Ecohealth, Equity and Innovation

Canadian Conference on Global Health
2012 October 22

Donald C. Cole
Interim Director, Institute of Global Health Equity & Innovation, University of Toronto
And Member of the
Canadian Community of Practice in Ecosystem Approaches to Health (CoPEH-Canada),
ECOHEALTH, a Canadian Innovation?

- **1980’s and early 1990’s** – ecosystems approaches to human health in the Great Lakes basin – International Joint Commission
- **2006**: Formation of the International Association for Ecology & Health, conferences, with an Ecohealth journal, etc.
Ecosystem Approach to Health

- A Canadian “Milestone in Population and Public Health Research”
  - “Systems-based approaches to health & wellbeing in the context of social and ecological interactions”
- Health-oriented research, guided by principles that inform:
  - The ‘practice/doing’ of ecohealth research: transdisciplinarity, systems thinking, multi-stakeholder participation
  - The ‘goals’ of ecohealth research: sustainability, equity, ‘knowledge-to-action’

Farm Family Health - Issues

Globally

- Urban and rural poor multiple deprivations wrt determinants of health
- Face range of hazards in farming work, reducing labour-work capacity (Asenso-Okyere et al, 2011)
- Multi-tasking in peri-urban/urban contexts
- Often sell most produce for cash rather than consume
- Diet changes towards simpler, faster (rice, pasta, fried foods etc. Popkin 2001)

Andean Metropolitan Regions

- Back pain, ergonomic exposures common
- Poisoning impacts often drive change e.g. Mantaro valley farmer who lost daughter due to pesticide poisoning death
- Child malnutrition social inequality gradients (Larrea & Freire, 2002)
- Food security challenges both seasonal and ongoing (Underhill, 2008)
- Low dietary diversity (few fruits and vegetables) (IIN, 2011)
Pesticide-related Health Burden

Figure 2—Pyramid of estimated pesticide health impacts (numbers/10,000 rural population).

Farm Family Health - Responses

**Globally**

- Ecosystems and human health approaches (Charron et al 2012)
- Crop choices for soil and farm household e.g. legumes (Bezner-Kerr et al 2010)
- Programs emphasizing vegetable production in home gardens (Berti et al 2004)

**Andean Metropolitan Regions**

- Multi-component health promotion interventions successfully improve knowledge and practices (Orozco et al 2011) but neurobehavioural function changed less among poorer communities & households (Cole et al 2012)
- Promotion of vegetable consumption through recipe books, nutrition education. Increased consumption - most significant change stories
Market Influences

Globally

- Issues
  - Global markets in inputs and produce increasing influence but concerns re transportation – carbon costs, access, fairness
  - Hard for organic and nutrition oriented producers to compete with regular. Export to northern organic markets can have onerous certification conditions

- Responses
  - Value chains for nutrition (Hawkes & Ruel 2011)

Andean Metropolitan Regions

- Issues
  - Lack of a significant price differential meant few farmers encouraged to increase production or make investments in switching to organic production (Loomas 2010)
  - ‘low-equilibrium’ poverty trap, meaning that input (land, credit, etc.) and the prices available in output markets may be too weak to spark substantial growth without supports

- Responses
Appropriate Governance

Globally

- **Issues**
  - LMIC producer access to HIC markets blocked
  - Smallholder farmers sidelined by global food system

- **Responses**
  - Manage global food trade appropriately, supports but not subsidies, prevent dumping (Future of Food & Farming. Foresight 2011)
  - Governing dietary transition (Paarlberg, 2011)
  - Municipalities involved in urban agriculture (Prain et al, 2011) and food systems promotion locally e.g. Toronto Food Policy Council, Montreal.

- **Issues**
  - Centralization & racism historically
  - Lack of support from region and municipalities cited by smallholder households in Huancayo

- **Responses**
  - Decentralization to regional and municipal levels including budgets, promotion of participation and social accountability (4th pillar Ecuadorian constitution)
  - Sustainable development plans Pillaro municipality and Tungurahua region. Junin regional approach to food sovereignty, Chupaca municipal promotion of ‘bioferia’
  - Platforms or networks of stakeholders mobilized in support of hazardous pesticide reduction ordinances in Ecuador and Peru
Linking Ecosystem Health with Sustainable Development Challenges

- Hyperconsumption – factor 5 or factor 10 reductions needed
- Militarization – Peace initiatives in multiple countries (security for health)
- Deforestation – Green Belt movement in Kenya
- Production of tobacco – alternative crop development, Malawi as much as Canada
- Rights suppression – civil society working with policy makers to actualize rights to food, water, and health care
Linking Unsustainable Development with Major Global Health Burdens

- Childhood morbidity & mortality – most clearly with water quality and food security
- Maternal morbidity & mortality – degradation of the environment increases the burden of caring for households
- Chronic disease – most clearly among First Nations and lack of access to country foods, but also poor populations in low and middle income countries (LMICs)
Maternal mortality ratio variation globally – Worldmapper
Innovations in public goods and cross-sectoral work for nutrition

- Mama-SASHA project in western Kenya
- High B-carotene breed of sweet potato (orange flesh)
- Vouchers for OFSP vines to pregnant women as incentive to ante-natal care in local health facility
- Farmer, family and facility support by multi-disciplinary team
- NGO, ministries Health & Agriculture, CHWs

https://www.dropbox.com/s/7x5npmk6yfs6sr8/CIP_Kisumu%20Aug%202027%20final-HD%201080p%20Video%20Sharing%20Clare.mov
Mama-SASHA Implementation Strategy
Communities of Practice in Ecosystem Approaches to Health

- ...composed of scholars and practitioners working to address problems emerging at the intersection of health and the environment.
- The community advocates ecosystem approaches to health that foster social and gender equity, ecosystem sustainability, local and scientific knowledge sharing and participation.
- CoPEH in Latin America, West Africa, South-East Asia & Canada
Canadian Community of Practice in Ecosystem Approaches to Health

- Canadian Annual Summer-Schools (UBC, U. Guelph, UQAM, UNBC, U. Moncton)
- Ecohealth Training Manual
- Profiling and applying Ecohealth Research & Practice in Canada
- EcoHealth2014
- Can We Generate Sufficiently Innovative Responses?

ECOHEALTH2014
August 2014, Montreal

www.copeh-canada.org
Acknowledgements, Partners, Links

- Canadian Community of Practice in Ecosystem Approaches to Health
  www.copeh-canada.org

- International Development Research Centre
  www.idrc.ca/ecohealth

- Canadian International Development Agency

- International Potato Centre
  http://cipotato.org/

- School of the Environment, UToronto
  http://www.environment.utoronto.ca/