



GLOBAL CLIMATE ACTION SUMMIT

AFFILIATE EVENT

**Managing Lands in a Changing Climate to Improve
Agricultural Resilience, Food Security, and Health**

**9/10/18 Presentations from Afternoon
Dialogue Sessions in Vanderhoef Studio**



Global Health
Institute



State of California
Department of Conservation



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Afternoon Session #I

Breakout Dialogues: Harnessing the Wisdom in the Room toward Action

1:30-3:00 — Breakout Session 1 | Improving Food Security and Health

Facilitators:

- Woutrina Smith, Co-Director, Center for Expertise on Planetary Health, School of Veterinary Medicine, UC Davis
- Martin H. Smith, Associate Cooperative Extension Specialist, School of Veterinary Medicine & Department of Human Ecology, UC Davis

Pre-registration was required for the small group dialogue sessions. If space is available, additional participants will be welcomed to either session.

In each session, participants will discuss:

- Opportunities to create or strengthen effective strategies and partnerships to accelerate action in agricultural conservation and resiliency.
- Strategies to effectively share innovative practices with an emphasis on actions that are readily scalable and adaptable.

Improving Food Security & Health Breakout Session



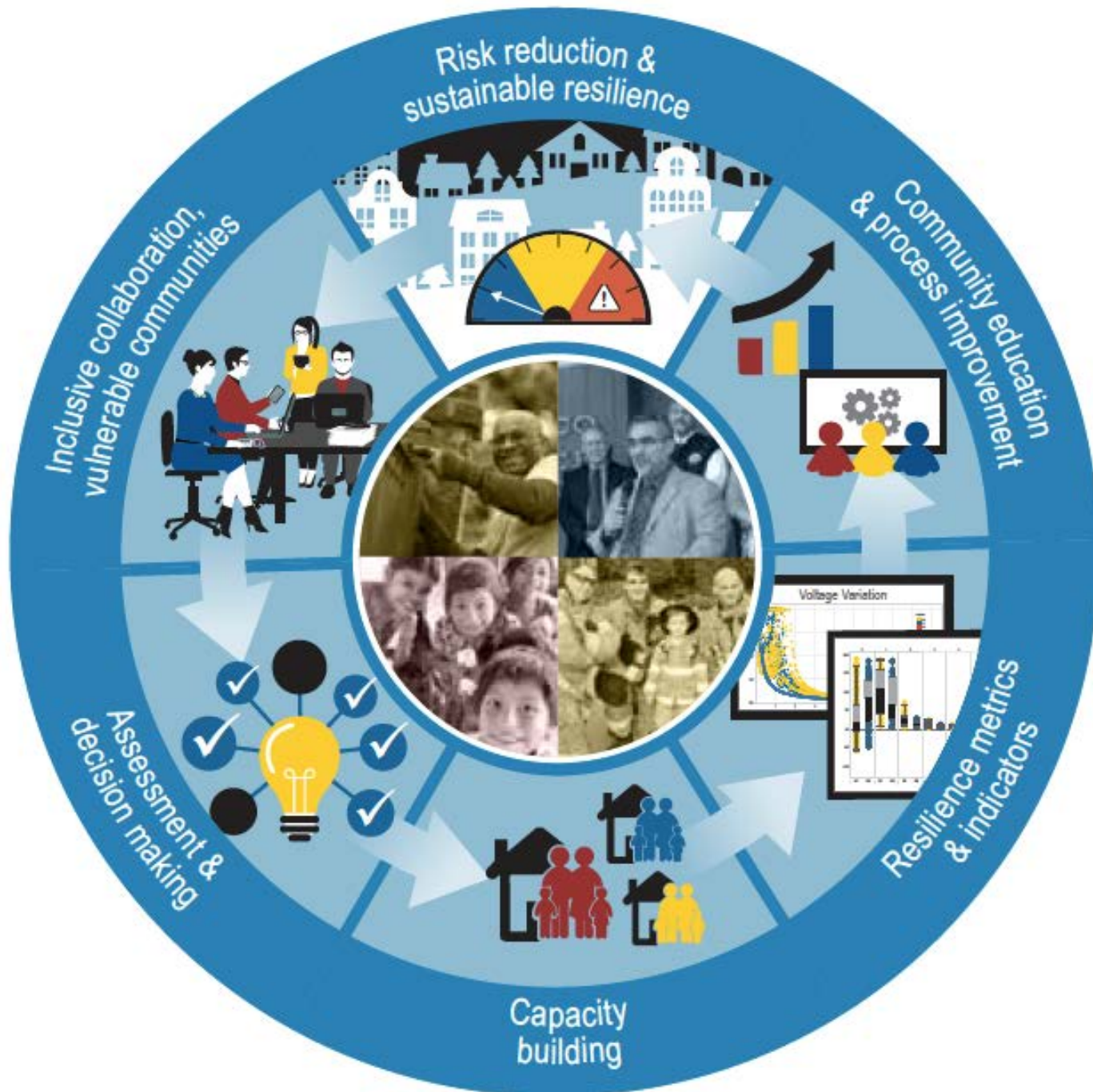
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Woutrina Smith, wasmith@ucdavis.edu
Martin Smith, mhsmith@ucdavis.edu

