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Ending Hunger and Undernutrition: Achieving SDG 2

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Progress and Commitment

- *Rates of hunger and poverty declining*
- *Agriculture-Nutrition linkages*
- *Stunting rates coming down, but still high*
- *Global Commitment in SDG 2*
- *Global Food Security Act signals US support*

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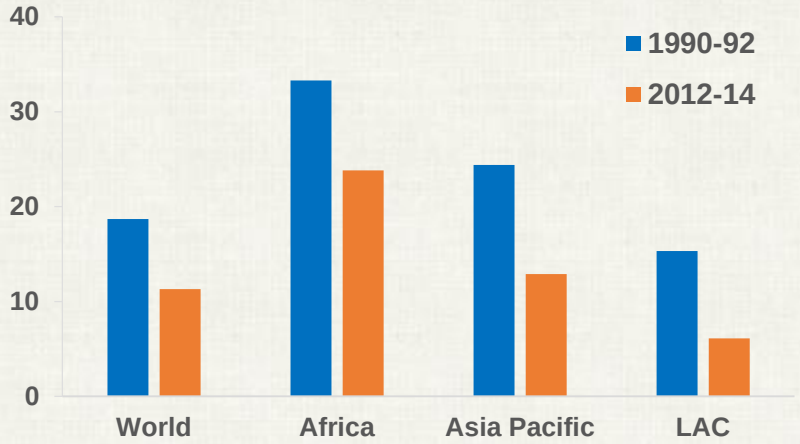
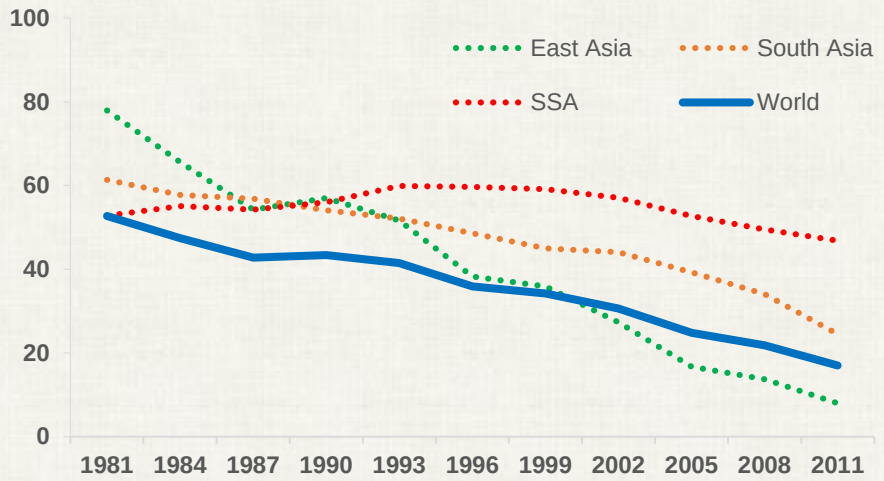
Poverty and hunger declining –but Africa lags

Prevalence of undernourishment (%)



