Food security: deconstructing the challenge for developing countries

AHRC Environment and Identity Conference

20-21 July 2011

Nigel Poole

SOAS, University of London

Overview

- Macro view
  - the security link…
- Meso view
  - drivers of food (in-)security
- Micro view
  - who is ‘hungry’?
- Policy implications
  - deconstructing the ‘meta-analysis’

Outcomes

1. The principal point is to say that what is perceived a big question, a macro problem, has to be broken down
   - analysis has to be micro - and ethical
     - the question is not just food security but nutritional insecurity and vulnerability
     - not only political stability but health of the poor
2. macro policies are important
   - micro policies targeting specific and local vulnerabilities and opportunities are essential…

The macro (security) view

Food security and the link with political stability

Northern Potosí, Bolivia

What is the problem?

- Well, there is a food problem…
  - ‘Countries with weak institutional capacity were more likely to suffer violent social unrest during the food shocks of 2008–09’ WDR 2011, p. 8
  - 3 March 2011 – global food prices rose for the eighth straight month in February (UN Food and Agriculture Organization)
    - unexpected spikes in oil prices could exacerbate an already precarious situation in food markets
    - more civil unrest and protests anticipated because of soaring food prices in North Africa and Middle East
  - Robert Zoellick, 17 April 2011

Llallagua, Northern Potosí

Bolivia, 10 Feb, Vivian Polar:

- *'The whole country has been put on a diabetic's diet … There is no sugar... you just can't find it. Last month you would have long queues of people trying to buy sugar from the government stores - now the queues are gone because there simply is no sugar in the country…The president said … "Sugar is not healthy…. We should go for healthier options like honey and stevia." Hahahaha... can you believe it??? He has no idea of costs…'*

Global peace and security?

- National and regional perspective on
  - food security
  - conflict
  - migration
  - political stability
- corrupt and inequitable economic governance systems and bad management performance?

Ouagadougou, Burkina Faso

November 2010 Burkinabé presidential election results

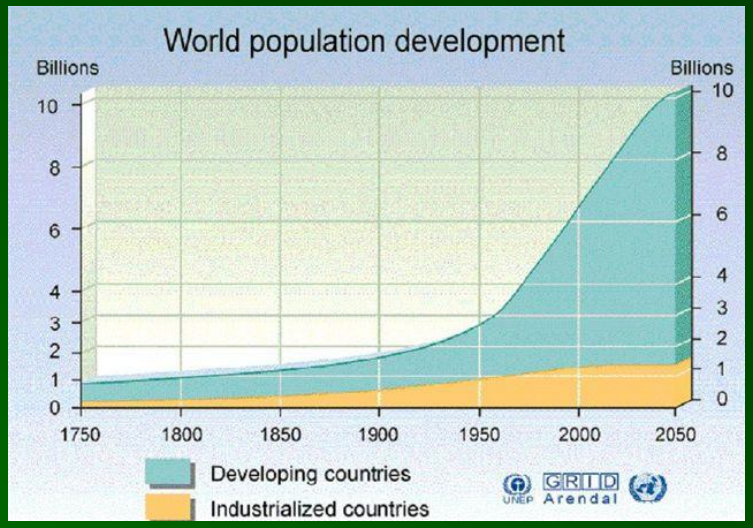
Candidates	Votes	%
Blaise Compaoré (president since 1987)	1,358,941	80.2
Hama Arba Diallo	138,666	8.2
Bénéwendé Stanislas Sankara	107,377	6.3
Boukari Kaboré	39,029	2.3
Maxime Kaboré	24,888	1.5
Pargui Emile Paré	14,461	0.9
Ouampoussoga François Kaboré	10,909	0.6
Total (turnout 54.9%)	1,694,271	100

The meso (food sector) view

Food security and ‘environmental’ drivers

The drivers of food insecurity

- Population growth:
  - 2011 – 7 billion
  - 2030 – 8 billion
  - 2050 – 9 billion



- incomes
  - wealthy populations demand more food of higher quality and greater resource-intensity
- resources
  - competition for land, water, energy…
- likely effects of likely climate change
  - mitigation policies will exacerbate pressures

