



At the Crossroads

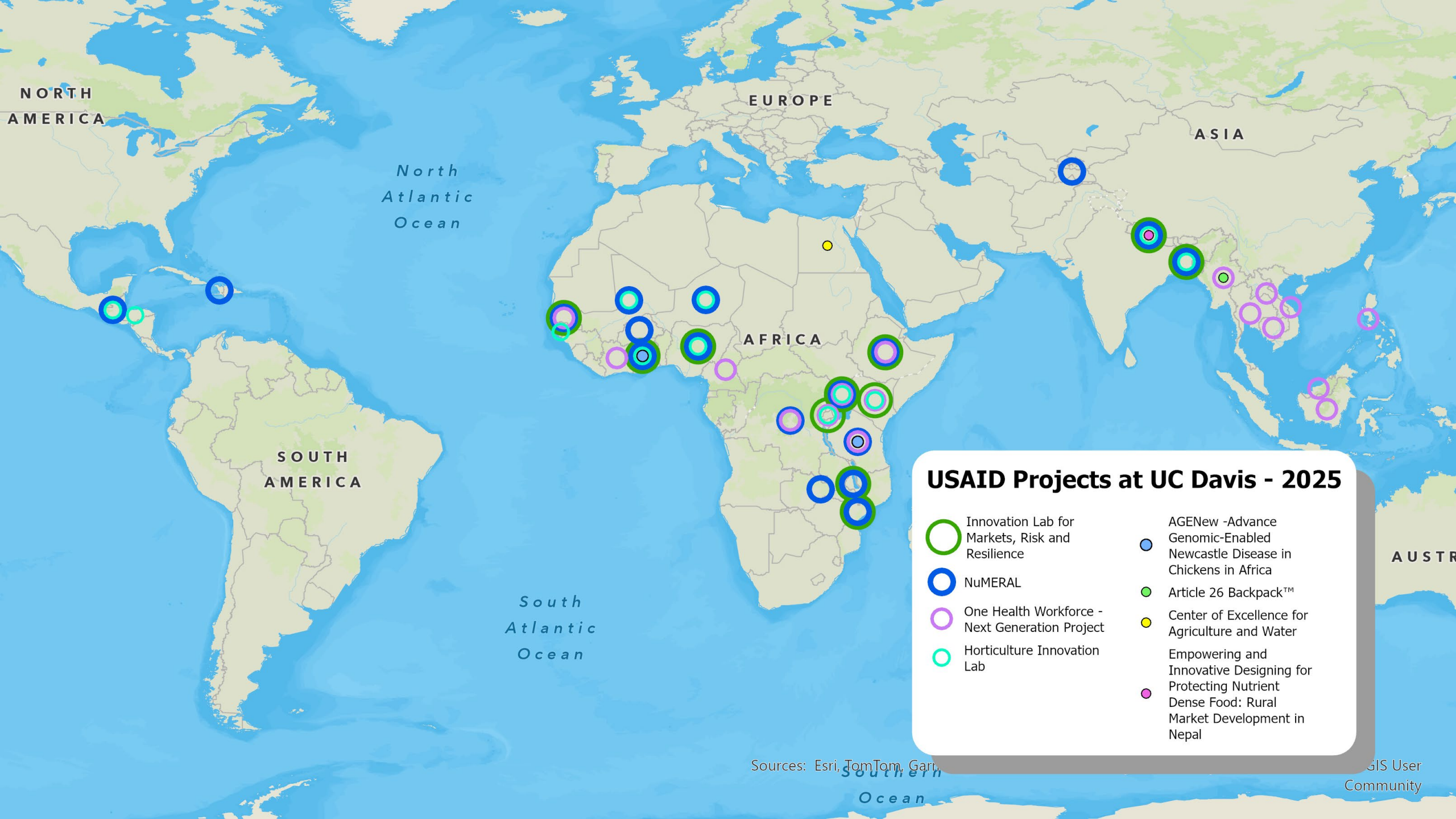
**Honoring Global
Impacts Amidst
Funding Challenges**





Michael Lazzara

Associate Vice Provost of Academic Programs and Partnerships



Sources: Esri, TomTom, Garmin

GIS User Community



Mary Croughan

Provost and Executive Vice Chancellor



Agriculture & Rural Poverty Alleviation





A Colorful Harvest: Horticulture Innovation Laboratory

Erin McGuire





Feed the Future Innovation Lab for Horticulture

Our mission and research initiatives

Presented by
Dr. Erin McGuire
Feed the Future Innovation Lab for Horticulture



HORTICULTURE
INNOVATION LAB

UC DAVIS
UNIVERSITY OF CALIFORNIA





FEED THE FUTURE

The U.S. Government's Global Hunger & Food Security Initiative

HORTICULTURE INNOVATION LAB

Established 2009

2009 – 2019 First ten years

2021 – 2026 Next five years

Directed by Dr. Erin J. McGuire

Management entity based at the University of California, Davis

Regional Hubs in East and West Africa, Central America and South Asia

based at International Center for Evaluation and Development, University of Ghana, Zamorano University and FORWARD Nepal

Our global research network advances horticulture and promotes local leadership to empower smallholder farmers.

CENTRAL AMERICA

Regional Hub
based at Zamorano University
in Honduras

WEST AFRICA

Regional Hub
based at University of Ghana

SOUTH ASIA

Regional Hub
based at FORWARD Nepal

EAST AFRICA

Regional Hub
based at International Centre for Evaluation
and Development (ICED) in Kenya



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The International Centre for
Evaluation and Development



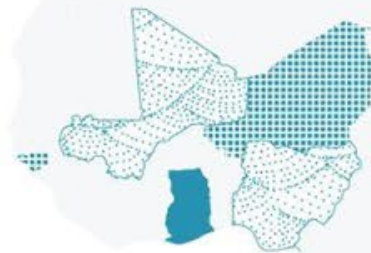
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Zamorano



Developing Partnerships and Innovations



-  Regional Hub and Research activity
-  USAID Mission Buy-in research activity
-  Research activity
-  DryCard™ activity



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THE VITAL ROLE OF HORTICULTURE



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The International Centre for
Evaluation and Development



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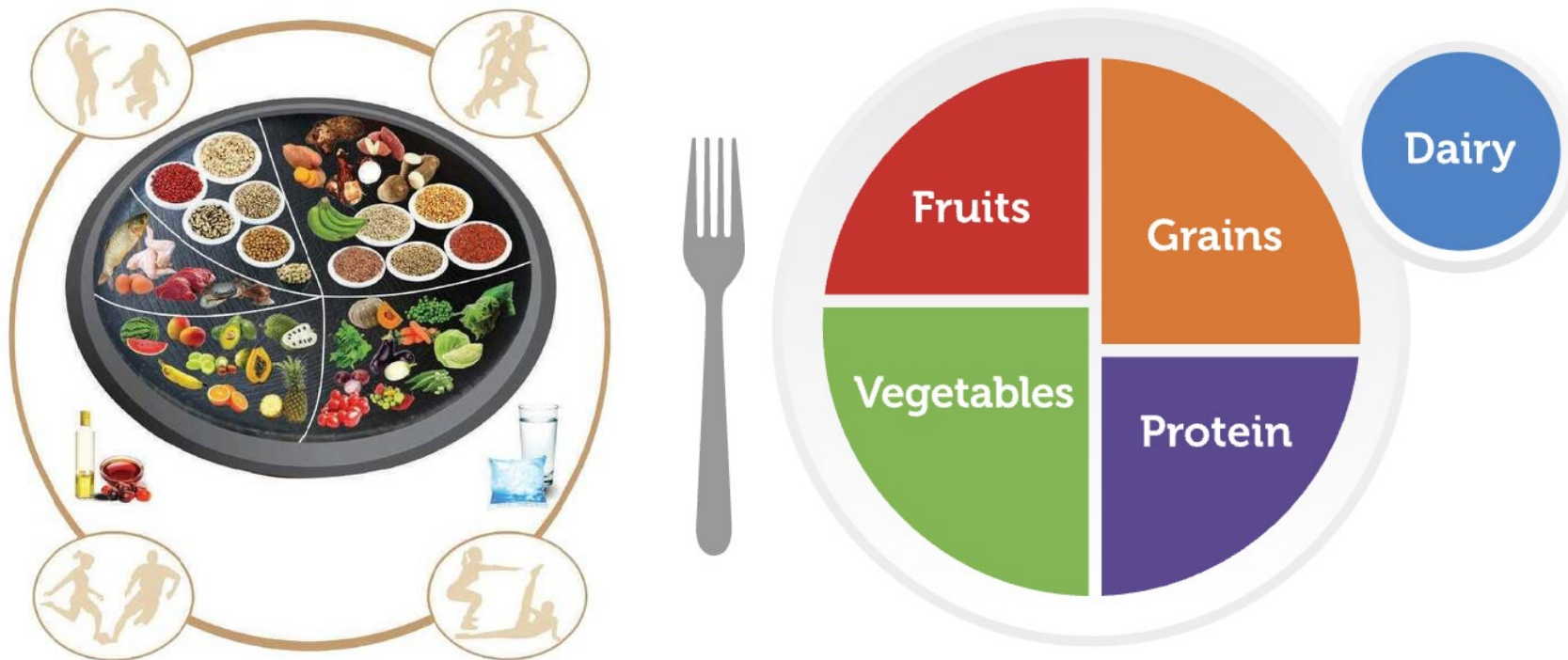


Zamorano[®]



Global definition of a healthy diet

Nutritional benefits of horticulture

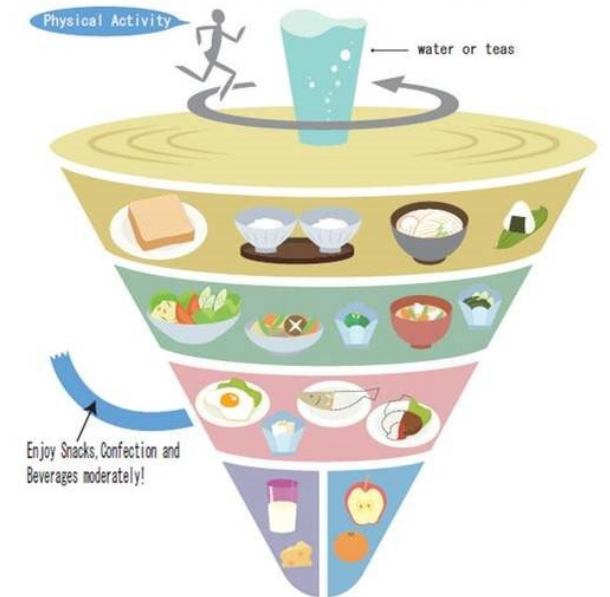


Ghana. (n.d.). Food and Agriculture Organization of the United Nations.
[fao.org/nutrition/education/food-dietary-guidelines/regions/countries/ghana/en/](https://www.fao.org/nutrition/education/food-dietary-guidelines/regions/countries/ghana/en/)