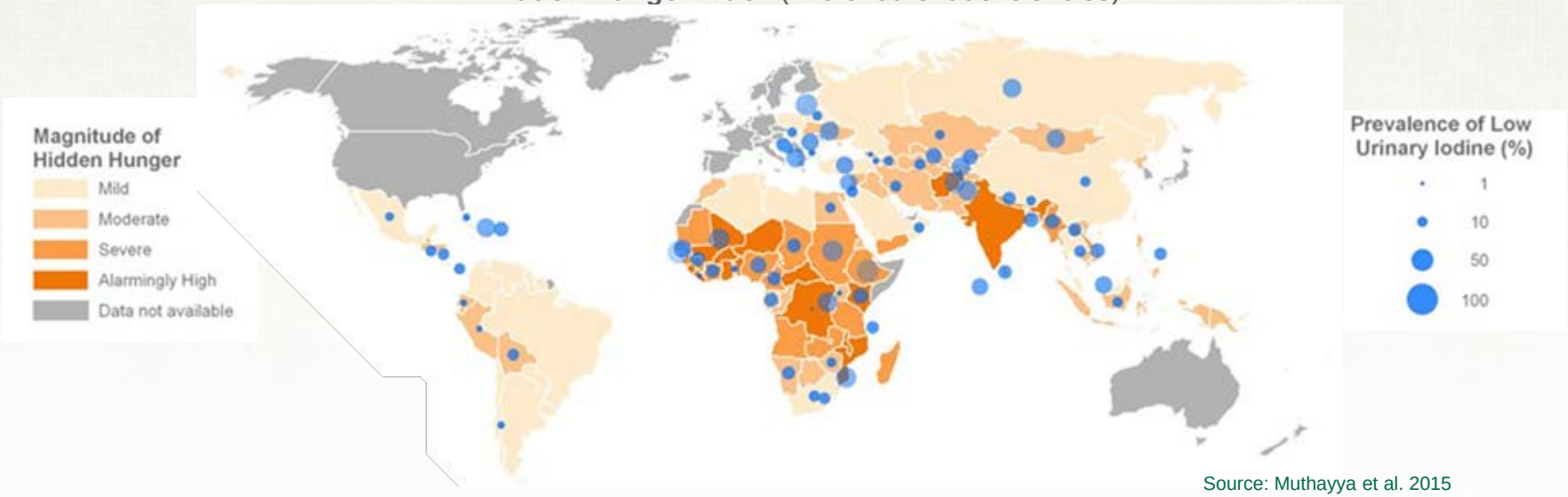
Source: FAO 2015

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



Source: PovCalNet 2015

Hidden Hunger Index (micronutrient deficiencies)



Source: Muthayya et al. 2015

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The Global Challenge

About **870 million** people suffer from chronic hunger

More than 3.5 million children die from undernutrition each year

The world's population will increase to more than **9 billion by 2050**

Food production will have to **increase by 60% by 2050** to feed the world

Agricultural production will be significantly impacted by **climate change**

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Food Security Innovation: Research

3 Major Research Programs

Program anchoring research in key farming systems

Integrated Cross-Cutting Programs

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Global Food Security Act of 2016

Building on Feed the Future Success

- July 2016 enactment of the **Global Food Security Act** (GFSA) of 2016
  - Passed with broad **bipartisan majority**
  - **Institutionalized** the Feed the Future approach to improving food security and nutrition
  - Required a whole-of-government, five-year **Global Food Security Strategy**