Improving Food Security & Health: Opportunities for Collaboration



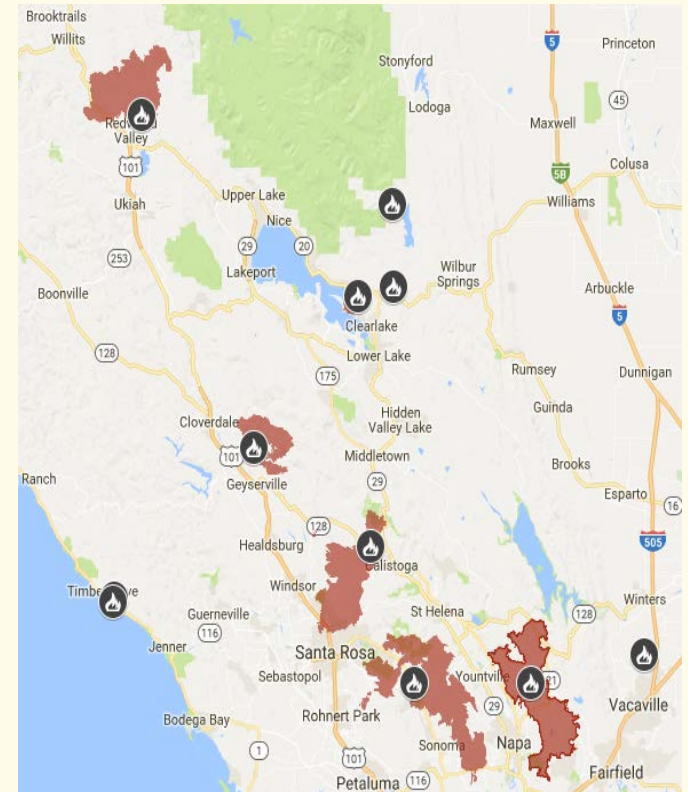


Building and Sustaining Resilient Communities: A Stakeholder-Driven Model to Advance California's Climate Change Goals

- Overarching Goal: Enhance our understanding of community-level needs in order to work with community stakeholders to help achieve resiliency and develop indicators that will aid in policy development.
- Two initial strategies:
 - Utilize the statewide UC Cooperative Extension network to help develop relationships with community stakeholders.
 - Conduct interviews with stakeholders to better understand current practices, gaps and constraints to preparedness, mitigation, and response to extreme climate-driven events.

Early Pilot Work – 2018

- Wildfire preparedness among wineries in Northern California. Initial questions were centered on farmworker health as a potential **direct effect** of wildfires.
- Pilot data from five interviews revealed importance of **indirect effects/needs**:
 - Communication between key stakeholder/agencies and communities.
 - Community education.
 - Post-fire recovery plans and resources.



Improving Food Security & Health Breakout Session

Session Goals: *Harness wisdom in the room by fostering dialogue in small groups to explore:*

- 1) Opportunities to create or strengthen effective strategies and partnerships to accelerate action in promoting food security and health
- 2) Strategies to effectively share innovative practices with an emphasis on actions that are readily scalable and adaptable

Schedule:

1:30-1:45 pm: Introductions and opening remarks, Woutrina Smith & Martin Smith

1:45-2:45 pm: Breakout hour for cluster group discussions

2:45-3:00 pm: Cluster sharing and synthesis of ideas

Improving Food Security & Health

Breakout Session

Breakout hour protocol:

- Each cluster table discusses and records ideas for their assigned Question 1 (20 minutes)
- All tables in a cluster then share and reach a consensus on three top priorities (10 minutes)
- Next, each cluster table discusses and records their ideas for their assigned Question 2 (20 minutes)
- All tables in a cluster then share and reach a consensus on three top priorities (10 minutes)
- Lastly, a representative from each of the four clusters share their priorities for Questions 1 and 2 as a larger group. This results in 6 priorities for Question 1 and Question 2 in each of the two topical categories of food security and health.
- The session leads will share breakout group findings in the main conference wrap up session at the end of the day

Improving Food Security & Health Breakout Session

Table cluster questions to inform a roadmap of prioritized actions:

Food Security Issues (2 table clusters):

1. Describe effective practices and partnerships to promote **food security**. Prioritize your top three.
2. Describe effective strategies to scale innovative practices so as to promote their adaptability and uptake. Prioritize your top three.