MyPlate | U.S. Department of Agriculture. (n.d.). <https://www.myplate.gov/>

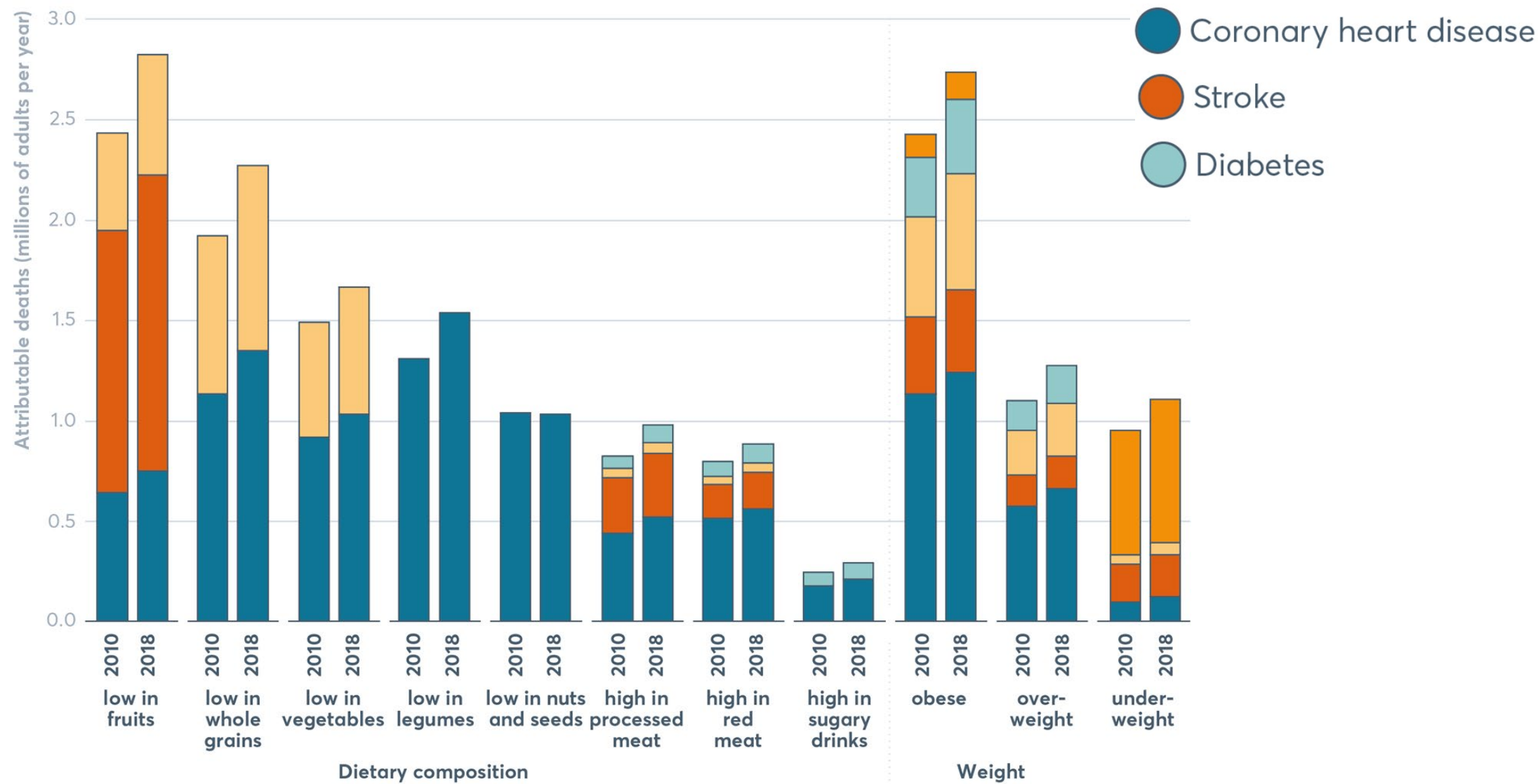
Japanese Food Guide Spinning Top

Do you have a well-balanced diet?

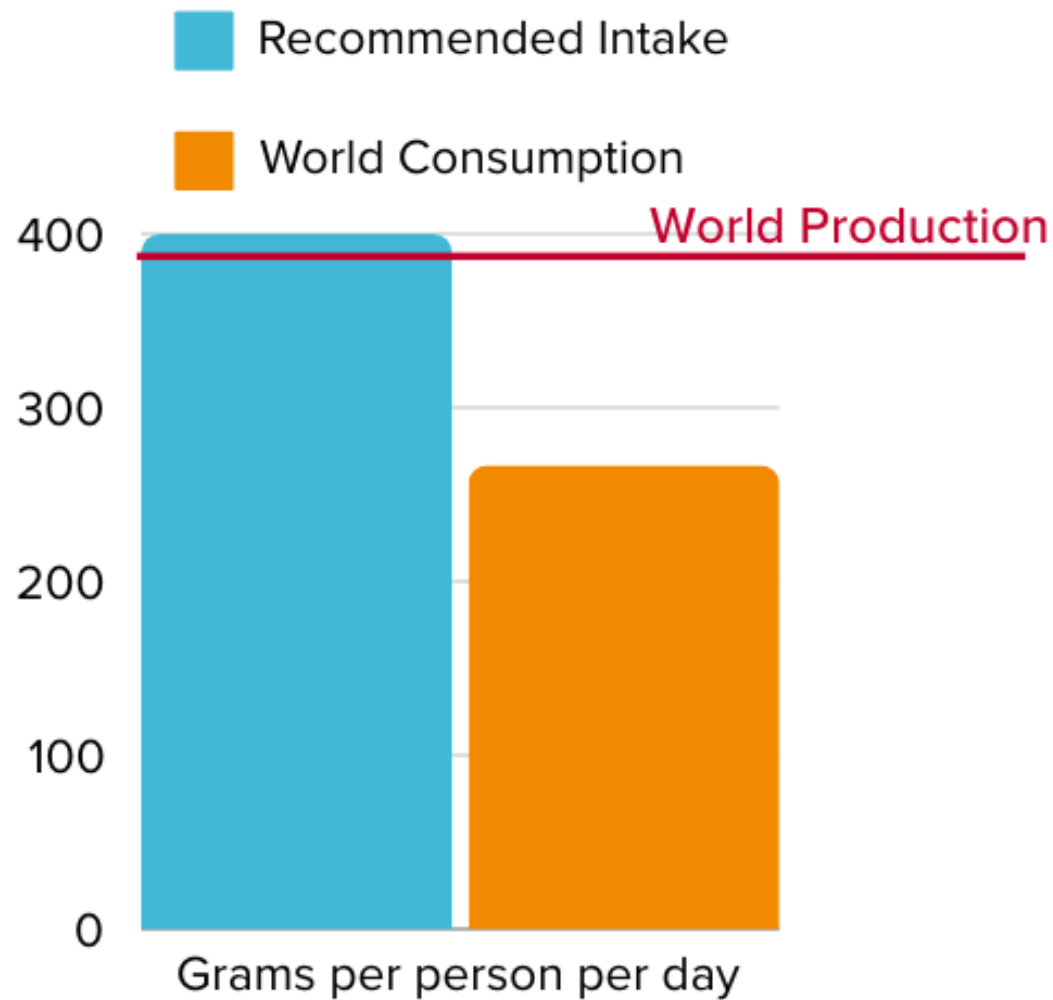


Japón. (n.d.). Food and Agriculture Organization of the United Nations.
[fao.org/nutrition/education/food-based-dietary-guidelines/regions/countries/japan/es/](https://www.fao.org/nutrition/education/food-based-dietary-guidelines/regions/countries/japan/es/)

In the absence of a healthy diet | Dietary burdens rise



Fruit and vegetable consumption gaps



- **World production lags behind recommended intake by *at least* 10 grams per person per day**
- **3 billion people are not able to afford a healthy diet**



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ADDRESSING LOCAL CHALLENGES: CASE STUDY WEST AFRICA



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Horticulture Investment Workshop in Accra, Ghana. Photo credit: Kristen Becker, 2024.

Priority Setting for West Africa

Priority

Improve the affordability and availability of healthy diets – in particular, consumption of horticulture crops – and making healthy diets affordable and available in the West Africa sub-Region.

Community of Focus

Women, small-scale farmers involved in rural and or urban agriculture. Targeting this community has far-reaching nutrition and health benefits for the family since women make food and nutrition decisions for the household.



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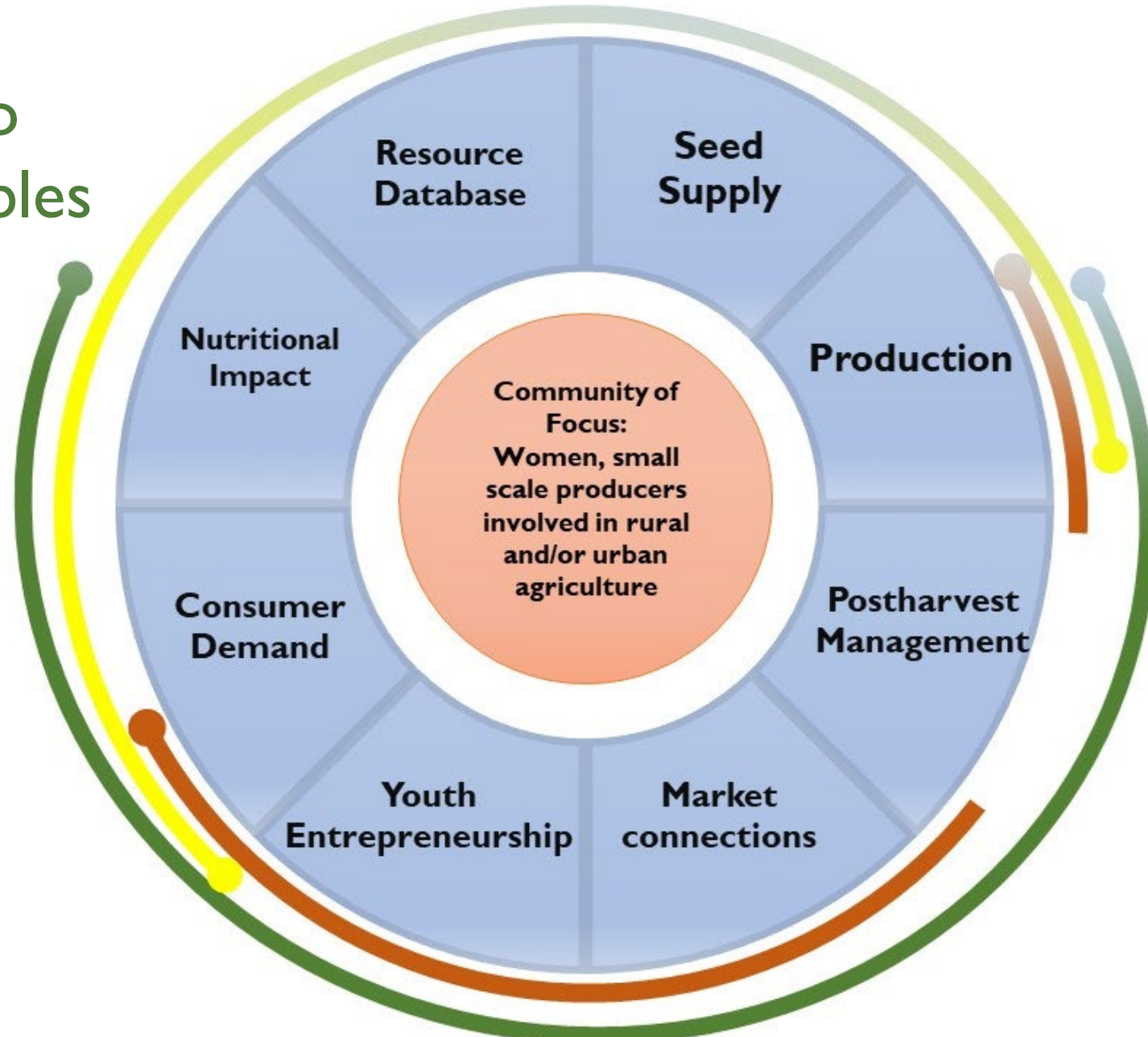
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Systems based approach to African Indigenous Vegetables and Fruits

Assem
Essilfie
Oladejo



Enhancing the production and consumption of African indigenous fruits and vegetables (AIFV) to improve diets in Ghana and Mali



Award \$460,000

Duration ~ 3.5 years

Collaborators

Université des Sciences des Techniques et des Technologies de Bamako (USTT-B) FARA Council for Scientific and Industrial Research Food Research Institute in Ghana Young Professionals for Agricultural Development (YPARD)

1. **Select & assess** four indigenous crops for shelf-life and nutrition
2. **Map value chains** & engage key stakeholders in Ghana & Mali
3. **Test & validate** postharvest tech with farmers, processors & retailers
4. **Launch youth call** for AIFV-focused enterprise development
5. **Disseminate** findings via policy briefs, media & cultural influencers

The project aims to shift consumer perceptions, boost AIFV demand, and increase income along the value chain—especially through youth-led innovation.