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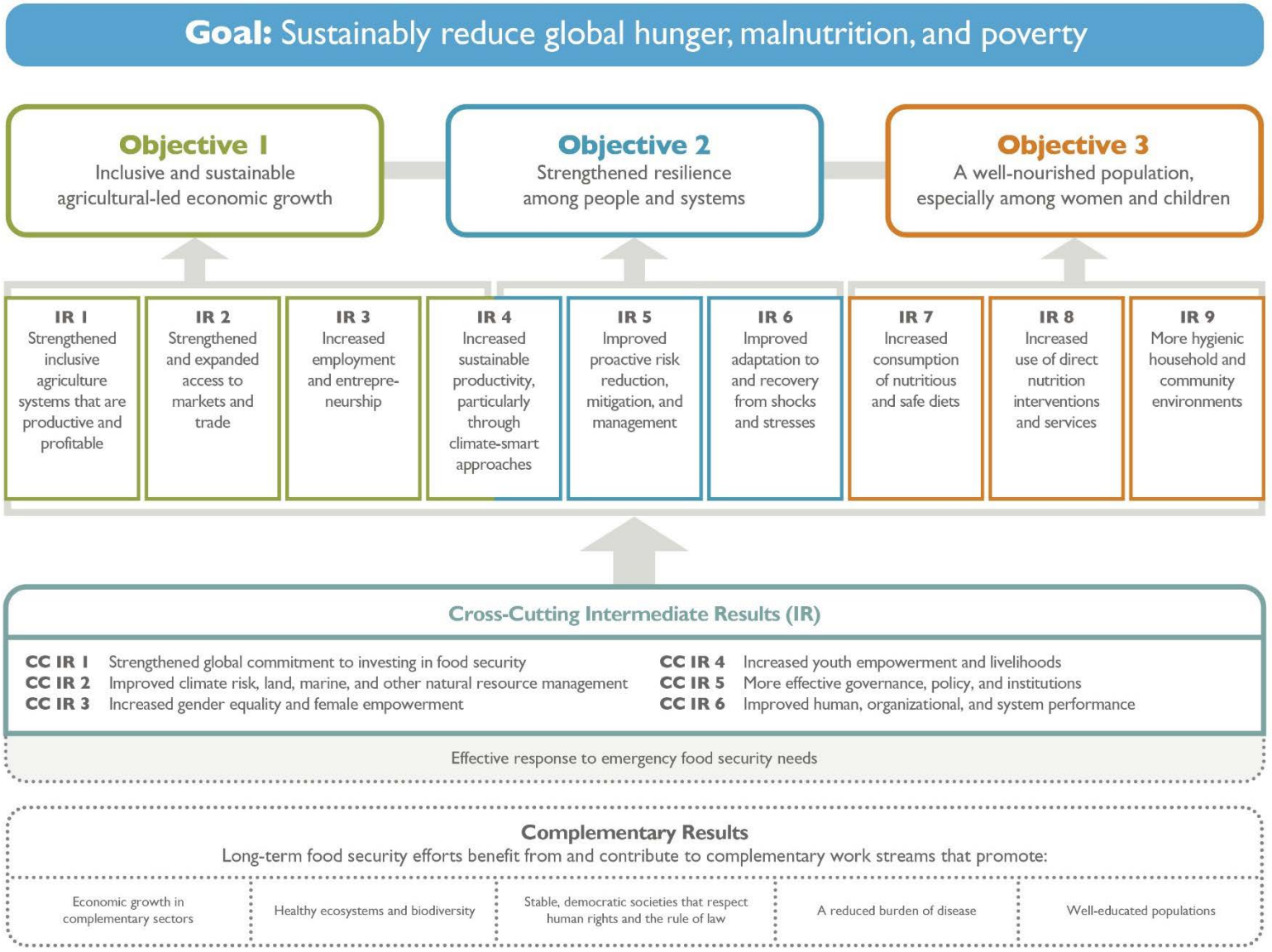
New Results Framework 2017 to 2021



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What Works to Reduce Undernutrition?

- Nutrition-specific interventions are those that address the immediate causes of undernutrition
  - Health Status
  - Nutrient Intake
- Examples
  - Infant and Young Child Feed Practices/ENA
  - Micronutrient fortification/supplementation: Iron, Zinc, Vit. A
  - Integrated Management of Child Illness
  - Community Management of Acute Malnutrition

