

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

September 10, 2018 9:00 am – 7:00 pm Mondavi Center, UC Davis



State of California
Department of Conservation









Global Health Institute

### Welcome



### David Bunn, Director, California Department of Conservation



Michael Lairmore, Dean, School of Veterinary Medicine, UC Davis

### Symposium Goals

- **I. Share** models of success that emphasize integrated approaches to inspire innovation and action.
- **2. Identify** innovative strategies and actions that have the greatest promise to promote agricultural resilience, food security, and health in a changing climate.
- **3. Connect** with fellow symposium participants in support of deepening and expanding networks, inspiring creative thinking, and pioneering partnerships.
- **4. Inspire** commitments to generate change through managing land and resource use in innovative ways, with a long-term view to sustain ecosystem and agricultural services as well as population and planetary health outcomes.

Today's Symposium workbook & materials are available at: https://globalclimateactionsummit.ucdavis.edu/



9:00	Welcome		
9:30	Integrated Approaches: Successful Models to Tackle Complex Challenges		
10:30	Break for Networking and Refreshments		
11:00	Strategies for Success from Around the Globe - Replicating, Scaling, Iterating for Local Implementation		
12:30	Lunch		

### Afternoon Agenda

Jackson Hall		Vanderhoef Studio		
1:30	Actions & Strategies to Strengthen Ag and Forest Resilience, and Food Security	1:30	Breakout Session 1   Improving Food Security and Health	
2:30	Lightning Talks   Success Stories at the Ag-Food Security Nexus			
3:00	Break for Networking and Refreshments	3:00	Break for Networking and Refreshments Breakout Session 2   Agricultural Conservation and Resiliency and Natural Resources	
3:30	Combating the Impacts of Climate Change on Food Systems and Disease	3:30		
4:30	Lightning Talks   Success Stories at the Food-Health Nexus			
5:00	Key Ideas and Outcomes from Afterno	on Sessic	ons and Wrap Up	

#### JOIN THE CONVERSATION ON SOCIAL MEDIA



@OneHealthUCD @CalConservation @GCAS2018



@OneHealthInstitute @CalConservation @GlobalClimateActionSummit

#### **EVENT HASHTAGS:**

#### #GCAS2018 #StepUp2018

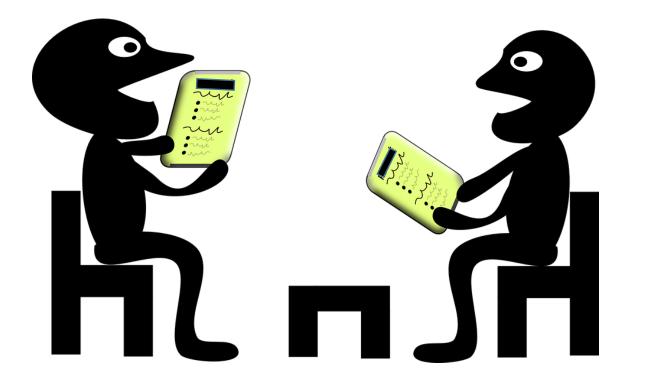
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Global Climate Action Summit 2018 – Affiliate Event

September 10, 2018

### **Thank You Partners!**

Introduce Yourself to those next to you, in front of you, behind you



### Instant Polling Questions for the Audience wifi – mondavi guest

Meeting Sift – informal, real time polling

### Please Participate

- 1
- open smartphone browser
- go to **sift.ly**

enter participant code



### Integrated Approaches: Successful Models to Tackle Complex Challenges



Moderator: Jonna Mazet, Executive Director, One Health Institute, School of Veterinary Medicine, UC Davis