The Future of Food and Farming
(Foresight, 2011)

- 925 million people experience hunger
- 1 billion suffer from ‘hidden hunger’
- 1 billion people are substantially over-consuming
  - chronic conditions such as type 2 diabetes and cardiovascular disease
- much of the responsibility for these 3 billion people having suboptimal diets lies within the global food system
- many production systems are unsustainable

Urbanization, Bangladesh

FDI in natural resources
(Cotula, 2010)

- natural resources investment is happening in many lower- and middle-income countries:
  - demand-driven, enabled by
    - economic liberalisation, improved transport and communication systems, global demand
    - increased investment may create opportunities
  - creates risks of environmental damage and loss of key assets like land, water and grazing
- government and civil society capacity to negotiate, manage and scrutinise contracts?

WDR 2011, p. 35

- *'Further research is also needed to track the impacts of climate change on weather, land availability and food prices, each of which can impact in turn on conflict risk. Current research does not suggest that climate change itself will drive conflict, except perhaps where rapidly deteriorating water availability cuts across existing tensions and weak institutions. But a series of inter-linked problems - changing global patterns of consumption of energy and scarce resources, increasing demand for food imports (which draw on land, water and energy inputs), and the repurposing of land for climate adaptation - are increasing pressures on fragile states. These warrant further research and policy attention'.*

The micro (food) view

Heterogeneity – hunger, health and response

A shortage of nutrients… and health

- Under-nutrition contributes to death and stunting, and to a range of common chronic non-communicable diseases
  - under-nutrition is most severe among the rural poor in low- and middle-income countries
- rapid increases in the nutrition-related chronic disease burden now affects populations at all stages of economic development

Foods and the nutrition dimension

- 4 crops represent 65% of global food by volume – wheat, maize, rice, potatoes
  - ‘food’ is not a commodity
- hunger is usually defined and mapped on the basis of energy intakes
- whereas food security is not a question of not having enough energy
  - energy is not the critical component - look beyond single nutrients

Disaggregate analysis: cheese?

- Analyse:
  - macronutrient quantity and quality in individual foodstuffs
  - micronutrient density per unit of energy
- only the under-fives need foodstuffs of animal origin, and for Fe and Zn, not for protein
  - pubertal girls and lactating women?
  - implications for agricultural and food policy
  - Uauy: need an agricultural revolution in pulses
    - exploit biodiversity of natural varieties like golden cassava in South America (Uauy, jnr, 2006)

