

# Moving Diets in the Right Direction: Can Sustainable => Regenerative?

Harriet Friedmann, Professor Emerita  
University of Toronto



**Sustainable Food Systems < > Sustainable Diets**

American University of Rome

# We Know What to Do

## The Planetary Health Plate



**EAT-Lancet Commission:  
Food, Planet, Health**

#foodcanfixit #EATLancet

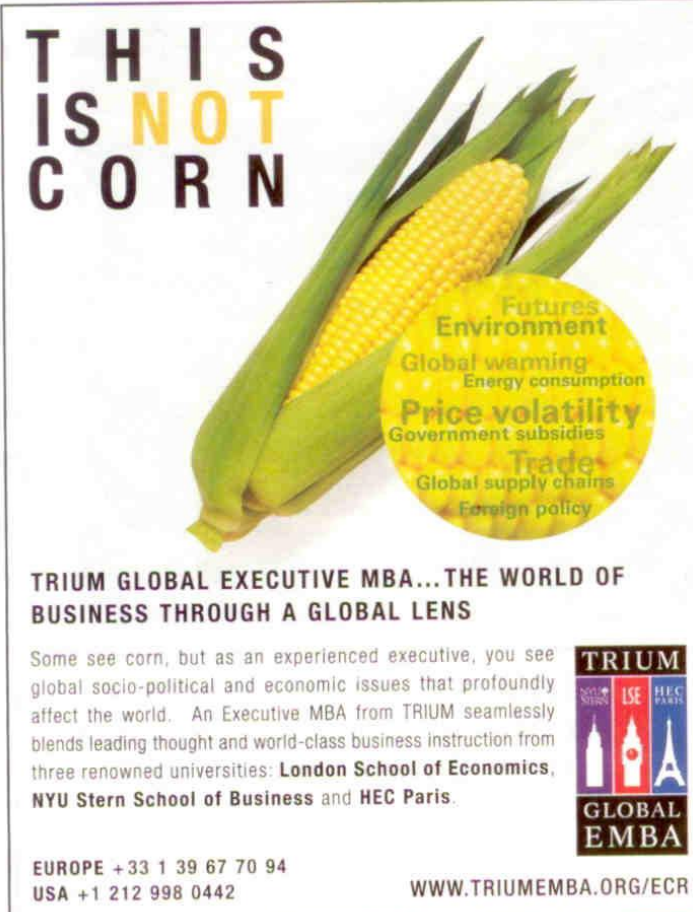
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## Confusion: What is “Food”

**The shortest possible economic history of...agriculture during the 20th century would be this: non-farmers learning how to make money from farming.”**

**-Richard Levins**

97



**T H I S  
IS NOT  
C O R N**

Futures  
Environment  
Global warming  
Energy consumption  
Price volatility  
Government subsidies  
Trade  
Global supply chains  
Foreign policy

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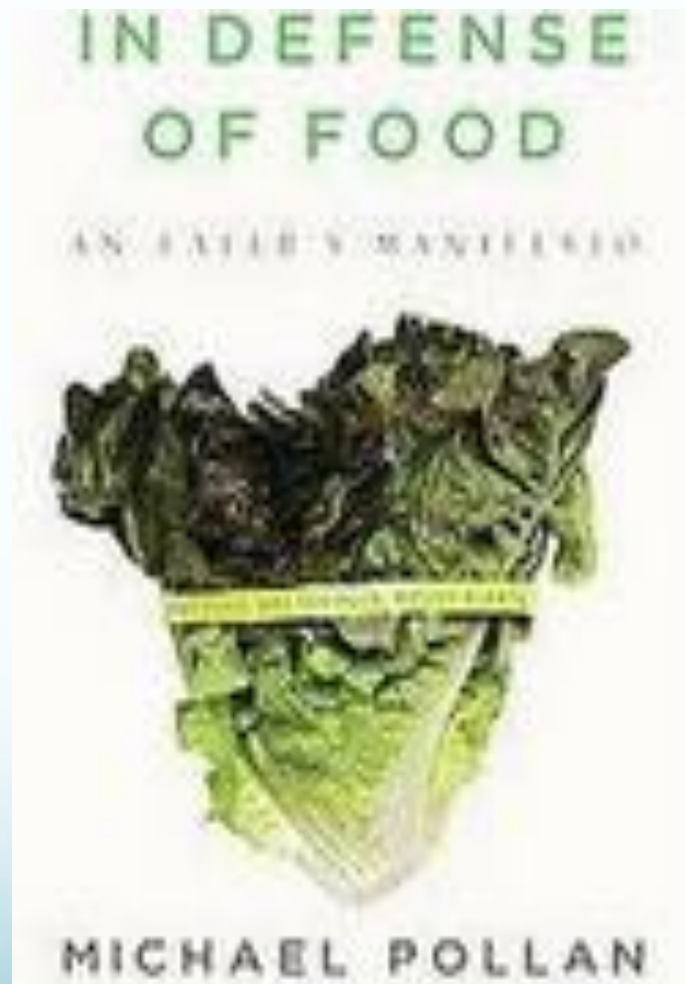
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# Pollan's 7 word rule for eating sustainably

Eat Food

Not too much

Mostly Vegetables



# Brazil's food guide is a lesson for us all

Toronto *The Bulletin (Toronto)* December 10, 2016

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SHARE





[www.foodshare.net](http://www.foodshare.net) | @FoodShareTO



From My City: Two Short Social Markets:  
Regional and Long Distance (Horizontal)

# We Know What to Do

What NOT to do



# Core, Protein, Fringe were basis of Agrarian Civilizations (Sidney Mintz):



Farmers of Forty Centuries (King)