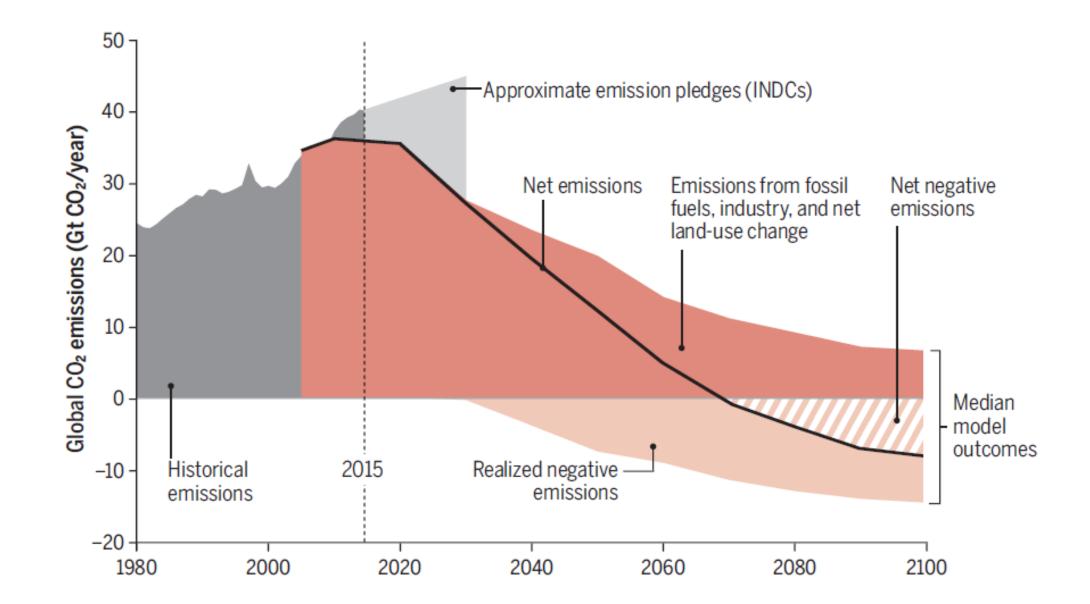






- Ben Houlton, Director, John Muir Institute of the Environment, UC Davis
- Ana Bodipo-Mbuyamba, Foreign Service Health Officer, USAID, Tanzania
- Deborah Bossio, Lead Soil Scientist, The Nature Conservancy, USA

Solving climate change requires negative emissions...



### Nature—the forgotten climate solution

# One third of the solution by 2030

🖪 🏏 🗂 🖫

**LESS THAN** 

1%

OF THE CONVERSATION

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## Climate mitigation potential of nature - 11.3GtCO<sub>2</sub>/yr

		<sub>0</sub> <sub>1</sub> GtCO	<sub>2</sub> e/ <sub>y</sub> r <sub>3</sub>	4 10
	Reforestation			
	Avoided Forest Conv.	-		
	Natural Forest Mgmt.			
	Improved Plantations			
	Avoided Fuelwood			
FORESTS	Fire Mgmt.			
AGRICULTURAL LANDS & GRASSLANDS	Biochar			
	Trees in Croplands			Legend
	Nutrient Mgmt.			
	Grazing - Feed			maximum
	Conservation Ag.			<2°C ambition
	Improved Rice			
	Grazing - Animal Mgmt.			
	Grazing - Optimal Int.			
	Grazing - Legumes			
Avoided Grassland Conv.				
(Ihan)	Coastal Restoration			
	Peat Restoration			
	Avoided Peat Impacts			
WETLANDS	Avoided Coastal Impacts			





#### FONAPA WATER FUND, ECUADOR

PHOTO: ERIKA NORTEMANN/THE NATURE CONSERVANCY

#### **USAID Climate Change Mitigation and Adaption in Development**

Enable countries to accelerate their transition to climate resilient low emission sustainable economic development