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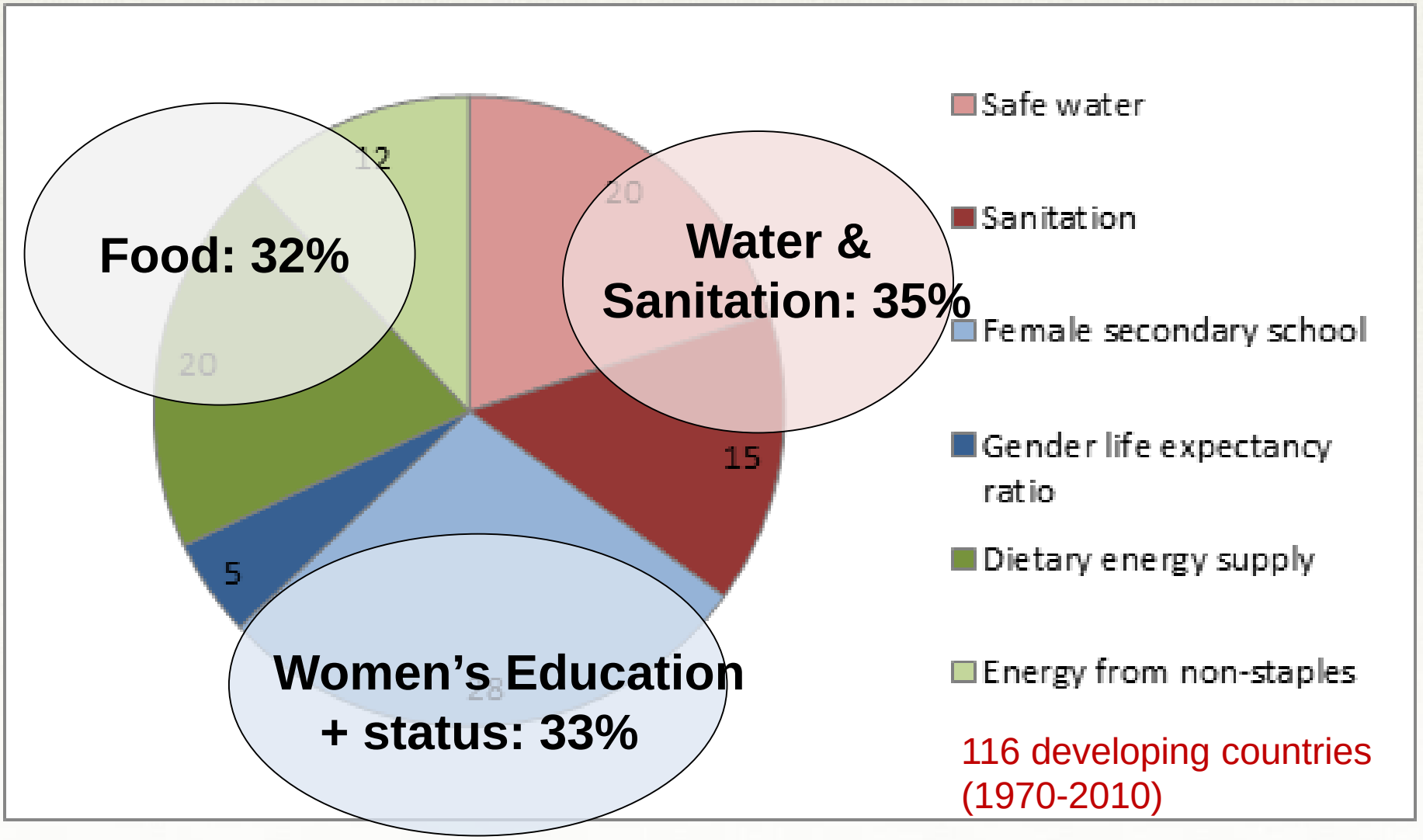
Contribution of Different Sectors to Improving Nutrition Globally



Source: Smith and Haddad, 2013

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Nutrition-Sensitive Agriculture

- Target production of nutrient-rich foods, ideally those that include nutrients lacking in diet
- Include behavior change communication component specifically aimed at consumption of target crops
- Ensure target food availability and affordability in local markets and support consumption education
- Measure outcomes, including intermediate targets such as consumption and market availability