Promoting food and nutrition security in the West African sub-region through indigenous, neglected and underutilized fruits and vegetables



Award \$440,000

Duration ~ 3.5 years

Collaborators

World Vegetable Center CSIR- Plant Genetic Resources Research
Institute CSIR Savanna Agricultural Research Institute

1. **Analyze** AIFVs for nutrition, safety, genetic diversity, resilience & yield
2. **Strengthen** seed systems with training & gap assessments
3. **Develop** value-added products based on consumer preferences
4. **Promote** AIFV consumption via school gardening & feeding programs

This value chain approach, from seed to plate, ensures AIFVs support nutrition, resilience, and food security

Increasing youth participation in the production of indigenous vegetables and fruits leveraging locally available resources



Award \$ 460,000

Duration ~ 3.5 years

Collaborators

Obafemi Awolowo University, Utah State University

1. **Train 200+ youth** (in- and out-of-school) on soil health & AIFV practices
2. **Collaborate** with ministries, schools & communities across 5 states
3. **Implement experiments** in field & screenhouses (biochar, seed, apps)
4. **Develop digital tools** (mobile app & website for AIFV practices)
5. **Assess impacts** on income, nutrition & soil management awareness

This initiative promotes youth employment, boosts AIFV production and consumption, and enhances sustainable agriculture practices.



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UC Davis based initiatives

- International Demonstration Center
- Engagement with International Ag Development Graduate Group
- GenderUp – A conversational method for inclusive scaling
- Innovating and Scaling for Social Transformation Global Class
- Global Ag Day and beyond – Bringing leaders from around the world to UC Davis
- Horticulture Opportunities study
- A suite of production and postharvest technologies



What's at stake

- Disruption of 16+ research projects on nutrient-rich, climate-resilient crops
- Loss of critical data on biodiversity, nutrition, postharvest, production, and seed systems
- Paused youth and women training in ag-tech, soil health & entrepreneurship
- Stalled consumer behavior change toward healthy, local foods
- Missed opportunities for policy influence & food system integration
- A global network of scientists and institutions; and UC Davis connection major ag organizations.

Opportunity

- Strong local partnerships & protocols already in place
- Ready-to-scale pilots with measurable impact
- Strategic funder support can rapidly restore momentum





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Thank you

We hope you have enjoyed this presentation

This program is made possible by the generous support of the American people through the United States Agency for International Development (USAID). The contents are the responsibility of the Feed the Future Innovation Lab for Horticulture and do not necessarily reflect the views of USAID or the United States Government.

horticulture.ucdavis.edu



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Building Resilience & Agricultural Growth: The Feed the Future Innovation Lab for Markets, Risk & Resilience

Tara Chiu





Markets, Risk & Resilience Innovation Lab

The Feed the Future Innovation Lab for Markets, Risk and Resilience (MRR) develops and tests financial and market innovations that take the most promising agricultural tools for families in developing economies from the lab to the field.

The mission of the MRR Innovation Lab is to generate and transfer knowledge and innovations that promote resilience and empower rural families, communities and markets to share in inclusive agricultural growth.

A Body of Evidence: **Resilience+**

Small-scale farmers face an increasing risk of extreme weather like drought or flood that in any year can destroy their livelihoods.

Facing these risks, farmers hold back from investing their scarce resources into improved practices or crop varieties because they can't risk losing everything.

At the same time, when financial or agronomic tools reduce losses or provide support when times are bad, farmers make those investments, and they reap the rewards at harvest.

These two together—resilience to shocks and investments that drive higher productivity—are the foundation of Resilience+.



Sustainably Building Women's Assets

- In Kenya's arid north, where pastoralism is a predominant livelihood, The BOMA Project has been implementing a project that provides the poorest women in pastoralist communities with the funds and training to establish a small business.
- Many of these businesses are based on livestock keeping or setting up a small shop to sell goods.
- However, these businesses are at risk when a drought drives their owners into hardship.



Next Research Phase: Risk Management

- The well-established, previously researched index-based livestock insurance (IBLI) is a low-cost form of insurance that releases payouts when satellite measurements of vegetation predict that a drought will threaten an area's livestock.
- In 2017, this MRR Innovation Lab research tested the impacts of pairing IBLI with BOMA's intervention. The idea was that the insurance would provide the means for new business owners to hold onto their gains in the event of drought.
- However, the team quickly learned that livestock insurance did not appeal to women because in most pastoralist households, men control the family's livestock as well as the payments that come from insuring it.



Making Insurance Fully Available to Women

Family Insurance is a new type of drought insurance that supports the collective welfare of pastoralist families in Northern Kenya. Family Insurance is built from the same index and technical foundation of IBLI but is sold in “family” units that account for a family’s needs in times of hardship.

In 2023, research showed that 20 percent more women bought Family Insurance than conventional IBLI, and the amount they insured was 40 percent higher.

Preliminary results of an intervention to allow women to use savings accounts to be ready for the payment of the premiums have shown significant promise, but additional research is needed.

Our team has been measuring the broader impacts of the insurance on people’s livelihoods by scaling Family Insurance, but here - again additional research is needed.



The Costs of Termination: Examples



Crop Insurance Innovations to Build Trust in Financial Services for Agriculture in Ethiopia



Mitigating Conflict through Insurance in East Africa?



Subsidizing Learning About Resilience-building Agricultural Technologies in Mozambique

Leveraging USAID Investments: Our Work Continues



- Leveraging evidence generated under USAID awards, The Gates Foundation provided UC Davis a five-year grant to test new innovations designed to spark inclusive agricultural transformation among small-scale farmers in Sub-Saharan Africa and South Asia.
- The Resilience+ Innovation Facility is developing, implementing, and rigorously evaluating integrated approaches to build Resilience+.
- This demonstrates the power of new investments to leverage the powerful work completed with USAID support for continued and expanded impact.

resilience.ucdavis.edu



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Empowering & Innovative Designing for Protecting Nutrient-Dense Food

Amanda Crump



Empowering and Innovative Designing for Protecting Nutrient Dense Food: Rural Market Development



Strengthening Food Systems from Nepal to California: A Project Interrupted
Amanda Crump, Ph.D.

Photo credit: Poudel/University of California, Davis

Project Overview

Objective: Strengthen supply chain of nutrient dense vegetables and fruits

Approach:

- Test and scale postharvest technologies
- Partner with the private sector
- Focus on inclusive business models

Partners: UC Davis, iDE, Mandala Agrifresh, Ag and Forestry University, Tribhuvan University



Why Nepal? Why Now

- Postharvest loss exceeds 50%
- 11.6% of households are food insecure
- Smallholders—especially women and youth—lack access to modern tools
- High-impact, replicable test case for last-mile innovation
- 10+ years of collaboration and investment



Empowering and Innovative Design

- Market Systems Development approach
- Co-designed business models
- De-risked private investment
- Inclusive governance: women and youth as owners and leaders
- Example technologies: modified atmospheric packaging, CoolBot™, zero-energy storage



Research and Learning

Key Question: Which de-risking tools and business models enable private sector adoption in remote areas?

Methods:

- Cost-effectiveness analysis
- Market Systems Resilience Index
- Community Empowerment Indices
- Policy, behavioral, and market assessments





Anticipated Impact

- 900 farmers (60% youth, 50% women) reached
- 6 rural food processing enterprises launched
- 1,700 MT of produce processed with new technologies
- 4 joint ventures with private firms
- Business case and policy dialogue to influence scale-up



The Cost of Cancellation

- Pilot activities halted midstream
- Partnerships and local momentum disrupted
- Innovation models left untested
- Missed opportunity to transform rural supply chains
- High-potential youth and women entrepreneurs paused





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www.feedthefuture.gov



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DEPARTMENT OF PLANT SCIENCES

iDE Powering
entrepreneurs
to end poverty.

Tufts
UNIVERSITY

GERALD J. AND DOROTHY R.
Friedman School of
Nutrition Science and Policy



Health





One Health Workforce - Next Generation

Woutrina Smith



One Health Workforce – Next Generation Project



The goal of OHW-NG was to enhance global health security by strengthening a global health workforce capable of rapidly responding to and mitigating disease threats across the human, animal, and environmental health sectors

Woutrina Smith, DVM, MVPM, PhD



EXCEPTIONAL CARE, EDUCATION *and* INNOVATION

wasmith@ucdavis.edu

The power of people... we have created a global network of One Health professionals...



... they are ready to respond to emerging needs.



