



FEED THE FUTURE

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

Leveraging Science and Technology for Global Food Security



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U.S. Agency for International Development

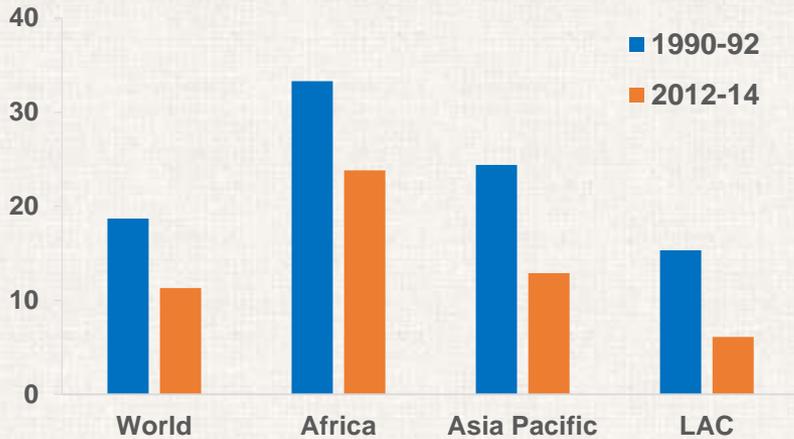


USAID
FROM THE AMERICAN PEOPLE



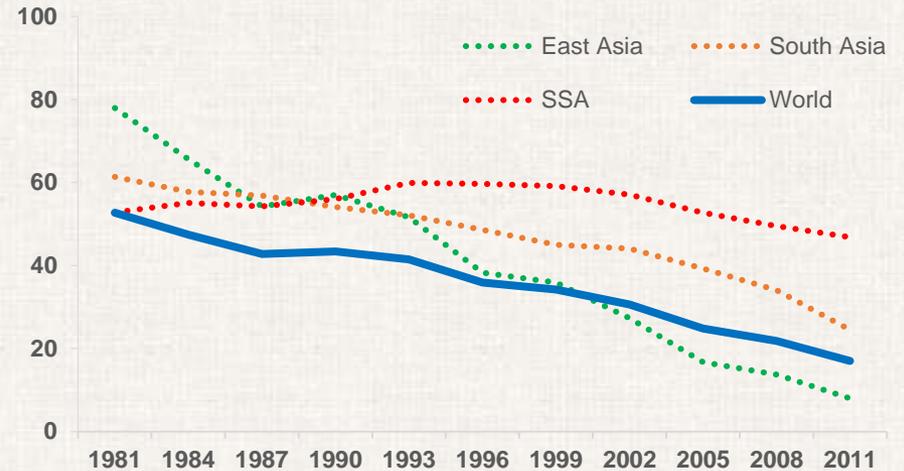
Despite progress, poverty, hunger, and undernutrition persist

Prevalence of undernourishment (%)



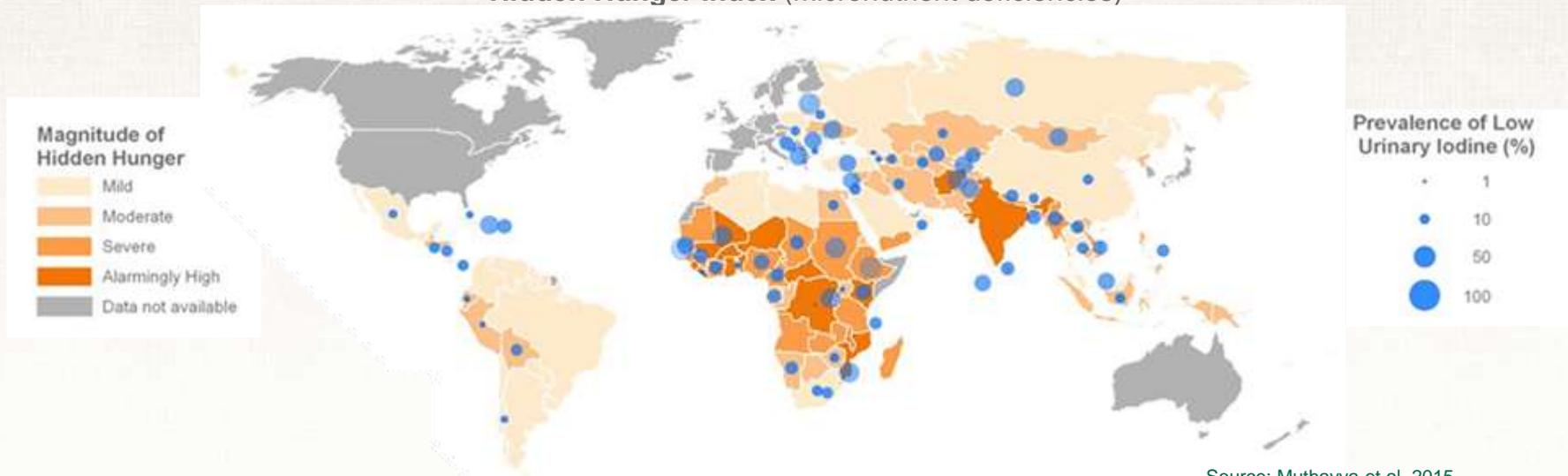
Source: FAO 2015

Prevalence of poverty (US \$1.25/day, 2005 PPP), (%)



Source: PovCalNet 2015

Hidden Hunger Index (micronutrient deficiencies)

