



INSTITUTE FOR AGRICULTURE AND TRADE POLICY

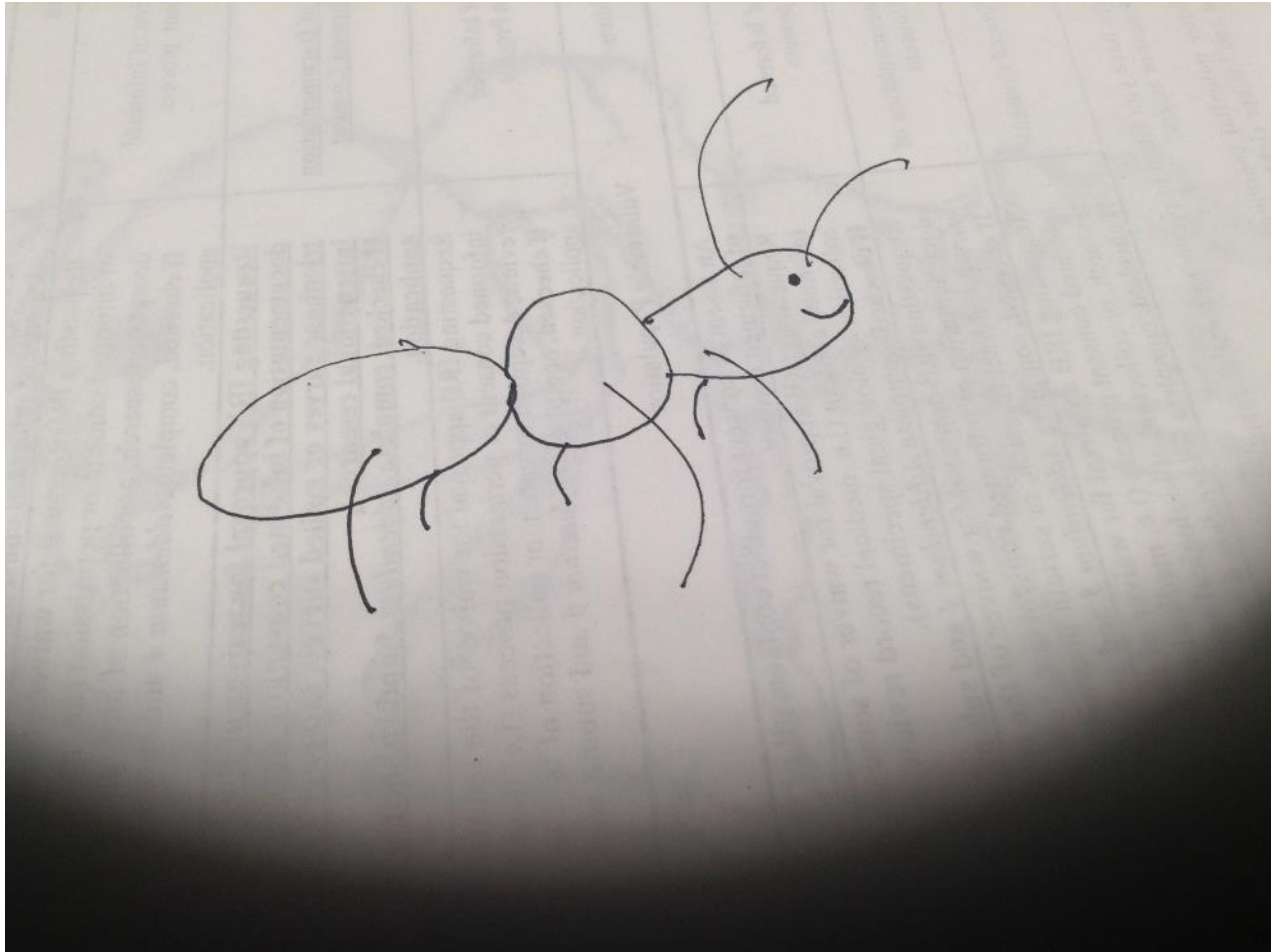
No Intensification Without Representation:

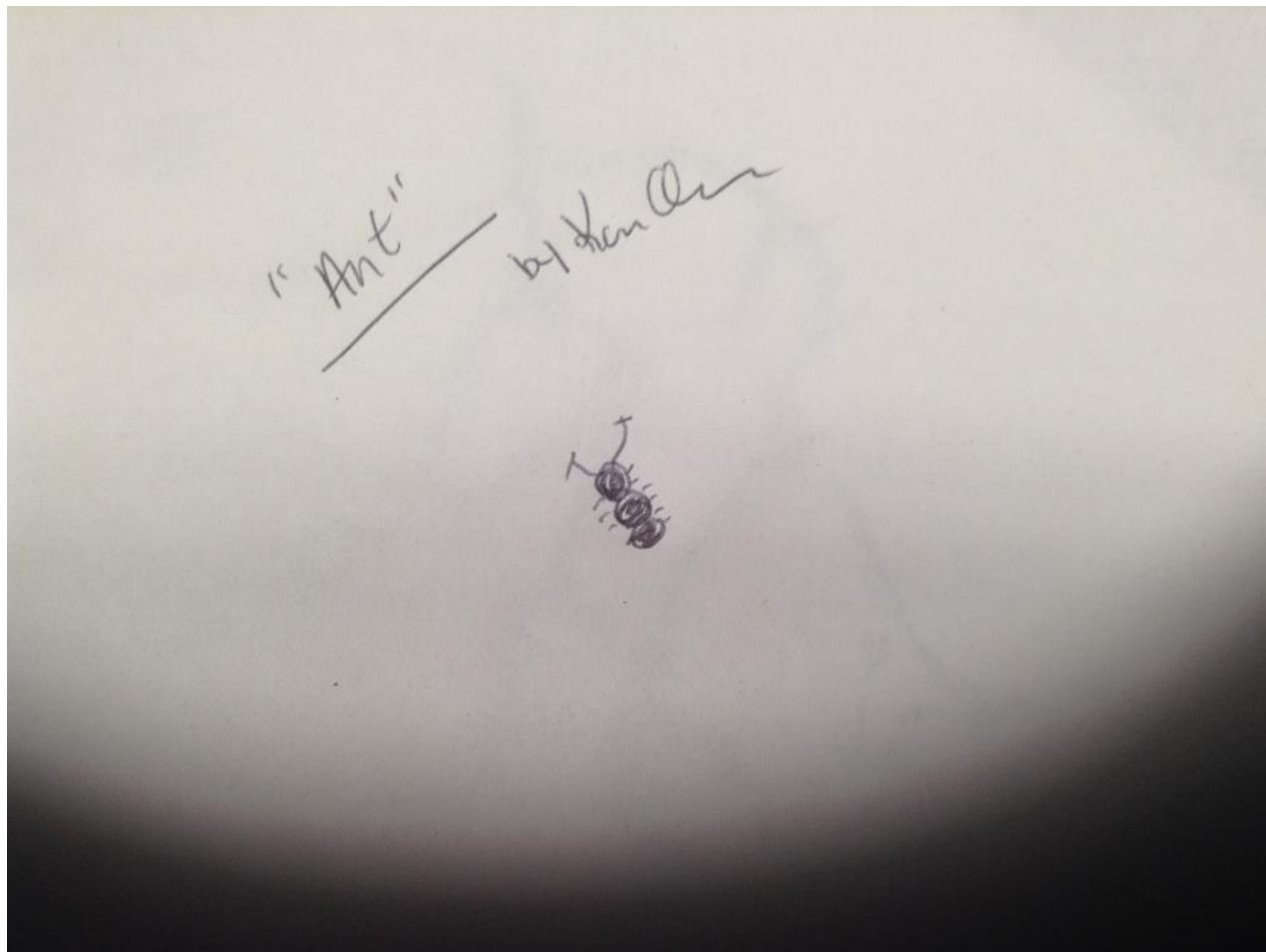
Agroecology and Food Sovereignty, 1845 - Present