# Animals in Rice Systems: Fertilizer and Pest Control



# People Live and Work Individually and Together



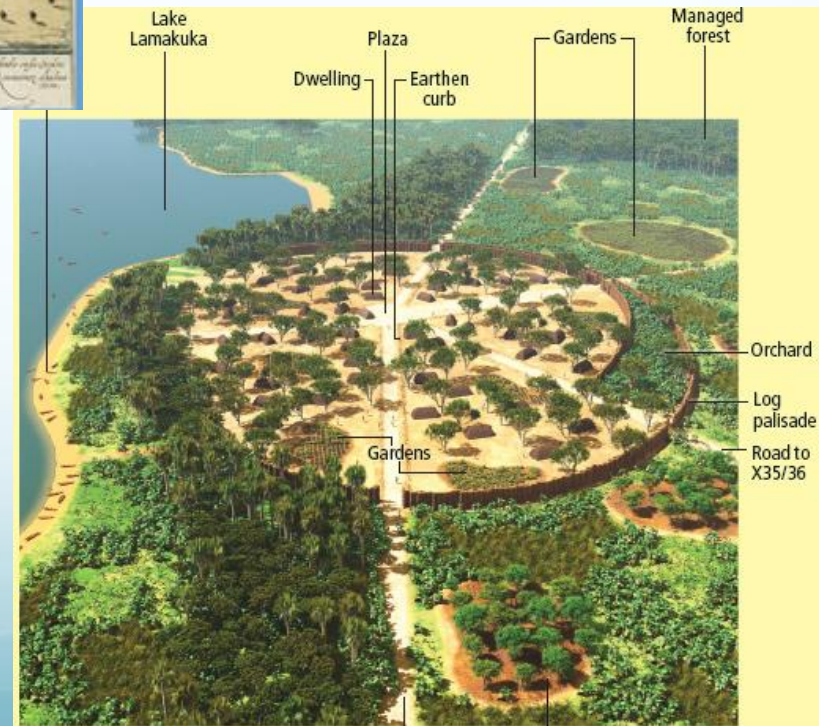


Before 1500

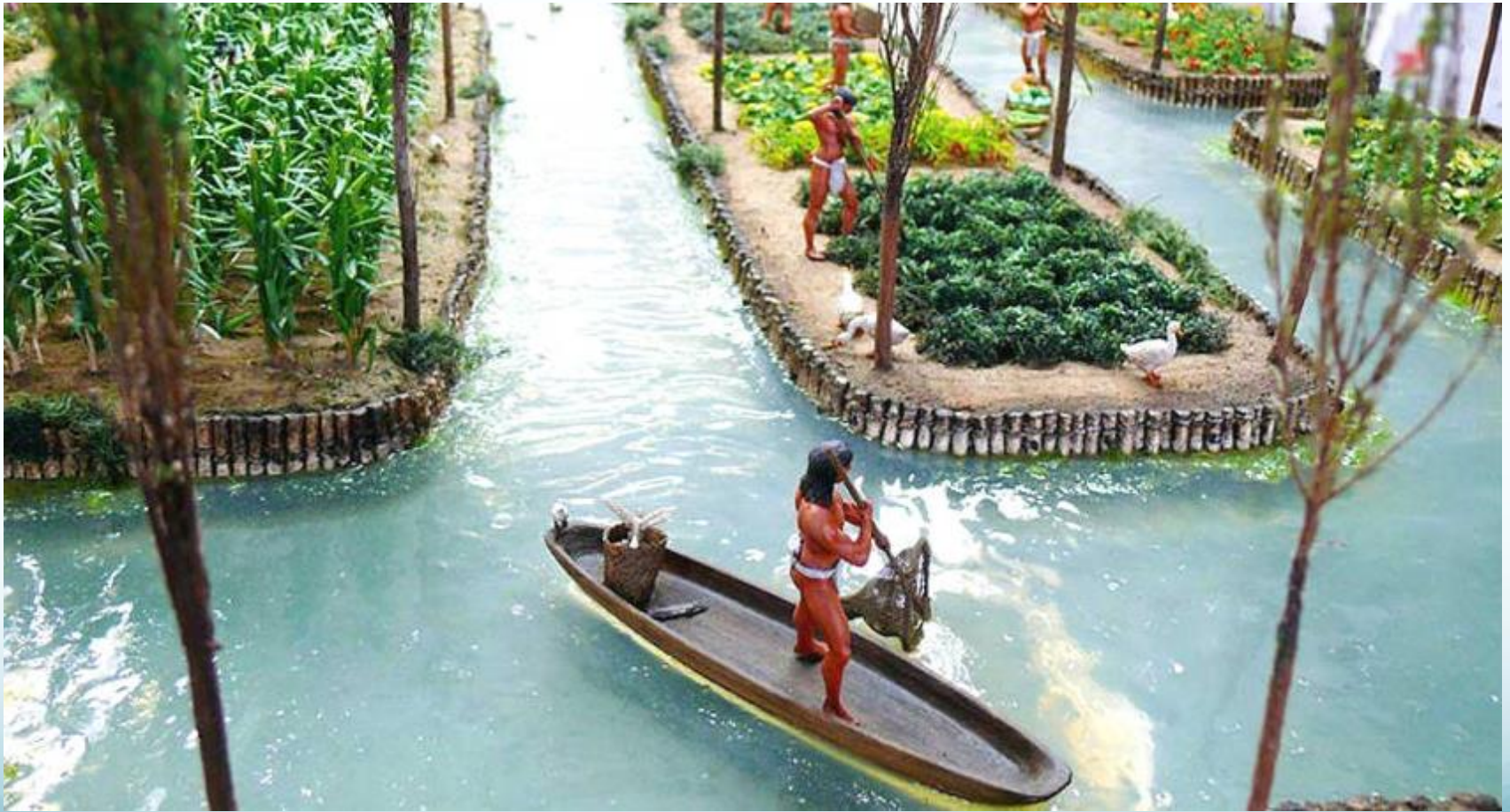
Cities were embedded in their Biomes

Kuhikugu: the largest in a network of urban centers in the Southern Amazon (Mato Grosso): with manioc cultivation, terra preta, and fish farming