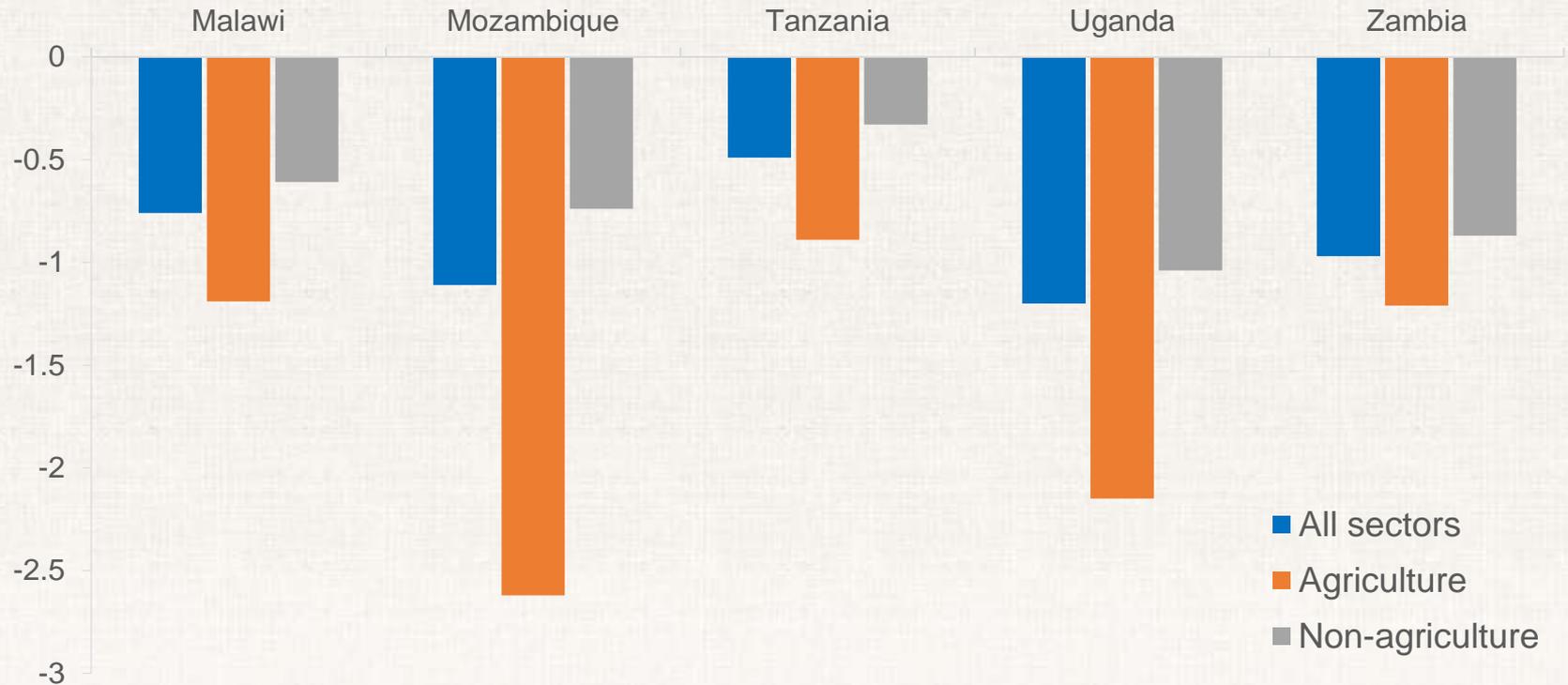


Source: Muthayya et al. 2015



Agricultural growth is poverty-reducing

Poverty-growth elasticities (US\$1.25 poverty line)



Source: Dorosh and Thurlow, 2014

Agricultural growth continues to be more poverty-reducing than non-agricultural growth in SSA



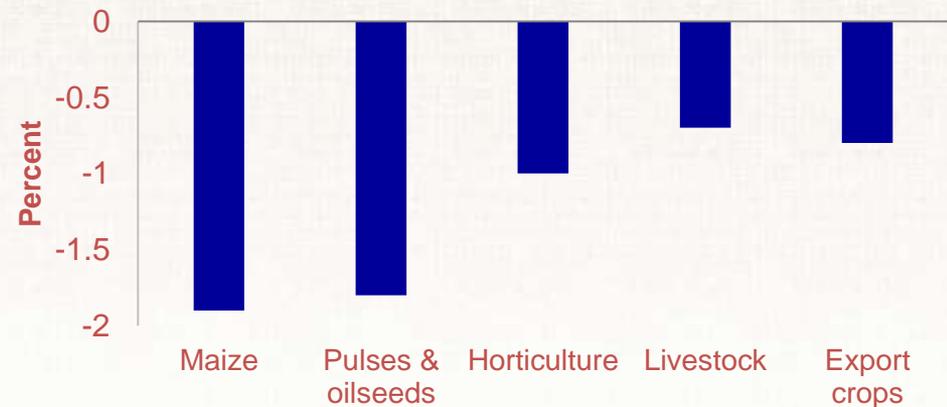
Agricultural growth reduces hunger

- **Agricultural growth enhances hunger reduction**
 - Increases household incomes and diversifies diets
 - Reduces food prices to benefit poor net food buyers
 - Creates employment; stimulates rural nonfarm economy
 - Generates government revenues
- **Subsectoral growth matters** (e.g. small vs. large farms; staple vs. cash crops)