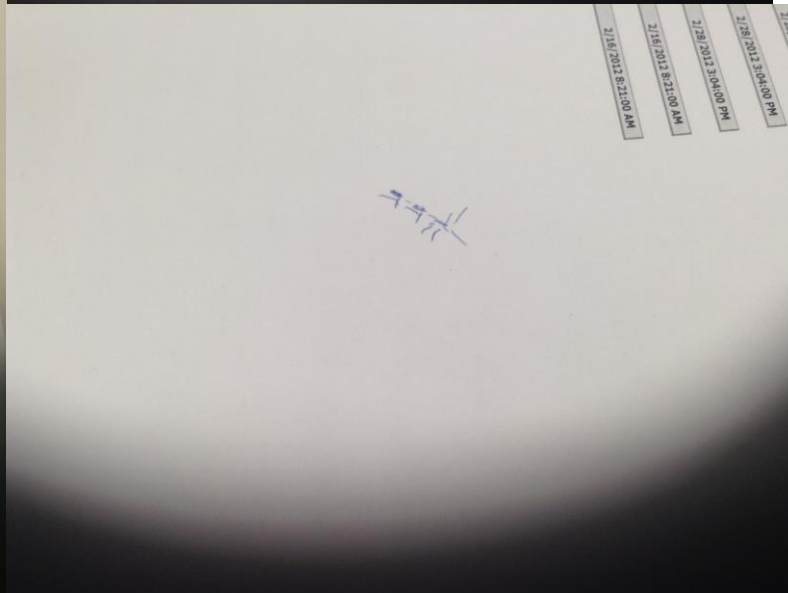
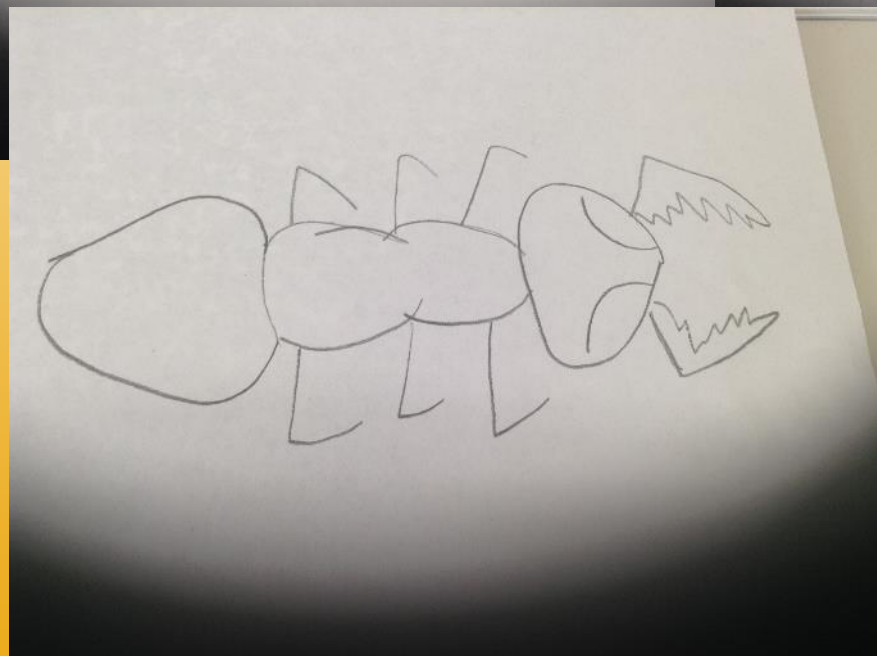
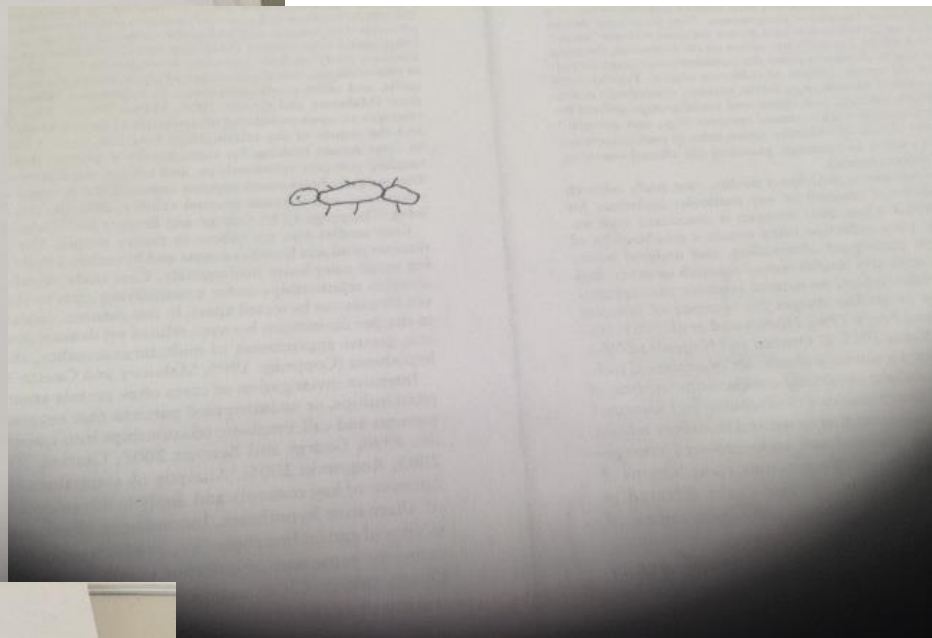
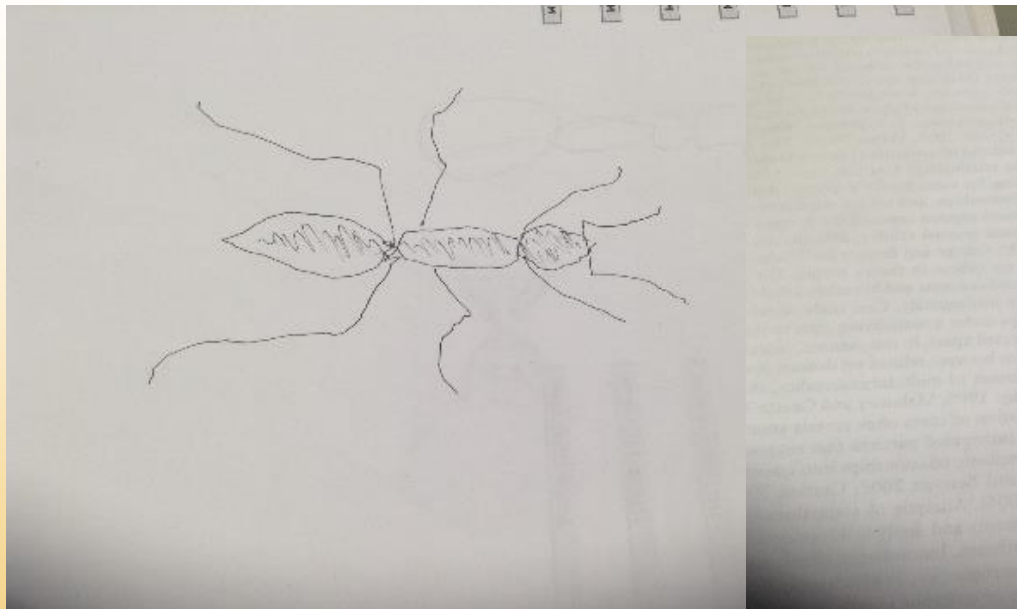
M. Jahi Chappell, Ph.D.
Director of Agroecology & Agriculture Policy
Institute for Agriculture and Trade Policy
Minneapolis, MN