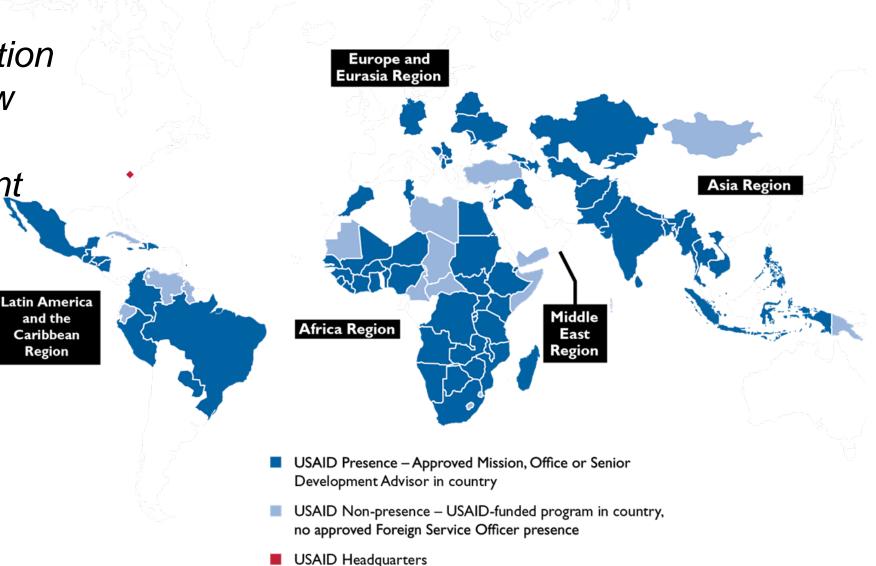
<u>Since 2010:</u>

\$

\$1 Billion investment s

Over 48

countries

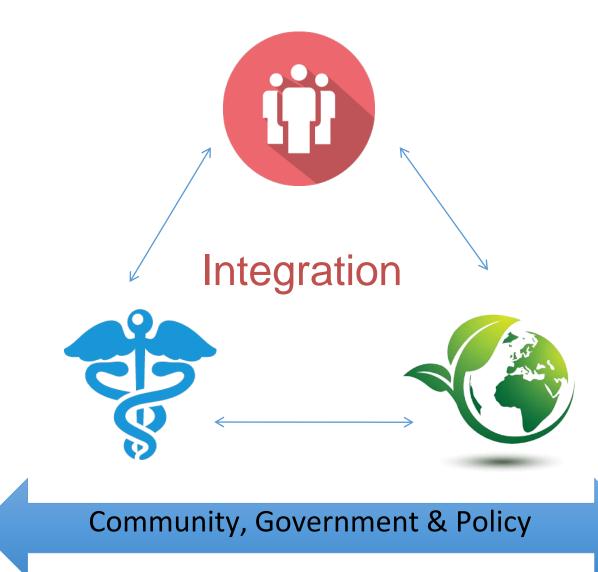


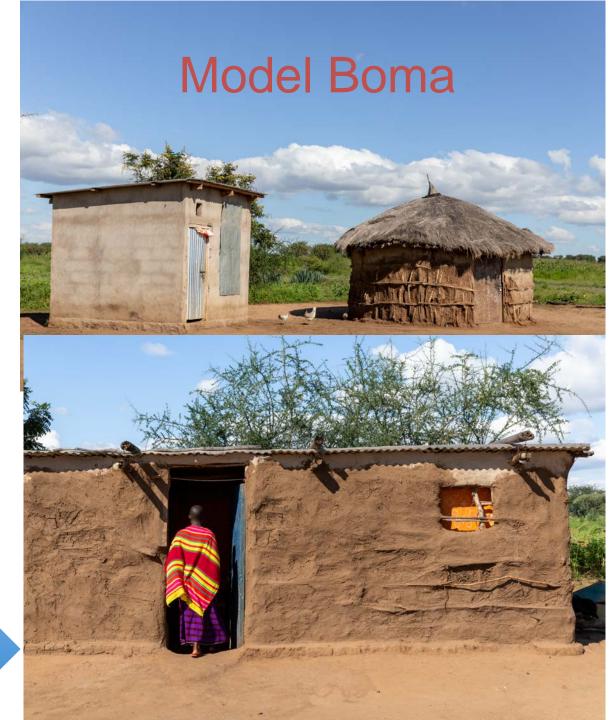




### Empowering Women and Youth

Point of Realization: Population, Health and Environment





NORTHERN RANGELAND TRUST, KENYA

PHOTO: © 2013 AMI VITALE FOR THE NATURE CONSERVANCY

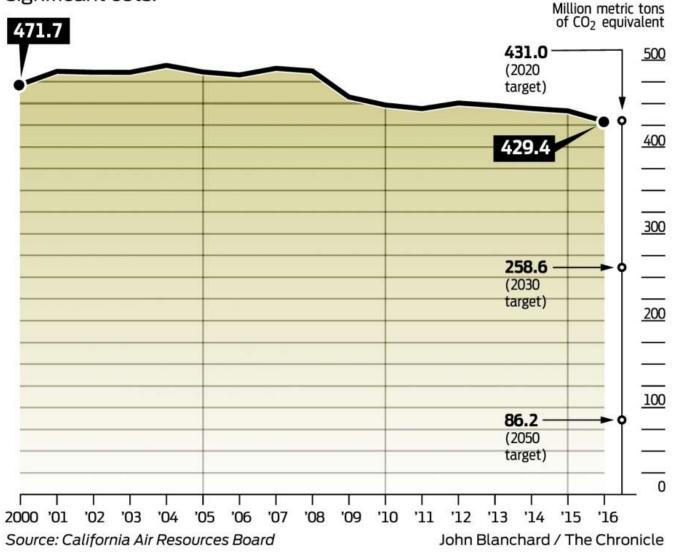
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### SOLAR IRRIGATION PUMP, KENYA

PHOTO JEFFERY M WALCOTT FOR THE INTERNATIONAL WATER MANAGEMENT INSTITUTE

#### Stepping off the gas

California has achieved its 2020 goal for reducing greenhouse gas emissions, but targets in 2030 and 2050 will require far more significant cuts.







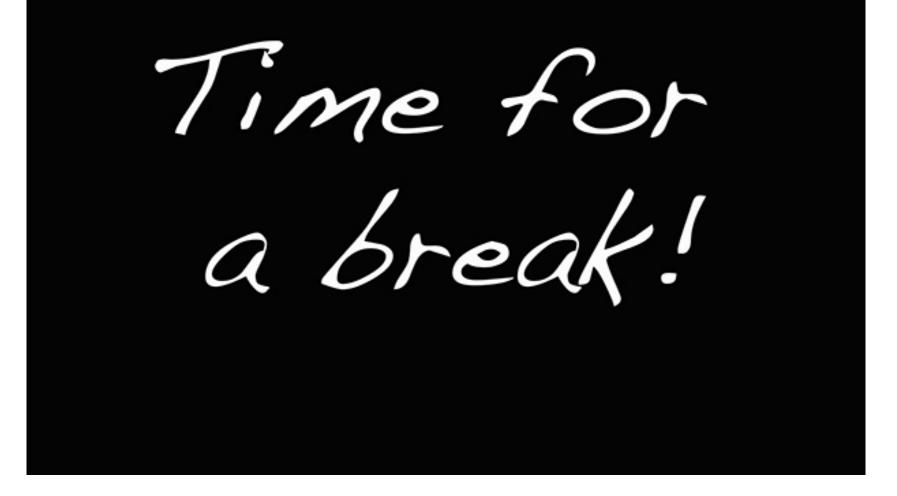


### Integrated Approaches: Successful Models to Tackle Complex Challenges

### If you have questions or comments please connect with the panel during the break

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- Ben Houlton, Director, John Muir Institute of the Environment, UC Davis
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Please Return at 11:00 AM

