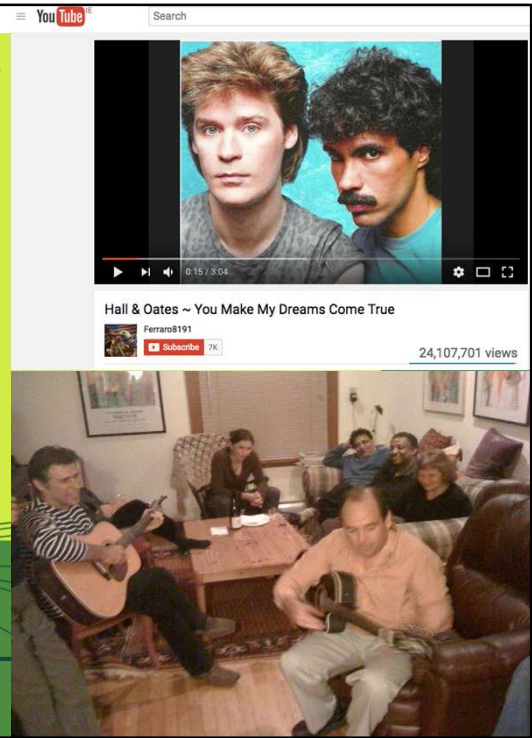


The evidence is un-yielding: What we want, agroecology's got, but it might be hard to handle

M. Jahi Johnson-Chappell, Ph.D.
Director, Center for Regional Food Systems
Kellogg Foundation Endowed Chair in Food, Society & Sustainability
Professor, Department of Community Sustainability
Michigan State University

Presentation for the
Siena Heights University William Issa Endowment Speaker Series
25 April 2024

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1

Agroecology is Everywhere

THE HUFFINGTON POST
August 11, 2012

Can agroecology feed the world and save the planet?

Agroecology in Action
Henrietta Moore: 10 Billion People to Feed

Centre for Agroecology, Water & Resilience

Driving innovative transdisciplinary research on resilient food and water systems

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2

The screenshot shows the FAO website with a header for the 'Office for Asia and the Pacific' and 'Regional Office for Europe and Central Asia'. The main content area features a large article titled 'DECLARATION OF THE INTERNATIONAL FORUM FOR AGROECOLOGY' held in Nyéléni, Mali, on 27 February 2015. Below this is a section for 'The II International Symposium on Agroecology and Peasants' Seeds, Key Documents (Agroecology and Seeds)' held in Dakar, Senegal, from 5-6 November 2015. A sidebar on the left contains a 'Knowledge Hub' and a 'The Principles of Agroecology' report cover. The report cover includes the text: 'THE PRINCIPLES OF AGROECOLOGY: TOWARDS JUST, RESILIENT, AND SUSTAINABLE FOOD SYSTEMS' and 'CIDSE | 06.18.2019'. A quote from the report states: 'It is no longer possible to look at food, livelihoods, health and the management of natural resources separately.'

3

DAILY NEWS **Feedstuffs Magazine**

Future food dilemma exists

U.S. consumers believe a more "natural" agriculture system will solve the future food challenges.

Cheryl Day | Jan 07, 2015

2. Thinking about the future, which of the following food and agriculture challenges are you most concerned about?

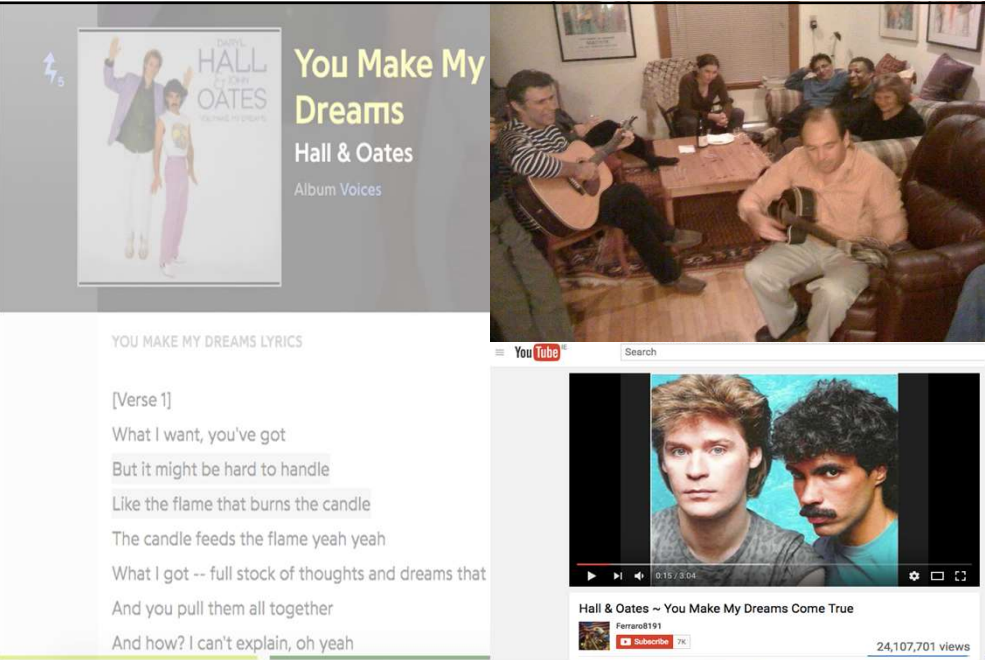
Challenge	Percentage
Having affordable food for me and my family	23.5%
Producing enough food to meet the demands of a growing world population	11.3%
Finding ways to prevent adverse environmental impacts of food production	10.0%
The profitability of U.S. farmers	9.1%
Current government policies directed at farms and food production	9.5%
Involvement of large corporations in agriculture, food production, and food processing	8.5%
U.S. food imports and exports	8.4%
Inequitable distribution of food throughout the world	8.1%
Changing the type and quantity of food eaten to address obesity, diabetes, and heart disease	12.0%

Source for Figures: Oklahoma State University.