IATP's Food Sovereignty Series
March 17, 2015

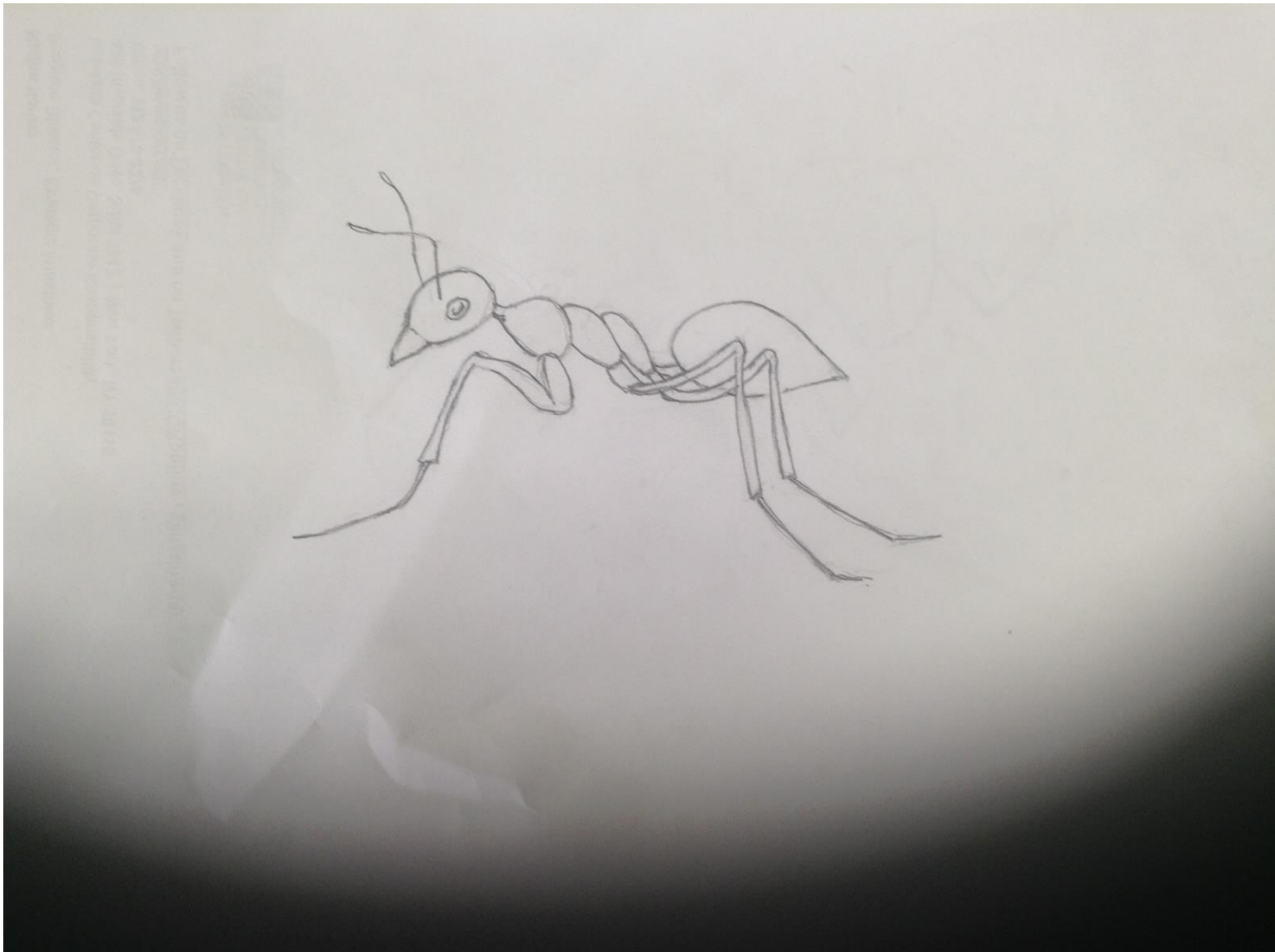
But first...