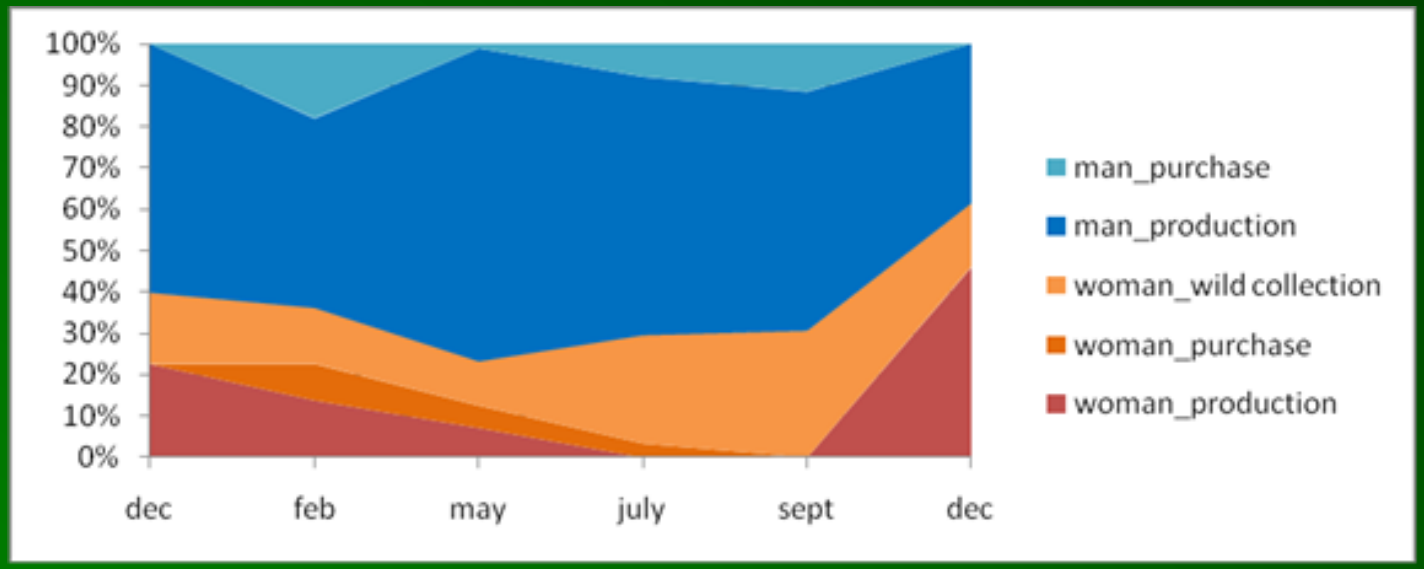
Food & heterogeneity: Burkina Faso

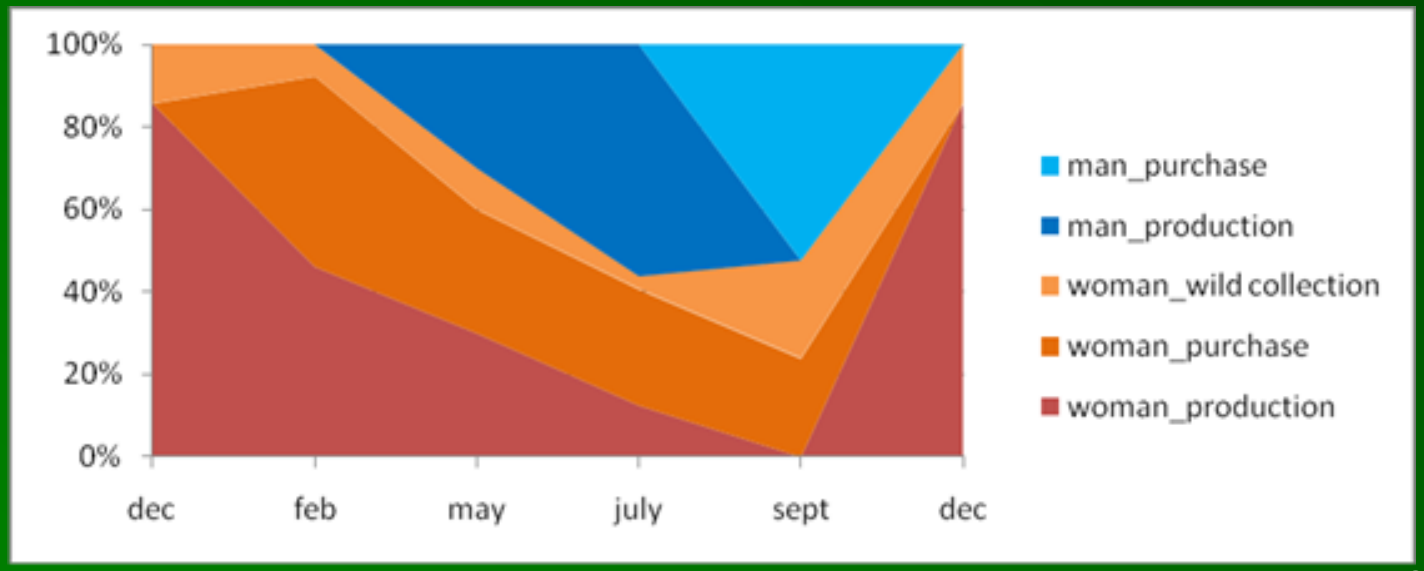
Food sources & distribution
(Tincani, 2011)

- Rural Burkinabé;
  - men, women and older children all contribute to household food security
    - cultivated, collected, purchased, received
- the contribution of each food source varies
  - seasonally
  - between and within households
- distribution of food within households varies
  - age, gender, season, social status
    - not necessarily according to different nutritional requirements

