



THE UNIVERSITY OF  
**SYDNEY**

# Chickens bridging gender divides

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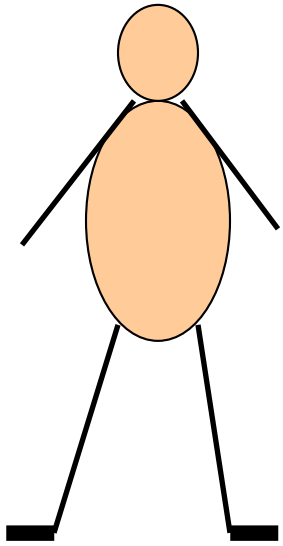
Crawford Fund NSW Seminar  
18 March 2014



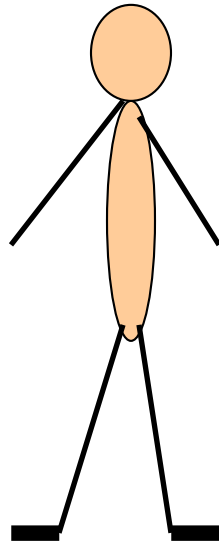
# Food and nutrition security

- Recent reviews have shown little impact of agricultural interventions on childhood nutrition (Masset et al. 2012)
- Stunting remains high in many countries despite increases in agricultural production
- Stunting affects health, physical and cognitive development capacity in children as well as productivity in adulthood
- 11% of gross national product in Africa and Asia lost annually due to malnutrition