- **Whether subsectoral growth reduces hunger depends on**

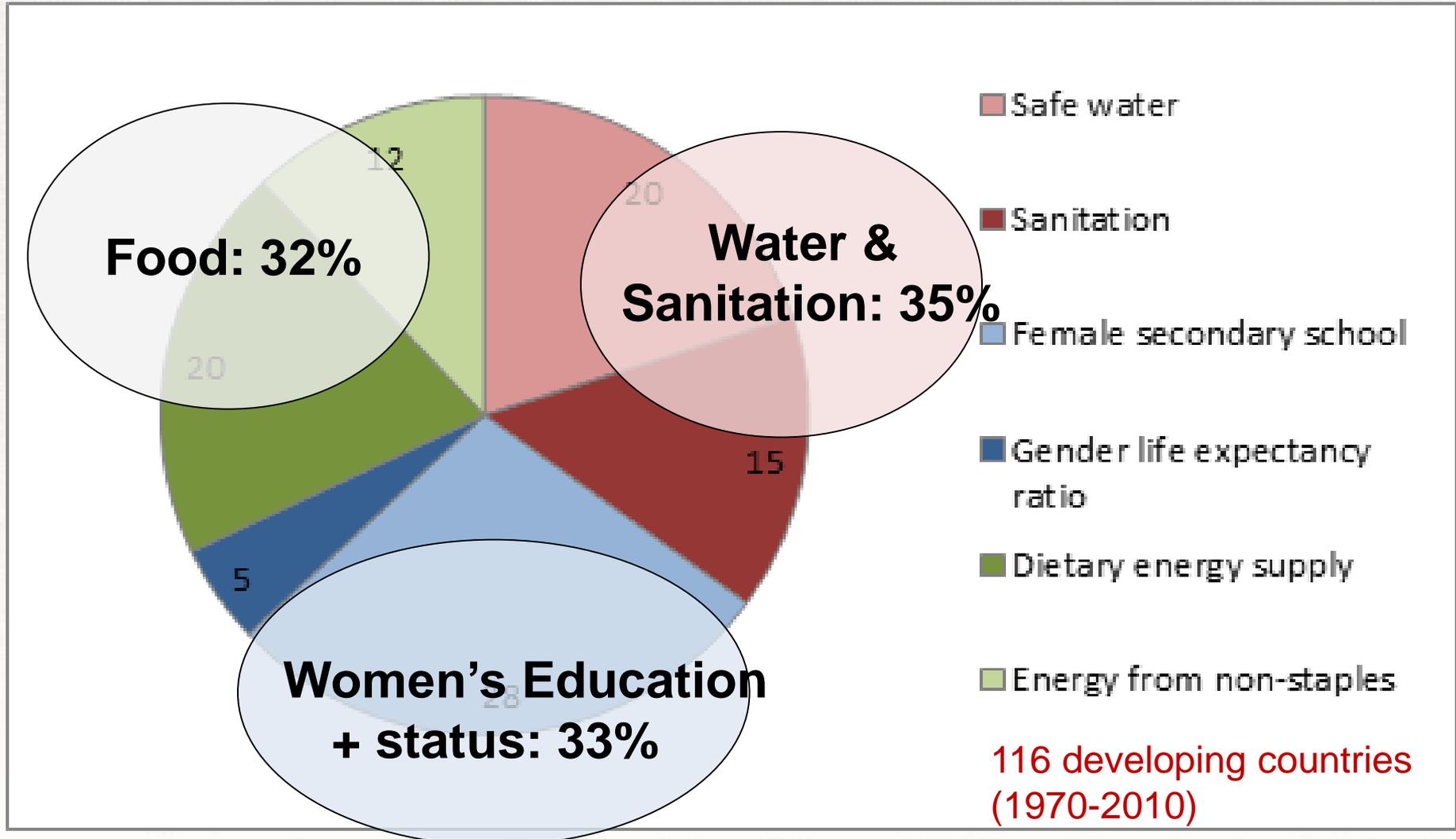
- Its linkages with rest of economy
- Its initial size and geographic concentration
- Its growth potential
- Market opportunities

Calorie deficiency-growth elasticities, Tanzania (2000-07)





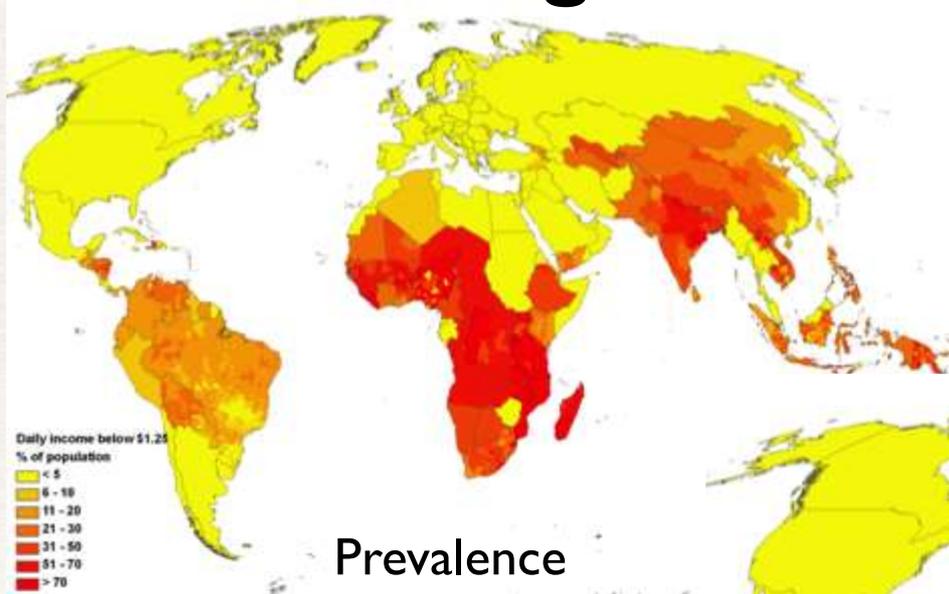
Contribution of Different Sectors to Improving Nutrition Globally