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Figure 2: Food and Agricultural challenges

4



You Make My Dreams
Hall & Oates
Album Voices

YOU MAKE MY DREAMS LYRICS

[Verse 1]
What I want, you've got
But it might be hard to handle
Like the flame that burns the candle
The candle feeds the flame yeah yeah
What I got -- full stock of thoughts and dreams that
And you pull them all together
And how? I can't explain, oh yeah

YouTube Search

Hall & Oates ~ You Make My Dreams Come True
Ferraro8191
Subscribe 7K
24,107,701 views

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5

Talk Structure from here *aka "Where are you going with this?"*

- **What is *agroecology*?**
- **What is the evidence that it's "got what we want"?**
- **If it's so hard to handle, how will we get there?**

6

The Agroecology Family

1. But it has your last name: Agroecology and Science

- “**Ecology**”: coined in 1866 by Ernst Haeckel: study of “the household” (organisms & their environments)
- “**Agroecology**” first recognized to have been used by Russian agronomist Basil M. Bensen in 1928
- So “agro-ecology” could simply mean “study of the interactions of organisms and their environments *in agriculture.*”
- Also can refer to “study of agriculture’s impacts on non-human ecological systems”

7

The Agroecology Family

2. Researching and Practicing on the Ground: Agronomy

- Heritage from **agronomy** (the “management of agriculture”) and **horticulture** (“cultivation of gardens”) (coined in the 17th & 18th centuries)
- So agroecology could be “the application of ecological science to inform agricultural practice” (*e.g., improving resource use, pest management, productivity, hardiness, stability, etc.*)
- Also: focus on *what practices work for farmers, and why and where* → idea of agroecology as a set of practices broadly proven to be better for the environment and/or farmer livelihoods

8

The Agroecology Family

3. Your parents used to call themselves "Radicals," too (Movements):

Reactions against "modern" systems & identifying with social movements

- The history of industrial systems has also been the history of resistance to industrial systems
- Justus von Liebig: from "Law of the Minimum" to *capitalist agriculture as robbery*: rich countries from poor ones; cities from countrysides; ongoing admiration from Marx (Foster 2000)
- Organic agriculture (*agroecology*) pioneers like Howard, Balfour, Steiner, Rodale, etc. came to doubt or compare "modern" chemical systems to alternative practices, many times inspired by traditional farming practices
- Rachel Carson, José Lutzenberger, Masanobu Fukuoka, George Washington Carver, Booker T. Whatley, Owusu Bandele...

The Agroecology Family

4. Our grandparents taught me this: Agroecology as traditional agriculture (History/Tradition/Lived Science):

- Agroecology as honoring, recognizing, and celebrating traditional practices
- Examine & emphasize traditional agricultural systems because they largely developed to be locally sustainable: using ecological principles, integrating with landscape and culture, incorporating diversity, & avoiding dependence on excessive external inputs
- Different from uncritical calls to "go back to the old ways"
- Seeks to learn from the best of traditional practices, and to support, implement, and expand them where they can be helpful to both people and the environment

So What Is Agroecology, Then?

Descends from:

- Ecology
- Agronomy/Horticulture
- (Scientific & popular!) Countermovement
- Tradition, Culture, and “Lived Science”

Now often defined as: Science, practice, and movement

Why agroecology?

Agroecology is unique in organically containing all four (science, practice, movement, AND traditional/indigenous knowledge & science)

Arguably are not doing agroecology if you aren't engaging all four

The need for *movement* is obvious from examination of the other three aspects

Why do we need to change? And what do we want?

Food Security:

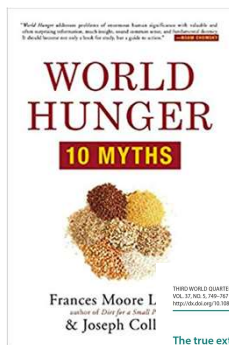
“When all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life...”
(FAO 2003)

And:

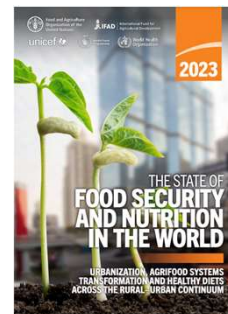
Diversity, Regeneration, Resilience, Equity, Justice, Sustainability
(e.g. Reversing Climate Change, conserving Biodiversity, and more)

13

Hunger (unnecessarily) persists



An estimated 735 million to 2.4 billion people in the world today lack *food security*



The true extent of global poverty and hunger: questioning the good news narrative of the Millennium Development Goals

Jason Hickel
Department of Anthropology, London School of Economics and Political Science, UK

ABSTRACT
The final report on the Millennium Development Goals (MDGs) concludes that the project has been the most successful anti-poverty movement in history. Two key claims underpin this narrative: that global poverty has been cut in half, and global hunger nearly in half.