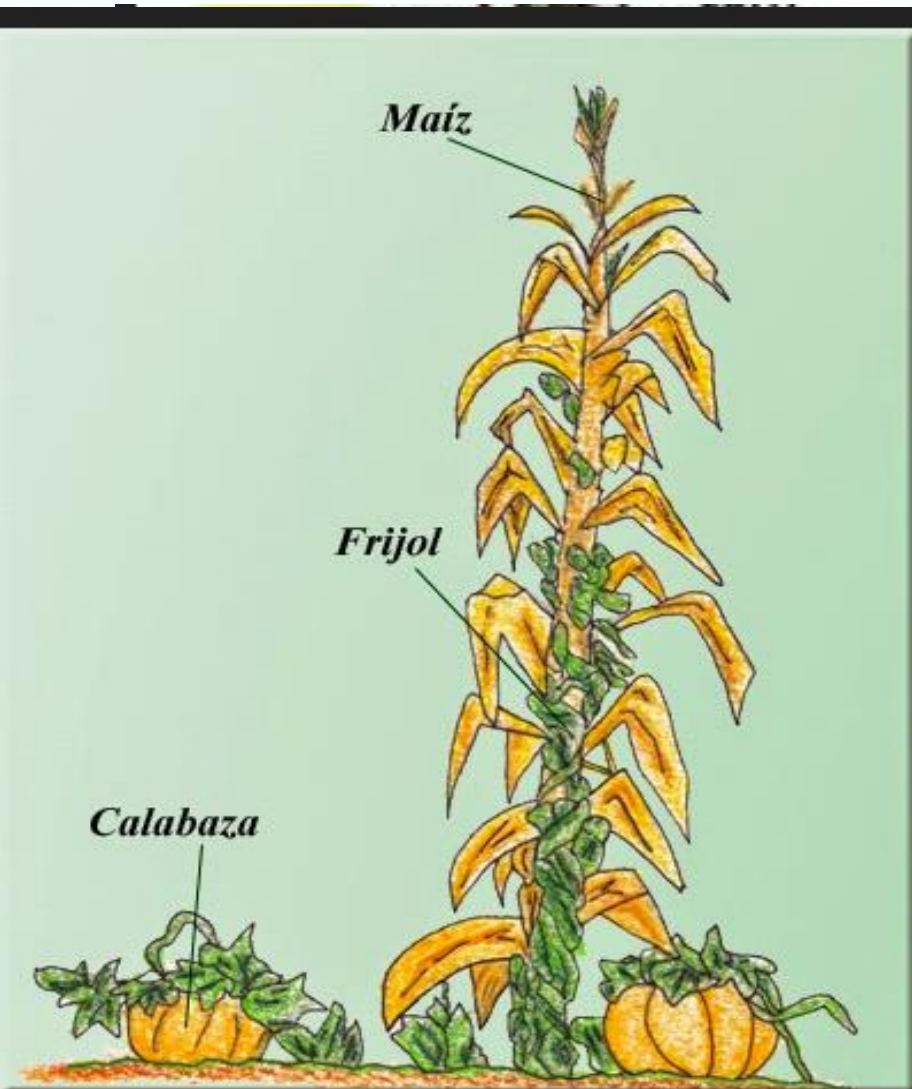
**Cities disappear --- cities arise...  
Cities change...**



# Chinampas – Aztec and pre-Aztec

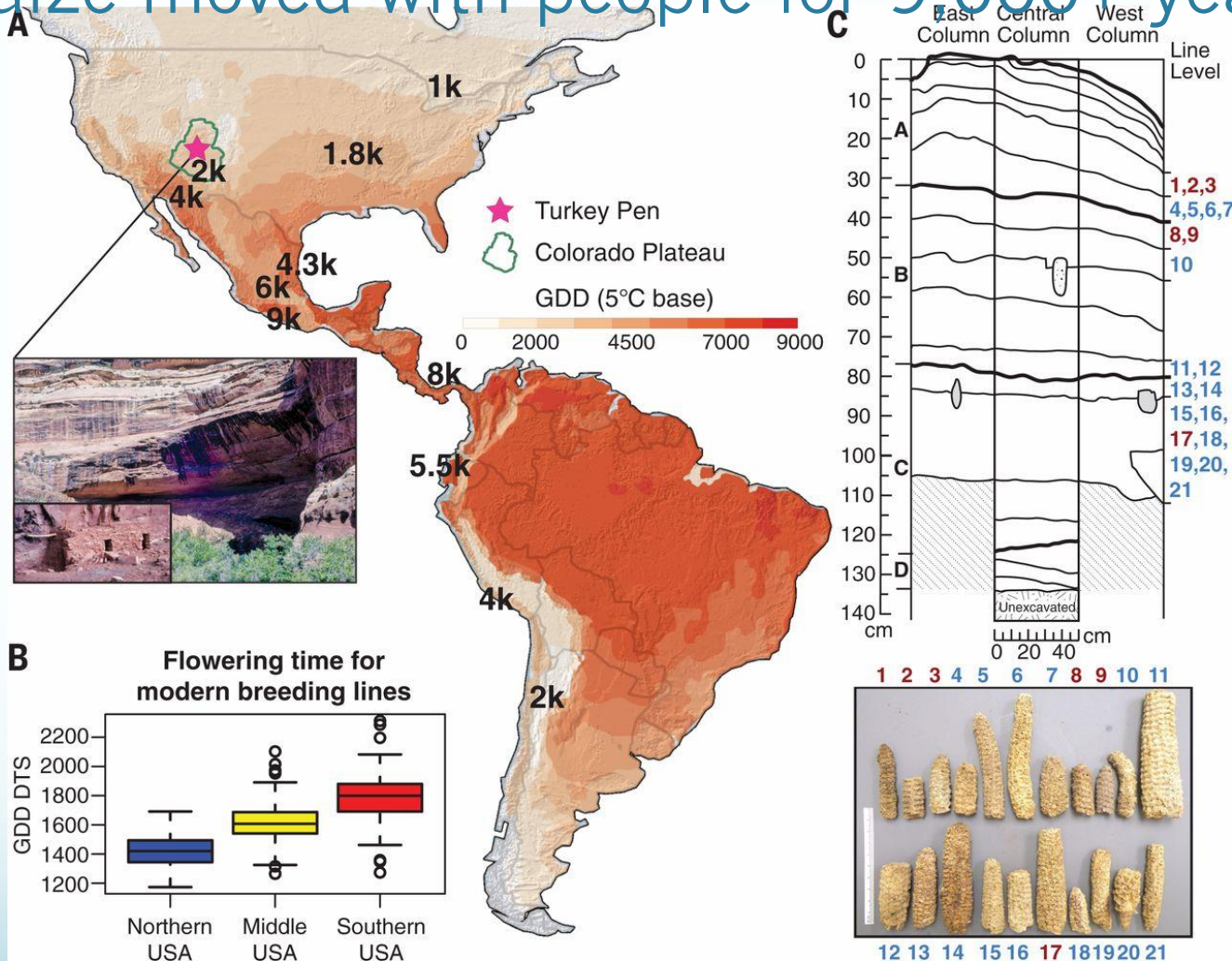


# Agronomy and Cuisine: *Biocultural Landscapes*



**Fig. 1**  
**Climatic**  
**and**  
**archaeological**  
**context**  
**of Turkey**  
**Pen**  
**Shelter**  
**(TPS).**