# Types of undernutrition

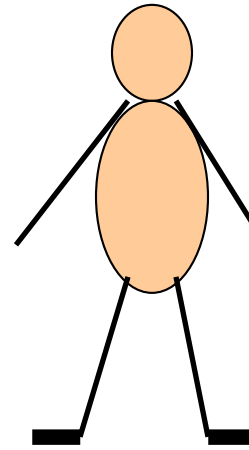


Normal



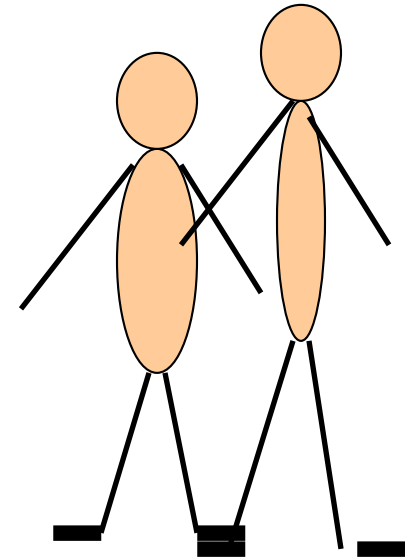
Wasting

Low weight for height



Stunting

Low height for age



Underweight

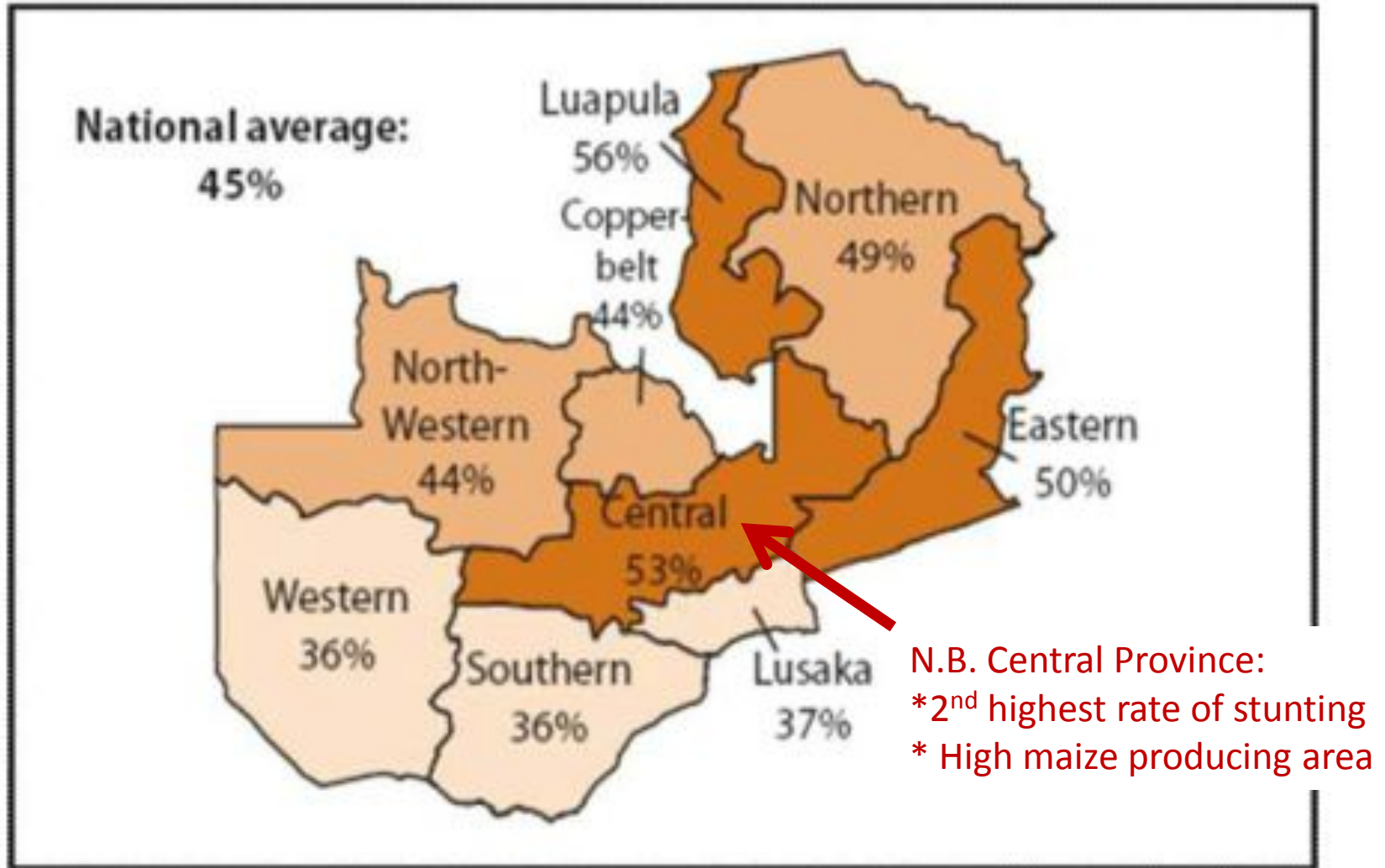
Low weight for age

**Micronutrient deficiencies**  
(iron, vitamin A, iodine, zinc, etc)

# Current undernutrition data

- Stunting in Tanzania in children <5 years  
**42%**
- Stunting in Zambia in children <5 years  
**45%**
- Stunting in Lao PDR in children < 5 years  
**48%**
- Stunting in Timor-Leste in children < 5 years  
**58%**

# Distribution of stunting in Zambia



## Why village chickens?

In mixed farming systems in Southern Africa:

- very few households own cattle (~10-20%)
- some own small ruminants (~30-40%), but
- most own village poultry (70-80%)

**Frequently under the control of women and children**



Credit: Kyeema/Alders

# Eggceptional value!

- One egg contains:
  - **Energy** - 315 kilojoules
  - **High quality protein** – rich in essential amino acids
  - **Vitamins** including Vit. A, B12, K & choline
  - **Minerals**
- Sterile inside (usually)
- Easy to store
- Available most of year
- Easy & quick to cook



Credit: FAO/Alders

# Key research areas

## Gender

- Research indicates that resources under the control of women are more likely to be used to support the education and nutrition of children

## Newcastle disease (ND) control

- Most important poultry disease world wide
- Causes up to 80% mortality in village chickens every year
- Thermotolerant ND vaccine and community-based sustainable control model developed with ACIAR support



Credit: Kyeema/Alders



# Impact of Newcastle disease control in village chickens in Tanzania

[ACIAR/Crawford Fund/Kyeema Foundation video](#)

# Current Crawford Fund Projects



THE CRAWFORD FUND

*For a Food Secure World*

# Collaborative work in Lao PDR

- Honorary Prof Lester Burgess
- Improving durian production, and
- Improving village poultry production to support:
  - manure as a biofumigant
  - food and nutrition security
- Funding: Crawford Fund



# Collaborative work in Timor-Leste

- Sustainable improvements to poultry and human health
- Timorese Ministry of Agriculture and Fisheries, Ministry of Health; and Ministry of Education
- USyd Vet Science and Public Health; Australian Department of Agriculture
- Funding: Timorese MAF and Crawford Fund



# Benefits of family poultry work to NSW and Australia

- Improved understanding of poultry disease epidemiology and biosecurity in small flocks, e.g. backyard chickens
- Improved control of poultry disease regionally which reduces risk of introduction of exotic poultry diseases into Australia
- Building skills in the next generation:  
Julia de Bruyn (MVSc; working in Tanzania)  
Johanna Wong (PhD; working in Timor Leste)  
Leigh Ann Ackland (BSc(Vet); working in Tanzania)

# Thank you for your attention



Credit: Kyeema/Alders