ARTICLE HISTORY
Received 24 July 2015
Accepted 14 October 2015

KEYWORDS
poverty

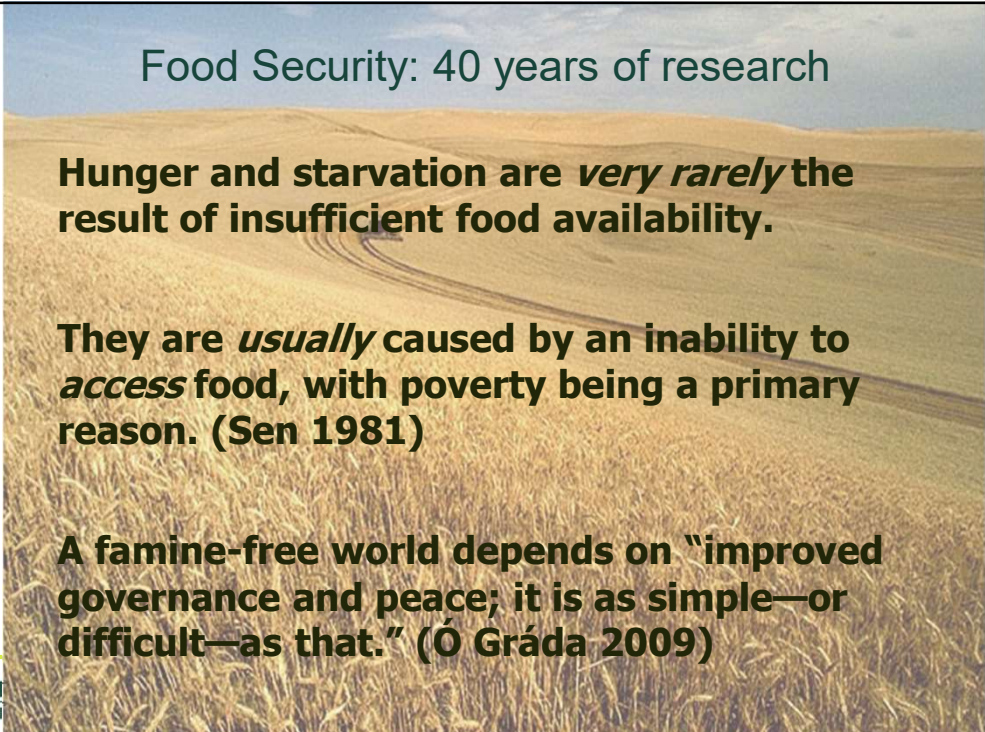
14

Food Security: 40 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. (Sen 1981)

A famine-free world depends on “improved governance and peace; it is as simple—or difficult—as that.” (Ó Gráda 2009)




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There is a strict definition before famine is declared – Gaza is about to reach it


Famine has been declared twice in the past 13 years: in Somalia in 2011 and in parts of South Sudan in 2017

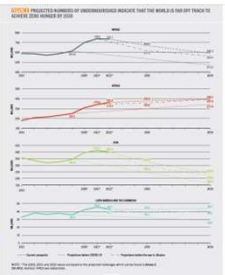
Michelle Nichols • 1 day ago • [127 Comments](#)



Israel is deliberately starving Palestinians, UN rights expert says

Exclusive: UN special rapporteur on the right to food Michael Fakhri says denial of food is war crime and constitutes 'a situation of genocide'





The current scenario shows that almost 600 million people will be chronically undernourished in 2030, pointing to the immense challenge of achieving the SDG target to eradicate hunger (Figure 5). This is about 119 million more undernourished people than in the scenario in which neither the pandemic nor the war in Ukraine had occurred (the “projections before COVID-19” scenario) and around 23 million more than in the scenario where the war had not happened (the “projections before the war in Ukraine” scenario). The latter provides an indication of the additional setback the war may have caused in the global fight against hunger.

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Food Supply Isn't Typically the Problem

80% of malnourished children in the 1990s lived in countries with food energy surpluses

US average daily per capita intake is ~3,800 kcal/person; over 20 years of data, *every year*, there are >10% of US households who cannot consistently afford to feed their families

India, which produces sufficient dietary energy, nonetheless has the *highest prevalence* of underweight children ("*wasting*") in the world, and a comparable number of hungry people to all of Sub-Saharan Africa

FAO 2006, 2008; Holt-Giménez 2008; Smith et al. 2000; Chappell 2010; USDA 2023

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ANNALS

OF THE NEW YORK
ACADEMY OF SCIENCES

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Volume 1520, Issue 1
 February 2023
 Pages 89-104
 This article also appears in:
 The Year in Ecology and
 Conservation Biology

Un-yielding: Evidence for the agriculture transformation we need

Rebecca Chaplin-Kramer | M. Jahi Chappell, Elena M. Bennett

First published: 28 December 2022 | <https://doi.org/10.1111/nyas.14950> | Citations: 1

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Recommended

Reforming the food system to address...

“Here, we present evidence that an **unyielding**—de-emphasizing the importance of yields alone—is necessary... Focusing on yields places the emphasis on one particular outcome of agriculture, which is only an intermediate means to the true endpoint of human well-being.”