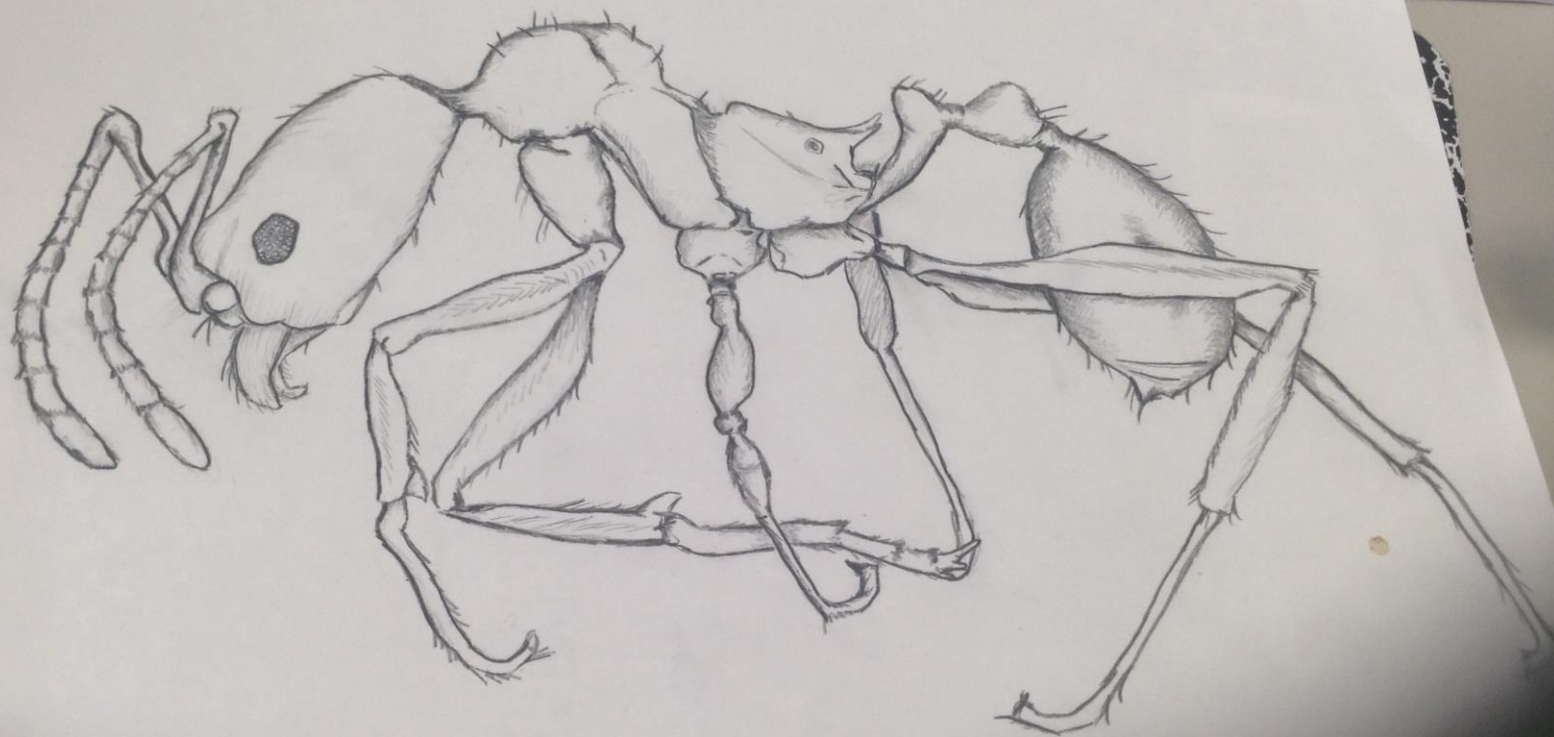














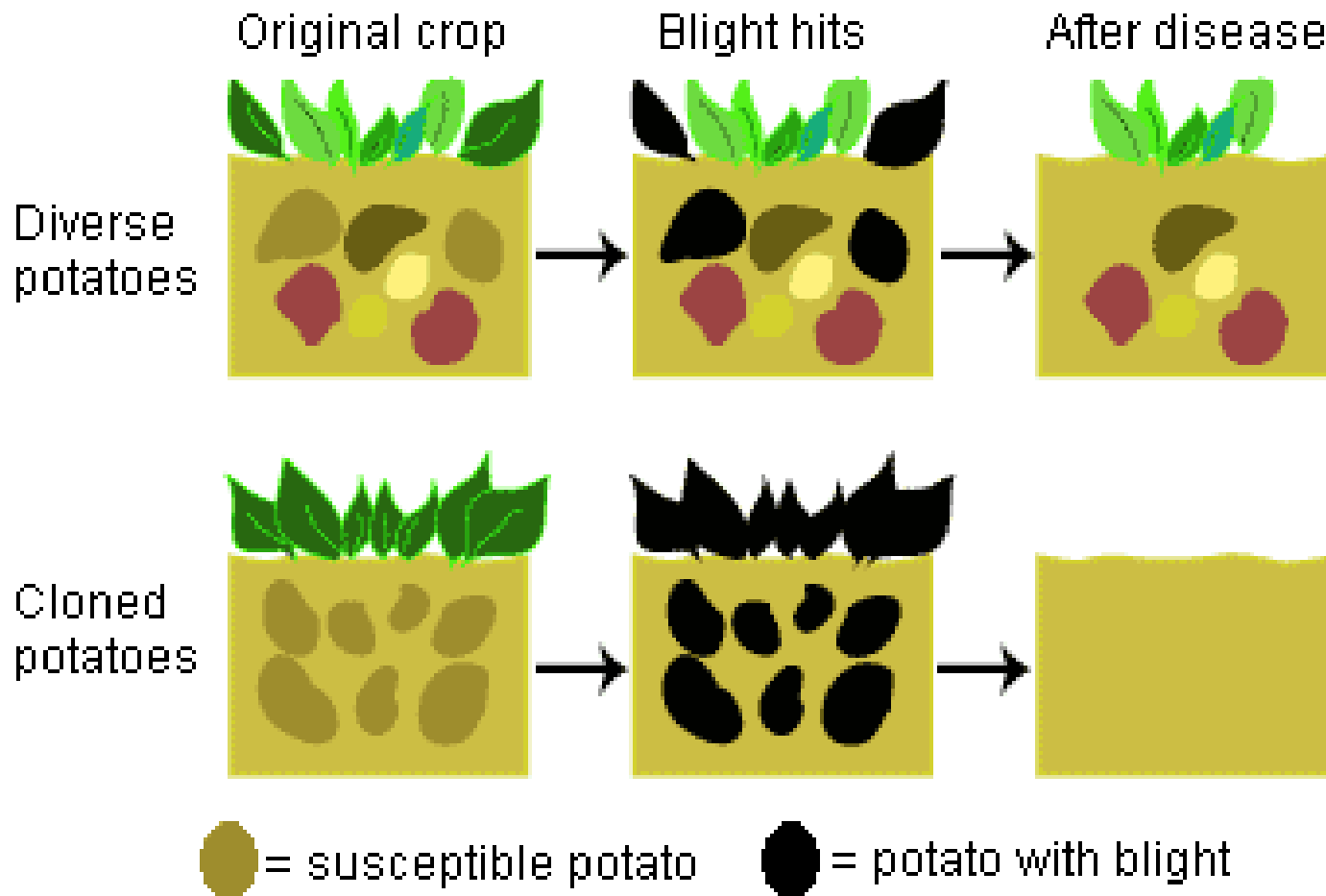
my AUNT ANN







<http://www.vayaadventures.com/blog/humble-potato-andes-greatest-export/>



"Monoculture and the Irish Potato Famine: cases of missing genetic variation"

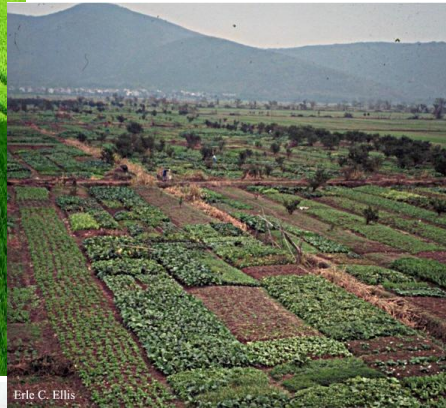
<http://evolution.berkeley.edu/evolibrary/article/agriculture>

_02

The Value of Diversity

- The raw material for evolution and adaptation
- Provides stability and insurance
- In many cases around the world diverse crops “over-yield”
- May be part of “Inverse Productivity Relationship with Farm Size”

Diversity, Agroecology, Food Sovereignty

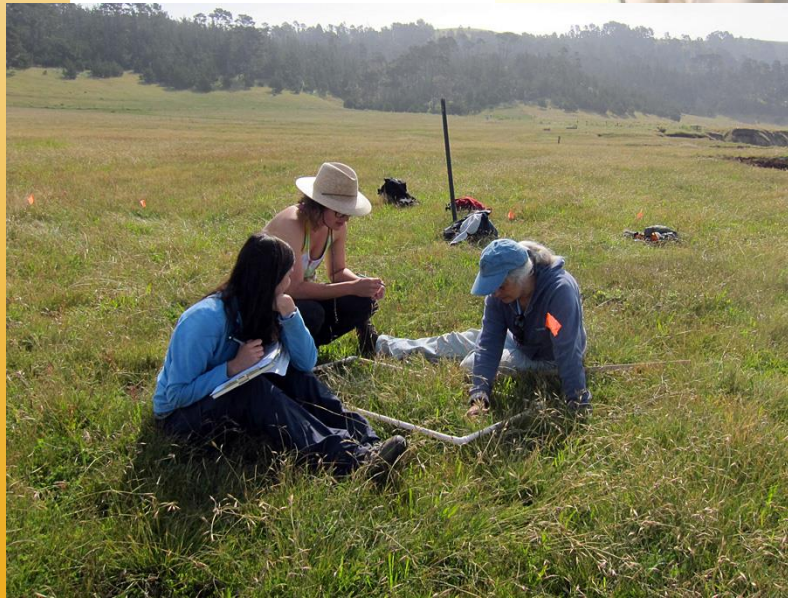


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Agroecology

- What is agroecology?
 - Science, practice, and movement
 - Problems and Progress in the current system
 - Agroecology as solution
 - Food sovereignty

