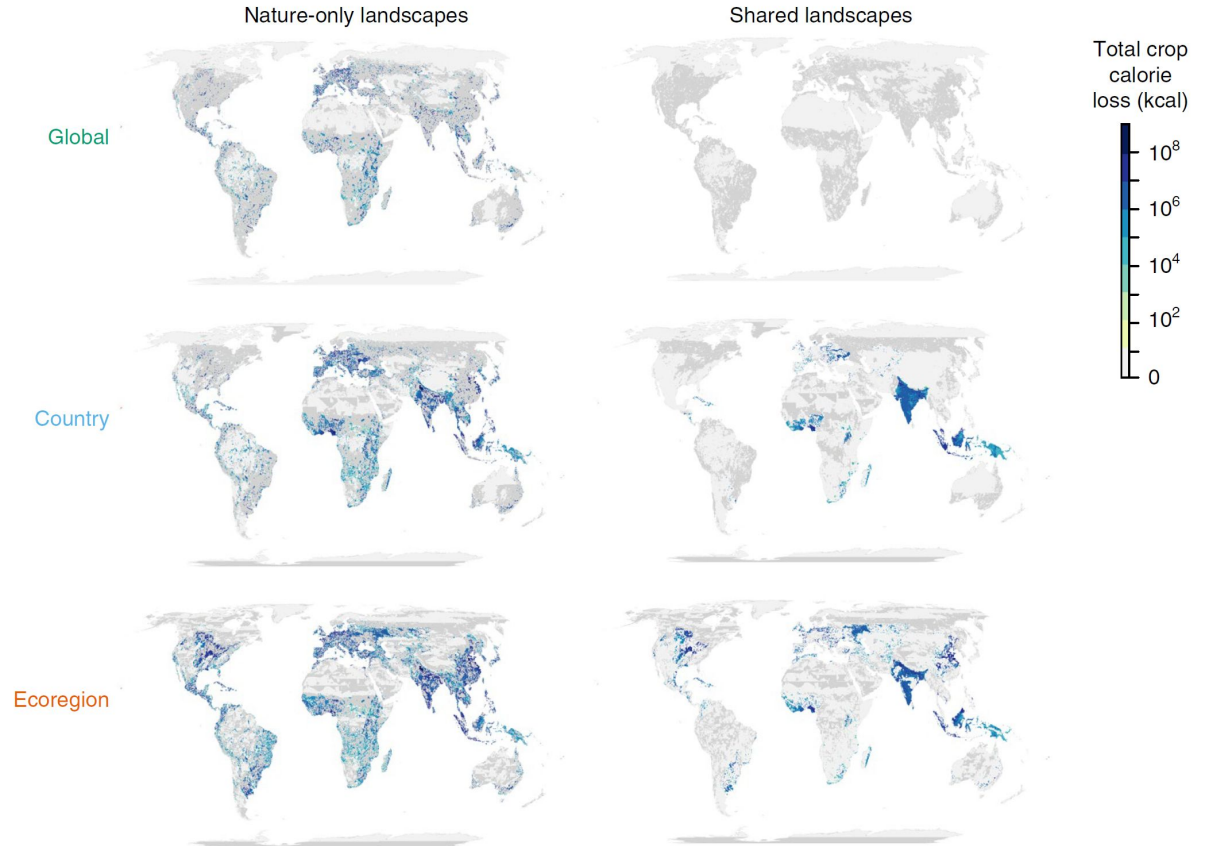
0.65%

## Percentage of land for bioenergy globally

9-19%

Calculated using Lauri et al. 2017

e.g.,  
**Biodiversity  
and food  
trade-offs**





# Objectives

- 1 Highlight **land-use solutions in action** that demonstrate how integrative solutions can simultaneously achieve conservation, water provision, climate change mitigation, energy security, and sustainable livelihoods (food and fiber).
- 2 Highlight new **analytical approaches** that can support integrative land use practices and planning through ambitious yet reasonable goal-setting and scaling-up of solutions.

## Solutions in action

## Science to support solutions



# Panelists



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