# Maize moved with people for 9,000+ years



Kelly Swarts et al. *Science* 2017;357:512-515

# Monocultures and “Orphan Crops”



Richa Kumar, India's Green Revolution and Beyond  
Visioning Agrarian Futures on Selective Readings of  
Agrarian Pasts

Economic & Political Weekly EPW August 24, 2019 vol IIV no 34

Official description of Indian agriculture after Independence as backward and unable to feed its people

- Reality: India's food availability per capita increased from 144.1 kilograms (kg) per person per annum in 1951 to 171.1 kg per person per annum in 1961 --- in MILLET and LENTILS; wheat was included, but not other cultivated foods (meat, fish, eggs, greens) nor gathered foods (berries, roots, small game)

Official description justified huge food aid until 1965, and Green Revolution high-yielding WHEAT after

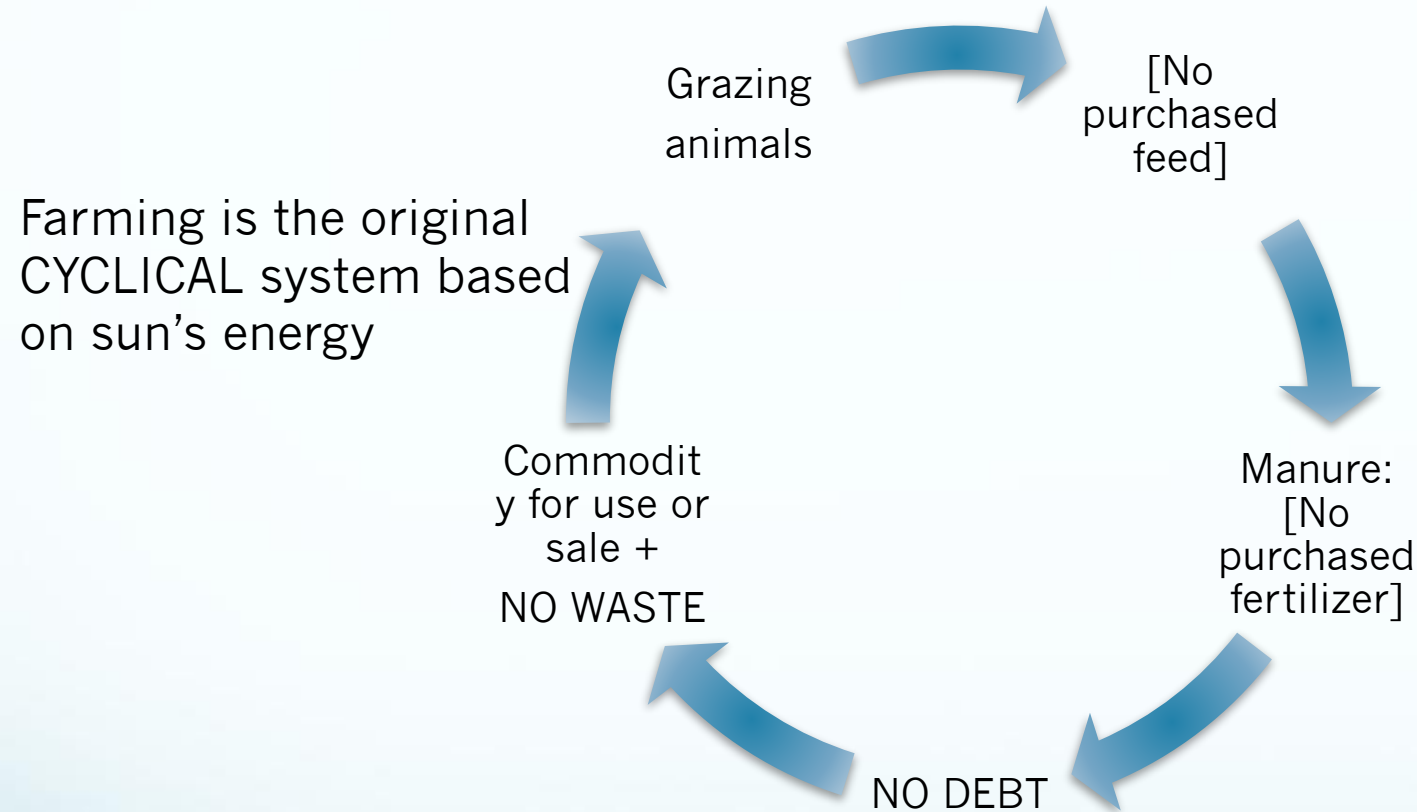
Diets became simplified as landscape was simplified, and food access was shifted to markets.