# **Strategies for Success from Around the Globe: Replicating, Scaling, Iterating for Local Implementation**



Moderator: David Bunn, Director, California Department of Conservation

- Buddhi Marambe, Chairman, National Experts Committee on Climate Change Adaptation, Sri Lanka
- Peter Msoffe, Deputy Vice Chancellor, Academic, Research and Consultancy, Dodoma University, Tanzania
- Liliana Dávila Stern, Lands Director, The Nature Conservancy, Mexico and Northern Central America

### **Instant Polling Questions for Participants**

• Meeting Sift – informal, real time polling

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### Buddhi Marambe, Chairman, National Experts Committee on Climate Change Adaptation, Sri Lanka

### Adapting to Climate Change – Sri Lanka Experience



#### Buddhi Marambe

Professor Department of Crop Science Faculty of Agriculture University of Peradeniya, Sri Lanka



Chairman National Experts Committee on Climate Change Adaptation Ministry of Mahaweli Development and Environment, Sri Lanka





## Stocktaking, synthesizing and identifying vulnerabilities

(a) Technology Needs Assessments - 2007

(b) Public Perception Survey on Climate Change – 2010

(c) Sector Vulnerability Profiles – 2010

Agriculture and fisheries

Health

Water

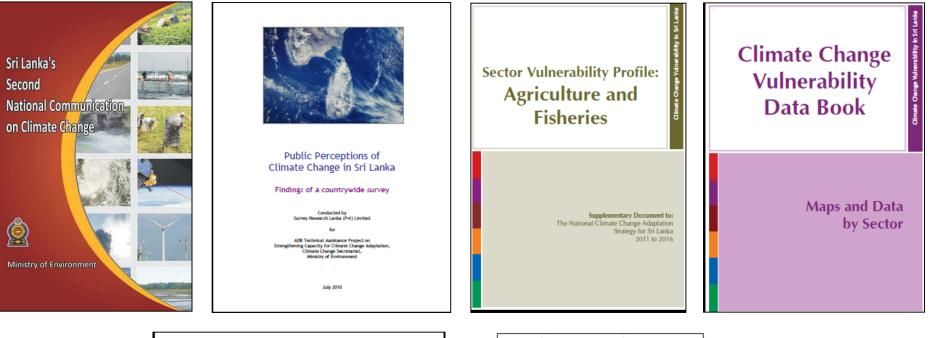
Biodiversity and ecosystem services

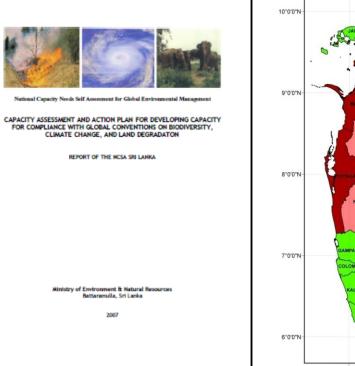
Sector Vulnerability Profile: Agriculture and Fisheries

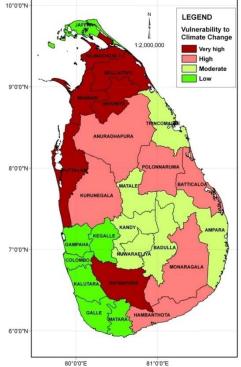
Urban development, human settlement and economic infrastructure

(d) Country vulnerability assessment - 2013

A solid foundation with greater awareness







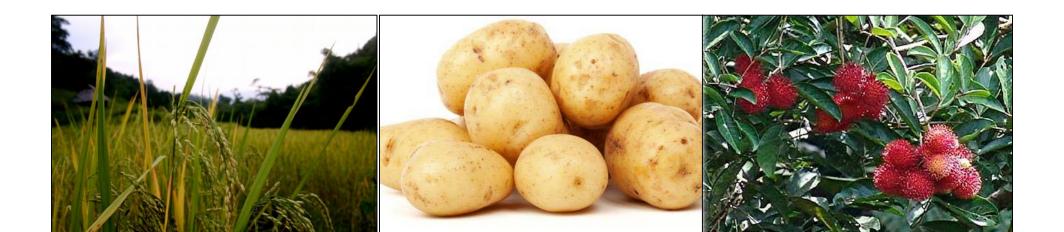


#### Impacts of Climate Change on Agriculture

 Climate of the country has undergone a drastic change No rains when it is needed (drought);

More rains when it is not needed (floods)

 Increase in temperature: Night temperature increases at a faster rate than the day temperature