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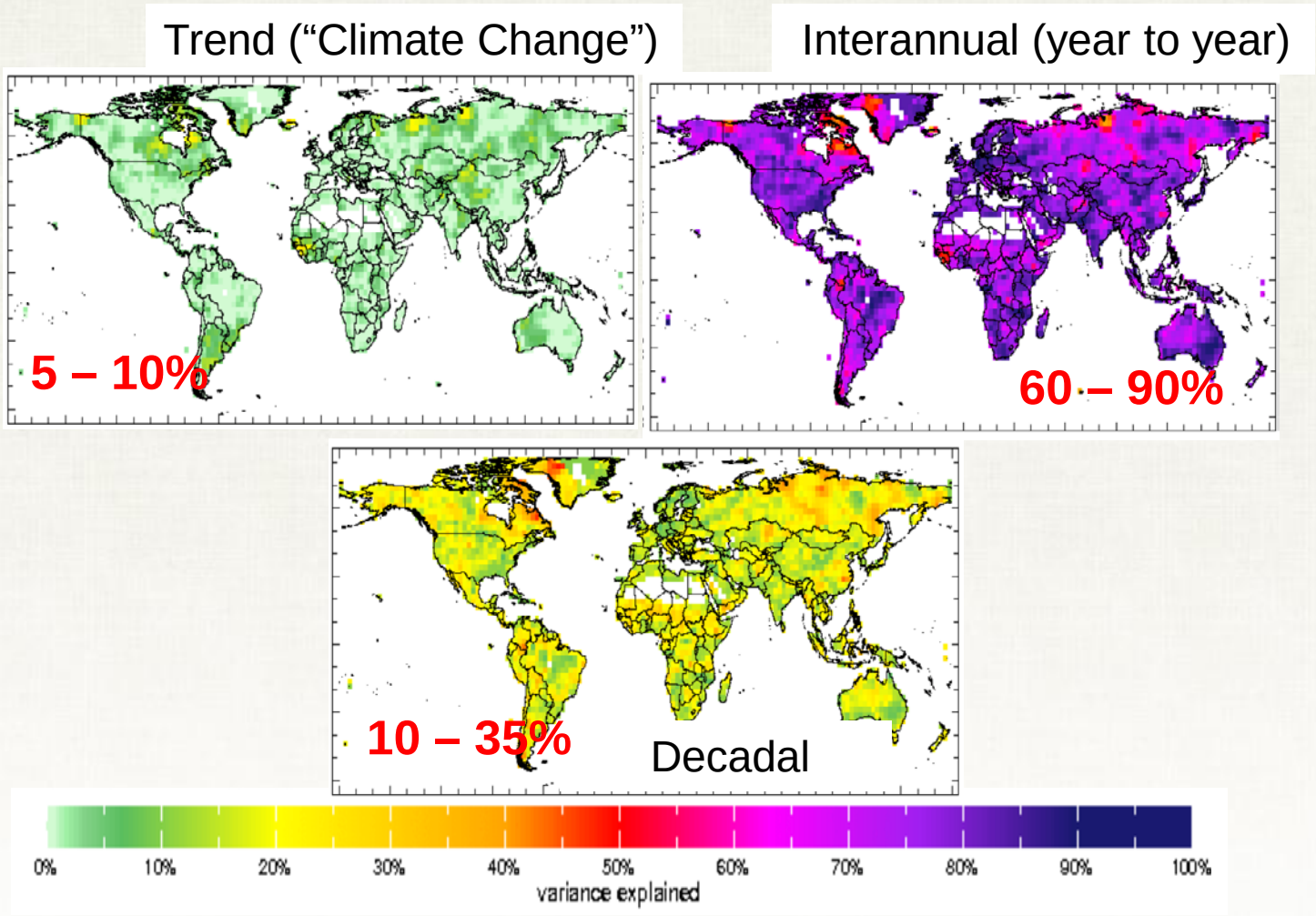
Adaptation: We must first adapt to existing climate variability

The previous El Niño caused 35 billion USD in **global economic losses**

By the **end of 2016** an estimated 40 million people were expected to be **food insecure** in southern Africa