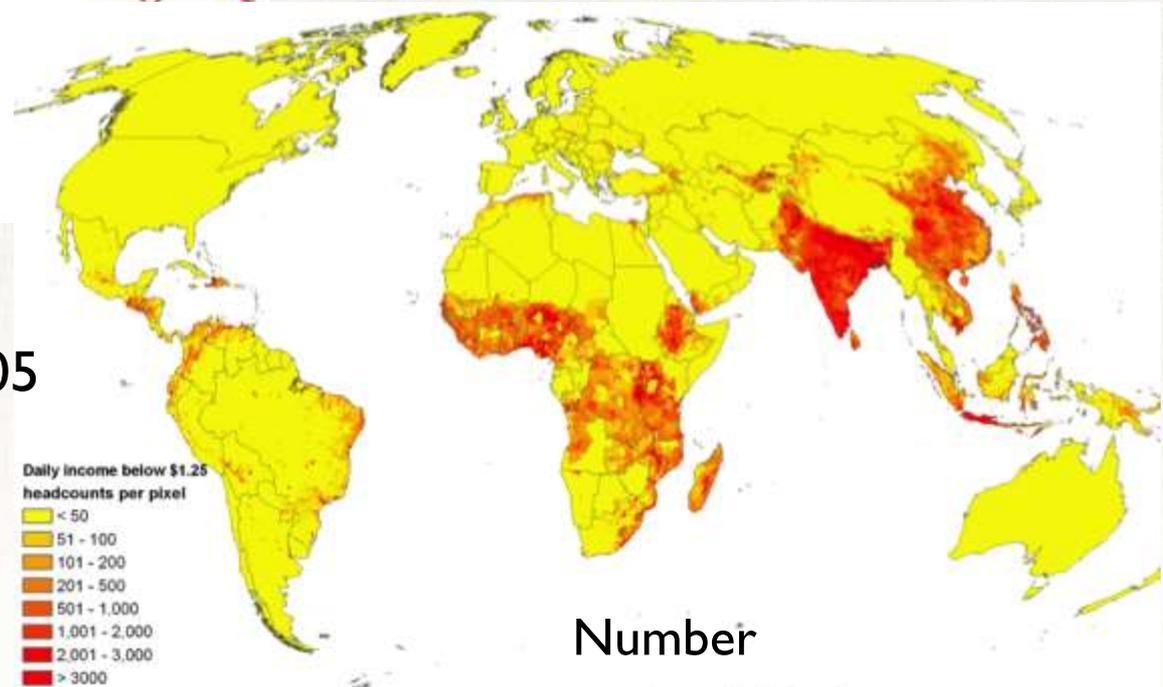


Defining FTF Research Priorities

Using poverty & nutrition lens: Identify key production systems where hunger and poverty are significant...