Complex households: vulnerability

Intrahousehold food supply sources





Response & heterogeneity: Zambia
(Poole *et al*, 2010)

- Why cassava, not maize?
  - EU All ACP Agricultural Commodities Programme case study (ITC, CFC, FAO, WB, UNCTAD)
  - cassava production has been growing
    - drought resistance
    - food security
    - agricultural diversification
  - industrial diversification and import substitution?
  - *question: what is 'the extent to, and mechanisms, through which smallholder participation in the development of the cassava value chain in Zambia can be assured?'*

Expecting a supply response?

Cassava sector strategy

- Envisages a massive supply response
  - quintupling production in four years!!!
- evidence of significant grower heterogeneity
  - not based on the levels of livelihood assets
    - some growers are ‘early adopters’, more innovative, more dedicated to farming?
  - non-growers less dedicated to farming?
    - not necessarily ‘laggards’
  - little evidence of barriers to participation
- questions primarily of orientation and attitude?
  - we need to understand people, not just statistics

Policy implications

Coordinate

Sectoral approaches

Go local

Macro approaches

- *'… violence in the 21st century differs from 20th-century patterns of interstate conflict and methods of addressing them…*
  - *'Stove-piped government agencies have been ill-suited to cope, even when national interests or values prompt political leaders to act. Low incomes, poverty, unemployment, income shocks such as those sparked by volatility in food prices, rapid urbanization, and inequality between groups all increase the risks of violence'* WDR 2011, p. iii

Foresight

- '… *interconnected policy making*…'
  - '*Policy in other sectors outside the food system also needs to be developed in much closer conjunction with that for food*'
    - energy, water supply, land use, the sea, ecosystem services and biodiversity
  - other sectors will affect the food system and therefore will affect food security also
  - food is critical for poverty, development, health, well-being, migration – and conflict
  - global development and sustainability are threatened by food insecurity

Sectoral approaches

- Boost food production in developing countries
  - invest in R&D for production
    - don’t rule out genetic modification and nanotechnology
  - resources productivity
    - irrigation, land tenure and titling
  - reduce the attractiveness of migration
    - invest in local development and local food sovereignty
  - invest in rural-urban linkages and communications
    - products, services, labour, investment
- moderate consumption practices of wealthy?
- local resources, local initiatives: local policy?

Consumption patterns, Dhaka

Local food systems

- Food sovereignty – an alternative paradigm?
  - reduce international trade barriers and market distortions
    - ‘locally grown food is more sustainable’?
    - ‘self-sufficiency supports farming communities’?
- La Via Campesina, Brazil (PhD Sofia Naranjo)
  - support of smallholder farming
  - development of local food systems
  - promotion of agroecology