# What not to trust:

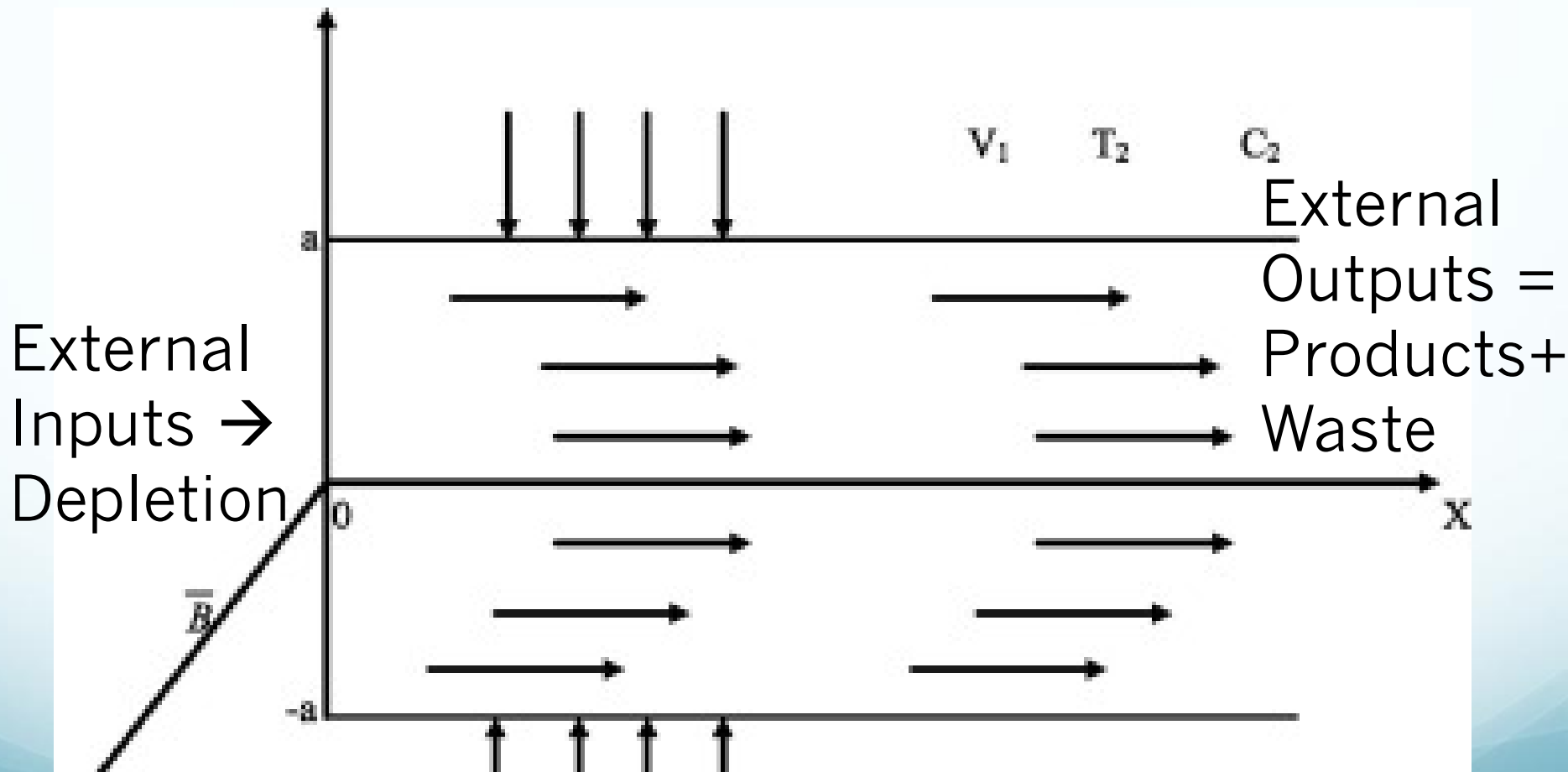
History Lessons told by power and shaped by linear ways of acting, measuring and thinking.

# We Know What to Do



UNEP, Food Systems and Natural Resources. A Report of the Working Group on Food Systems of the International Resource Panel. Paris: UNEP, 2016. Downloadable from: <https://europa.eu/capacity4dev/unep/document/unep-irp-report-food-systems-and-natural-resources>

# What We Need to Change: Industrial/Linear Logic



But there is no “away”:  
It is all here on earth



Potash Mine near Moab, Utah  
(NASA)



Landfill site in Poland (Wikipedia)

# The now nearly universal dependency



# Cover Crop: Multi-Functional Tools (MANAGEMENT TRADE-OFFS)

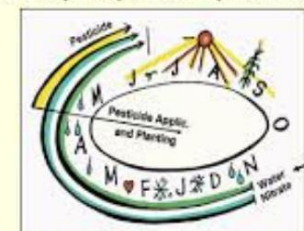
## Weed Control



## Nitrogen Fertility



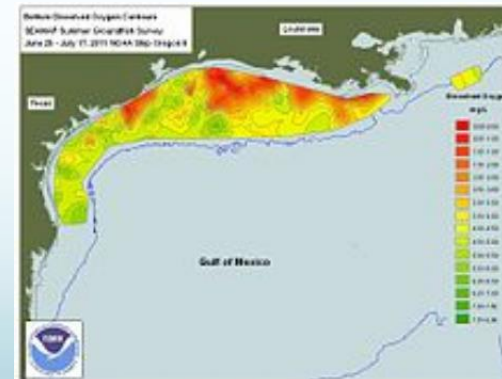
Less runoff



A winter cover crop "traps" some of the nitrate that otherwise leaches out during fallow season