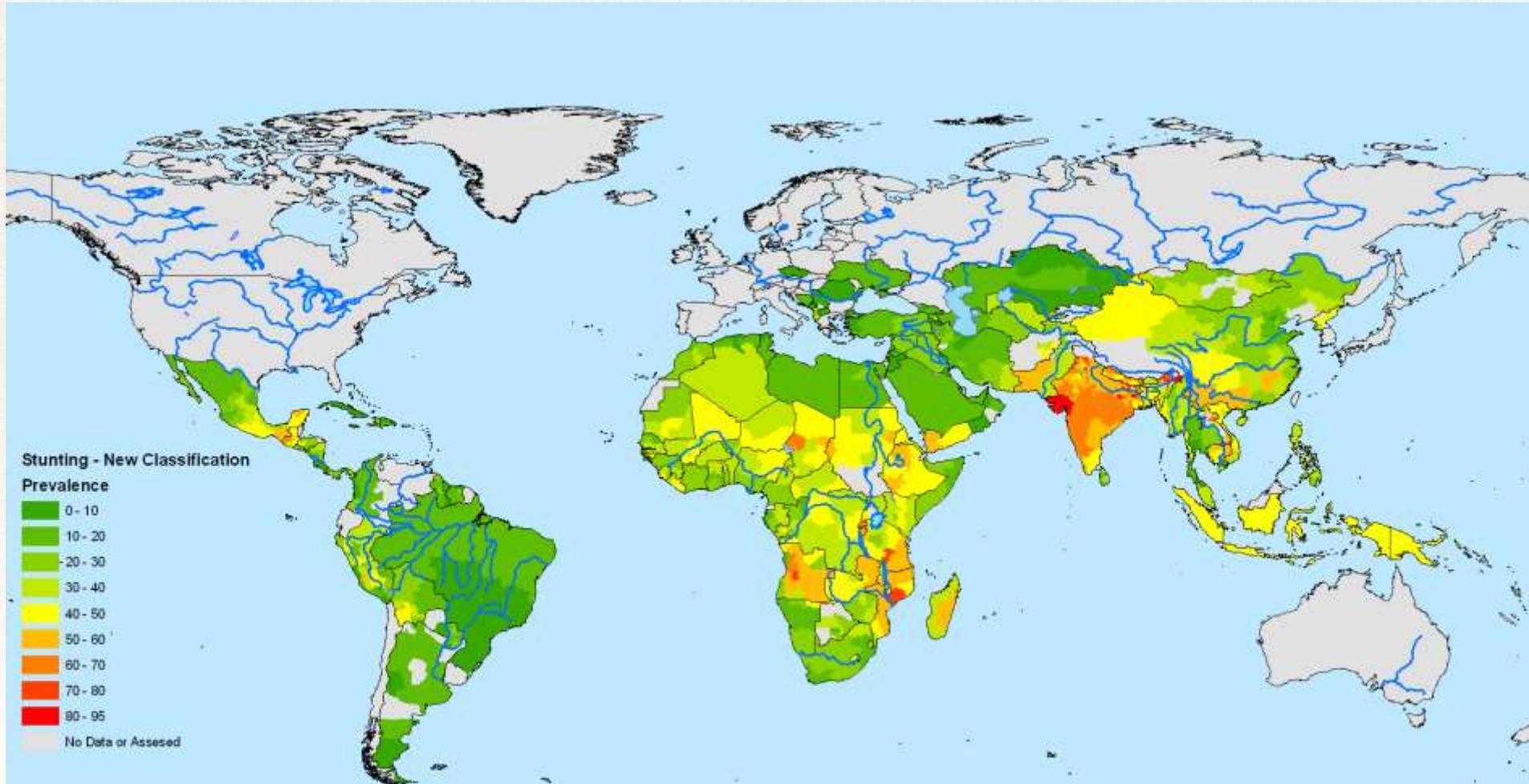


Sub-national poverty ca. 2005
($< \$1.25/\text{day}$)





Child stunting



Source: USAID and IFPRI, Harvest Choice maps



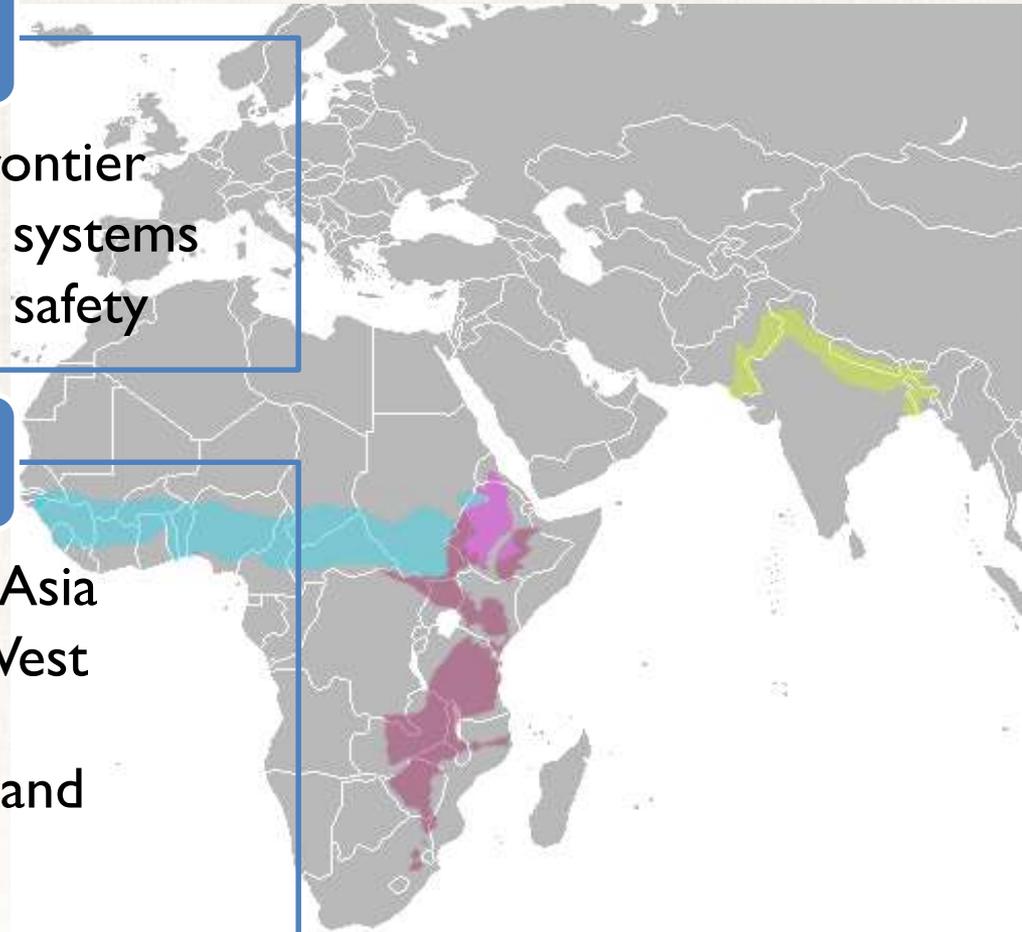
Overarching Goal Emerged: Sustainable Intensification

Three research themes:

- Advancing the productivity frontier
- Transforming key production systems
- Improving nutrition and food safety

Anchored by key geographies:

- Indo-gangetic plains in South Asia
- Sudano-sahelian systems in West Africa
- Maize-mixed systems in East and Southern Africa
- Ethiopian highlands