Health Issues (2 table clusters):

1. Describe effective practices and partnerships to promote **health**. Prioritize your top three.
2. Describe effective strategies to scale innovative practices so as to promote their adaptability and uptake. Prioritize your top three.

Thank you!



Afternoon Session #2

Breakout Dialogues: Harnessing the Wisdom in the Room toward Action

3:30-5:00 — Breakout Session 2 | Agricultural Conservation and Resiliency

Facilitators:

- Mark Bell, Vice Provost, Strategic Initiatives & Statewide Programs, University of California, Division of Agriculture and Natural Resources
- Jeff Onsted, Chief Scientific Advisor, California Department of Conservation

Pre-registration was required for the small group dialogue sessions. If space is available, additional participants will be welcomed to either session.

In each session, participants will discuss:

- Opportunities to create or strengthen effective strategies and partnerships to accelerate action in agricultural conservation and resiliency.
- Strategies to effectively share innovative practices with an emphasis on actions that are readily scalable and adaptable.



Workshop Agricultural Conservation and Resilience Harnessing the Wisdom in the Room Toward Action



Mark Bell, UC ANR

Sarah Rubin, Department of Conservation

Jeff Onsted, Department of Conservation

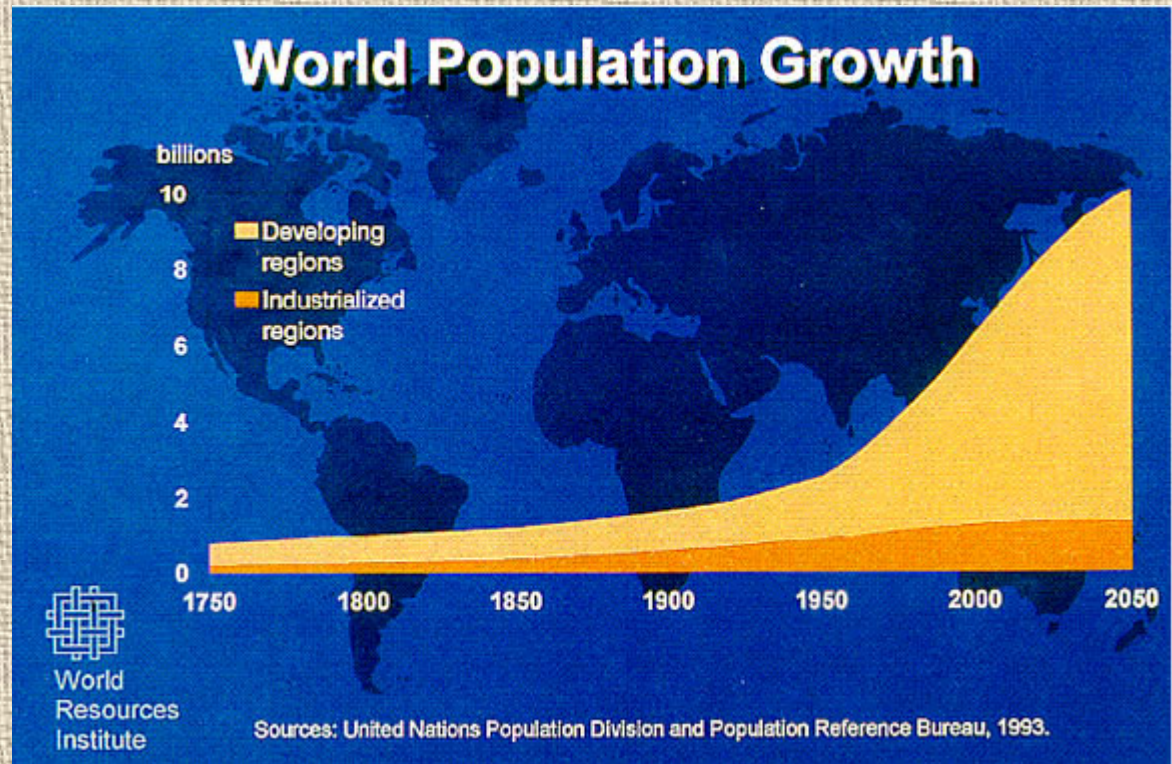
David Bunn, Department of Conservation

[Global Climate Action Summit Affiliate Event](#)



Why this session?