Majority of drainflow and N-loads occur in fallow season

Means less ocean death



Civil Rights  
And Independent  
Black Farms

# FREEDOM FARMERS

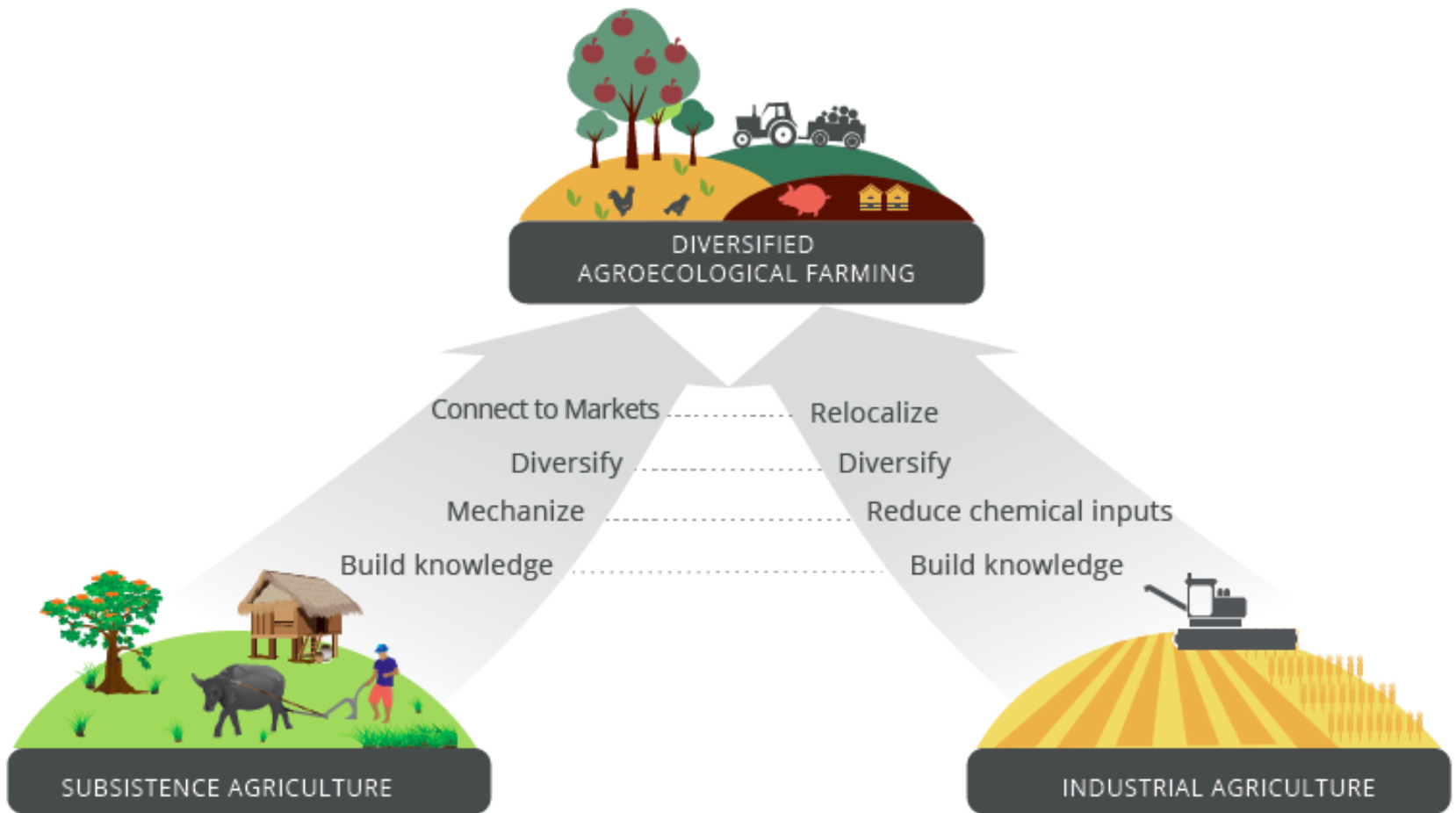


**AGRICULTURAL RESISTANCE AND  
THE BLACK FREEDOM MOVEMENT**

~~~~~ **MONICA M. WHITE** ~~~~~

Foreword by LaDonna Redmond, Founder of the Campaign for Food Justice Now

**FIGURE 2 - TRANSITIONING FROM DIFFERENT STARTING POINTS**



IPES-Food. 2016. From uniformity to diversity: a paradigm shift from industrial agriculture to diversified agroecological systems. International Panel of Experts on Sustainable Food systems. [www.ipes-food.org](http://www.ipes-food.org)



# TECHNOSPHERE:

## How industrial technologies can be cyclical

### CRADLE TO CRADLE

“closed-loop systems in which every *output ingredient* is safe and beneficial

NO TOXIC MATERIALS USED OR PRODUCED

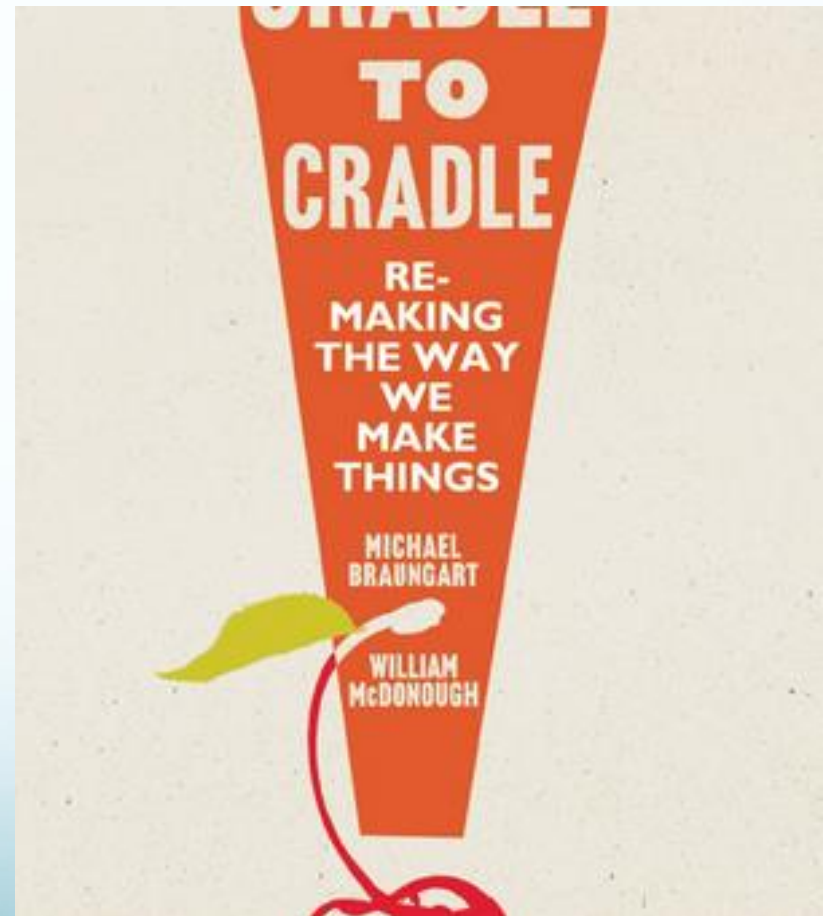
PRODUCTS DESIGNED TO LAST,

TO BE USED IN MULTIPLE STAGES,

FINALLY TO BE ABSORBED IN NATURE

WORKS AT ALL SCALES AT ONCE

→ NO “GRAVE” – NOTHING TO “LANDFILL”



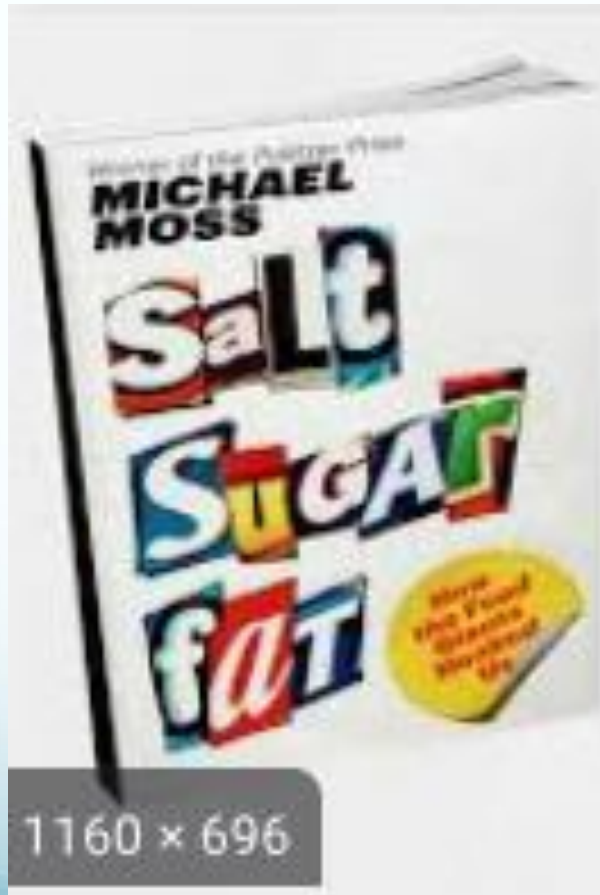