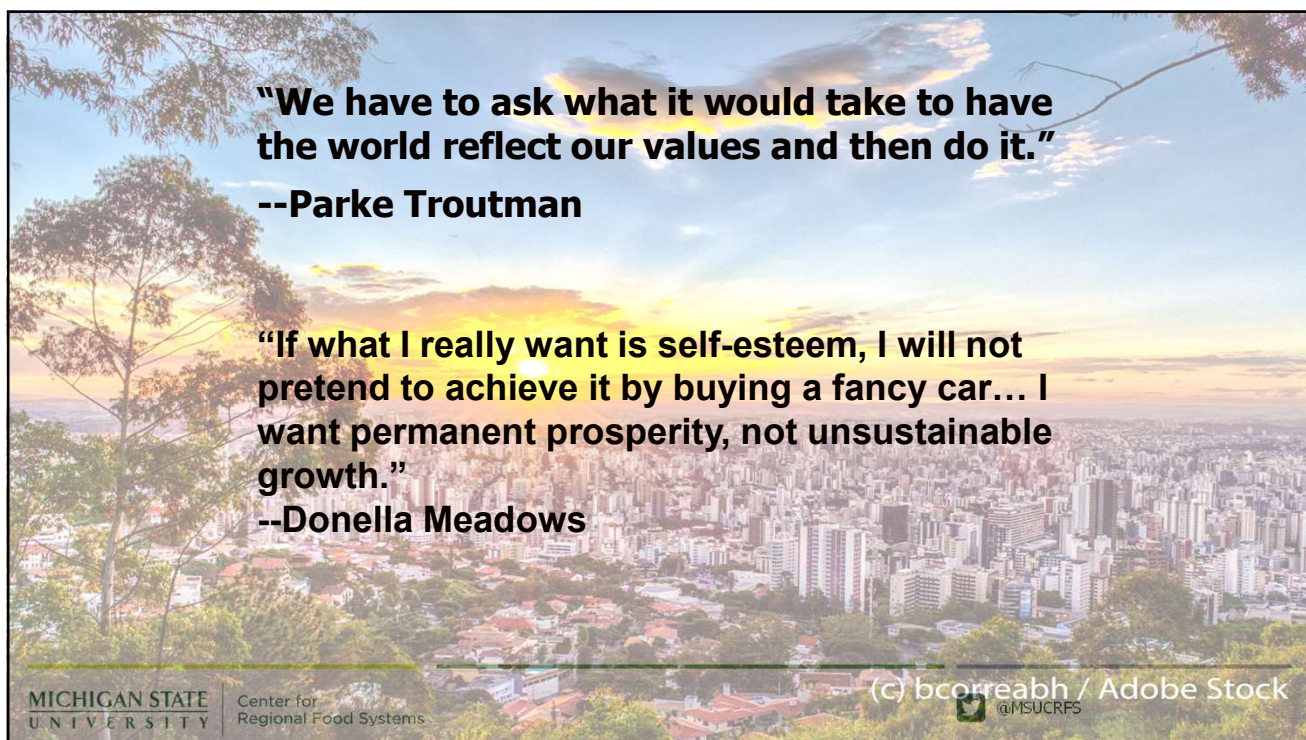
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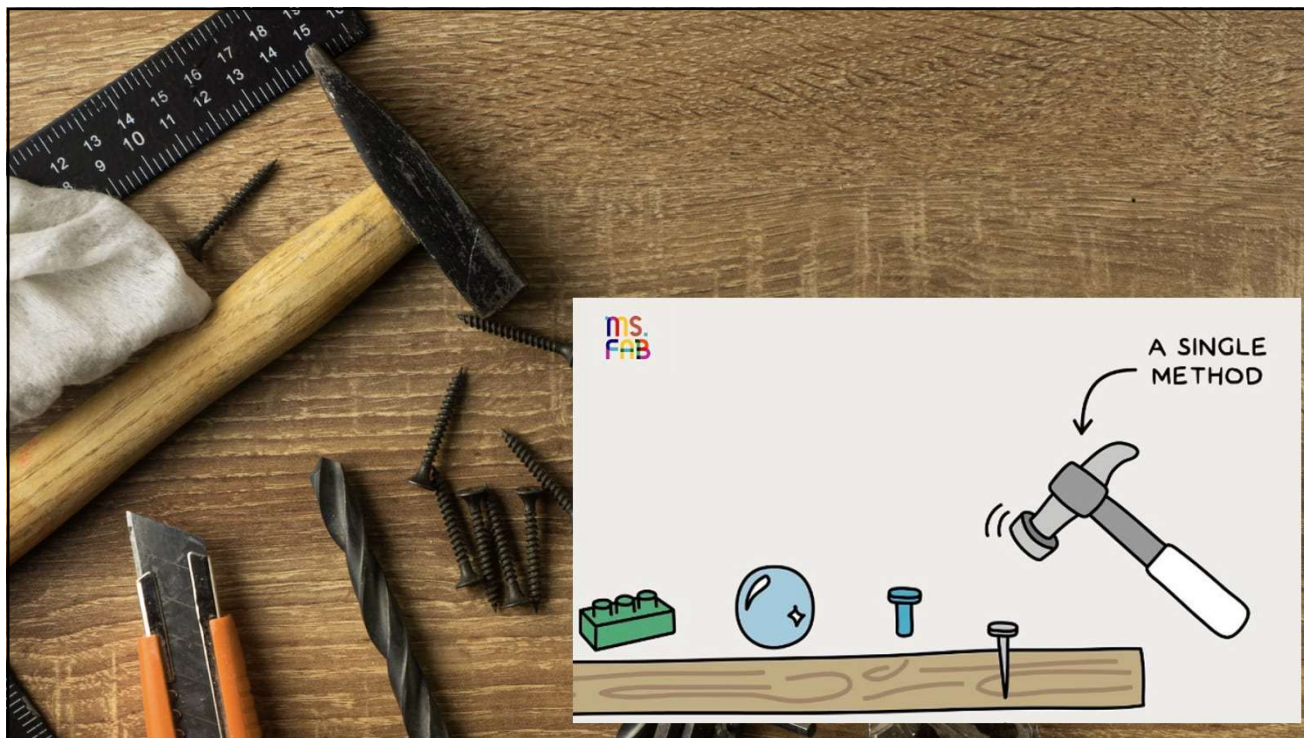
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20



21

When & where food security has improved, how has it happened?