Food Security Innovation: Research



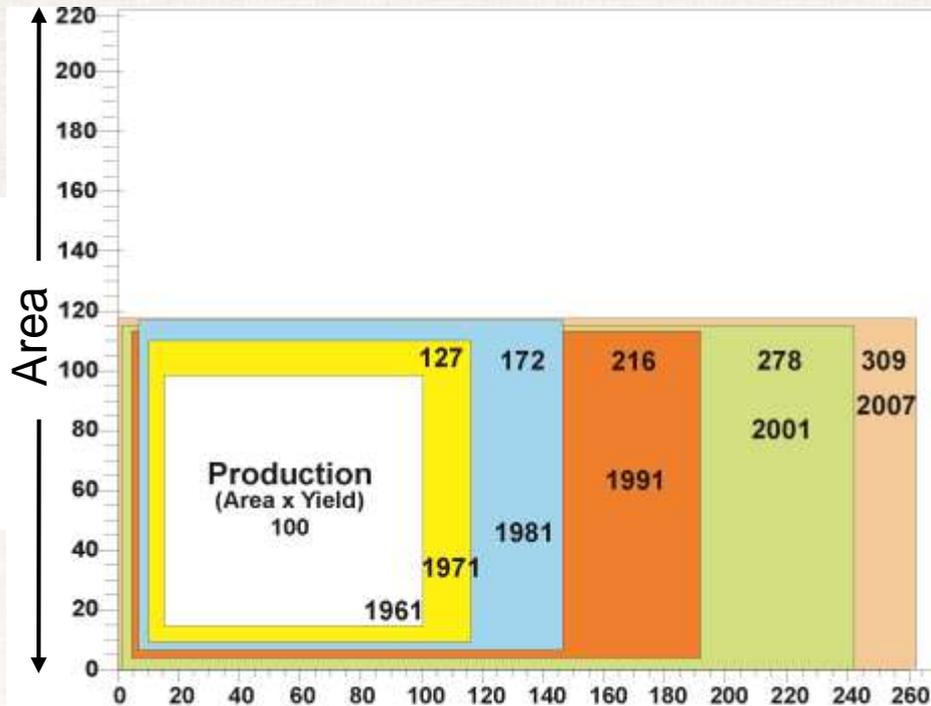


Sustainable Intensification:

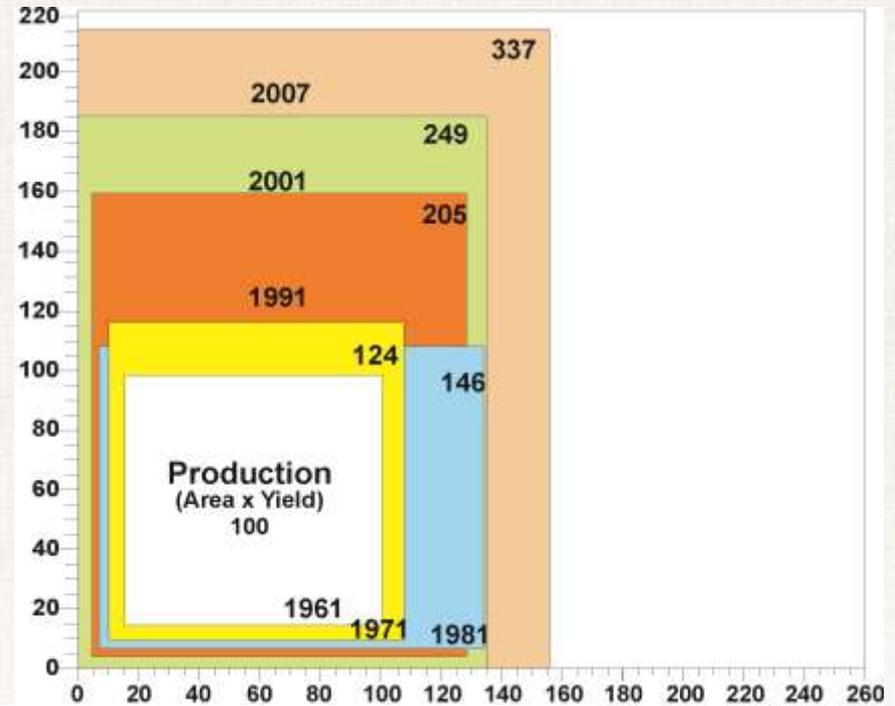
- Increased productivity per unit land, labor, capital, etc
- Considers whole-farm & household issues
- Efficient, prudent use of inputs
- Conserve or enhance natural resources
- Increased resilience
- 'Livelihood lens' takes into account socio-economic, nutritional, gender, & cultural conditions