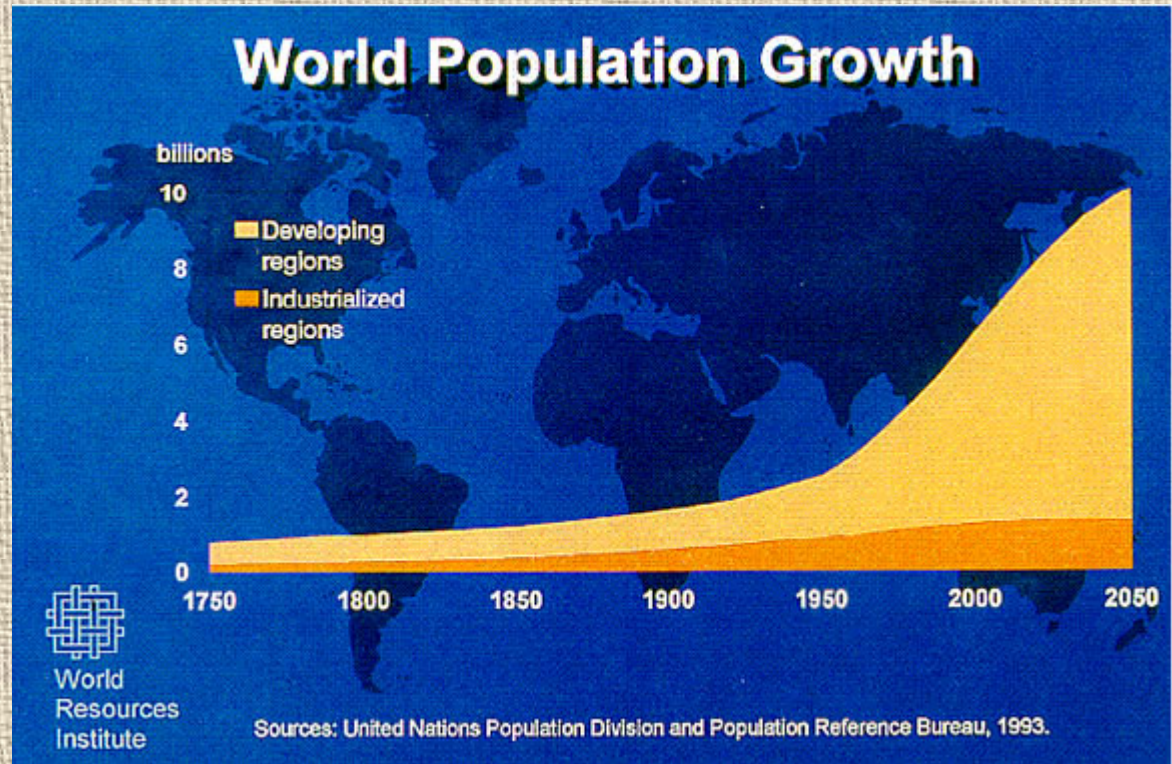
- We need the capacity to safely feed a growing global population



Why this session?

To get there, we need to conserve (and preferably build) our resources of

- land,
- water, and
- people



Land – we need less of this...



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and more of this...



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Water – We need less of this...