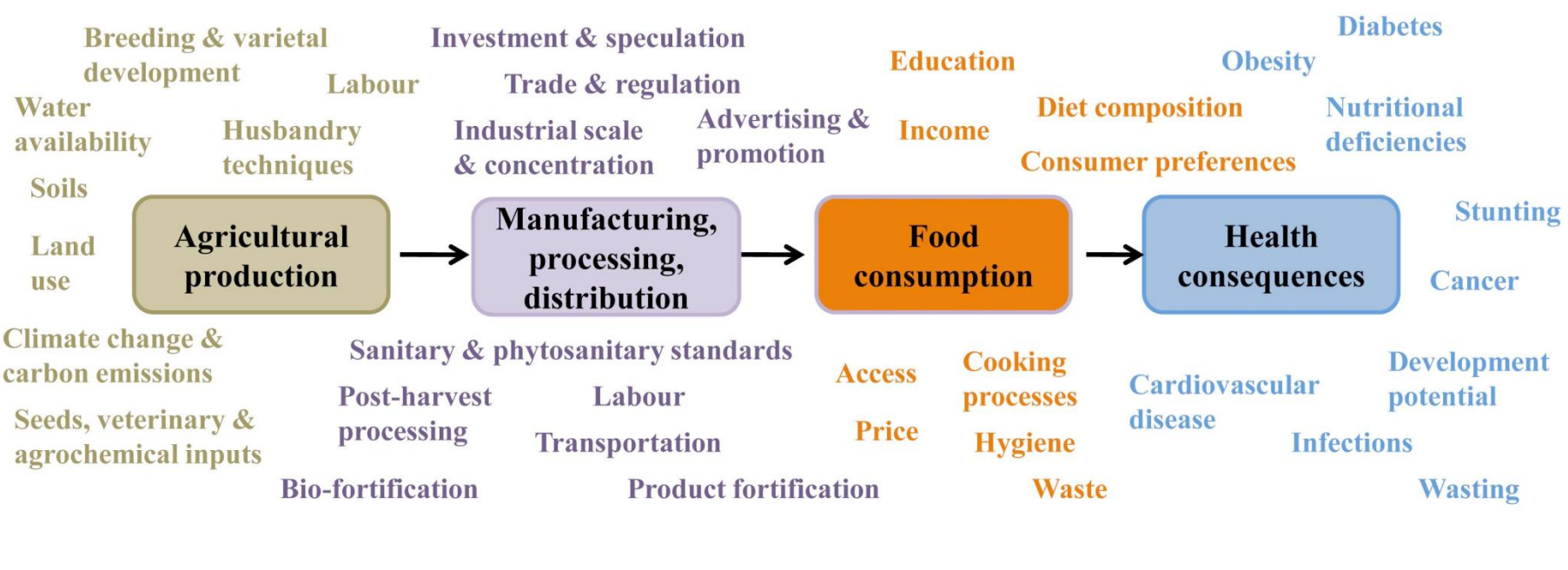
Naranjo's argument:

- Food sovereignty can be achieved locally even within a context of general globalisation, through policies such as the Brazilian governmental Food Acquisition Programme
  - food sovereignty enables rural smallholders to improve their well-being, food security, self-esteem and to forge an adequate livelihood
  - contributes to the development of local food commerce systems and the promotion of agroecology in Mirandiba/elsewhere in Brazil

Develop local resources

Local initiative

Actually, the questions about food security are much more complicated….



Outcomes

1. The principal point is to say that what is perceived a macro question perspective, has to be broken down
   - analysis has to be micro, ethical
     - the question is not just food security but nutritional insecurity and vulnerability
     - not only political stability but health of the poor
2. macro policies are important
   - micro policies targeting specific and local vulnerabilities and opportunities are essential

Or else…

References

- Cotula, L. (2010). *Investment Contracts and Sustainable Development: how to make contracts for fairer and more sustainable natural resource investments*. Natural Resource Issues. No. 20. London, International Institute for Environment and Development.
- Foresight (2011). *The Future of Food and Farming*. London, The Government Office for Science.
- Naranjo, S. (2010). *Food sovereignty's potential to address poverty and hunger by creating sustainable peasant-led agri-food systems: A case study from the Brazilian Food Acquisition Programme in Mirandiba, Pernambuco*. School of Civil Engineering and the Environment, University of Southampton. Unpublished PhD.
- Tincani, L. (2011). Unpublished working paper. SOAS, University of London.
- Poole, N.D., M. Chitundu, R. Msoni and I. Tembo (2010). *Constraints to participation in cassava value chain development in Zambia*. EU-AAACP Paper Series. No. 15. Rome, Food and Agriculture Organization of the United Nations.
- World Bank (2011). *World Development Report 2011: Conflict, Security and Development*. Washington, DC, World Bank.
- Uauy, C., A. Distelfeld, T. Fahima, A. Blechl and J. Dubcovsky (2006). A NAC gene regulating senescence improves grain protein, zinc, and iron content in wheat. *Science* 314(5803): 1298-1301.
- Waage, J., A.D. Dangour, S. Hawkesworth, D. Johnston, K. Lock, N.D. Poole, J. Rushton and R. Uauy (2011). Understanding and Improving the Relationship between Agriculture and Health. A review commissioned as part of the UK Government's Foresight Project on Global Food and Farming Futures. London, The Government Office for Science.