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SOUTHEAST ASIA ONE HEALTH UNIVERSITY NETWORK

AFROHUN

AFRICA ONE HEALTH UNIVERSITY NETWORK

- Indonesia
- Malaysia
- Thailand
- Vietnam
- Cambodia
- Laos
- Myanmar
- Philippines



SEAOHUN
Southeast Asia One Health
University Network

- | | |
|-----------------|------------|
| • Cameroon | • Rwanda |
| • Cote d'Ivoire | • Senegal |
| • DRC | • Tanzania |
| • Ethiopia | • Uganda |
| • Kenya | • Liberia |



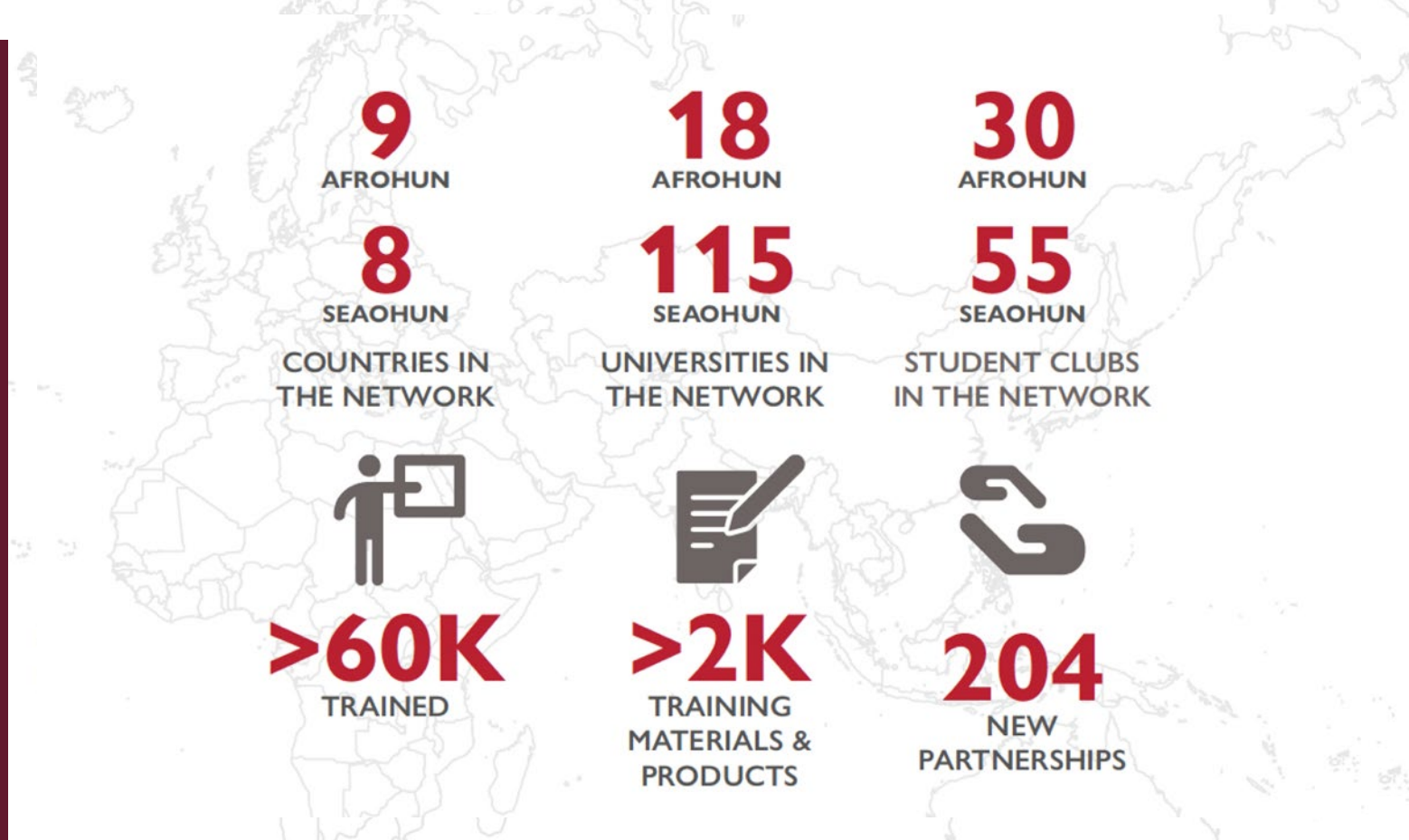
AFROHUN
Advancing One Health





WHY UNIVERSITY NETWORKS?

- Universities are trusted stakeholders with crucial roles in preparing national workforces to **prevent, identify and respond to emerging disease threats and pandemics**.
- Universities are uniquely positioned to bridge disciplinary silos, **foster multi-sectoral collaboration**, inform and drive policy agendas, engage national and subnational actors, and catalyze public/private partnerships.
- Universities harness the expertise and human resources, innovative potential, physical infrastructure, and commitment to community service essential for trust and effective engagement.
- Through networking** (globally, regionally, nationally) - the strength of AFROHUN, SEAOHUN, and the OHW-NG project - **universities grow stronger, providing long-term foundations for training, education, and even surge capacity support to address health emergencies.**



OHWA

ONE HEALTH WORKFORCE ACADEMIES



5,040
Registered
Learners



Popular Courses:

Antimicrobial Resistance
Outbreak Investigation
One Health and Gender
Fundamentals of One Health

Risk Communication & Community Engagement



94
Countries
Represented



58%
Female



- **41%** In-service professionals
- **39%** Students
- **15%** Faculty



Outbreak Investigation and Response

ONLINE COURSES



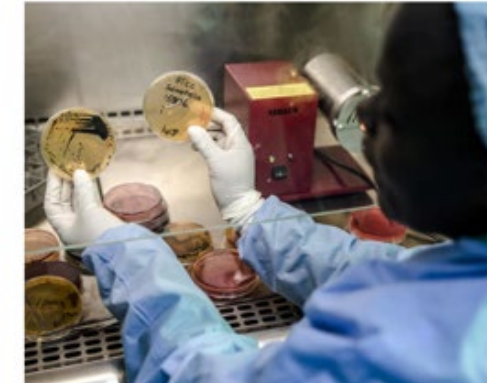
Risk Communication & Community Engagement

CASE STUDIES



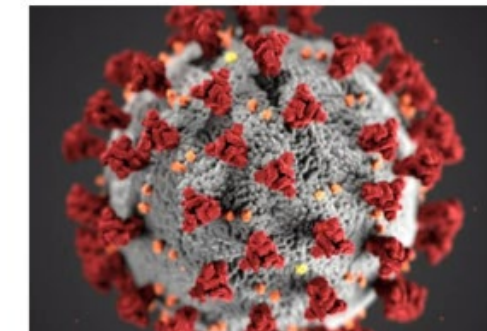
Fundamentals of One Health Practice

ONLINE COURSES



Antimicrobial Resistance in One Health: Introductory Level

ONLINE COURSES



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Advancing One Health



CAMEROON

1. Université des Montagnes
2. University of Buea
3. University of Ngaoundéré

DRC

4. University of Kinshasa
5. University of Lubumbashi

ETHIOPIA

6. Jimma University
7. University of Addis Ababa
8. Mekelle University

KENYA

9. University of Nairobi
10. Moi University

RWANDA

11. University of Rwanda
12. University of Global Health Equity

SENEGAL

13. Université de Cheikh Anta Diop

TANZANIA

14. Muhimbili University of Health & Allied Sciences
15. Sokoine Univ. of Agriculture

UGANDA

16. Mbarara University of Science & Technology
17. Makerere University

CÔTE-D'IVOIRE

18. Université Félix Houphouët-Boigny

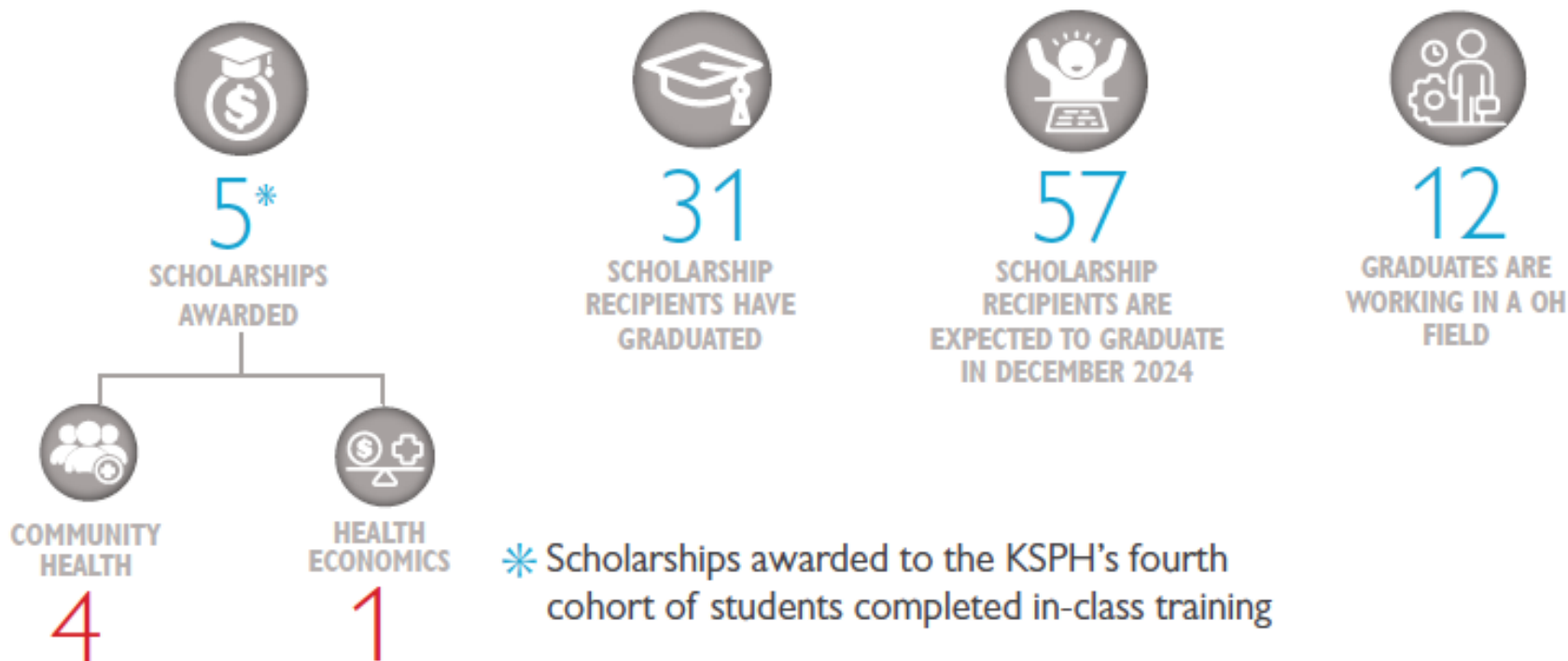


DRC

SUPPLEMENTAL FUNDING: DRC

Professional development: Building public health capacity in the DRC through MPH scholarships at the University of Kinshasa School of Public Health

Dashboard



Outbreak Response: Frontline Worker Training in Uganda

The identified structures to be used for the achievement of this work plan include:

- 📍 Village stakeholders constituting of LCIs executives, VHTs
- 📍 Parish and Subcounty Stakeholders comprising of LCIs, Parish Chiefs, PDCs, Parish Councillors
- 📍 Opinion leaders
- 📍 Cultural leaders (of Iteso-cultural union Tieng – Adhola cultural union) Structures
- 📍 Religious leaders (of all sects/denominations)
- 📍 Institutional stakeholders such as Headteachers, Teachers, Matrons, Prison Commanders, Wardens, Health Facility In-Charges, drug Shop/Clinic Operators, Traditional Birth Attendants, Witch Doctors etc
- 📍 Transport sectors involving motor drivers/cyclists
- 📍 Hotel, restaurants, guest houses, bars and lodges
- 📍 Media fraternity
- 📍 Community connection structures
- 📍 Key populations involving sex workers, floating populations, drivers on transits etc

SN	What had been done	What needs to be done (strategies)	Resources required	Responsible person	Place of implementation	Means of verification	Time frame	Source of funding	Remarks
01	Some trained VHTs using reporting tools	Need for all VHTs to be trained & equipped with reporting tools. Need for continuous encouragement for VHTs to strengthen reporting. Need for the trained health workers to conduct CMEs on surveillance activities as a way of cascading the capacity building training.	Stationery (reporting tools) Training allowances CME – schedules/ program in place & refreshment	DHE Health inspectors Health assistants Health information assistant CME – FP	Health facilities	Training reports in place Attendance sheet & minutes for CMEs	VHT training before end of F/Y health facility CMEs on weekly basis	GOU MOH Implementing partners-ips PHC quarterly release.	
02	Community dialogue on epidemic outbreaks	Need to intensify community dialogues at community levels to increase on awareness	IEC-Materials Transport & SDA	Health workers (headed by health in charges and & Health	Hotspot – communities prone to epidemic	Dialogue session reports attendance	Monthly basis	PHC – HF Quarterly releases	



Conclusion

This training marked a significant step toward strengthening Tororo and Busia districts' capacity to manage and mitigate the mpox outbreak, ensuring a well-coordinated and effective public health response. It enhanced the need to strengthen cross border surveillance, ability to work with regional emergency Operations Centre to improve reporting, alert verification, community-based surveillance among others.