Intensification vs. Extensification



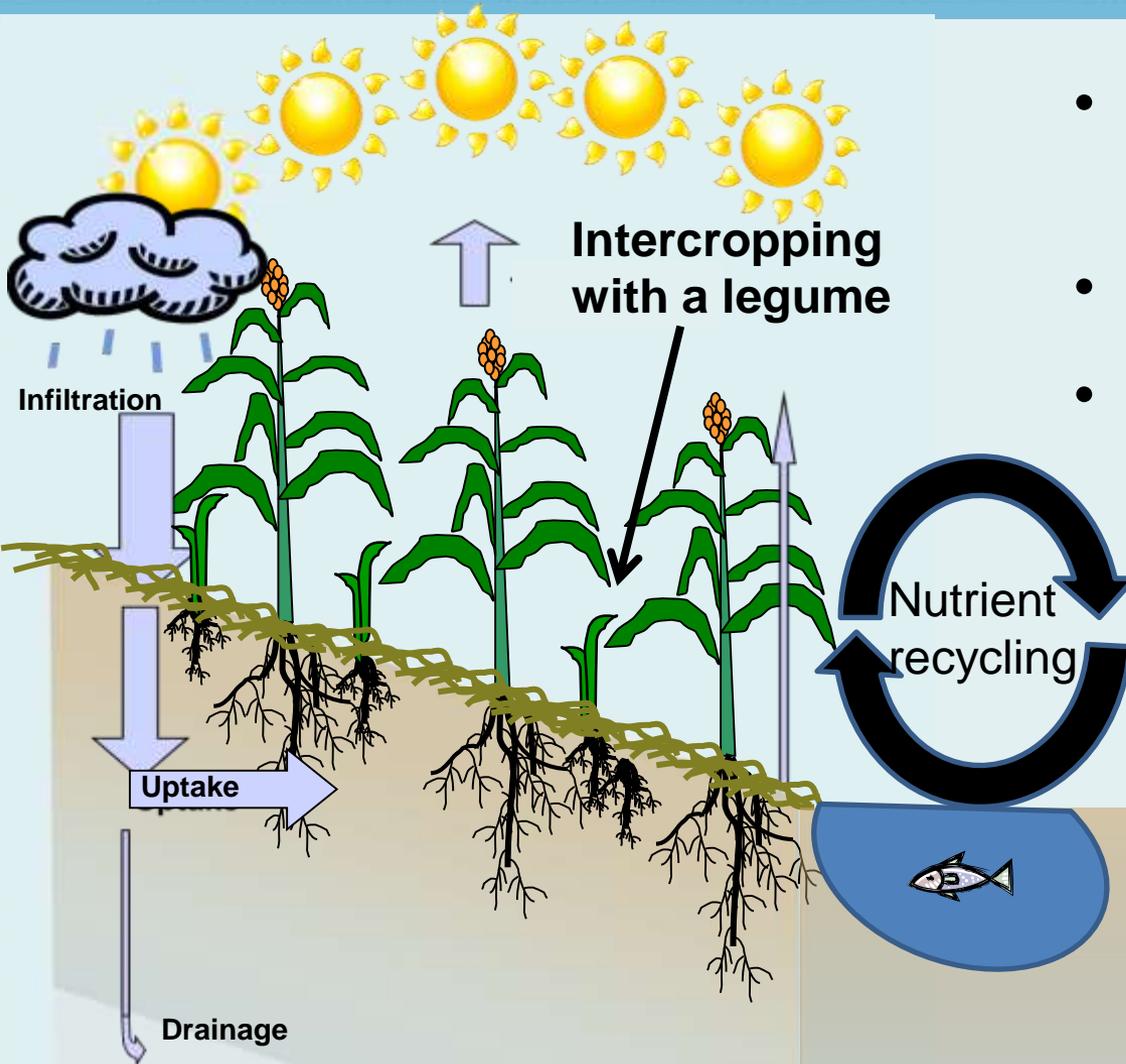
Yield
South Asia



Yield
Sub-Saharan Africa



Integrating more complex practices



- Extend the growing season
- Integrate perennial crops
- Integrate legumes for nitrogen



- Integrate livestock & aquaculture
- Appropriately scaled mechanization



- Launch of Alliance at UNGA, Sept 2014
 - Many countries, World Bank, IFAD, FAO
- “Triple-win Concept”
 - Increased productivity and income
 - Increased adaptation
 - Reduced GHG footprint (mitigation)
- Implications
 - Developed countries
 - Developing countries, especially smallholders

Envisioning the future: CA, diversification, + PA =



11% Crop Yield Increase



46% Energy Decrease



71% Irrigation Decrease



32% Profitability Increase

CSISA research platform @ CSSRI, Karnal, India





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Still needed: Smallholder Irrigation, Mechanization



Credit: Documentation Center of Cambodia (DC-Cam) /Makara Ouch



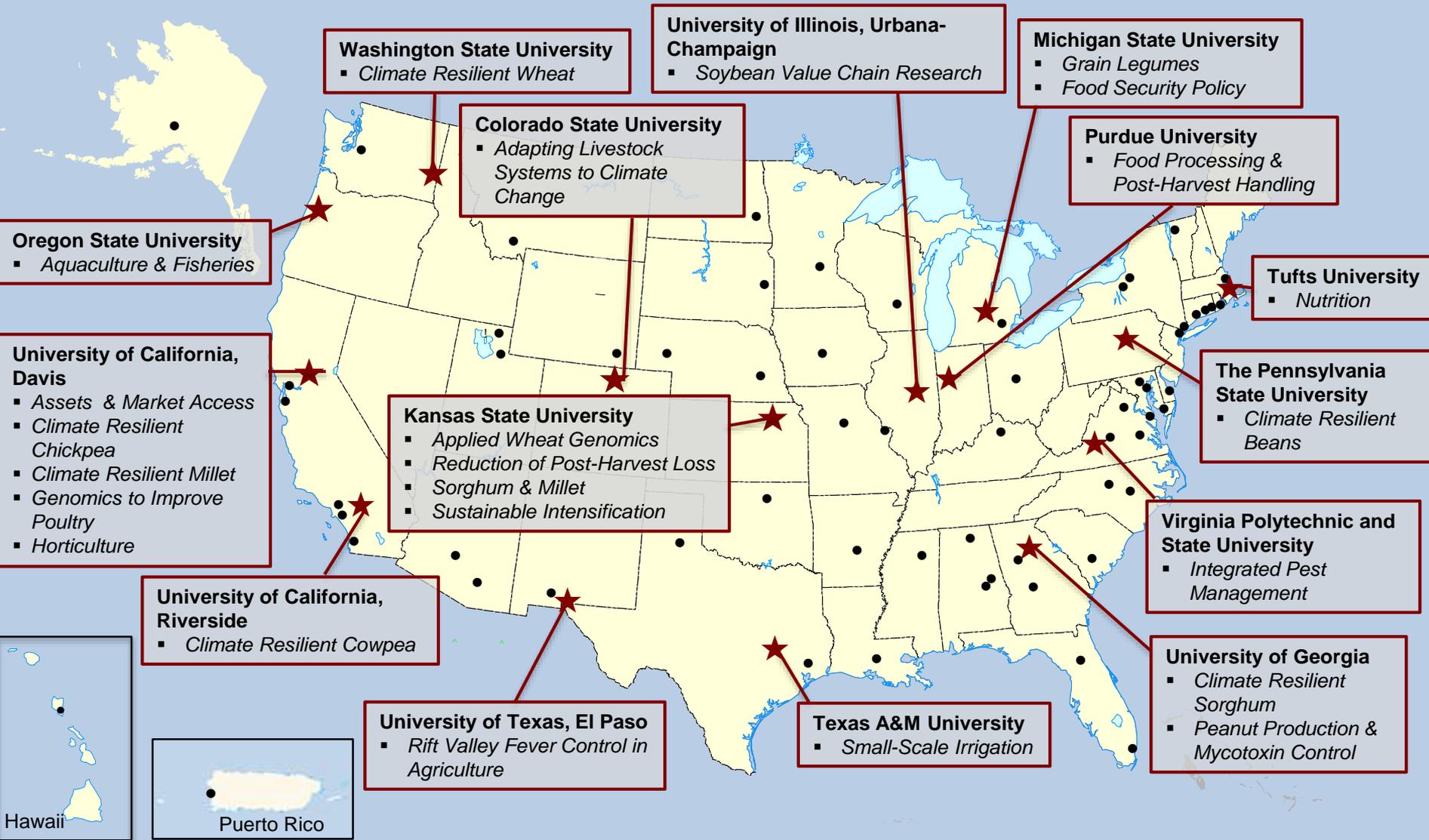
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Feed the Future Innovation Labs