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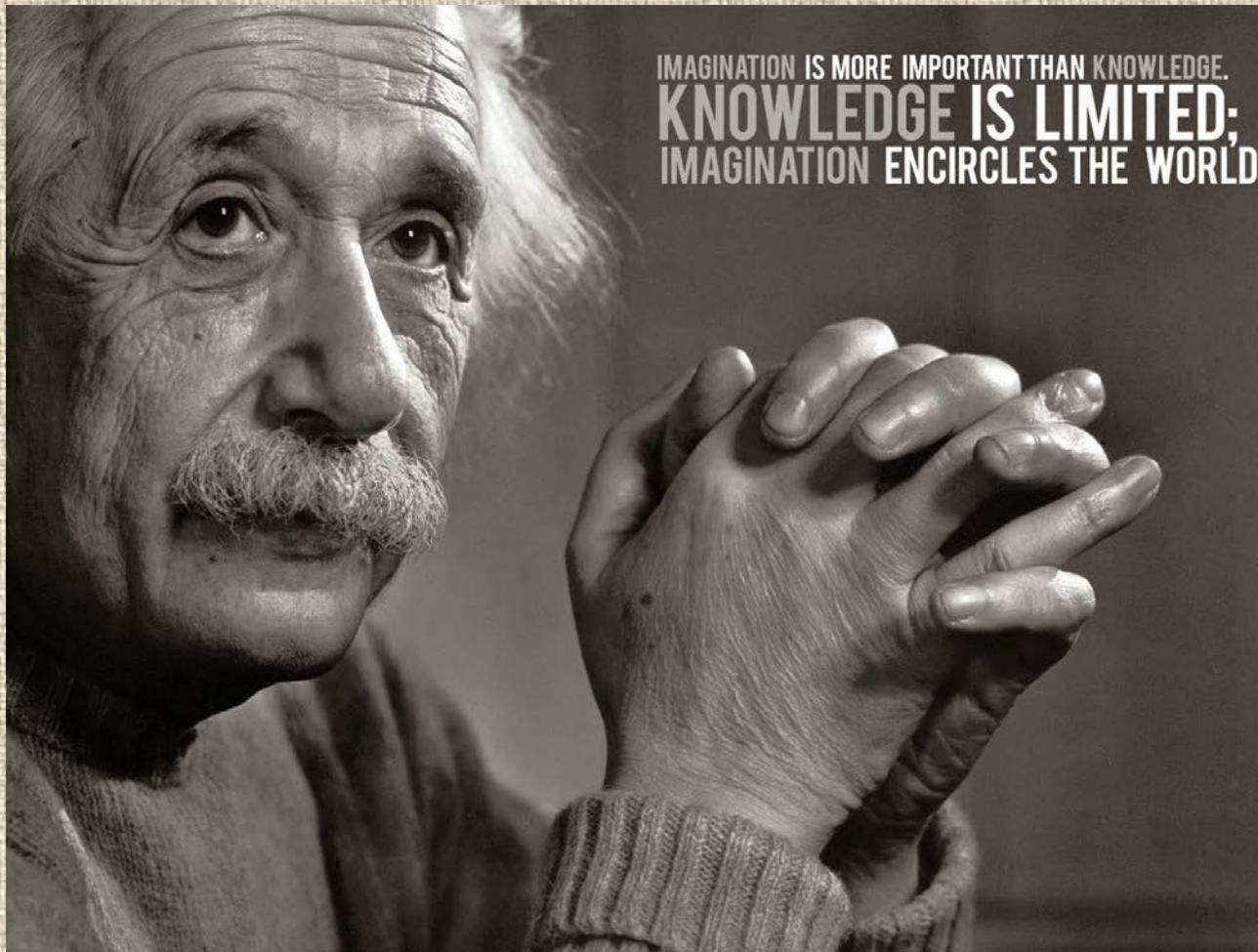
and more of this...



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People – We need more of this...



Harness our inner Einstein

Target Session Outputs?

1. What is working or promising to conserve or build land, water and people?
2. What are the major needs to successfully implement key strategies (e.g., Policies, inputs,...)?

Givens

- Strategies **may** vary by county / region.
- One size will (likely) not fit all

Agricultural Resilience

The Components and the
Challenges

Jeff Onsted, Dept. of Conservation



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- 
1. China (\$550B)
 2. India (\$247B)
 3. US (\$232B)
 4. Brazil (\$139B)
 5. Indonesia (\$63B)