There is need for follow-up support to assess implementation of skills and knowledge which were acquired.



Empowering Africa for Global Health Security and Beyond



Accredited
Training Program



Research



Communities of
Practice



One Health
Experiential
Learning Models



Student One
Health
Innovation Club

START ONLINE TRAINING

4,555

STUDENTS TRAINED

19

UNIVERSITIES

27

INSTITUTIONS

1,432

FACULTY TRAINED



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Register



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[LEARN MORE](#)

Register



Post Graduate Diploma in Inter Africa Pandemic Preparedness, Response, and Administration with a One Health Approach

[LEARN MORE](#)



Southeast Asia One Health
University Network



117
236

Member Universities
Faculty Members



44087

Individuals Trained in
One Health Topics



62

One Health Student Clubs



110

Partnerships Established

8

One Health Collaborating
Centers



1878

Contents Newly Developed,
Updated, and Implemented

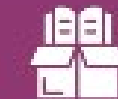


79

Scholarships Awarded

36

OHSCs Grants Awarded



681

Evidence-Based Informational
Resources Developed



58

Research Projects Awarded

7

Awards for Online Course
Development



29

Fellowship Placements

49

Internship Placements



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University Network



SEAOHUN
5 days ago

Seven Schools Share Mid-term Success Stories Under the Promotion of Well-being in Schools in Southeast Asia Project

The ongoing "Promotion of Well-being in Schools in Southeast Asia" project continues to highlight the



SEAOHUN
Apr 25

Strengthening Healthcare Capacity in Thailand - Myanmar Border: A One Health Training Journey

Along Thailand's northern frontier, remote hill-tribe villages and health-promoting hospitals grapple with hard-to-reach terrain, limited...



SEAOHUN
Apr 25

Guardians at the Interface: Empowering Indigenous Women through the "Wash and Watch" Initiative

In Malaysia's rugged hinterlands, remote Negrito communities face a unique health challenge:



SEAOHUN
Apr 25

Enhancing Cattle and Buffalo Health through One Health: A Collaborative Journey in Nakhon Ratchasima

In the heart of northeastern Thailand, smallholder farmers rely on cattle and buffalo not only for their livelihoods but also for their...



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FELLOWSHIP PROGRAM



STUDENT ENGAGEMENT PROGRAM



ONE HEALTH SCHOLARSHIP PROGRAM



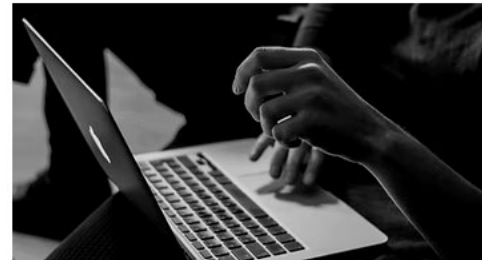
REGIONAL INTERNSHIP PROGRAM



ONE HEALTH AWARDS PROGRAM



SOUTHEAST ASIA ONE HEALTH
WORKFORCE ACADEMIES





**Friends and colleagues for life
– soft diplomacy in action**

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AtaHealth

UCI University of
California, Irvine

Berkeley
UNIVERSITY OF CALIFORNIA

GEORGETOWN
UNIVERSITY



LABYRINTH
GLOBAL HEALTH, INC.



Wasted Potential: Nutrition Research Matters Now More Than Ever

Christine Stewart



Wasted potential: nutrition research matters now more than ever

Christine P. Stewart, MPH, PhD

Enhancing Nutrition Monitoring,
Evaluation, Research, and Learning in
the Health Sector (NuMERAL)

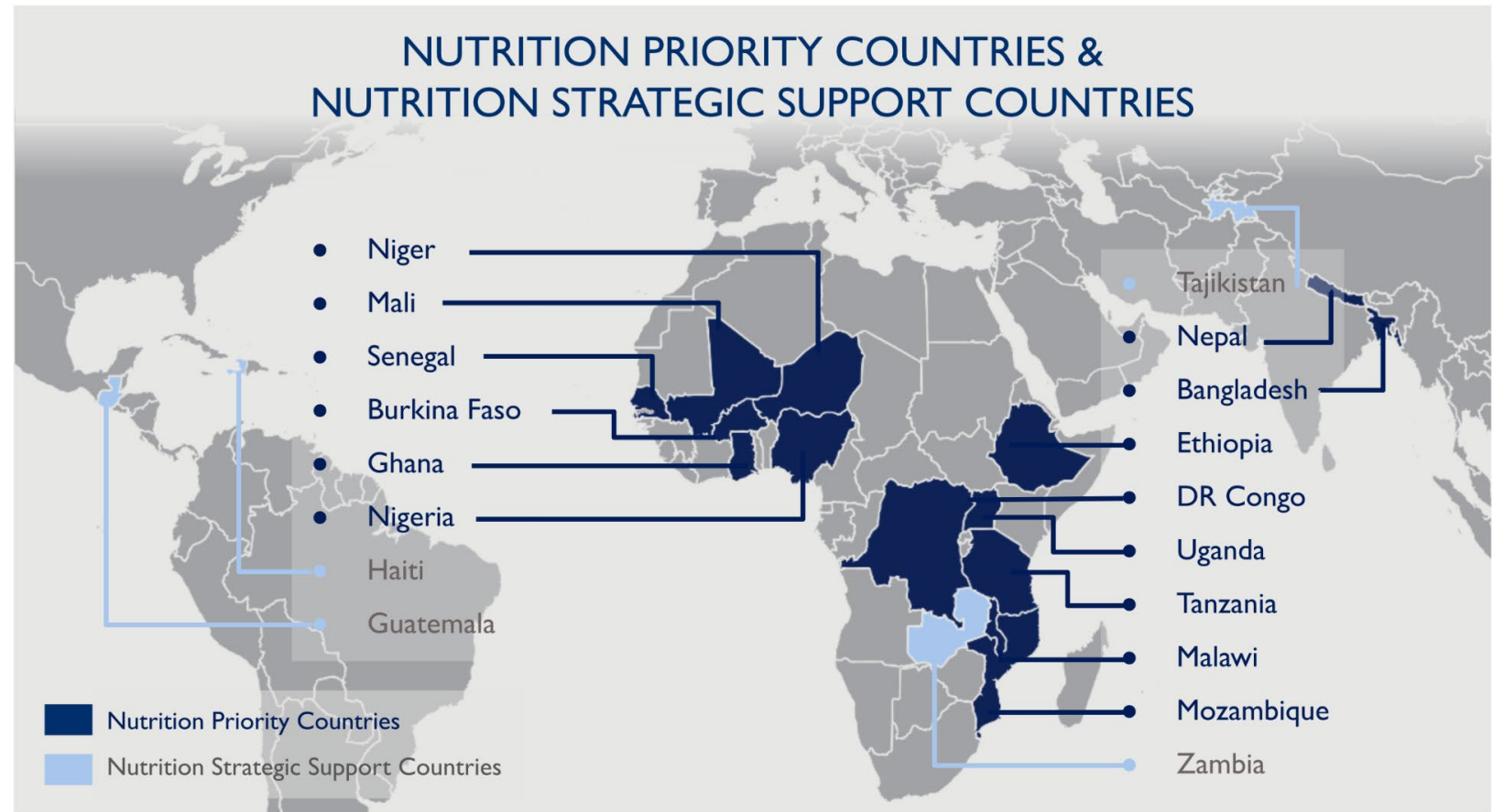
October 2023 - January 2025



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NuMERAL Project Collaborative Networks



Research focus areas



1. Mainstream nutrition in health policies and services



2. Integration of responsive caregiving and into nutrition policies and programs



3. Assessment of micronutrient deficiencies and anemia



Photo courtesy of UNICEF

Wasting treatment and post-treatment management

USAID, CDC, WHO, FCDO wasting consultation, December 2024



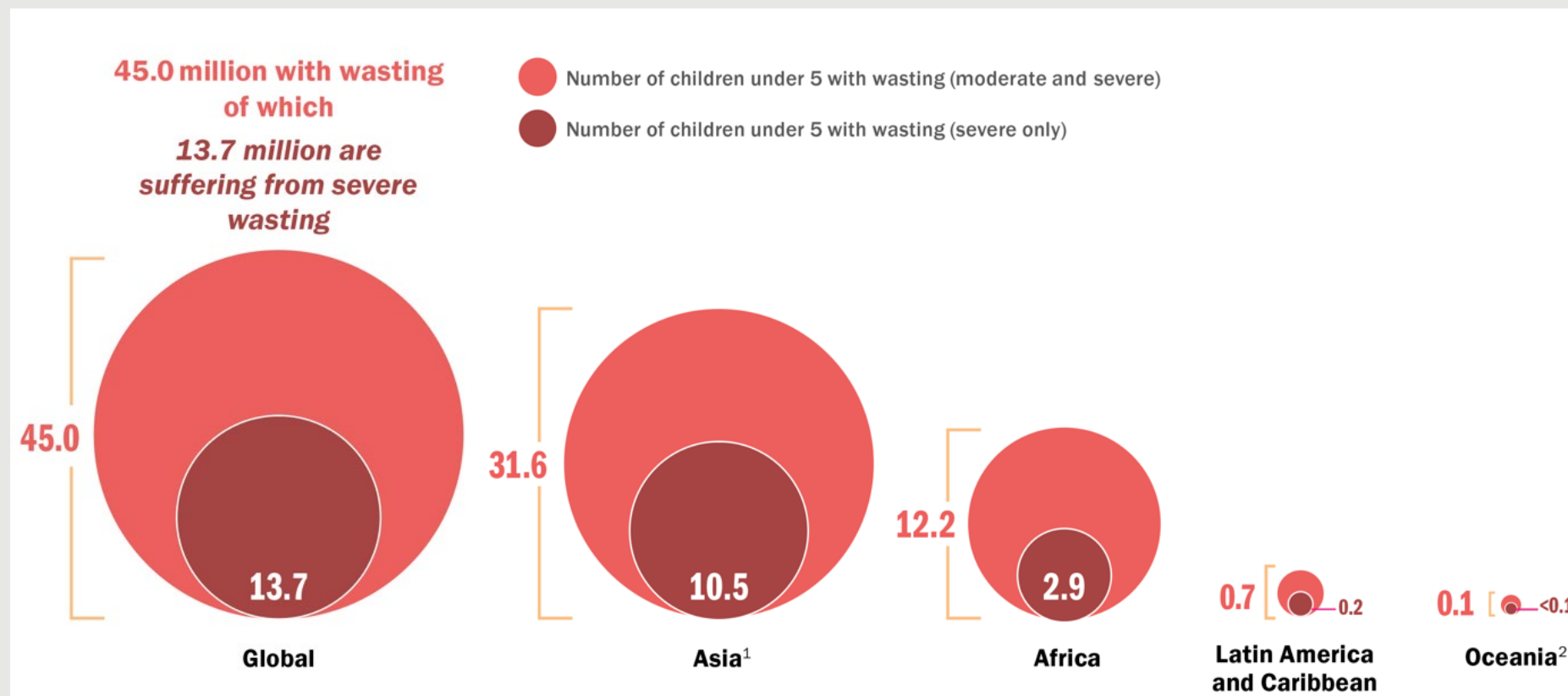
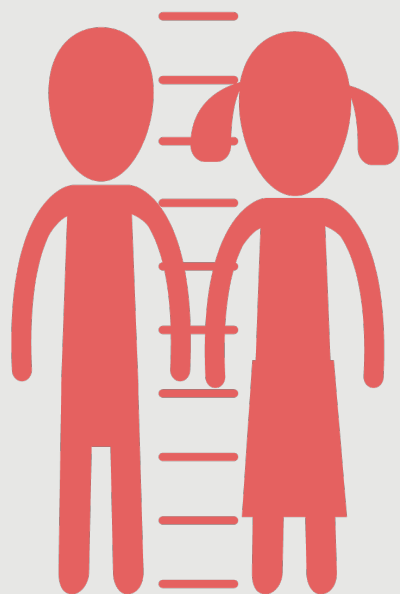
Purpose: to inform US AID research priorities in support of the WHO guidelines on the prevention and management of wasting.