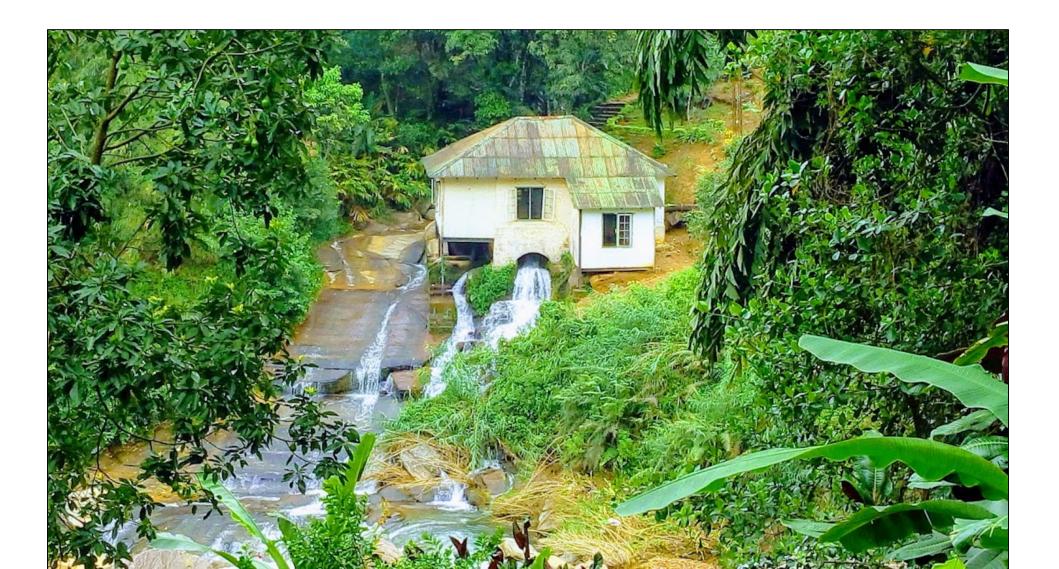
### Technology: attract youth, improve efficiency





## **Climate-smart Technoology**

### Corporate sector involvement (Mini-hydro power stations)



#### Corporate sector involvement – Solar Energy



## Corporate sector involvement – Wind Energy





University – private sector partnership

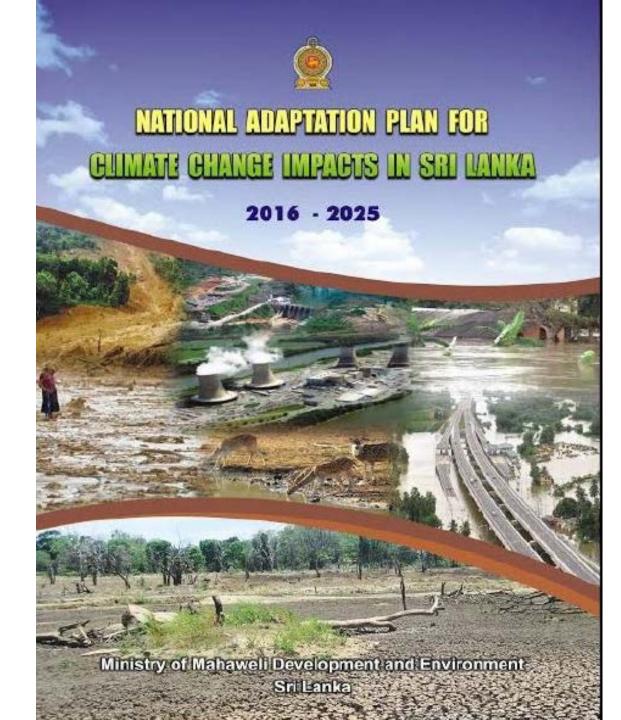
# More smart investments



## Mahaweli Development program: Moragahakanda reservoir







National Adaptation Plan (2016-2025)

## Launched on 18<sup>th</sup> October 2016

Provincial Adaptation Plans are in the making





## Thank you





Peter Msoffe, Deputy Vice Chancellor, Academic, Research and Consultancy, Dodoma University, Tanzania



Higher Learning Institutions: the most underutilized, overlooked, forgotten entities in global action



#### Prof. Peter L. M. Msoffe (PhD) Deputy Vice Chancellor – Academic, Research and Consultancy

Strategies for success from around the global – replicating, scaling, iteration for local implementation



# CONTENTS



- The University of Dodoma UDOM
- The Role of Higher Learning Institutions (HLI)
- Higher Learning Institutions underutilized entities?
- Conclusions



# THE UNIVERSITY OF DODOMA - UDOM



- A Public HLI established in 2007
- The Largest Public University in Tanzania
  - Land area over 6000 hectares
  - When completed enrolment expected at 40,000 students
  - Boasts seven campus Colleges offering comprehensive education
  - Running more than 150 programmes
    - Certificates; Diploma
    - Undergraduate degree; Graduate degree
    - In 2017-2018 over 25,000 students enrolled
- Has over 1,300 staff (Academic and Administrative)
- <u>Situated in the Capital City of Tanzania Dodoma</u>



# The Roles of Higher Learning Institutions



- Three main well known roles:
  - Teaching transferring knowledge
    - Academic, Professional and continuing education courses
    - Tailor-made specific requirements courses
  - Research generating new knowledge, generate solutions, repel myths
    - Create major breakthroughs (medical, engineering, agricultural, astrologyetc)
    - Explain various phenomena, challenge myths and beliefs
  - Public Engagement solve real-life problems
    - Transfer research/teaching skills into problem solving in the field/industry