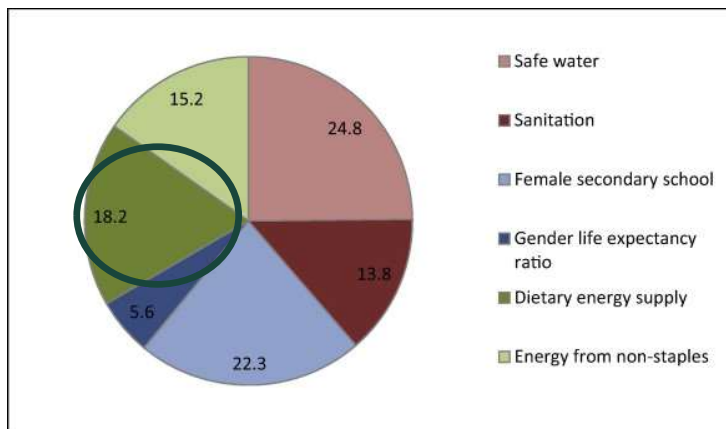
Between 1970 and 2010:

- 46% drop in prevalence of stunting among children in “Majority World” / “developing” countries: around 100 million fewer children who suffered from stunting



22

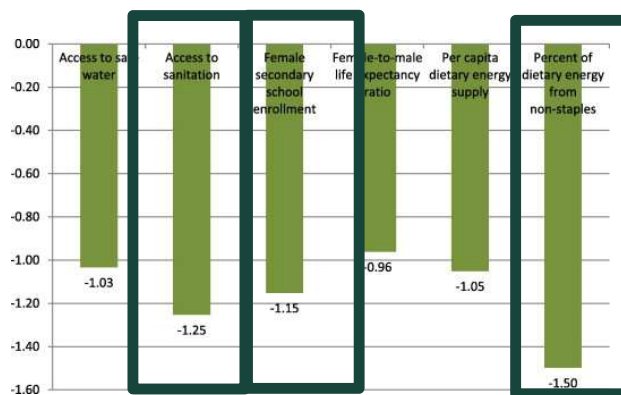
How food security has been improved to date



Smith and Haddad
2015

Contributions of underlying determinants to total estimated reductions in stunting, 1970–2010 (percent)

23



Smith and Haddad
2015

24



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The True Cost of Food: A Preliminary Assessment

Sheryl Hendriks, Adriaan de Groot Ruiz, Mario Herrero Aosta, Hans Bauners, Pietro Galgani, Dunkl Mason-D'Croz, Cecile Godde, Katharina Waha, Daniela Kandelon, Jochim von Braun, Maurizio Reutter, Jennifer Blauke, Patrick Caron, Jenika Parnis, Friederike Greb, Lawrence Haddad, Anna Herforth, Danie Jordaan, William Masters, Claudia Sadoff, Jean-François Soussana, Maria Cristina Tirado, Maximo Torero, and Matthew Watkins

Policy Challenges and Priorities for Internalising the Externalities of Modern Agriculture

Jules Pretty¹, Craig Brett², David Gee³, Rachel Hine⁴, Chris Mason⁴, James Morison⁴, Matthew Rayment⁵, Gert van der Bijl⁶ and Thomas Dobbs⁷

1. Centre for Environment and Society, University of Essex
2. Department of Economics, Royal Holloway, University of London (formerly Department of Economics, University of Essex)
3. European Environment Agency, Copenhagen
4. Department of Biological Sciences, University of Essex
5. Policy Research Department, Royal Society for the Protection of Birds
6. Centre for Agriculture and the Environment (CLM), Netherlands
7. Dept of Economics, South Dakota State University, USA

Journal of Environmental Planning and Management 44 (2), 263-283



1 Introduction

The vision of the UN Food System Summit was to “launch bold new actions, solutions and strategies to deliver progress on all 17 Sustainable Development Goals (SDGs), each of which relies on healthier, more sustainable and more equitable food systems” (UN 2021a, b). The Summit was seeking to transform the way in which the world produces, consumes and thinks about food and to build a just and resilient world where no one is left behind (UN 2021a, b). In various Summit platform discussions, questions have arisen relating to (a) the true cost of the food we eat.

Abstract



Original Articles

External Costs of Agricultural Production in the United States

Erin M. Tegtmeyer & Michael D. Duffy
Pages 1-20 | Published online: 26 May 2011

Quote this article <https://doi.org/10.1080/14735903.2004.9684563>

References Citations Metrics Reprints & Permissions View PDF

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**“[S]ome sectors, such as food producers, would have no profits left if they had to pay the full cost of their negative environmental externalities and took no mitigating actions” –
KPMG 2012, 2014**

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New report shows Indigenous and Tribal Peoples 'best guardians' of forests

:25/03/2021

25 March 2021, Santiago, Chile/Rome - Deforestation rates are significantly lower in Indigenous and Tribal territories where governments have formally recognized collective land rights, according to a new report launched today.

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Based on a review of more than 500 studies published in the last two decades, the new report reveals for the first time the extent to which Indigenous and Tribal Peoples in Latin America and the Caribbean are the best guardians of their forests when compared to those responsible for the region's other forests.