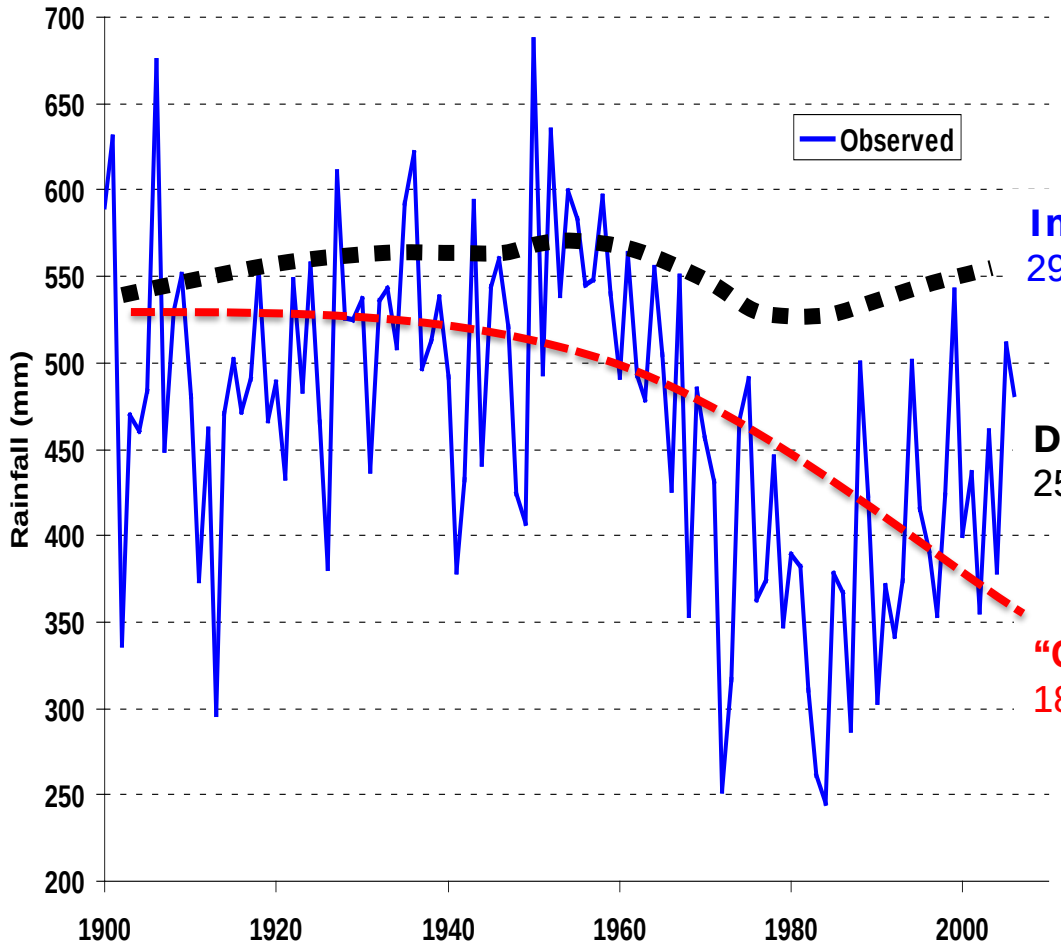
Climate Varies Over Time: Which variation is most important? (Precip)

Example: Observed Annual **Rainfall** in the Last 100 Years



http://iridl.ldeo.columbia.edu/maproom/Global/Time_Scales/

Example: Annual Precipitation over the Sahel



55% of total

Interannual Variability
290mm from one year to next

Decadal Variability
250mm in 20 years

27% of total

"Climate Change"
180mm in 100 years

18% of total

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Stress Tolerant Maize during El Niño