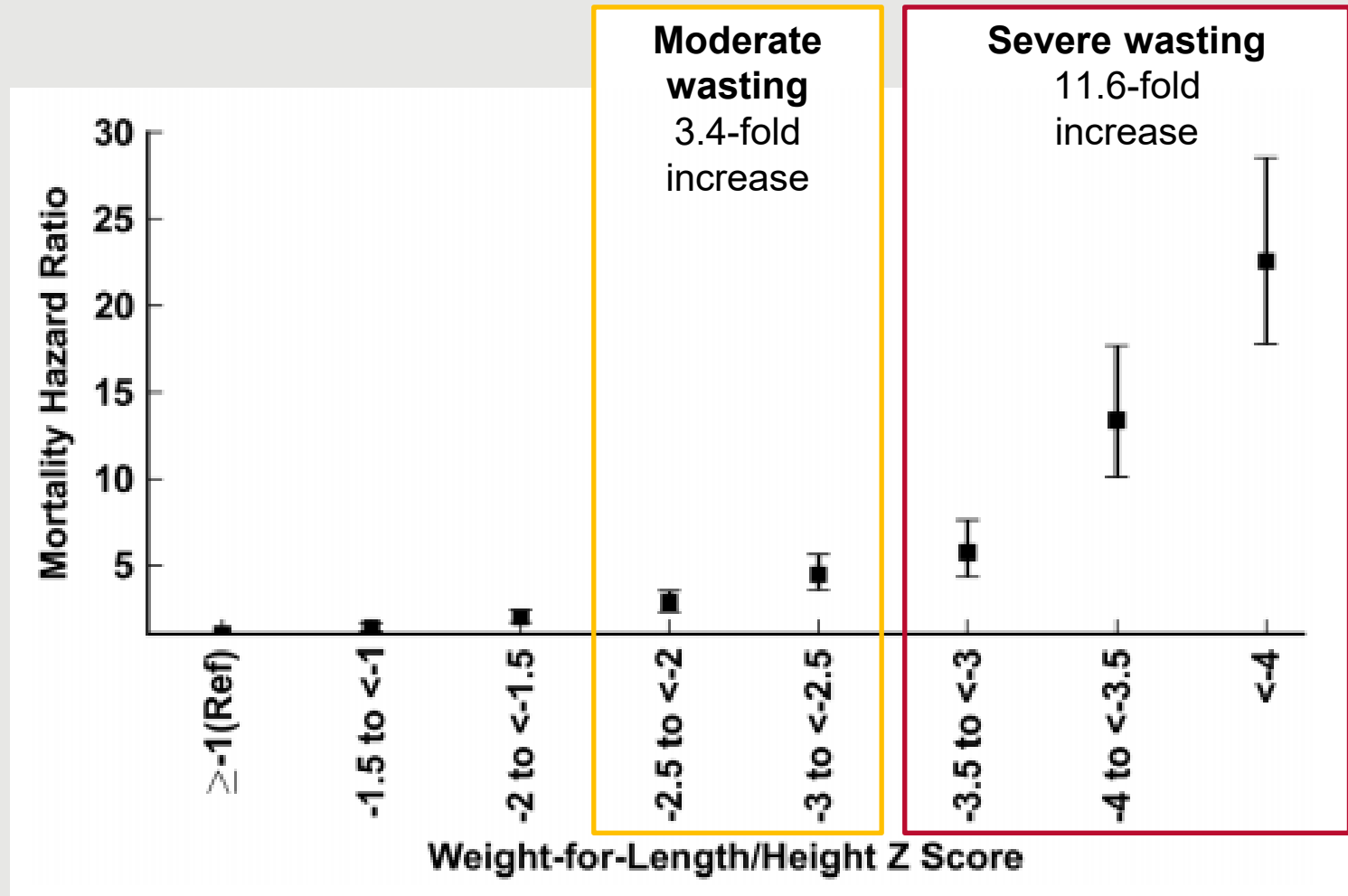
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Bureau for Humanitarian Assistance

Number of children affected by wasting, 2022



Wasting is a significant and underlying risk factor for mortality



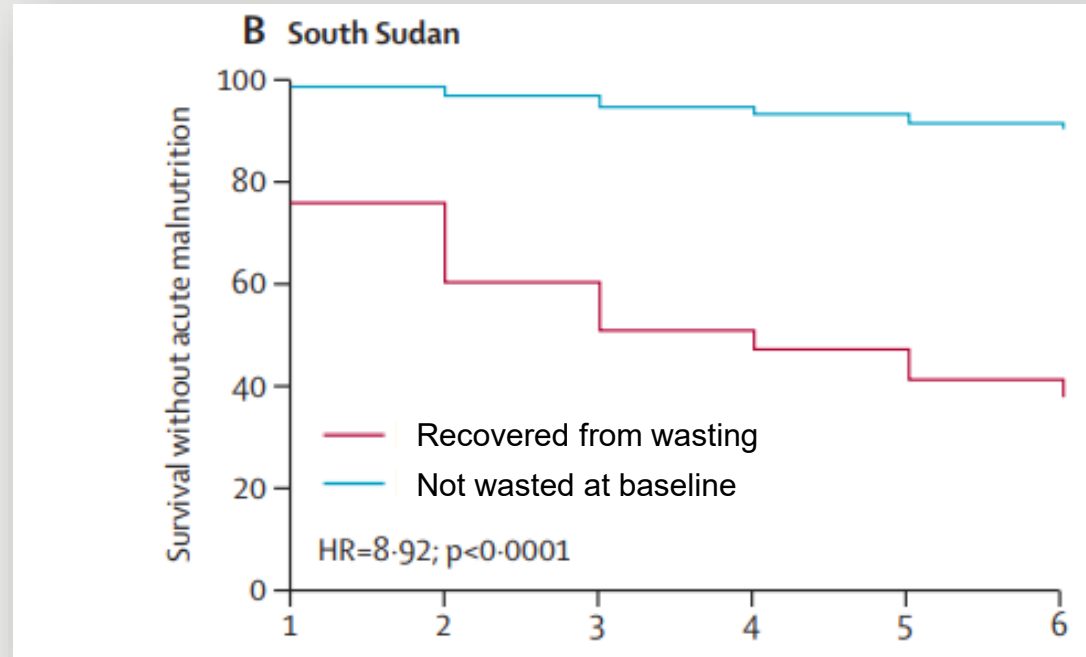
Effective treatments are available...

...but might be delivered more simply and efficiently



Combined protocol	Family MUAC	Caregivers are trained and equipped to screen their own children using a MUAC tape
	CHW-led treatment	CHWs admit and treat wasting (without medical complications) at community level
	Reduced frequency of follow-up visits	Reduction of visits for wasted children admitted into treatment from weekly to bi-weekly or monthly
	MUAC/Oedema only	Use of MUAC and/or edema as the only criteria for admissions and discharge
	Expanded admissions criteria	Increasing the MUAC cut-off to admit all children <125mm
	Use of a single treatment product	All children admitted for treatment receive RUTF
	Reduced dosage	Dosage of RUTF product modified over course of treatment

Effective treatments are available...
... but many children relapse within 6 months.



Relapse rates	
South Sudan:	63%
Mali:	30%
Somalia:	22%

Research plans

- Protocols for studies to address both issues were under development in January 2025
- We planned to release a Request for Expressions of Interest for implementing partners to apply in mid-2025

What is being lost?

Life saving programs

“Severe wasting is the most lethal form of undernutrition and is responsible for 20% of deaths of children under five years old... Left untreated, up to 60% of affected children might die.”

369,000* extra deaths among children who have lost access to treatment.

Osendarp et al, Nature, April 2025

*This does not include deaths due to the cessation of other life-saving nutrition programs, including those designed to prevent malnutrition.



Loss of funding for ready-to-use therapeutic foods could mean that millions of children globally cannot access this life-saving treatment.

The full lethal impact of massive cuts to international food aid

Saskia Osendarp, Marie Ruel, Emorn Udomkesmalee, Masresha Tessema & Lawrence Haddad

The sudden withdrawal of almost half of global funding for nutrition suddenly will have dire consequences for decades.

The dismantling of the US Agency for International Development (USAID) and reductions in aid budgets over the next 3–5 years announced by other Western donor countries, including the United Kingdom (40%), France (37%), the Netherlands (30%) and Belgium (25%), threaten to reverse decades of progress in reducing malnutrition¹.

These cuts – equivalent to 44% of the US\$1.6 billion in donor aid provided in 2022 to support the World Health Assembly nutrition targets – will lead to hardship and death among the most vulnerable people in the world². The implications for public health, economic growth and societal stability are profound.

Severe acute malnutrition, or severe wasting, is the most lethal form of undernutrition

and is responsible for up to 20% of deaths of children under the age of five years, and affects 13.7 million children a year worldwide. Left untreated, up to 60% of affected children might die³.

Proven programmes, such as community-based management of severe acute malnutrition, which combine screening, treatment and counselling, can reduce mortality to below 5% (ref. 3) and have been used in more than 70 countries. In 2022, the United States and other donors reporting to the Organisation for Economic Co-operation and Development spent \$591 million on severe-wasting treatment⁴, which was matched by receiving countries.

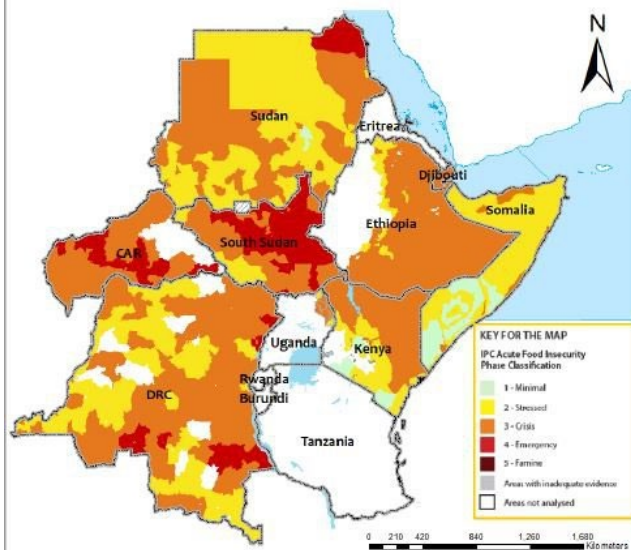
The abrupt withdrawal of donor support leaves millions of critically ill children without

What is being lost?