Agroecology: Science



Agroecology: Practice



Agroecology: Movement



2015 Midwest Soil Health Summit

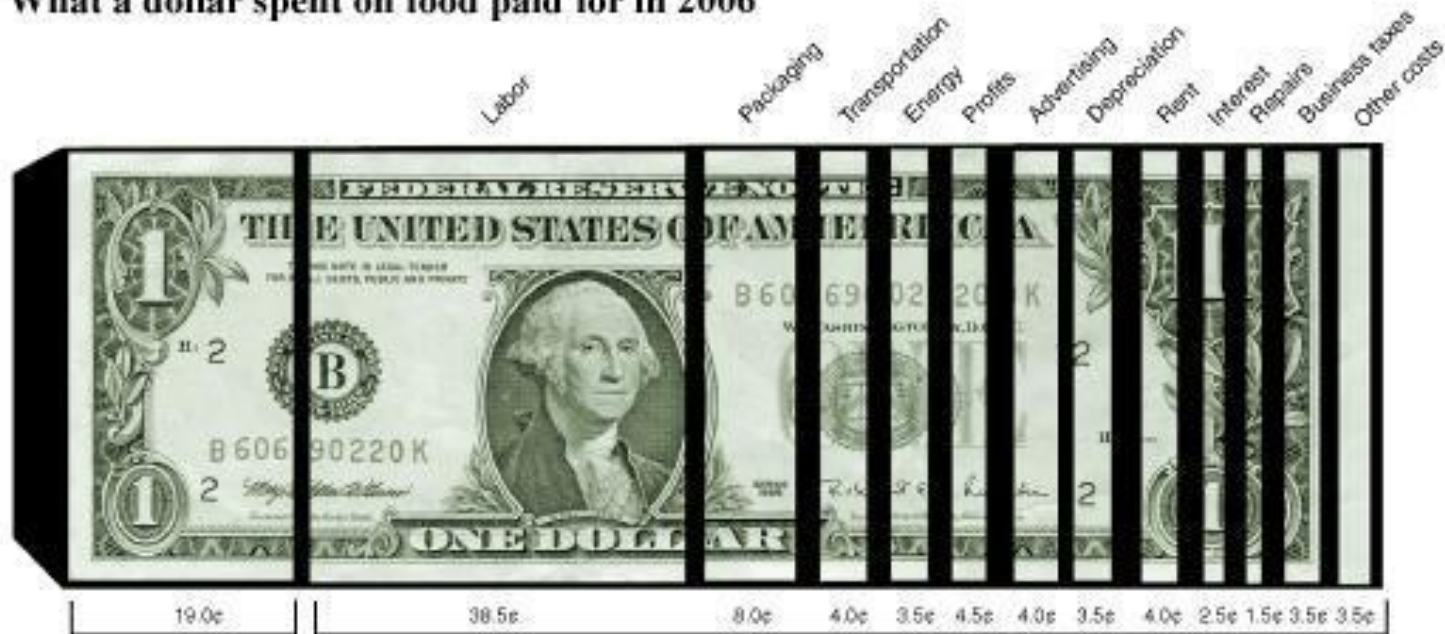


Food sovereignty: The political arm of policy reform

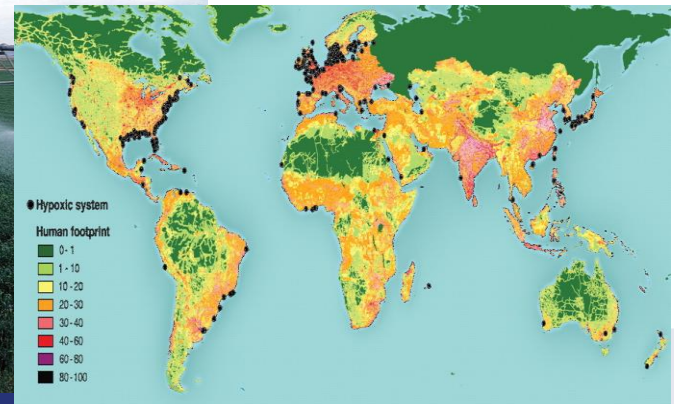
- Recognizes extensive science supporting importance of strong local control, equality, and participation
 - E.g. Nobel Prize Winner Elinor Ostrom
 - Philosophers and scientists for over a century (see DeYoung & Princen's *The Localization Reader*)
 - Seeks to install basic requirements of justice: Freedoms (to make our own decisions) and Responsibilities (to deal with or pay for the consequences)

Problems in the Current System

What a dollar spent on food paid for in 2006



Farm value



Significance and value of non-traded ecosystem services on farmland

- The total annual economic value was significantly greater in organic systems:
 - \$1750–4536/ha for organic vs.
 - \$1585–2560/ha in conventional systems
 - “The non-market component of the economic value in organic fields was also significantly higher than those in conventional fields...”
 - *Sandhu et al. 2015: <https://peerj.com/articles/762/>*

Problems in the Current System: It's politics, not production

- “Proper”, or *True Cost Accounting*
 - <http://sustainablefoodtrust.org/projects/true-cost/>
 - Could call ACCURATE cost accounting
- Food security is not a matter of production
- Income is not merely a matter of production
- Improving environmental impact is not a matter of production

Food Security: 30 years of research

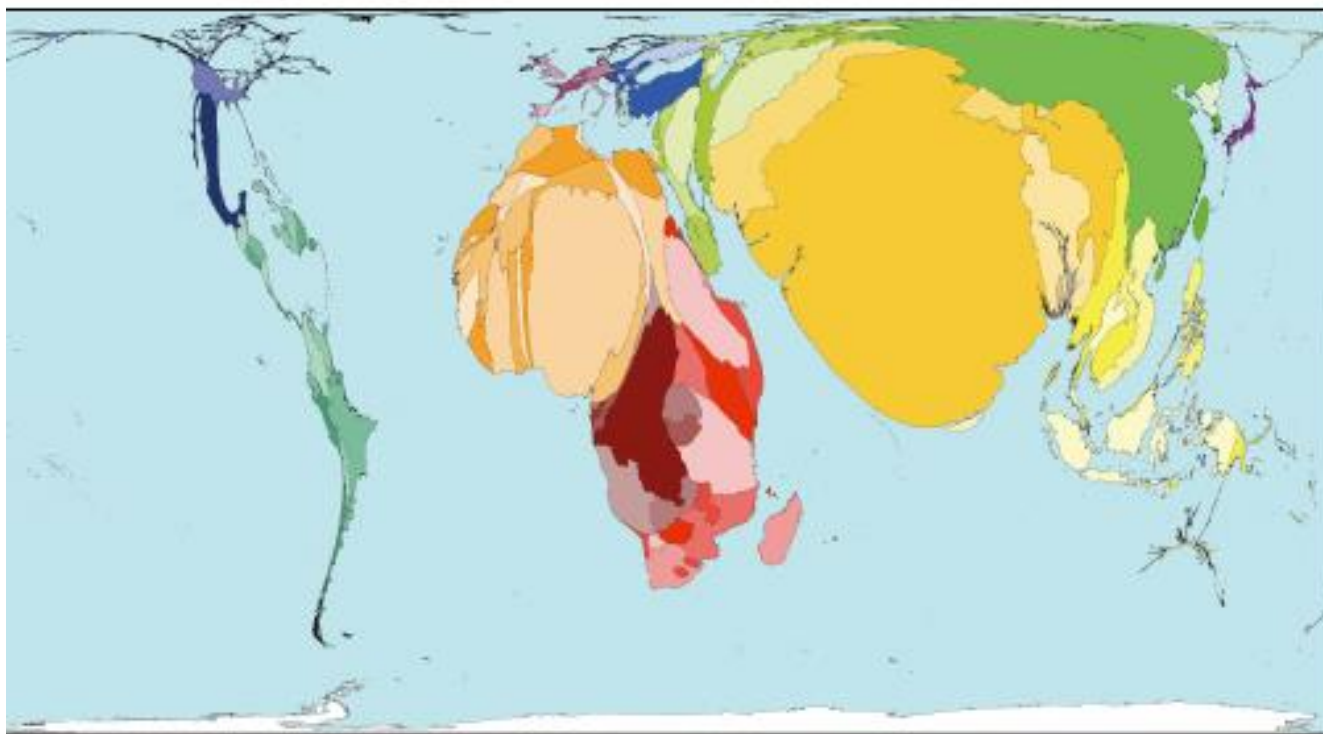
- Hunger and starvation are *very rarely* the result of insufficient food availability.
- They are *usually* caused by an inability to *access* food, with poverty being a primary reason.

Amartya Sen, 1981

Food Supply Isn't Typically the Problem

- In 1995, 80% of malnourished children lived in countries with food energy surpluses
- US average daily per capita intake is ~3,800 kcal/person; 12% of Americans cannot ensure daily minimum food requirements
- India, which produces sufficient dietary energy, nonetheless has the *highest prevalence* of underweight children in the world, and approximately an equal number of malnourished people as all of Africa

*FAO 2006, 2008; Holt-Giménez 2008;
Smith et al. 2000, Chappell 2010*



4. Stillbirths (map 259). Territory size shows the proportion of all stillbirths over 28 weeks of gestation worldwide that occurred there. Data source: World Health Organization, 2005, World Health Report.