# We Know What to Do



UNEP, Food Systems and Natural Resources. A Report of the Working Group on Food Systems of the International Resource Panel. Paris: UNEP, 2016. Downloadable from: <https://europa.eu/capacity4dev/unep/document/unep-irp-report-food-systems-and-natural-resources>

# Breaking Addictions:

## 1. Food



*"Industrial foods are created to make the biggest profits possible and very skillfully make use of the phenomenon of addiction."*

*"This book provides strong examples that show how much control the food industry really has."*

Ernst Erb, [diet-health.info](http://diet-health.info)

# Breaking Addictions:

## 2. Agriculture



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Farming Done By Natural

Principles can be

A Matrix for All

Ecosystems

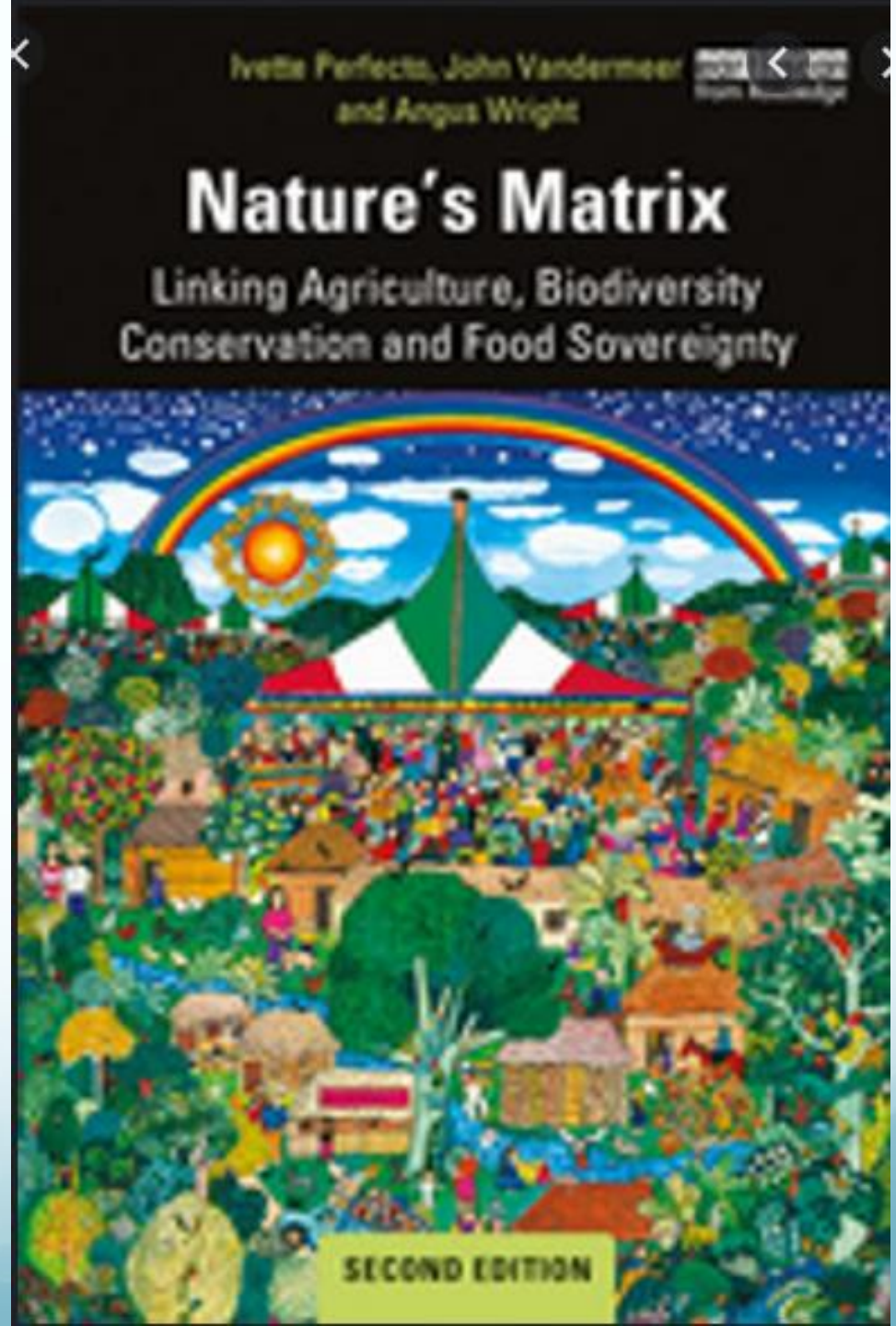
Humans can be both

A foodgetting species

AND

A responsible steward

of habitats



**Metabolism:** conversion of energy from outside an organism (or city or farm) into its life-sustaining processes

- mixed animal/plant/wild farming
- within, around, and (sometimes) far from cities