6. Russia (\$50B)
7. Argentina (\$46B)
8. Turkey (\$39B)
9. Mexico (\$39B)
10. Nigeria (\$38B)

Top 10 Food Producing Nations



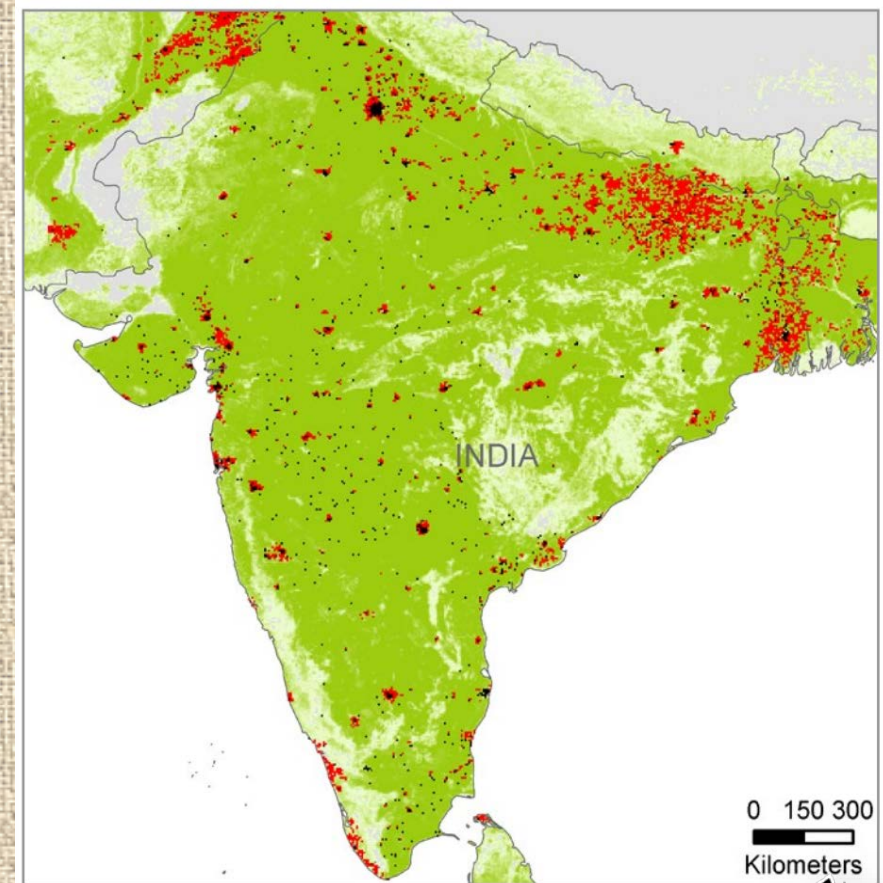
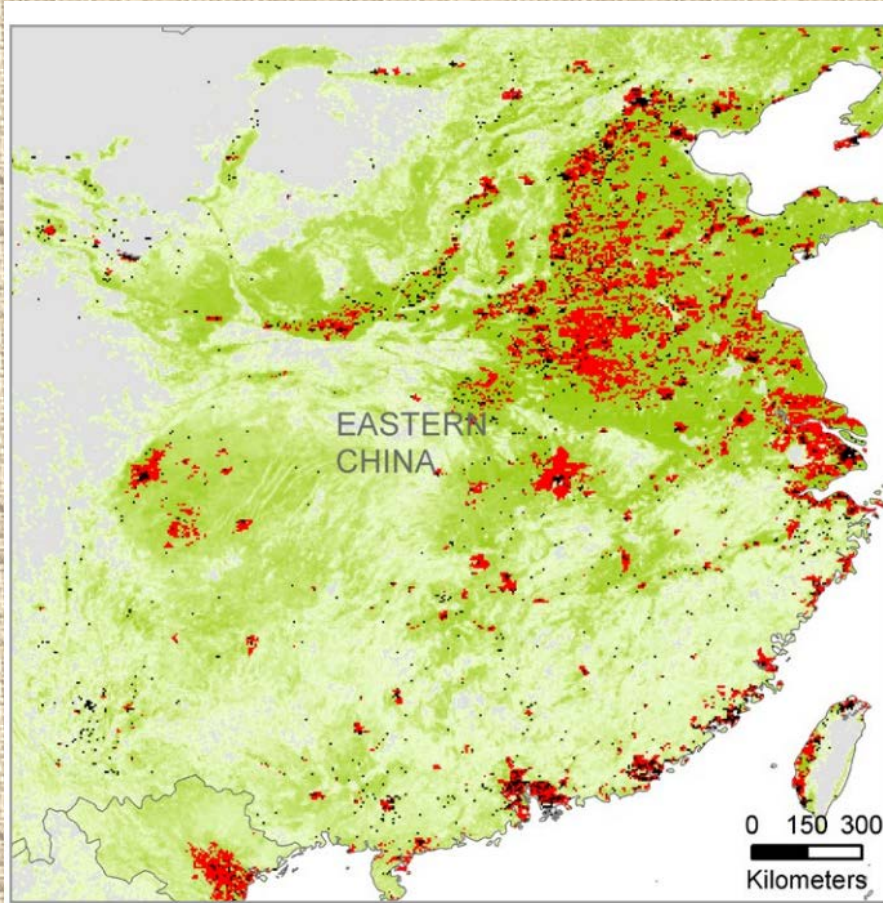
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Components of Resilience