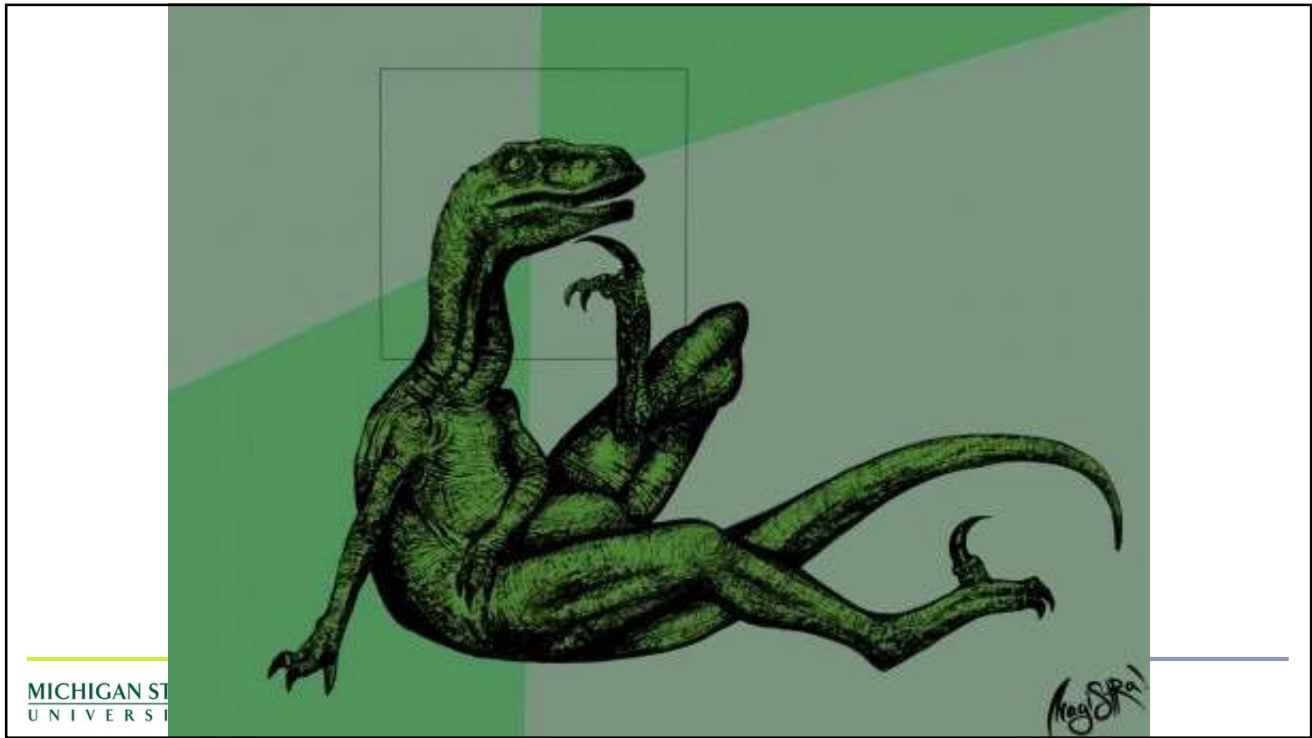
Indigenous territories emit less carbon

According to one of the studies analyzed in the FAO/FILAC report, the deforestation rate inside indigenous woodlands where land property has been ensured where 2.8 times lower than outside such areas in Bolivia, 2.5 times lower in Brazil and 2 times less in Colombia.

Territories owned collectively by Indigenous Peoples avoided between 42.8 and 59.7 million metric tons (MtC) of CO₂ emissions each year in these three countries; these combined emissions were the equivalent of taking between 9 and 12.6 million vehicles out of circulation for one year.

"Almost half (45 percent) of the intact forests in the Amazon Basin are in indigenous territories," said Myrna Cunningham, president of FILAC. "The evidence of their vital role in forest protection is crystal clear: while the area of intact forest declined by only 4.9 percent between 2000 and 2016 in the region, it declined by 14.9 percent in other areas."

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Three approaches to food security/hunger analysis

BEGINNING TO END HUNGER
FOOD AND THE ENVIRONMENT
IN BELO HORIZONTE, BRAZIL,
AND BEYOND
M. JAHİ CHAPPELL
WITH A FOREWORD BY FRANCES MOORE LAPPE

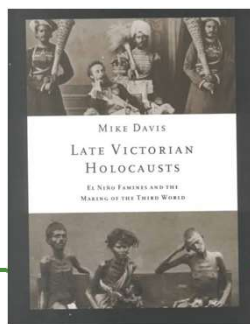
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First Approach: Productivism, Food Availability Decline, and Neo-productivism

Share common worldview focused on population & how much food is produced as the key questions about hunger or starvation



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Critiques of the First Approach

The focus on production is problematic and radically incomplete *based on extensive existing evidence*

Productivism has been connected to too much human and environmental **tragedy** to let stand as a major proposal

It is also still the dominant, and most intuitive, discourse in mainstream economics, agriculture, and among media and governments

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Second Approach: Hunger, entitlements, and food security

"World Hunger addresses problems of enormous human significance with valuable and often surprising information, well thought, sound common sense, and first-hand experience. It should become not only a book for study, but a guide to action."