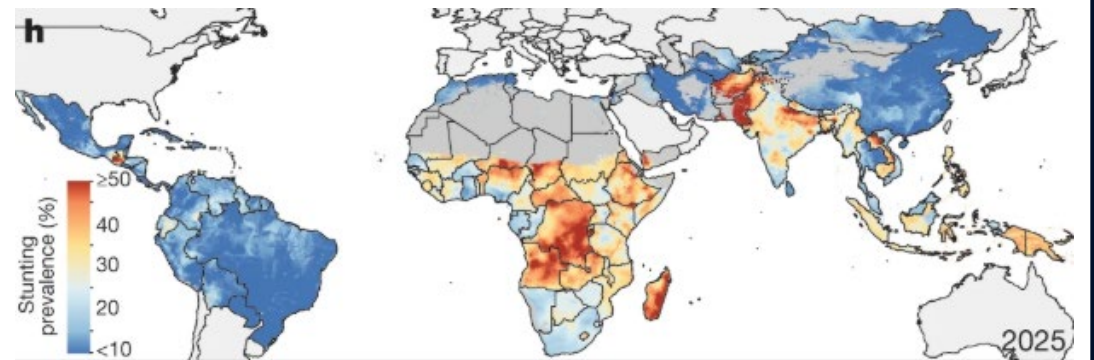
Data systems to forecast and monitor famine and malnutrition



FEWS NET



The **DHS** Program
Demographic and Health Surveys



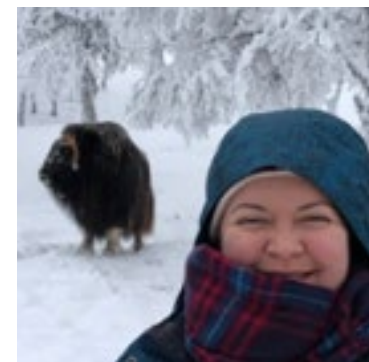
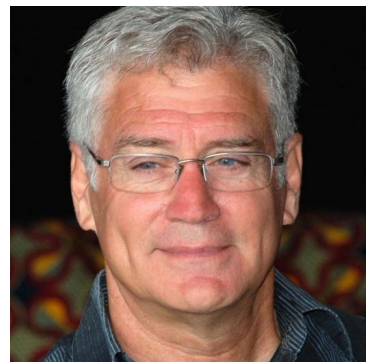
Looking forward: nutrition research matters now more than ever

- Severe food insecurity contributes to instability, conflict, and migration.
- Prevention is equally important to treatment. It can mitigate the need for a humanitarian response.
- Nutrition is both a marker and a maker of development.
- Investments in nutrition improve lives and livelihoods at home and abroad.
- Research can inform ways to improve nutrition efficiently & effectively.



Institute for Global Nutrition

NuMERAL Team



RTI: Valerie Flax, Manisha Tharaney, Sorrel Namaste, Denish Moorthy, Chessa Lutter, Maureen Black

APHRC: Calistus Wilunda

icddr,b: Mutaquina Hossain



Human Rights





Securing Academic Documents/Securing Futures: The UC Davis Article 26 Backpack

Keith Watenpaugh





Securing Documents/Securing Futures: The UC Davis Article 26 Backpack

Keith David Watenpaugh
Professor and Director

Lauren Elizabeth Cegelski
Lead Backpack Guide '24-'25

UC DAVIS
HUMAN RIGHTS STUDIES



Securing Documents/Securing Futures: The Article 26 Backpack

A human rights project to safeguard the right to education for refugee and displaced Burmese youth

Date: 2024-2028

Project location: Southeast Asia

Dollar Amount: \$1,250,000 over 5 years

Beneficiaries: 4000-6000 refugee and displaced persons

Global impact of loss: Ability to protect and promote the human right to education for 1000s of Burmese refugee youth (18-25) and support their efforts to establish democracy in their homeland

US impact of loss: Capacity to prepare UC Davis students for public service careers

Current Project status: Backpack has continued global collaborations on a far smaller scale



UCDAVIS
HUMAN RIGHTS STUDIES

Keith David Watenpaugh

Professor and Director, UC Davis Human Rights Studies

Lauren Cegelski '25

Student Lead, Article 26 Backpack Project

History



Zaatari Camp, Jordan (2013)



MSF Camp, Greece/Macedonia (2016)



UCDAVIS
HUMAN RIGHTS STUDIES



Backpack
Universal Tool for
Academic Mobility



Backpack: A Universal Tool for Academic Mobility

- Developed by a team of university professionals, registrars and admissions officers, and higher education specialists
- An online tool for safely storing, curating, and sharing educational/career background and documents
- Supports young people looking to plan and structure their goals
- Builds framework for global connection



Backpack Workshop - Lebanon 2017



Backpack Enrollment, Lebanon 2019



Backpack Enrollment, Rwanda 2022



UCDAVIS
HUMAN RIGHTS STUDIES

Backpack across the World



Backpack on Campus



Backpack for Burma

meet.google.com

Lauren Cegelski (Presenting)

Meeting Series 1 Meeting Agenda

Meeting 1 Agenda: September 4th, 2024

7:00 AM: Review Grant

- Positions
 - UC Davis Lead PI: Dr. Watenpaugh, Lead Student Fellow Level 4 & Student Assistant Level 3: Lauren Cegelski, Student Assistant Level 4: TBD (estimated position filled by end of September)
 - 9:30 AM
 - Lead Spring Backpack Fellow: Steve
 - Assistant Spring Backpack Fellow: Thiha Zaw and Pato
 - Social Media Coordinator: Nichole
 - Article 20 Backpack Fellow: TBD

7:30 AM: Phase 1: Initial Steps

- Activity 1.1: (Months 1-3)
 - Identifying and training a Lead Backpack Fellow: [UC Davis, \\$250](#)
 - Required disaggregated data will be collected on everyone intended to be a Backpack Fellow, as well as "Backpacker" participants (Phone, email address, blood registration)
 - Training of the project coordinators and social media fellow includes orientation and completion of the Article 20 Backpack budget program: [agreed](#)
- Activity 1.2: (Months 3-5)
 - A document translation of the Article 20 Backpack website will be produced by professional translation contracted by 20:24
 - Budget allocates \$1400 for translation costs and \$2500 for website registration
 - Top Priority
- Activity 1.3: (Months 2-5)
 - Translation of the Article 20 Backpack Guidebook and marketing materials, including Open and promotional materials for distribution at events, will be done by professional translation contracted by 20:24

Lauren Cegelski

Thiha Zaw

Steve SUM

Pato Tieee

Nichole SUM

Keith Watenpaugh



လမ်းညွှန် ကိုယ်ရေးမှတ်တမ်း ကျောပိုးအိတ် PROFILE ပညာရေး မျှဝေထားသော BACKPACKS

Article 26 Backpack™ ဆိုသည်မှာ

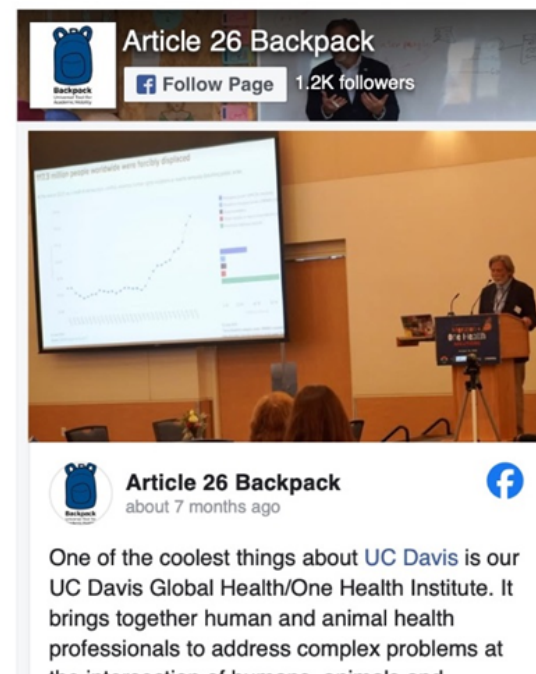
Start the journey

Welcome to the Article 26 Backpack™ — The Universal Human Rights Tool for Academic Mobility

Article 26 Backpack သည် လူငယ်များအား ၎င်းတို့၏ အဆင့်မြင့်ပညာရေးဆိုင်ရာကိစ္စများ၊ အခြားသော သင်တန်းများနှင့် အလုပ်အကိုင်အခွင့်အလမ်းများကို စနစ်တကျ စီစဉ်ဆောင်ရွက်နိုင်ရန် အထောက်အကူဖြစ်စေမည့် ကိရိယာတစ်ခုဖြစ်သည်။ Backpack ဖြင့် လူငယ်များသည် မိမိတို့၏ ဖြစ်ထွန်းအောင်မြင်မှုများနှင့် ရည်မှန်းချက်များကို ဝေမျှနိုင်မည်ဖြစ်သည်။

Article 26 Backpack™ ၏ အဓိကလုပ်ဆောင်ချက်မှာ လူငယ်များအနေဖြင့် မိမိတို့၏ ပညာရေး၊ အလုပ်အကိုင်ရာဇဝင်၊ အသက်မွေးဝမ်းကျောင်း ဆိုင်ရာ ဖြစ်ထွန်းအောင်မြင်မှုများကို လုံခြုံစွာ သိမ်းဆည်းပြီး တက္ကသိုလ်များ၊ ပညာသင်ဆုဆိုင်ရာ အေဂျင်စီများ၊ အလုပ်ခန့်အပ်သူများနှင့် မျှဝေနိုင်ခြင်းဖြစ်သည်။ Backpack အနေဖြင့် မည်သူ့ကိုမဆို အထူးသဖြင့် စစ်ဘေး၊ ပဋိပက္ခဘေးကြုံတွေ့နေရသော ဒုက္ခသည်များနှင့် လုံခြုံရေးအခက်အခဲရှိသော လူငယ်များအားလုံးပါဝင်နိုင်သော ချိတ်ဆက်မှုလမ်းကြောင်းများကို ဖန်တီးပေးထားခြင်းဖြစ်သည်။

[Learn more about the Backpack!](#)





Higher Education





Centers of Excellence: Catalyst for Innovation, Economic & Social Development

Nancy Allen



HIGHER EDUCATION

Centers of Excellence:

Catalysts for Innovation, Economic and Social Development





USAID
FROM THE AMERICAN PEOPLE

CENTERS OF EXCELLENCE



ENERGY



WATER



AGRICULTURE/FOOD SECURITY



UC DAVIS

CENTER FOR ADVANCED STUDIES IN AGRICULTURE AND FOOD SECURITY – PAKISTAN

- LEAD: University of California, Davis (2015-2019 – closed 2017)
- Pakistan Partner University: University of Agriculture, Faisalabad
- \$80,000,000 (\$10,000,000, \$20,000,000, \$50,000,000)

CENTER OF EXCELLENCE FOR AGRICULTURE – EGYPT

- PRIME: Cornell University (2019-2024 – closed 2020)
- UC Davis – Lead on *High Quality Applied Research* component
- Purdue University – Lead on *Innovative Instruction and Curriculum Development*
- Egyptian Partner Universities: Cairo University (host) plus five other universities
- \$30,000,000

CENTERS OF EXCELLENCE FOR AGRICULTURE AND WATER – EGYPT

- PRIME: American University in Cairo (2019-2024 – extended 2024-2028 – closed 2025)
- UC Davis – Lead for Agriculture across all components
- Egyptian Partner Universities: Cairo University (host) plus five other universities
- \$48,000,000 (\$30,000,000, \$18,000,000)

Centers of Excellence in Agriculture

GOAL:

Strengthen capacity of partner universities to address national challenges related to food security and agriculture through excellence in teaching, research, outreach and policy support.