SC513

Murewa, Zimbabwe

CZH132018

Peter Setimela

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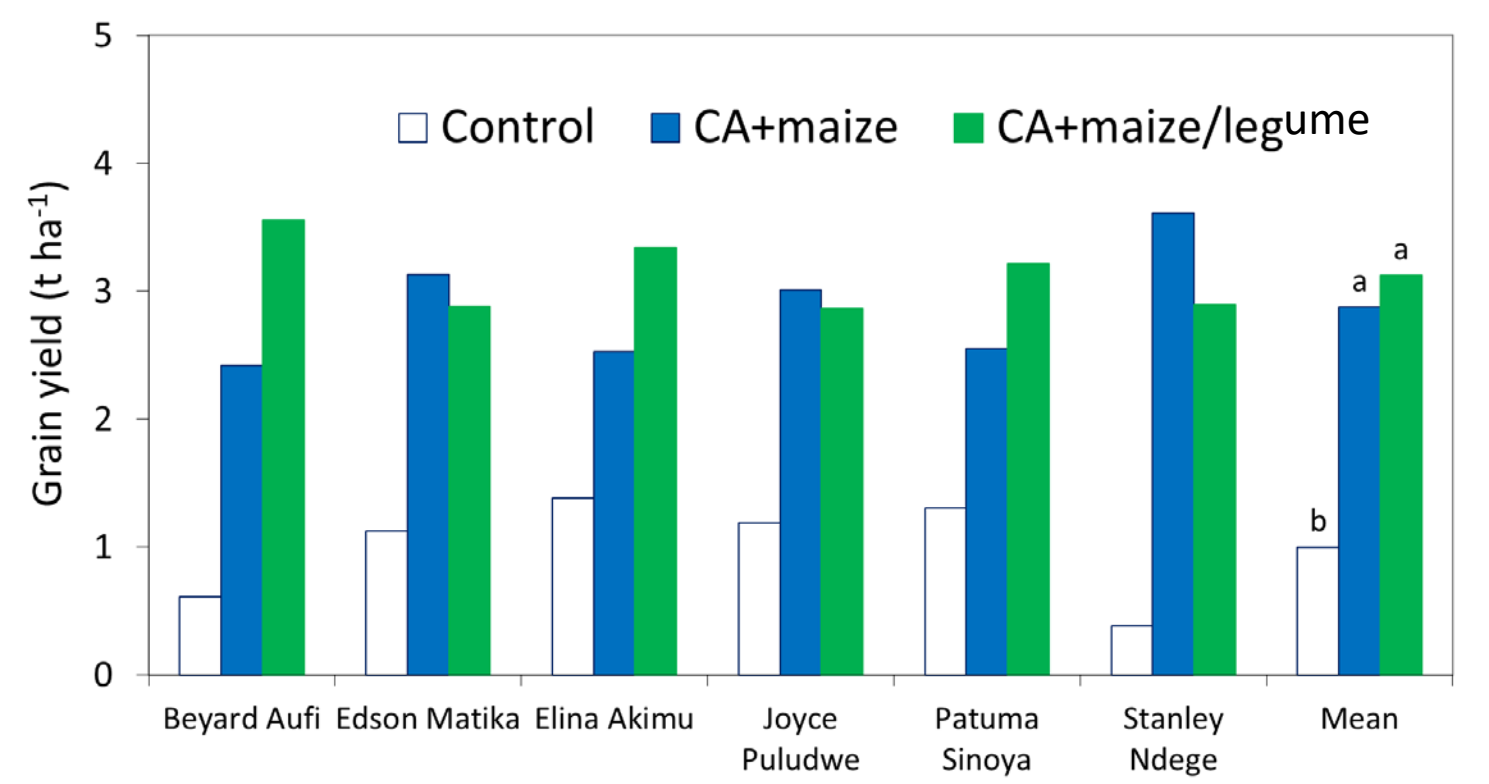
Conservation agriculture (CA) systems during El Niño



2 t ha^{-1} yield benefit of conservation agriculture in Malawi

Drought tolerant varieties make better use of residual soil moisture


Rhoda Mang'anya supports 7 people on ~1/2 ha.
Today she uses improved maize varieties and fertilizers, but only because of what else she does.


“I started keeping pigs and goats to support my children in school…and buying of salt, sugar, soap, relish.”