Why?

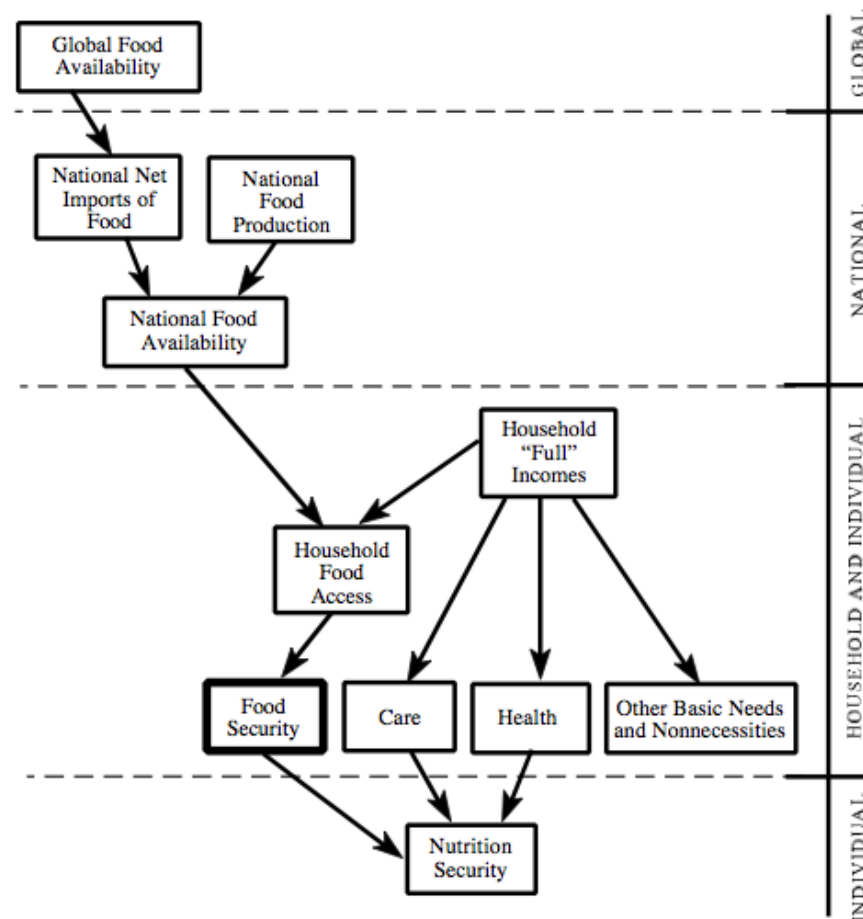
The “Five A’s of Food Security”

- **Availability:** Sufficient supply
- **Accessibility:** Effective distribution
- **Acceptability:** Culturally acceptable/ nutritionally adequate
- **Appropriateness:** Ecologically sustainable/safe
- **Agency:** Rights, and the sociopolitical ability to demand and secure these rights
 - “We cannot achieve the first Four A’s of food security without **agency.**”

Redação:
leve esse tema a sério!
Aprenda, brincando!
(31) 421-8102

Rocha 2003, 2009; Chappell and Lavalley 2011

Figure 1 Conceptual framework for food security from global food availability to people's nutrition security



Source: Adapted from UNICEF (1990) and Frankenberger et al. (1997).

Smith et al. 2000

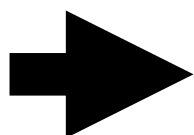
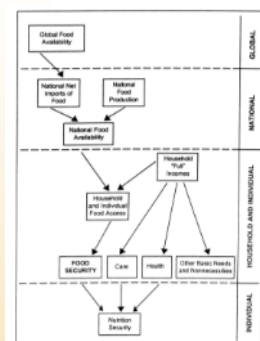
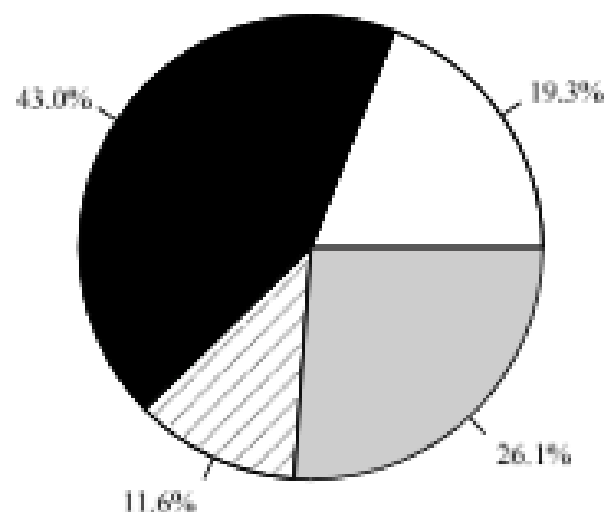


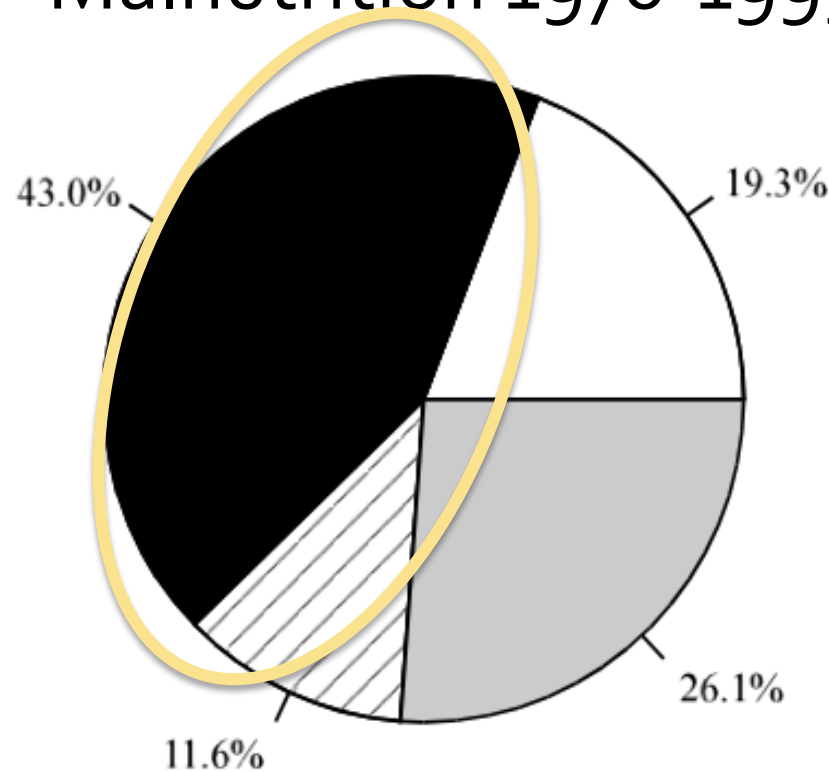
Figure 12—Estimated contributions of underlying-determinant variables to reductions in developing-country child malnutrition, 1970–95



- | | |
|--|--|
| <input type="checkbox"/> Health environment | <input checked="" type="checkbox"/> Women's education |
| <input checked="" type="checkbox"/> Women's status | <input checked="" type="checkbox"/> National food availability |

Source: IFPRI Cross-Country Child Malnutrition Determinants Data Set, 1997/98.

