Advancing agroecology in the US: Science & policy, from soil to spoon

Agroecological Transitions in a Transatlantic Context: Concepts, typologies, barriers, drivers & sustainability performance

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AAG Annual Meeting, 6 April 2019

Credit: Tobias Carter/Savanna Institute

Union of Concerned Scientists
The food system, by many accounts, is not working.
In a global analysis of food sustainability, the US scored in the 3\textsuperscript{rd} quartile (not good).
Food system solutions & agroecology

Right perspective

Right foods

Right way

Right distribution

Credit: Preston Keres, USDA
Credit: Lance Cheung, USDA (Flickr)
Credit: farmhack.net
Credit: USDA
Food system solutions & agroecology

Barriers & opportunities

1. Research funding
2. Growing demand & US policy considerations
Research funding as a lever for change

- Investment in agricultural research pays off
- Relationship between research investment & dominant practices

Credit: farmhack.net
What is the current investment in agroecology?

Challenging question:

(1) Past attempts to quantify sustainable agriculture research funding had become outdated

(2) No clear accounting or tracking of funds for agroecology
What is the current investment in agroecology?

Research Methods:

1. Compiled reports of USDA-funded projects that began in 2014, searched for all components in each

2. Developed framework to define & identify components of sustainable agriculture, including agroecology
A database of grants to assess public investment

- Public USDA database (CRIS)
- Reports with Grant $ provided, from 2014
- 824 projects, $294 million
- Text fields: Objective, Non-technical summary, and Approach
A framework for classifying sustainable agriculture

Level 1
Input efficiency

Level 2
Input substitution

Level 3
Agroecology Practices

Level 4
Socioeconomic support

Level 5
Global sustainable food system

Gliessman 2015
DeLonge, Miles, Carlisle 2016
10% of funds to projects with an emphasis on agroecology

DeLonge, Miles, Carlisle 2016

More efficiency, less waste

Provide social support

Redesign based on agroecology
4% of funds to “transformative agroecology”

DeLonge, Miles, Carlisle 2016

Total $ for Projects, Sorted by Average Project Level

Provide social support

Redesign based on agroecology

Credit: USDA
Opportunity to invest more in agroecology

Current research funding

Levels 3, 4 & 5: Agroecology & Socioeconomic supports

Level 2:
Substitution

Level 0,1:
Increase efficiency + address symptoms

Proposed research funding

Reduce & improve:
Level 1
Boost: Substitute damaging inputs and practices
Level 2

Prioritize:
Whole systems research
Levels 3, 4 & 5

Miles, DeLonge, Carlisle 2017
Scientists interested in more public support for agroecological research

~500 signers

In a survey of scientists, 85% of 165 experts stated that research funding is an important or very important obstacle

Farmers are interested in adopting more agroecology... and in supportive policies

**FARMER POLL**
- 2,867 farmer interviews
- IL, IA, KS, MI, OH, PA, WI
- March 2018
- automated phone survey & online interviews

- 75% want policies offering incentives to reduce runoff & soil loss, improve water quality & increase resilience to floods & droughts
- 66% said that farm bill programs providing > financial incentives for unfamiliar practices would make them more likely to adopt them
- 72%—across party lines—said they would be more likely to support a candidate for office who favors success through sustainable agriculture.

What are the policy opportunities?
Opportunities at the federal level: **Farm Bill**

- Conservation
- Commodities
- Insurance

Source: USDA 2014
Opportunities at the state level: 

Healthy soils bills
At all scales, keep an eye on many levers & look for opportunities.
At all scales, keep an eye on many levers & look for opportunities

50-state food system scorecard
- 68 indicators
- 10 categories (5-9 indicators each)
  - farms & ecosystems (6)
  - food & health (3)
  - social determinants & disparities (1)

https://www.ucsusa.org/food-agriculture/food-system-scorecard
Different states lead in different categories

Map 1: Farming outlook

Map 9: Food investments

Map 10: Social determinants & disparities

https://www.ucsusa.org/food-agriculture/food-system-scorecard
Opportunities to transition to agroecology
Questions?

Thank You

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