# The Role of Higher Learning Institutions



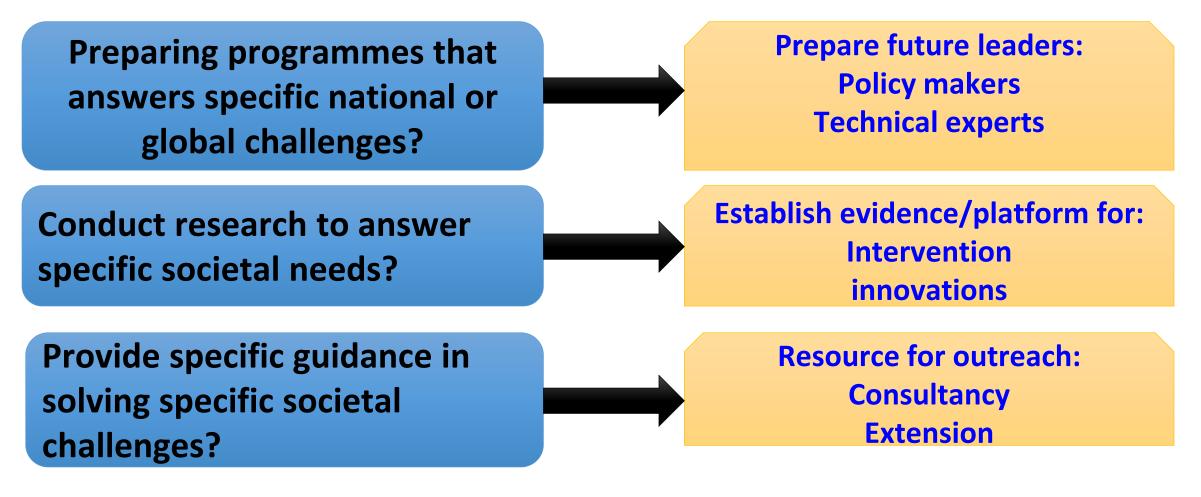
- Other lesser known roles as companies
  - Strategize/Plan
    - Strategy plans
    - Various projects infrastructure, income generation, public service
    - Raise funds government budgets, endowments, grants
    - Employ the necessary human resources
  - Implement
    - Autonomously
    - With partners
    - Using own manpower
  - Evaluate both self and external



# HLI: the most underutilized entities?



How often are HLI around the world being engaged by external stakeholders on:





# Conclusions



- HLIs are well placed for action on every area of public interest
- The key hindrance to most public HLI is budgetary constraints
- The private sector is assured of a better return of investment when supporting HLIs lead programs
- University of Dodoma welcomes partners to collaborate in climate related projects





# Thank you for your attention Asante Sana Mucho Gracias

Strategies for success from around the global – replicating, scaling, iteration for local implementation