WORLD HUNGER

10 MYTHS

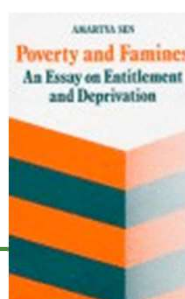


Frances Moore Lappé
& Joseph Collins



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Second Approach: Hunger, entitlements, and food security

Hunger

- Can reiterate the First Tendency
- Can be extended to cover all who have been affected by it (effects into adulthood)
- Can be thought of as *structural violence*

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The Entitlement Approach

- Entitlement approach deals with ability to acquire “commodity bundles” (i.e. food)
- E.g., idea that one is “entitled” to things like food through different channels – from your own production, to work, to trade, to transfers from family members or the government
- Important for the idea that *social conditions are fundamental* to hunger, not just amount of production

Amartya Sen, 1981

Common definition of Food Security

“When all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life...” (FAO 2003)

Including:

- Availability: sufficient food supply of appropriate quality
- Access: adequate resources (economic and physical) to actually acquire food
- Utilization: ability to actually consume and benefit from an adequate diet
- Stability: consistency and resiliency of access

Recently *recommended* additions: **Agency; Sustainability**

Third Approach: Food Justice and Food Sovereignty

Take power, justice, and distribution as key questions from the start

37

Food Justice

A movement that demands agrifood systems provide dignified and equitable access to safe, sufficient, and healthy food for all



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Food Justice

- Seeks to address legacy of structural discrimination along race, gender, and class lines
- Food system as just another site of discrimination, not its origin (compare with Environmental Justice)
- May work within current (unequal) power relationships rather than seek to undermine & challenge them

Food Sovereignty

A social movement that urges (re)consideration of the political economic relations governing food and agriculture.

Demands democratic control and participation in building sustainable agrifood systems.

Communities have the right to what they eat, what they grow it.



39 THE NEW THREE-LEGGED STOOL

Agroecology, food sovereignty,
and food justice

M. Jahi Chappell and Mindi Schneider

Introduction: why we need a new three-legged stool

Tripartite Models of Sustainability

THE "THREE-LEGGED STOOL"



THE "TRIPLE BOTTOM LINE"



Critiques of Tripartite Models

Problems of definition and measurement (particularly, "social sustainability")

Social, economic, and environmental issues are co-dependent; the division of them does not necessarily lead to productive questions or answers

The economic leg has been the focus, to the detriment of the others

The model is conservative, without questioning capitalist logic and growth as the ultimate goal.

Agroecology & Sustainability

No approach can be called sustainable without explicit planning for and realization of procedural **and** distributive justice

This means fundamentally addressing who gets access to resources and the processes to determine this access (e.g., education, land, gender equity, infrastructure, credit, market access, affordable inputs and affordable food; means of "value-adding" and processing): **FOOD JUSTICE**

It also requires active and equitable participation of small farmers, the food insecure, and indeed society in general in decisions affecting them: **FOOD SOVEREIGNTY**

Agroecology, with food sovereignty and food justice, is uniquely positioned to support the realization of these principles and needs.

Chappell and Schneider 2017; Chappell et al. 2013; Loos et al. 2014

The need for the “new three-legged stool”

The battle is on over defining and the future of our food systems

Agroecology alone is necessary but insufficient for sustainability – we also need food sovereignty & food justice—or writ large:

— ***Democracy, justice, and ecology***



How does PB work in NYC?



Deepening Food Democracy

The tools to create a sustainable, food secure and food sovereign future are already here—deep democratic approaches can show us how



By Jill Carlson and M. Jahl Chappell, Ph.D
Institute for Agriculture and Trade Policy

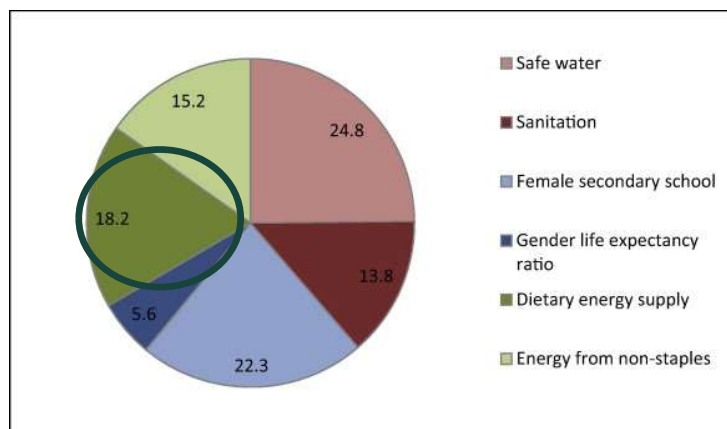
January 2015

Talk Structure from here *aka "Where are you going with this?"*

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- **If it's so hard to handle, how will we get there?**

47

How food security has been improved to date



Smith and Haddad
2015

Contributions of underlying determinants to total estimated reductions in stunting, 1970–2010 (percent)

48



New report shows Indigenous and Tribal Peoples 'best guardians' of forests

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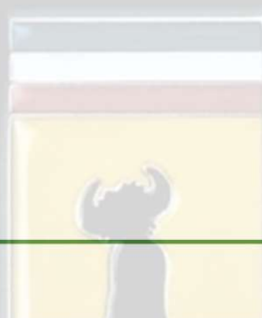
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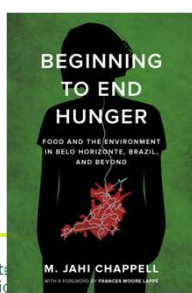
"Almost half (45 percent) of the intact forests in the Amazon Basin are in Indigenous territories," said Myrna Cunningham, president of FILAC. "The evidence of their vital role in forest protection is crystal clear: while the area of intact forest declined by only 4.9 percent between 2000 and 2016 in the region, it declined by 11.4 percent in other areas."

We can't change without moving

"The need for *movement* is obvious..."