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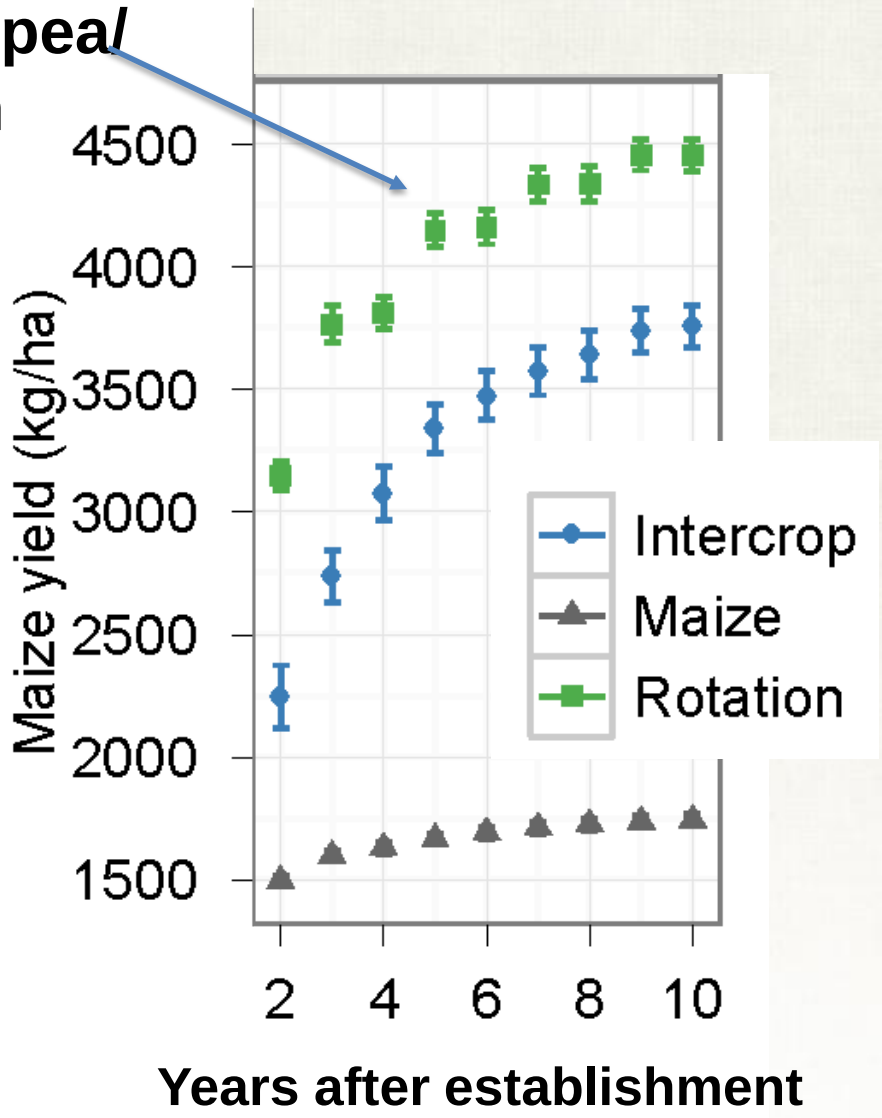
Resilient, diversified production systems

Doubled-up pigeon pea/ legume rotation

Resilient legumes = more biomass = resilient soils = higher, more reliable yields



Ollenburger and Snapp, 2015

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Frontier technologies

Addressing infectious diseases in animals

- **Improve livestock management**
- **Breed resistant animals**
  - New genomics tools
- **Develop vaccines**
  - Thermostable for improved transport

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We have to intensify agriculture, but sustainably

- The challenge is to achieve sustainable transformation via smallholder farmers
- Existing and future technologies are essential
- Farmer choice—seeds, fertilizer, breeds
- Resource-use efficiency (water, fertilizer, fuel)
- Context for technology scale-up is crucial
- Integration of multiple technologies is needed
- Information—weather, market, extension
- Reduce risk—catalyze investment at all levels

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Please See our Feed the Future Website

Thank You!

www.feedthefuture.gov