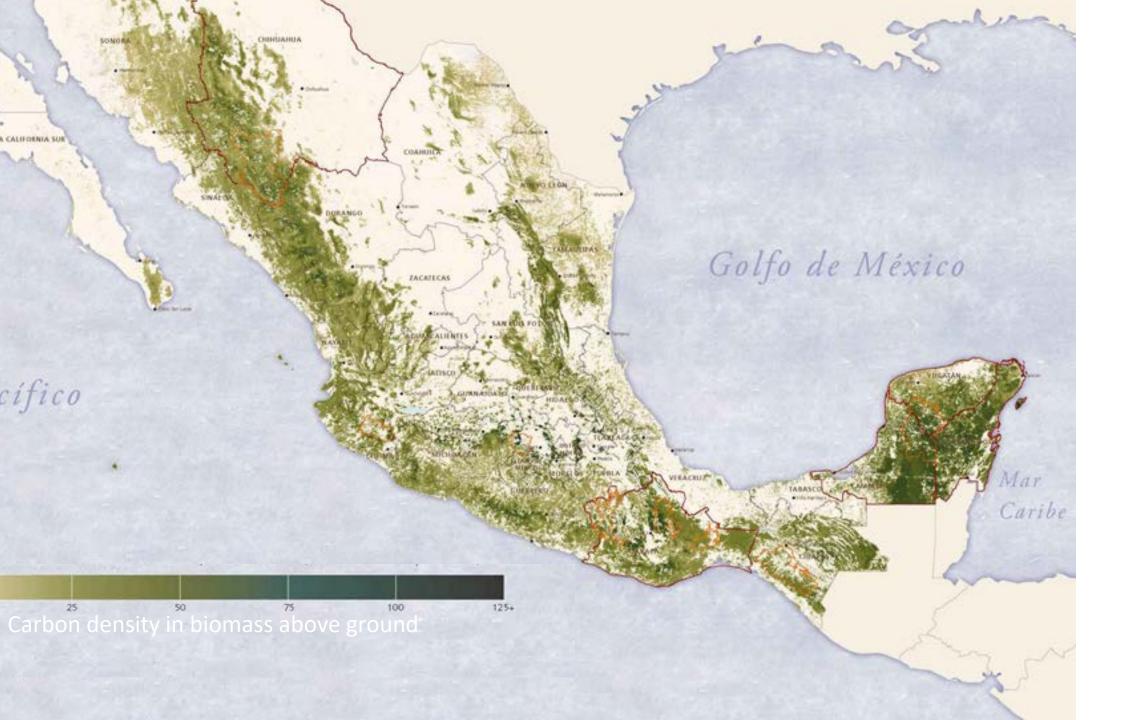


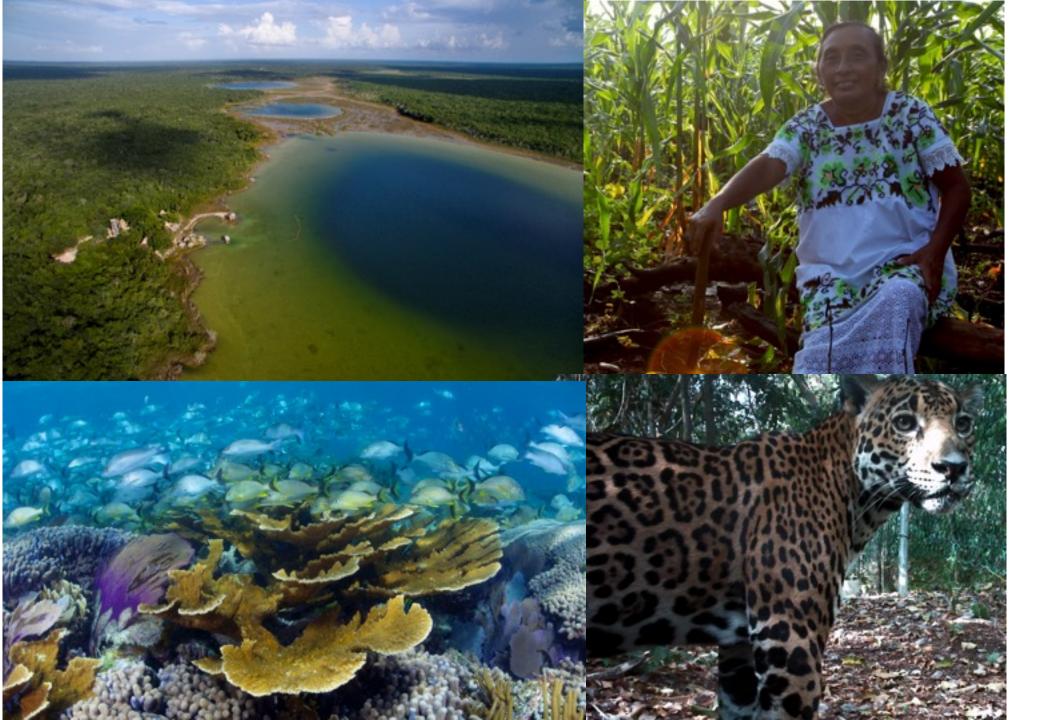
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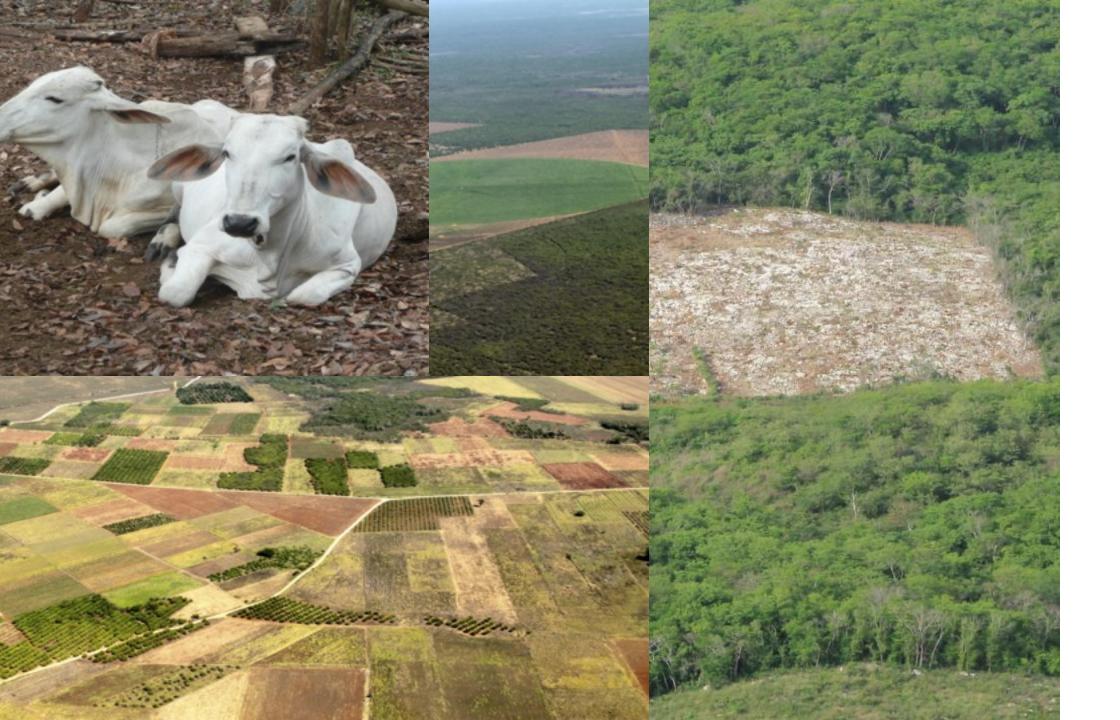
## Maya Forest, Mexico