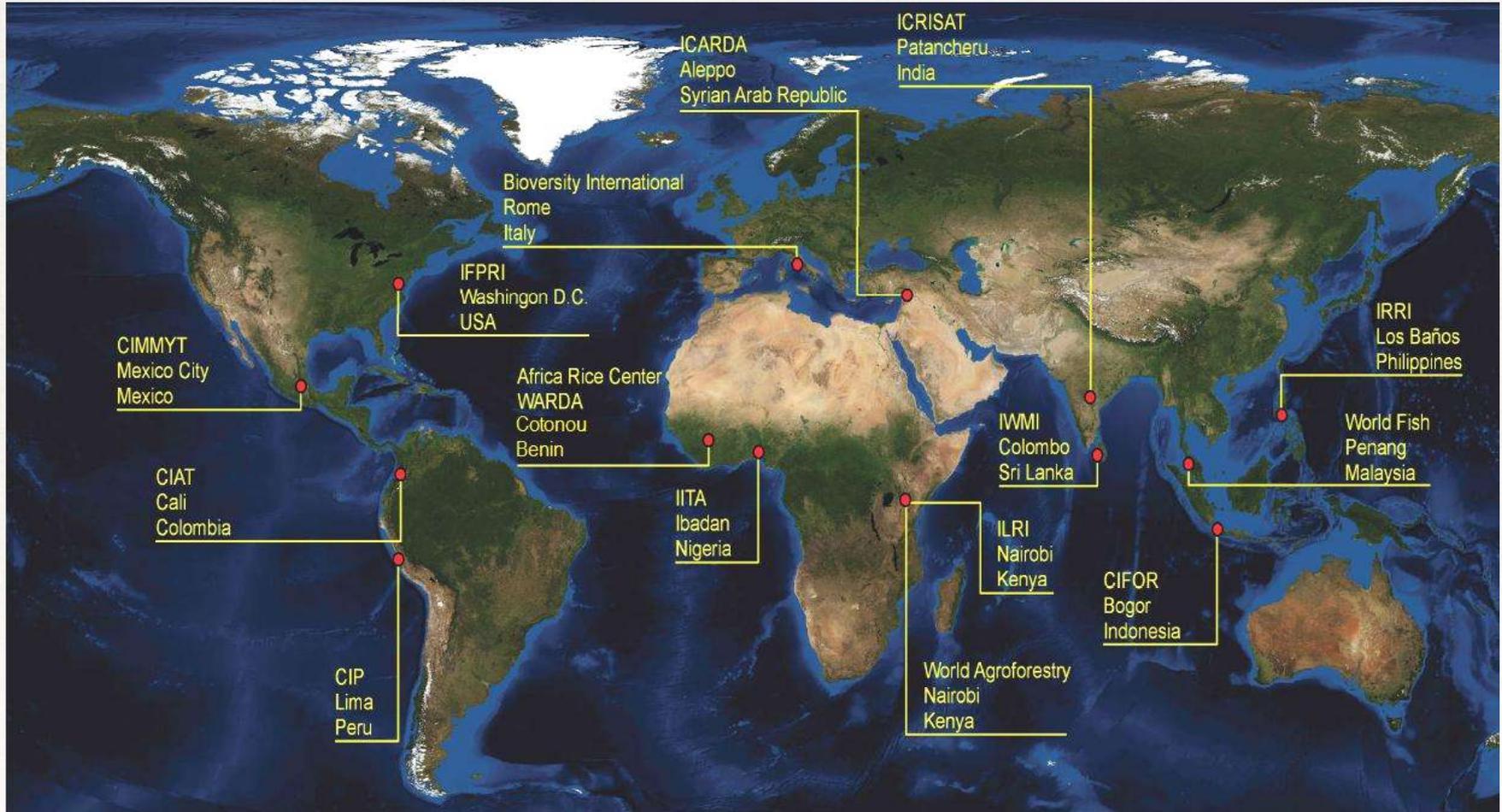
★ Lead Institution

● Collaborating Institution





CGIAR System



15 centers, 8,500 scientists and staff



Three Layers to our HICD Approach

- Individual training
 - Technical training
 - Relevant professional skills
 - Scientific publication, grant writing
- “Institutional capacity-aware” individual training
 - Trainees selected from target institutions
 - “Soft skills” beyond the technical and professional
 - Leadership, change management, performance management
- Direct focus on enhancing institutions’ ability to perform and deliver on their specific mandates
 - Innovation Labs are part of this ongoing effort
 - Mapping our ARP investments is helping our partners find each other, share experiences, and synergize activities



FTF Priority Challenges

- Demonstrate Sustained Results
- Provide Leadership in Climate Resilient Agriculture
- Institutionalize FTF