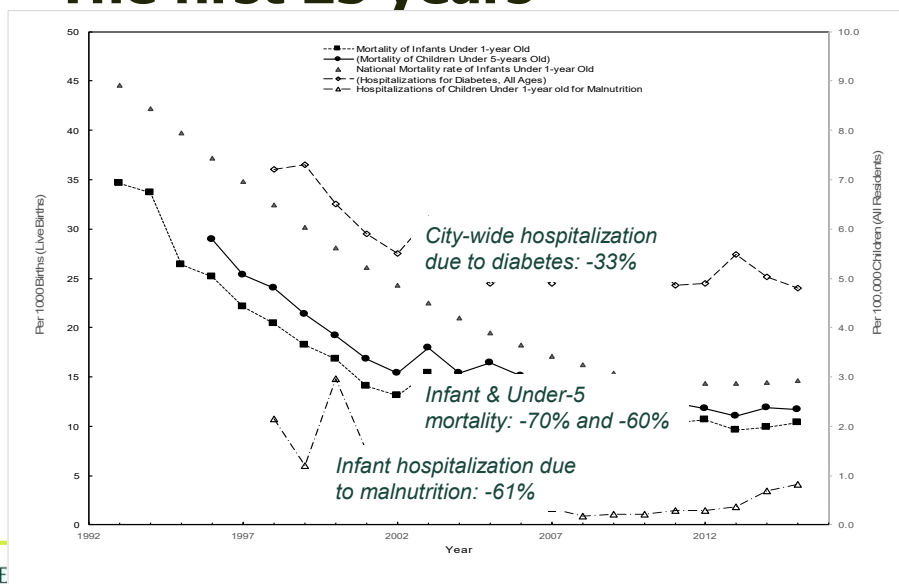
Belo Horizonte, Brazil: Fulfilling the "Five A's"



Beginning to End Hunger: Food Security and the Environment in Belo Horizonte, Brazil (UC Press, 2018)

51

Food security in Belo Horizonte: The first 25 years



52



<https://tinyurl.com/PBHebook2020>

53

“No permanent victories; no permanent defeats”



“If it has been done before, it can be done again...”

— Da Silva et al. 2019

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“Deep” thoughts on strong reciprocity

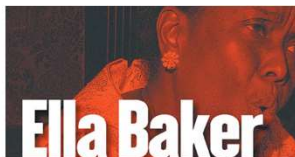
Voluminous evidence indicates that reciprocity is a fundamental human characteristic

So: in organizing, movement building, and outreach, we should ask: how much can we ask others to sacrifice, change, or participate in *our* priorities... if we do not sacrifice, change ourselves and our actions, and participation... in *their* priorities?

by JACK HANDEY

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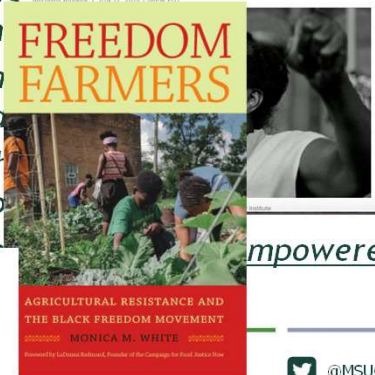
What BH—and others—have to teach



Ella Baker & the Black Freedom Movement
A RADICAL DEMOCRATIC VISION
Barbara Ransby
"A magisterial rendering of one of the greatest radical Democrats in the twentieth century."
—Carol West

US (and on-going) analysis
and cross-con...
and detailed,
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FREEDOM FARMERS



AGRICULTURAL RESISTANCE AND THE BLACK FREEDOM MOVEMENT
MONICA M. WHITE
Foreword by Lorraine Hansberry, founder of the Chicago Freedom Movement

SAAFON
BLACK FARMING. BLACK HISTORY. BLACK CULTURE.

56



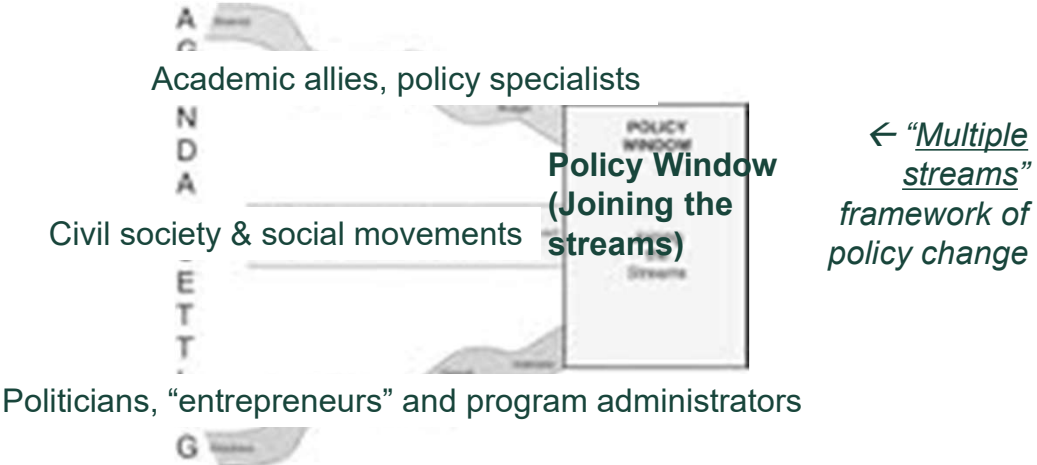
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How political change happens



Academic allies, policy specialists

Civil society & social movements

Politicians, “entrepreneurs” and program administrators

Policy Window (Joining the streams)

← “*Multiple streams*” framework of policy change

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JOIN SOME SHIT

CONNECT SOME SHIT

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QUESTIONS?

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