Centers of Excellence in Agriculture and Water- Egypt

Strengthen capacity of Egyptian Public Universities to generate innovative, modern, and competitive solutions to address Egypt's agriculture and water challenges.

Extreme water scarcity

- Nile represents 95% of the nation's accessible water with approximately 85% used for agriculture
 - Rapid population growth
 - Vulnerable to climate change
 - Highly dependent on imported food
- Critical need to improve Egypt's ability to meet current and projected water and food demands
- ❖ Opportunity for knowledge exchange



NEEDS ASSESSMENT

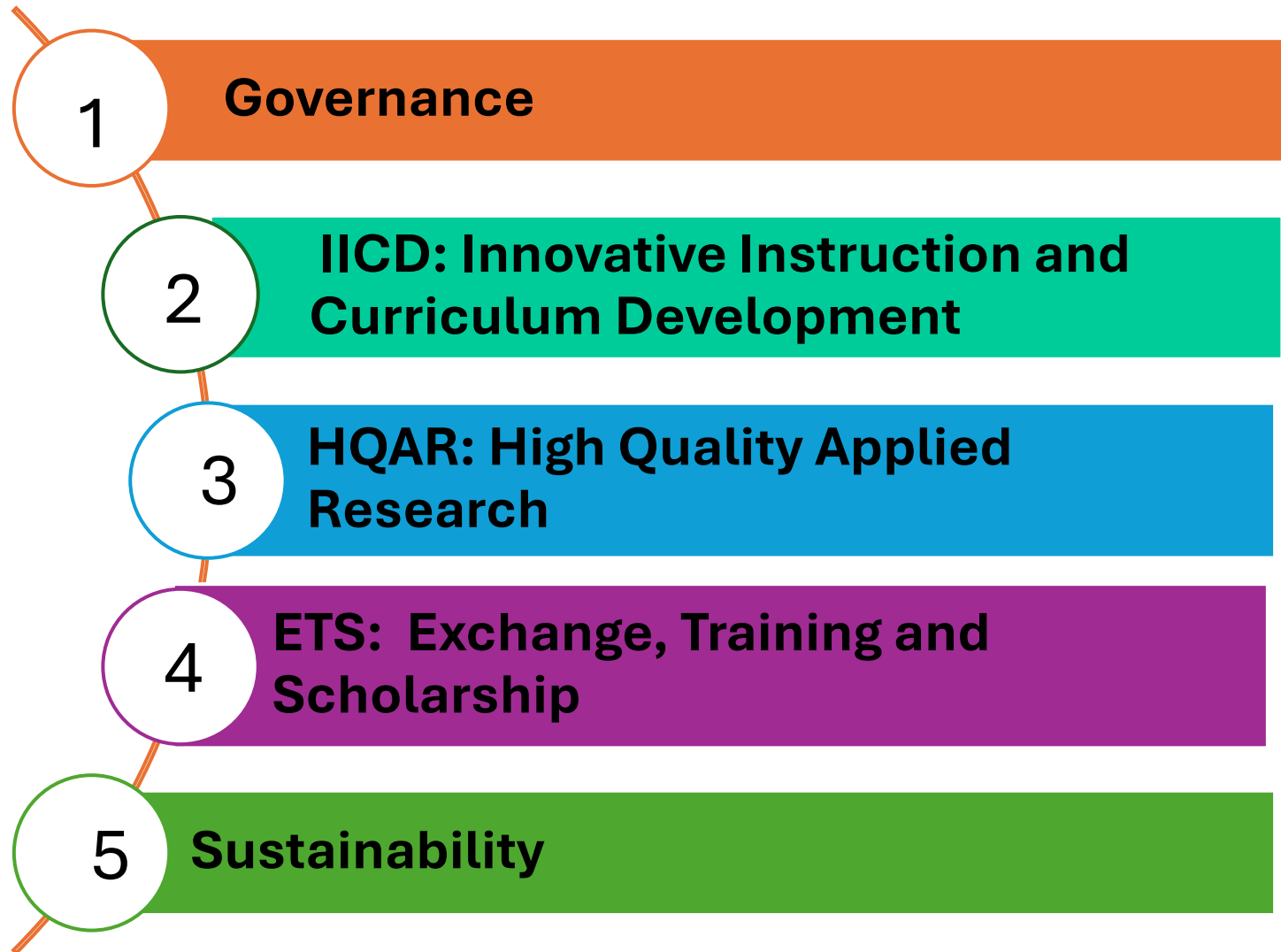
- **Stakeholder Engagement**
- **Industry Visits**
- **Ministerial Consultation**
- **University Partner Surveys**
- **University Laboratory Visits**
- **Document Review**

Egypt (COEA & COE-AW) Focal Areas:

- Strategic Crops in New Lands
- Fisheries & Aquaculture
- Horticulture - Production & Post-Harvest
- Protected Cultivation (e.g., Greenhouses)
- Agricultural Policy
- Animal Production



**IDENTICAL
PROJECT
COMPONENTS**



IICD: Innovative Instruction and Curriculum Development

Pakistan – Achievement:



**M. Sc. Honors in
Seed Science & Technology**



**M. Sc. Honors in
Climate Change & Agriculture**



**M. Sc. Honors in
Nutrition and Dietetics**



**M. Sc. Honors in
Veterinary Practice**

Egypt – Plans:

Degree Programs:

- B.Sc. – Animal Production (improved)

New academic and professional certification courses proposed in following areas:

- Aquaponics
- Protected Agriculture and Greenhouse Management
- Smart Agriculture (incorporating Digital Agriculture)
- Food Safety and Quality Assurance
- Integrated pest management
- Poultry production: Flock and Business Management

HQAR: High Quality Applied Research

	Project Title	Project (months)	Budget Request	University
Animal Production – 16 Proposals				
1	Applying different techniques to cryopreserve semen of Egyptian local chickens	36	\$ 96,000	Assiut University
13	Bio-refinery and -conversion of agro-industrial residues to produce alternative poultry feeds for meat production	24	\$ 85,491	Cairo University
Strategic Crops in the Dry Lands – 8 Proposals				
1	Smart Irrigation System for Sustainable Water Management in Dry Lands (InSI)	36	\$ 83,410	Benha University
5	Genome duplication improves drought tolerance in grafted cucumber	18	\$ 73,505	Suez Canal University
Protected Cultivation – Greenhouses – 5 Proposals				
2	Potential Nematocidal Effect of Colloidal Mixture of Chitinase and Nanosilver Particles on Root-Knot Nematode	24	\$ 84,371	Ain Shams University
3	Smart Soilless Culture and Aquaponic Systems under Greenhouse	24	\$ 26,240	Benha University
Production and Postharvest Handling of Horticultural Crops – 4 Proposals				
2	Mitigation of Environmental Changes in Mango Orchards via Utilization of Different Shading and Nanotechnology Practices	36	\$ 77,338	Cairo University
3	Application of bacteriophages in post-harvest control of Soft Rot Disease	24	\$ 96,000	Ain Shams University
Fisheries & Aquaculture -2 Proposals				
1	Designing of Next Generation Multi-Loops Aquaponics for Sustainable Development	24	\$ 100,992	Cairo University
2	Novel Magnetic Biochar-based Sorbents for the Removal of Ammonia and Contaminants from Fish Farms and its Potential Application as a Soil Amendment	24	\$ 101,120	Cairo University

COE-AW – Plans

- Expected to issue \$2.4 million in small research grants
- RFA in February similar topics to COE-A with added emphasis on water
 - e.g., water use in fodder production
 - e.g., improved measurement of water-use efficiency major Egyptian crops
 - e.g., economic implications of shift from sugar cane to sugar beet production

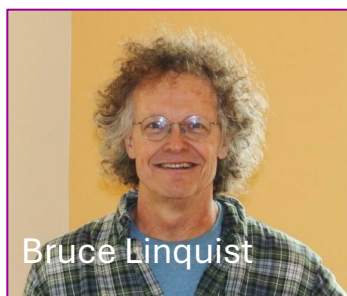
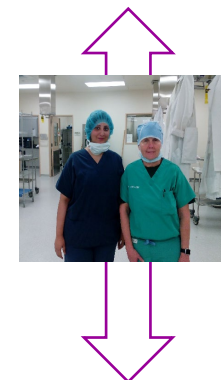
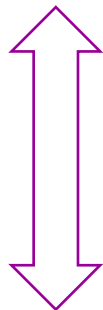
ETS: Exchange, Training and Scholarship



COE-AW Plan:

- 16 faculty
- 24 graduate students

ETS: Exchange, Training and Scholarship



IMPACT

PEOPLE:

Project equipped faculty and students with the tools to make an impact as research scientists, employees, policymakers and innovators

PERSONAL PROFESSIONAL GROWTH

CONTINUING ENGAGEMENT

- Chickpeas: chickpea varieties released and adopted
- Soybean: shipment of soybean germ-plasm from California to Pakistan
- Seed Systems: CAS continues to host national seed congress
- Rice: Rice research and extension staff working together yielding demonstrable results for Pakistani rice growers
- Animal Feed: National workshop on forages led by UC Davis faculty, directly addressing need for improved animal feed
- California and Province of Punjab declared “sister states”

UNPLANNED BUT SIGNIFICANT ACHIEVEMENTS

INFRASTRUCTURE:



11 Laboratories in the Center for Advanced Studies in Agriculture and Food Security: Crop biotechnology, Bioinformatics, Precision Agriculture, Climate Change, Animal Cell Culture, One Health

THANK YOU



THE AMERICAN
UNIVERSITY IN CAIRO

UC DAVIS
UNIVERSITY OF CALIFORNIA

UNIVERSITY OF CALIFORNIA
UC RIVERSIDE

STATE
UtahState
University



جامعة الإسكندرية
ALEXANDRIA
UNIVERSITY



جامعة قناة السويس
SUEZ CANAL UNIVERSITY



ASWAN UNIVERSITY



جامعة الزقازيق
ZAGAZIG UNIVERSITY



Cristina Davis

Associate Vice Chancellor for Research



Erin
McGuire



Tara
Chiu



Amanda
Crump



Woutrina
Smith



Christine
Stewart



Keith
Watenpaugh



Nancy
Allen

Roundtable Discussion

Moderator: Ermias Kebreab





Gary May

Chancellor

Thank you!



Special thank you

Denise Ehlen

Michael Sweeney

Julia Melle

Brandon Minto



Planning Committee

- **Global Affairs:** Michael Lazzara, Esther DeLozier, Adrienne Bataska
- **Office of Research:** Melissa Landeros, Christine Parks
- **Grand Challenges:** Diana Magallanes
- **CA&ES:** Ermias Kebreab, Nancy Allen, Erin McGuire, Archie Jarman, Tara Chiu, Jim Hill, Nikki Rutamu
- **SVM:** Woutrina Smith, Jenny Lane
- **L&S:** Keith David Watenpaugh
- **SOM:** Michael Wilkes





Thank You!