- Land Conservation
- Water Availability
- Human Capacity / Infrastructure

Urbanization threatens croplands

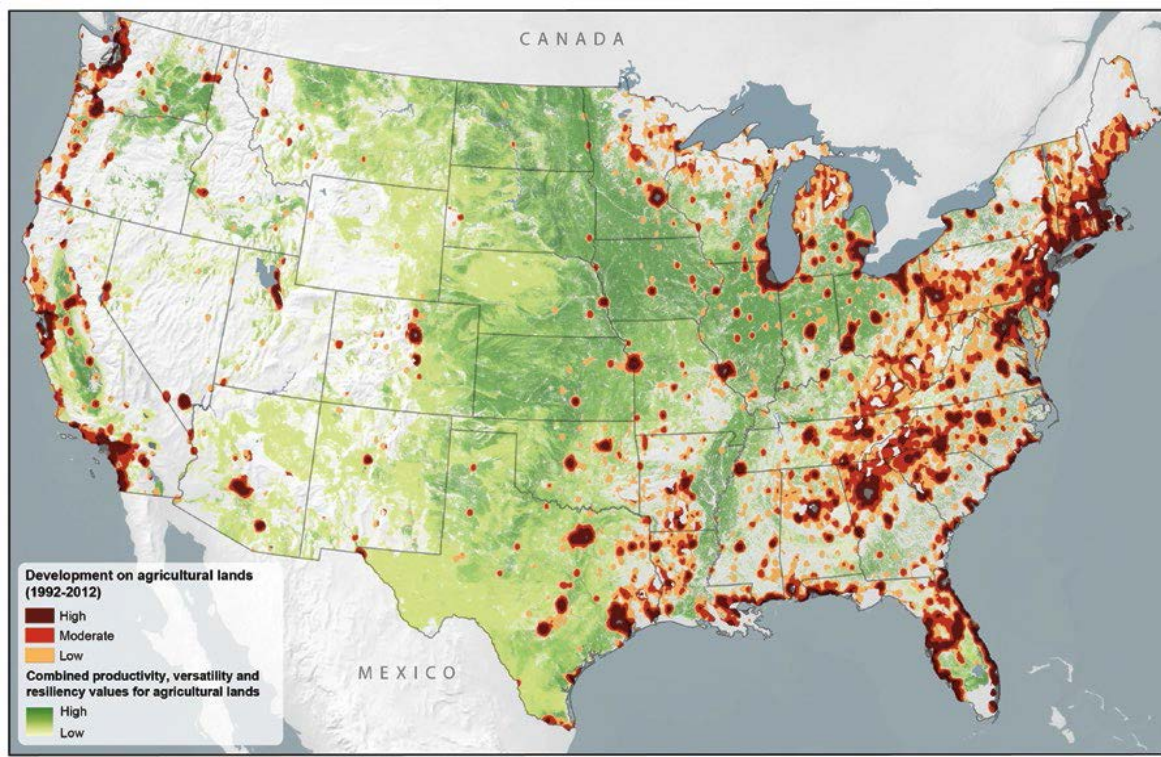


Adequate land to grow food is necessary for resilience

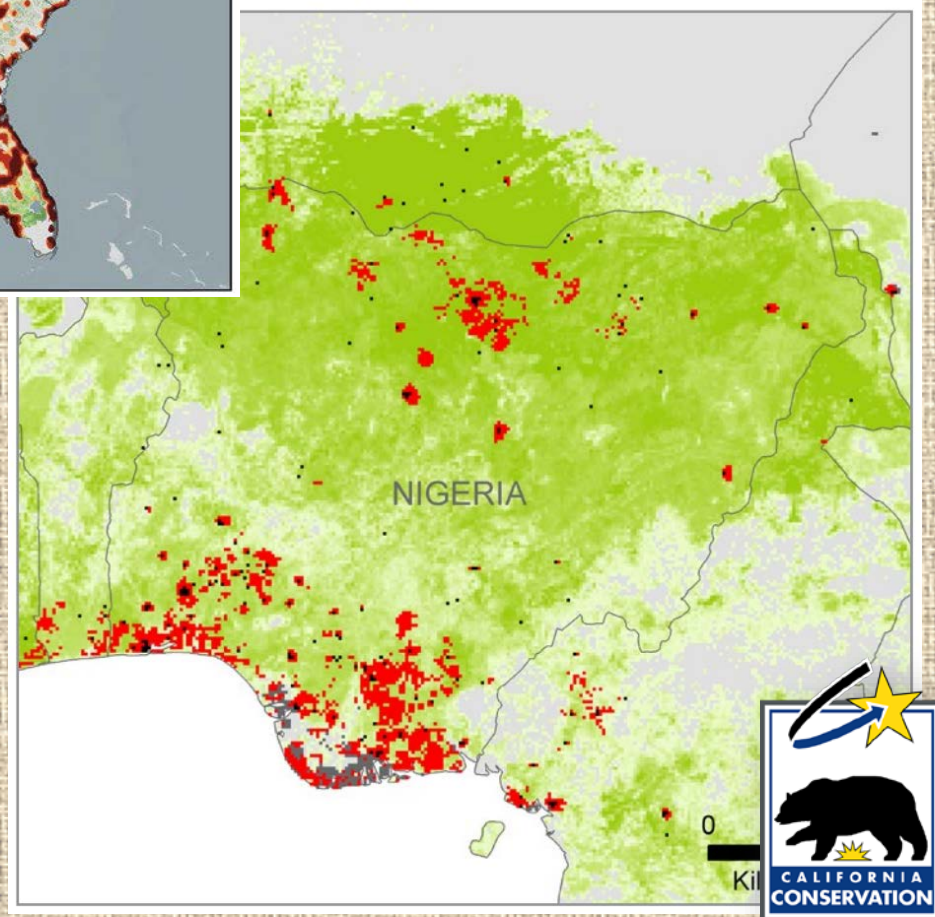


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- US lost 42 million hectares (10%) since 1961



Soil Health

Maintaining Land in a healthy state is also necessary

- Nearly half of world's rural pop lives on degraded Ag lands



GLOBALY, LAND
DEGRADATION
AFFECTS
PEOPLE.

