Flinders University and Food/Nutrition Security

James Stangoulis
• Public Health/Nutrition
• Recent projects include the extent of food (in)security in South Australia
• Working with Aboriginal communities
• Flinders Overseas Health Group continuing nutrition studies in Asian region
  – Nutritional status of refugee populations in West Timor
• Crop nutrition
• Biofortification
Improved crop nutrition is important for maintaining food security. N, P and Zn deficiency in Zambia crops
Zn deficiency in groundnut (breeders plots in DR Congo)
Global Push for Biofortification

• Flinders overseeing 3 programs (Capacity Building, Micronutrient Technical Assistance and Marker Development)

• In May 2012 G8 countries pledged to improve nutritional outcomes and reduce child stunting by “support[ing] the accelerated release, adoption, and consumption of biofortified crops, crop diversification, and related technologies to improve the nutritional quality of food in Africa.”

• Biofortification featured at post-Olympics Global Hunger Event in London in August 2012 chaired by UK Prime Minister David Cameron and Brazil Vice President Michel Temer

• In August 2012 DFID committed funds to support nutrient-rich crops that would reach 3 million people in 2013
Crops for Africa & Release Dates

2011
- Cassava
- Vitamin A
- Nigeria
- DR Congo

2012
- Beans
- Iron (Zinc)
- Rwanda
- DR Congo

2012
- Maize
- Vitamin A
- Nigeria
- Zambia

Crops are high-yielding and with other traits farmers want.
Crops for Asia & Release Dates

2012

Pearl Millet
Iron (Zinc)
India

2013

Rice
Zinc
Bangladesh
India

2013

Wheat
Zinc
India
Pakistan

Crops are high-yielding and with other traits farmers want.
Orange Sweet Potato

- Vitamin A-rich orange sweet potato (OSP) was released to 24,000 households in Mozambique and Uganda from 2007-2009
- Findings from the project have shown high rates of adoption and consumption, resulting in increased vitamin A intakes among women and children
- Distribution of OSP has been scaled-up in Uganda by HarvestPlus to reach 225,000 households by 2016
HarvestPlus in Africa

- Three conventionally bred vitamin A cassava varieties released in Nigeria in December 2011 to reach 50,000 farming households by end of 2013
- Two conventionally bred vitamin A cassava varieties also released in Democratic Republic of Congo to reach 25,000 farming households by end of 2013

Photo: Y. Islam
• Five conventionally bred iron bean varieties released in Rwanda in June 2012 to reach 275,000 farming households by end of 2013
• Six conventionally bred iron bean varieties released in Democratic Republic of Congo to reach 175,000 households by end of 2013

• Three conventionally bred vitamin A maize varieties released in Zambia in September 2012 to reach 90,000 farming households by end of 2013
• Two vitamin A maize varieties also released in Nigeria in July 2012
Flinders University and Food/Nutrition Security

- Active role in Health and Nutrition research and teaching
  - scope to move into Africa more in the future
- Crop nutrition to improve yield performance
  - scope for breeding more nutrient efficient cultivars
- Focus on food systems approaches that bring together the various disciplines to focus on improving yield and nutrition