- grazing animals in large grasslands (recovered from soy and maize)
- integrating grains and root crops into mixed systems with diverse plants and animals
- use soil and water wisely
- adapting to change, always seeking balance

# Biocultural Landscape I

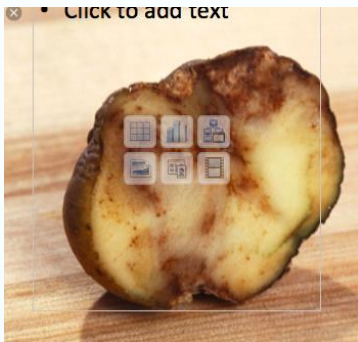
## Sites of Origin: Potatoes



# Biocultural Landscape II: Metabolism of Introduced Crops

Doing it Badly: Ireland,  
1300-1845/49

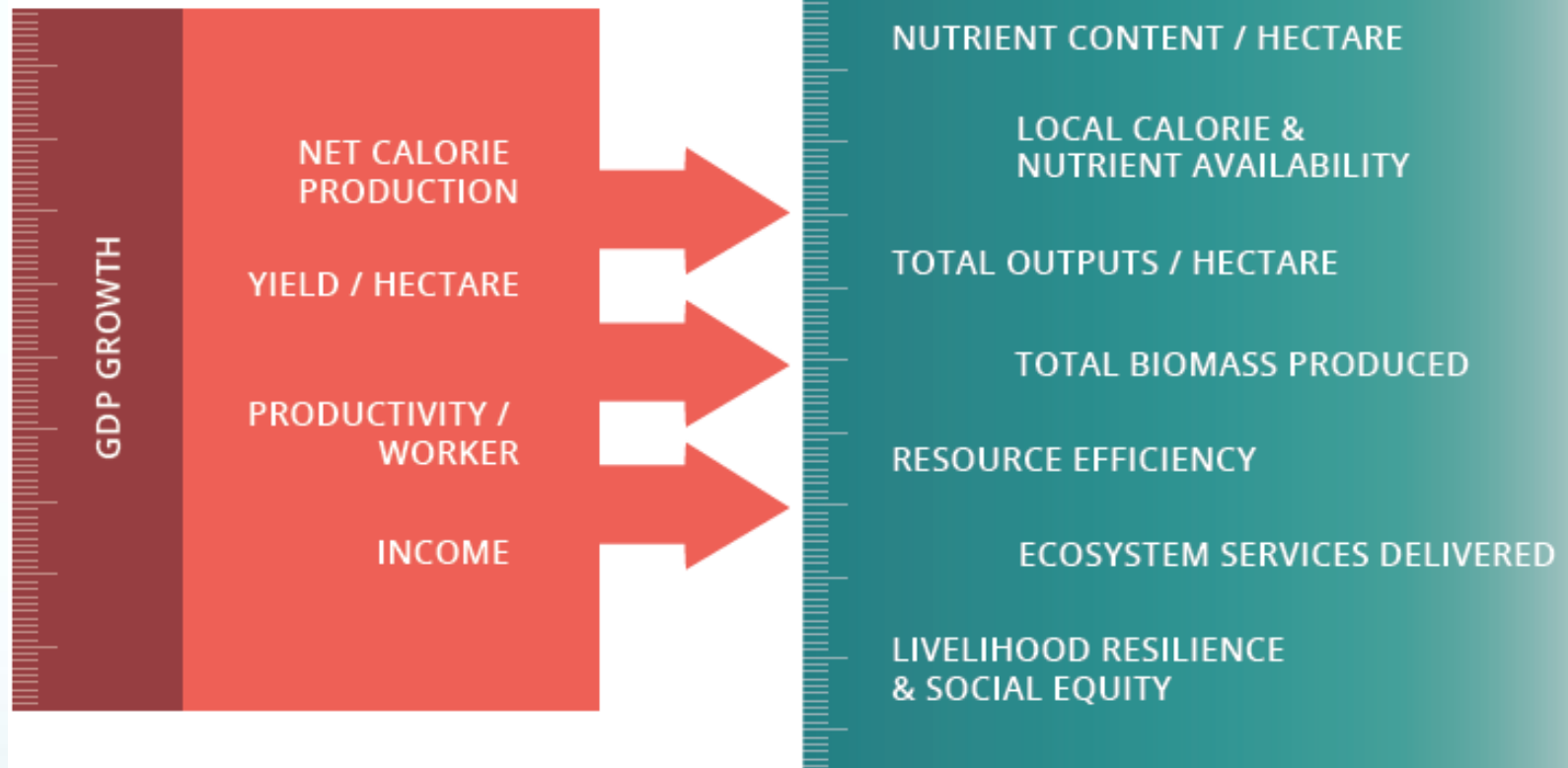
Doing It Well in France



Famine, the Great Hunger ...



**FIGURE 15 - MEASURING WHAT MATTERS FOR SUSTAINABLE FOOD SYSTEMS**



IPES-Food. 2016. From uniformity to diversity: a paradigm shift from industrial agriculture to diversified agroecological systems. International Panel of Experts on Sustainable Food systems [www.ipes-food.org](http://www.ipes-food.org)

# We Know What to Do

To eat sustainably, we need regenerative farming

- Exit from one-dimensional thinking
  - No demon foods or saviour foods
  - No broken cycles
- Recover ancient universal principles for getting human food in relation to natural cycles
  - Relationality
  - Reciprocity
  - Balance



Elyse Pomeranz