Estimated Contributions to Decreasing Infant Malnutrition 1970-1995



□ Health environment

■ Women's education

▨ Women's status

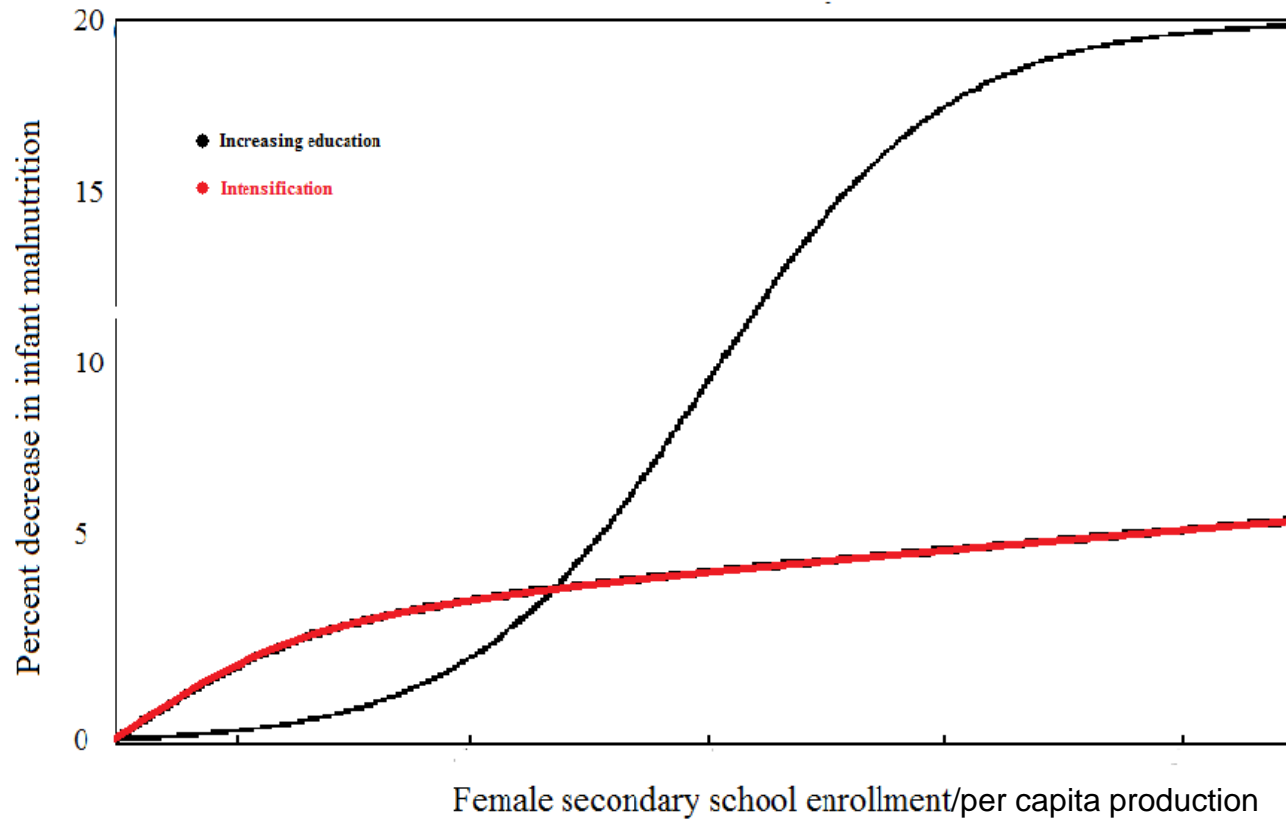
▒ National food availability

Source: IFPRI Cross-Country Child Malnutrition Determinants Data Set, 1997/98.

- Increasing women's agency (education, secure land access, political rights) is the single most powerful and consistent factor in increasing food security
 - “twice as likely” to improve food security (Bassett and Winter-Nelson 2010)

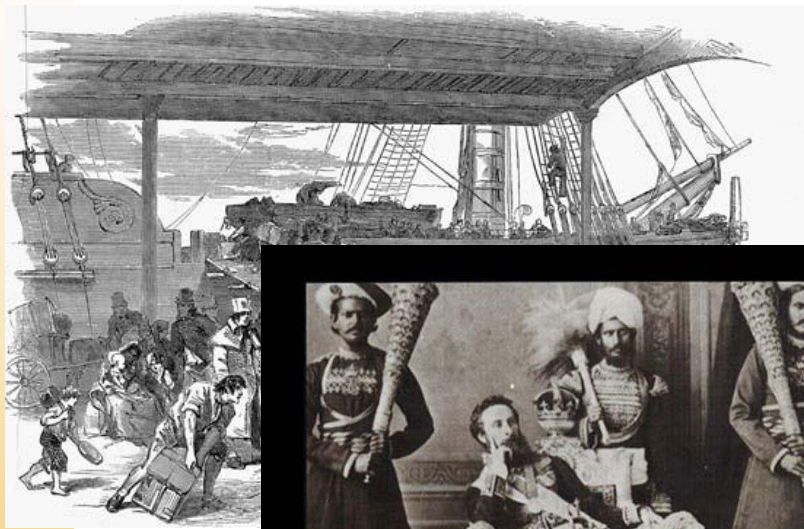


The difference between responses in infant malnutrition to either food intensification or female secondary enrollment



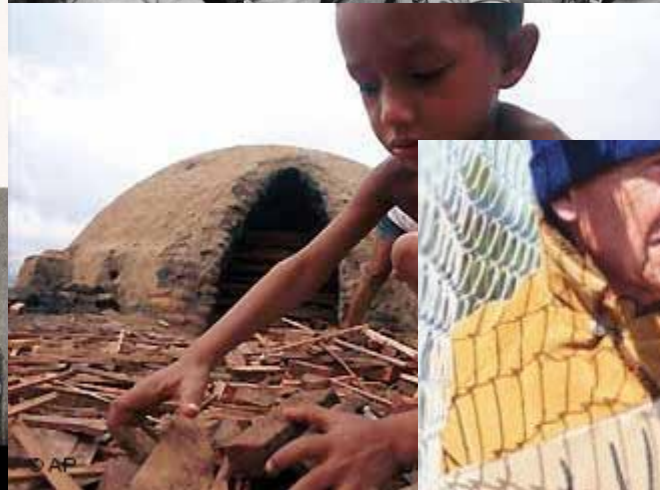
Solutions: Food sovereignty and Agroecology

- The science, practices, and movement discussed earlier depends on, and seeks the important policy changes.
- Food sovereignty recognizes importance of direct conversations and empowerment
 - Social change from movements, not just markets: from suffrage to Civil Rights to labor to environmental justice



MIKE DAVIS
LATE VICTORIAN
HOLOCAUSTS

EL NIÑO FAMINES AND THE
MAKING OF THE THIRD WORLD



Scale and “Cognitive Democracy”