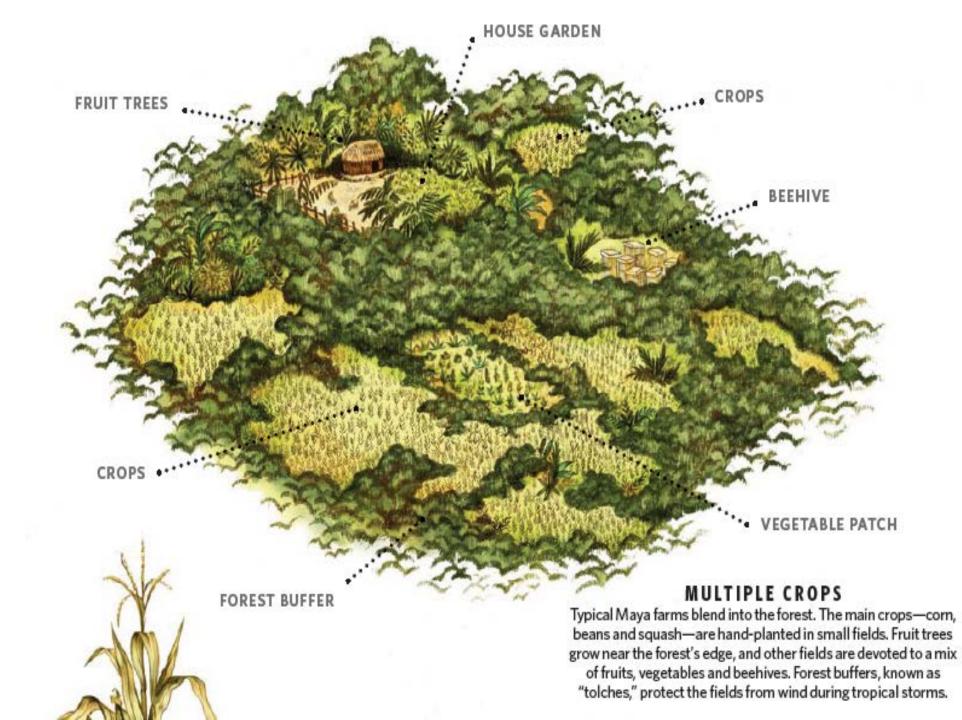
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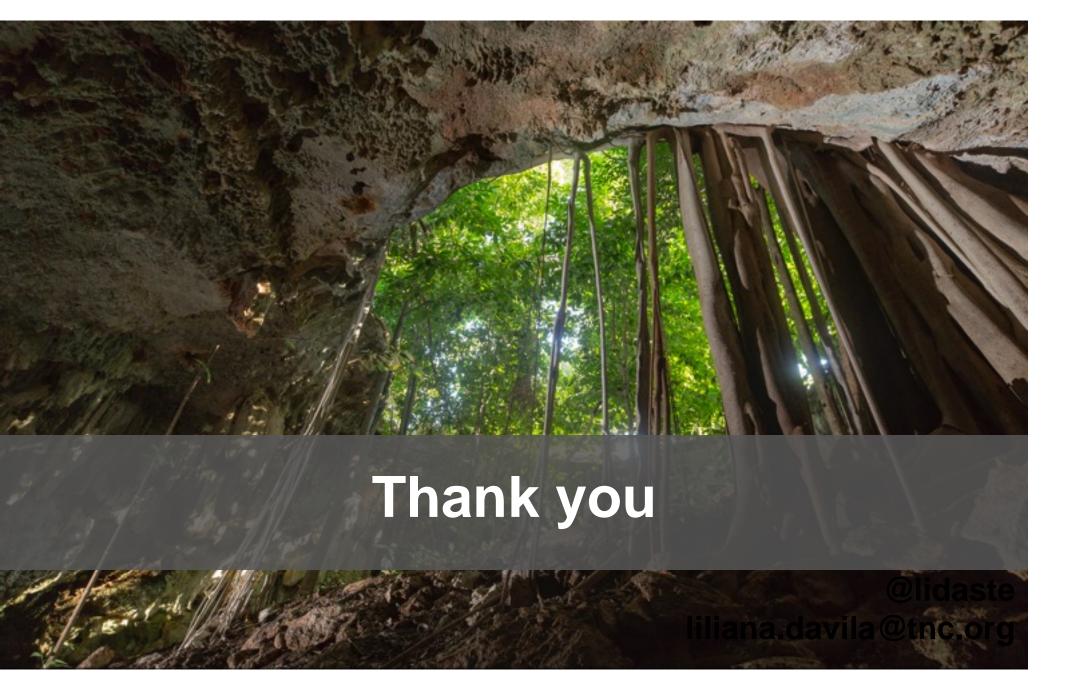
















## Strategies for Success from Around the Globe: Replicating, Scaling, Iterating for Local Implementation

## If you have additional questions or comments please connect with the panel during lunch

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