ONE ACRE FUND

In Africa south of the Sahara, 75 percent of soils are degraded, costing farmers an estimated US\$4 billion in losses from reduced yields each year. Investing in the application of small, precise amounts of fertilizer—called microdosing—can be four times more effective than purchasing food aid, helping farmers invest in long-term resilience solutions.
(Photo credit: Hailey Tucker for One Acre Fund)

A photo-infographic
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Water
Availability

Access to Micro
Irrigation

Water Stress

**Water access and adequate
storage for droughts is critical
for resilience**



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Water Availability

- In Northern China, less water per person than Saudi Arabia
- India is now a water scarce nation



Around 1.2 billion people, or nearly one-fifth of the world's population, live in areas where water is scarce. Water-saving practices such as drip irrigation help build farmers' resilience, boost yields while using resources efficiently. (Photo Credit: Santiago Albert Pons for IFAD)

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Human Capacity and Infrastructure

- Access to Credit / Gov funds
- Road Quantity and Quality
- Disaster Preparedness
- Access to Extension Services
- Women's Education
- Quality of Electricity Access
- Food Waste



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Access to Credit / Gov Funds

THERE ARE CURRENTLY
MORE THAN
MICROFINANCE
INSTITUTIONS
AROUND THE WORLD.

- Access to credit allows farmers to survive uncertainty – price volatility or natural disasters

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Nearly 3 billion poor people still lack access to basic financial services that are essential for managing their challenging livelihoods. Access to finance can help farmers cope better with shocks from natural disasters, the impacts of climate change, and food price volatility.
(Photo Credit: Hailey Tucker for One Acre Fund)



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Road Quality and Quantity

- Lack of roads and/or poor road quality can slow or prevent the movement of agricultural products to market



NEW TRANSCONTINENTAL
ROADS IN AFRICA COULD
GENERATE
INTRA-AFRICAN TRADE
OVER 15 YEARS.



Only 16 percent of roads in Africa south of the Sahara are paved, and the region has roughly 75 percent less road cover than the rest of the world. Infrastructure is vital for helping farmers access input and output markets, like this banana farmer in Kenya. (Photo Credit: Neil Palmer for CIAT)

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Disaster Preparedness

Takes into account Exposure, Vulnerability, and Coping Capacity

- Climate Change will increase floods, droughts, heat waves, pest outbreaks



Training and cash-for-work programs, like this one in Bangladesh, help vulnerable communities build and/or renovate community assets and equip them to cope with the next storm or cyclone. (Photo credit: GMB Akash for WFP)

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Access to Extension Services

- Investment in extension yields 80% annual rates of return (40–60% is the norm).
- Educating farmers can increase crop yields.

AROUND
PEOPLE IN DEVELOPING
COUNTRIES LIVE IN
REMOTE RURAL AREAS.



 Mercy Corps

It can take these people up to five hours to reach a market town. They rely on rural extension services to help them increase their yields and adapt to increasingly changing growing conditions. (Photo Credit: Sean Sheridan for Mercy Corps)



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Infographic
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Women's Education

- A farmer who can read can access more resources necessary for ag and health resilience than one who can't.
- Women make up 43% of the agricultural labor force in developing countries and account for two-thirds of the world's 1 billion poor stock keepers



These youth health club members conduct door-to-door sessions in their communities. In addition to providing information on sexual and reproductive health, they also discuss breastfeeding, nutrition, good hygiene, and how to prevent diseases—all adding to local communities' resilience to health shocks. (Photo: Credit Kelley Lynch for USAID)

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Quality of Electricity

- Some ag equipment, like refrigerators, require consistent electricity to be effective



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Food Waste

- 1/3 food produced globally, along with the water, energy, and GHG emissions required to produce it, is wasted



ELIMINATING POSTHARVEST
GRAIN LOSSES COULD FEED

PEOPLE IN AFRICA.

ONE ACRE FUND

Halving global food waste would close the gap between current food production and expected food demand in 2050 by 22 percent. Proper postharvest handling techniques can also help prevent food contamination from common pathogens such as aflatoxin. (Photo Credit: Hailey Tucker for One Acre Fund)



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