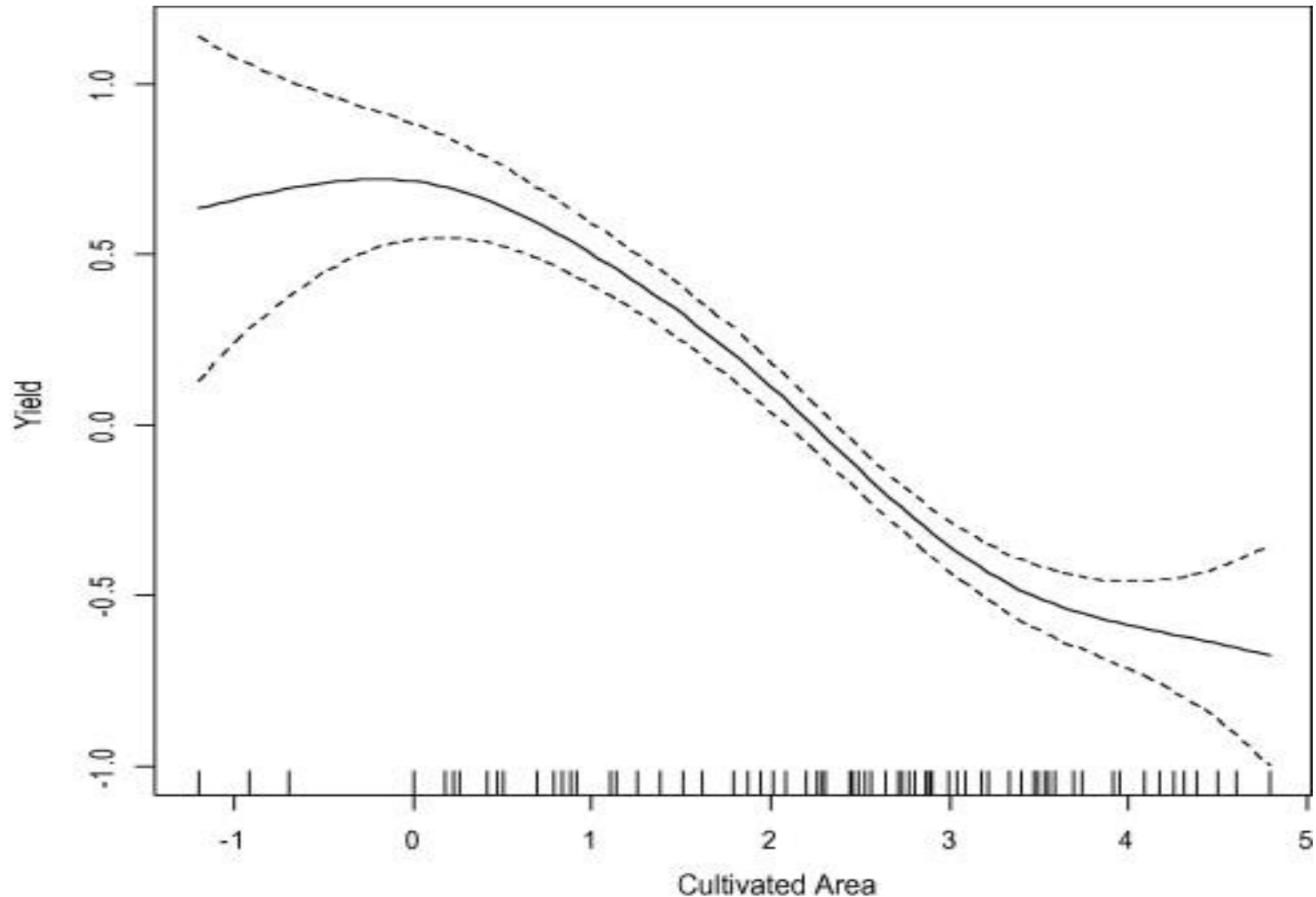
- Innovative solutions to difficult social problems, and the social cohesion to solve them, are most likely when policy-making:
 - “Foster *a high degree of direct communication* between individuals with diverse viewpoints. This kind of intellectual diversity is crucial to identifying good solutions to complex problems.
 - Second... they should provide *relative equality* among affected actors in decision-making processes, to prevent powerful groups from blocking socially beneficial changes to the detriment of their own particular interests.

Total Output per Unit Area

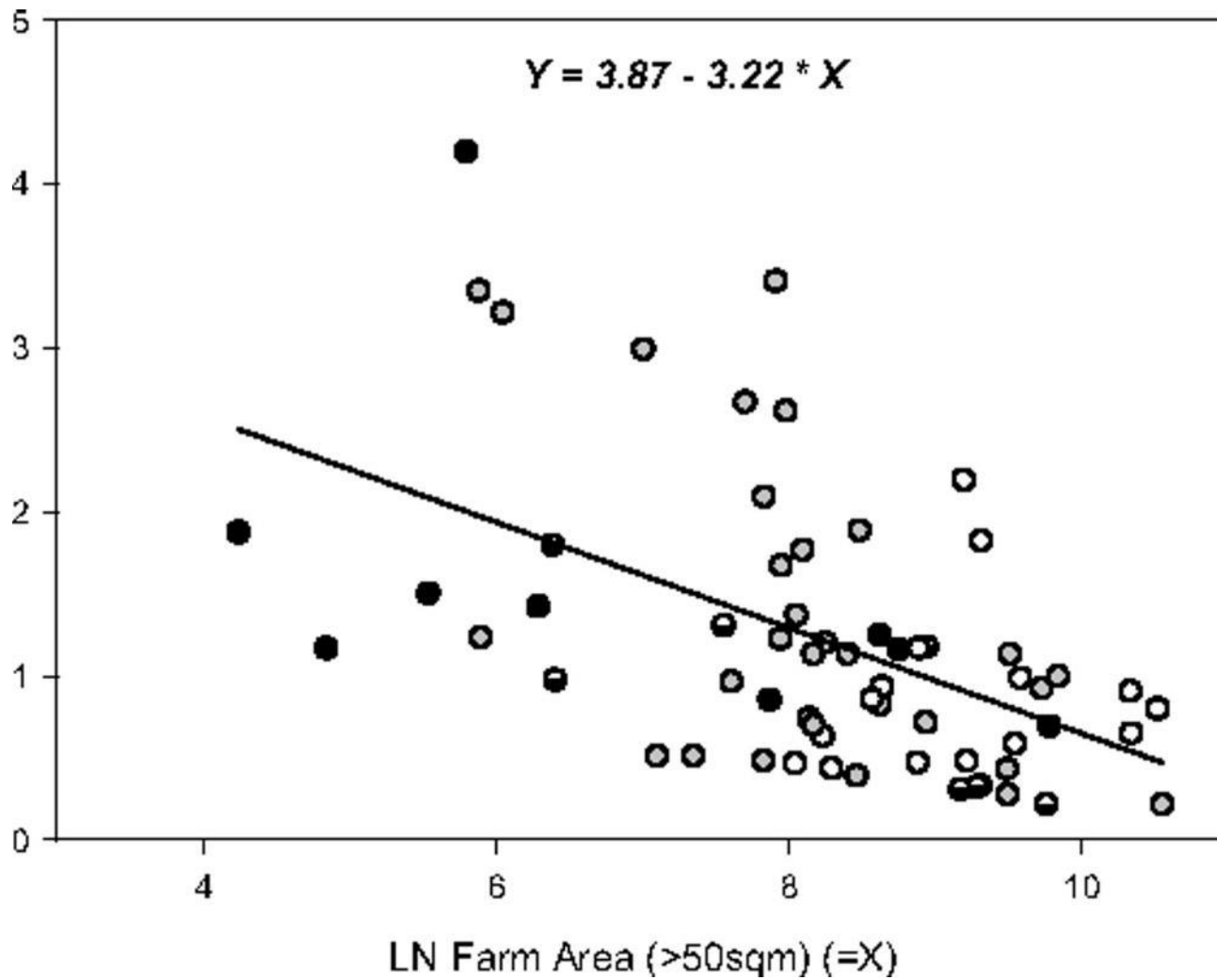


Farm size category (ha)

Farm productivity vs. Farm Size



Barrett et al., 2010



Jarvis D I et al. PNAS 2008;105:5326-5331

Farm size and community well-being

- Thomas Lyson (Cornell University)
- Walter Goldschmidt (*As You Sow*)
- William Lockeretz (organic agriculture & local communities)
- Local Food Multipliers
- Food Sovereignty (Ostrom, Putnam, and others)

Going Forward

- Accountability for *process*, not just “outcomes” (process == outcomes for empowerment)
 - Participatory budgeting (e.g. <http://pubs.iied.org/pdfs/14611IIED.pdf>)
 - Deep democracy: <http://www.iatp.org/documents/deepening-food-democracy>
- Accountability for gender empowerment
 - Beware “integrating it into oblivion”
- Be Aware that most important factors are not production/productivity

Going Forward

- Require True Cost Accounting, Life-Cycle Analysis, or similar method independently conducted
- Prefer comprehensive approaches (Five A's of Food Security; Agroecology – Food Justice – Food Sovereignty)
- Prefer/require diverse and Open Source Approaches: this fosters faster, more locally-tailored innovation
 - See e.g. <http://www.osseeds.org>

Questions?

