

Food First BACKGROUNDER

Our research and analysis is fueled by people like you. Help keep Food First an independent think-and-do tank today at foodfirst.org/support.

INSTITUTE FOR FOOD AND DEVELOPMENT POLICY

Summer 2017

VOLUME 23 • NUMBER 2



Quinoa field, Bolivia. Photo by Shannon DeCelle.

Food, Climate, and the Myths that Keep our Planet Hot

By Annie Shattuck

Food First will be launching a climate series in Fall of 2017. We are happy to have received this submission from Food First Fellow Annie Shattuck before the formal series launch. For more information on Food First's focus areas, please visit www.foodfirst.org.

Trump may be trying to let the likes of Exxon burn down the planet – but that isn't stopping hundreds of thousands of activists from working to stop climate change. From Pittsburg to Paraguay, the fight for climate justice at the grassroots is growing. And this fight isn't just about greenhouse gases – it is about land rights, agriculture, natural resources, and the right to manage them for the greater good. The food system is a central part of this fight – what we eat is responsible for more carbon pollution than all the world's planes, trains, and automobiles. Between the forests and fields converted to agriculture and pollution directly from farming, what we eat accounts for nearly a third of all the gases contributing to climate change. What does climate justice look like in the food system? To tackle the problems, we have to see beyond the myths and look to the solutions that embrace a more just future:

Myth #1: Poor farmers are responsible for cutting down the world's tropical forests.

This myth is one of the oldest, and the hardest to kill. Commercial agricultural expansion is at the root of deforestation. Industrial plantations have been directly responsible for four decades of forest loss in Borneo.¹ In the Amazon,

“In studies of disasters from Chiapas to Cuba, ecological farmers had less damage and recovered quicker. Small scale agro-ecological farming builds resilience to climate change on the farm.”

the vast majority of deforestation is caused by the expansion of agribusiness.² Some of this forest has fallen at the hands of smallholders recently settled in the Amazon.³ But the root of the issue is land access, insatiable demand, and weak environmental laws. Two-thirds of Brazil's farmland is owned by just three percent of the population⁴ - Amazon settlement is a symptom of this inequality. By one global estimate, 71% percent of deforestation is due to commercial crops, the vast majority of it illegal.⁵ In the forests of the Maya Biosphere Reserve, farmers are cutting valuable timber. But these communities are not the villains in this story – they are the heroes. Community controlled forests in the reserve have 20x less deforestation than the protected areas managed by the state.⁶ Where small farmers and indigenous people have secure rights over their land, forests fare much better. In Bolivia, where indigenous communities have rights over their forests, deforestation rates are a third those in nearby areas; in Colombia, deforestation is twice as fast where there are no secure land rights for indigenous communities.⁷ To make sure carbon stays in forests, the forests need defenders.

Myth #2: Sustainable intensification will 'spare land for nature' and keep carbon on the land.

Governments and companies are counting on getting 'more crop per drop' – as a recent ad campaign put it – or expanding industrial agriculture to produce more food, more efficiently on less land to 'spare' land

for nature. While being more efficient with resources is certainly a good step, there is no evidence that increasing productivity reduces demand. In fact, the opposite is true: as productivity increases, so does the area devoted to agriculture.⁸ This is what is called the Jevon's Paradox – increasing efficiency reduces costs and leads to increased demand. More efficiency means more profits – driving new farmers into a region and encouraging forest clearing.⁹ Increasing efficiency also causes prices to fall, and farmers caught in the cost squeeze often plant more to make up the difference. In tropical South America for example, strong enforcement of environmental laws¹⁰ – not increased efficiency, is what stops forests from becoming 'green deserts' of soy and sugarcane.

Myth #3: Climate change means we need to produce more food to make up for lost crops – or people will go hungry.

We already produce enough food for every person on the planet. But of all the crops we produce – 24% goes to waste, 35% goes to animal feed, and 3% go to biofuels.¹¹ What causes hunger is not lack of food, but lack of access to decent land and work. Most of the chronically hungry in the world are marginalized farmers and rural workers. It is not how much we produce that is important, but who produces it, how, and who profits. With 70% employment in agriculture in many parts of the world, simply producing more food in countries like Kenya, Uganda, or India will not solve hunger if there

are no decent and stable livelihoods in the countryside. Industrial farming displaces workers – so many we would need unrealistically fast economic growth, evenly spread around the globe to create enough jobs to employ all the world's peasant farmers.¹² To end hunger, we don't need to produce more crops per se – we need to produce more decent livelihoods. Climate change is projected to hit places like sub-Saharan Africa, India, Central America, and Southeast Asia the hardest – places where hunger in the countryside is endemic. Protecting these farmers from the ravages of an increasingly erratic climate is essential.

Myth #4: Small scale farms are inefficient and more vulnerable to climate change.

In 1998, Hurricane Mitch tore through Central America, causing \$11 billion in damage. Farmers from the *Campesino a Campesino* movement who practiced ecological agriculture had less damage than their neighbors and bounced back twice as fast.¹³ In studies of disasters from Chiapas to Cuba, ecological farmers had less damage and recovered quicker.¹⁴ Small scale agro-ecological farming builds resilience to climate change on the farm. More diversity on farms can buffer against pests and disease¹⁵ and makes it less likely that losing one crop will spell bankruptcy. This is especially important as climate change wreaks havoc on traditional weather patterns. For resource poor farmers, a two-week delay in the rainy season can spell disaster. Using agroecology

to buffer against these small disasters will be essential to ensuring small scale farmers stay in business.

Myth #5: Organic farming is okay for the rich, but will never feed the poor.

Critics often cite the yield gap between organic and conventional agriculture as evidence that organics will ultimately require more land and resources to produce food. But the comparison is misleading. The whole weight of the world's scientific effort over the past 70 years has gone into conventional monoculture production. The USDA, for example, devotes less than 2% of its budget to agroecological research.¹⁶ Where research has gone into organics, those yield gaps begin to close. For example, researchers breeding wheat specifically for organic systems increased wheat yields by as much as 31% after a few short years of organic breeding.¹⁷ Diversification can reduce the yield gap with current technology to just 9%.¹⁸ Ecological methods can also raise production without raising costs for small scale farmers - a review of 286 sustainable agriculture projects in 57 poor countries found that yields went up by an average 79% even as farmers' costs went down.¹⁹ Evidence like this is what prompted the former UN Special Rapporteur on the Right to Food to say agroecology is the best hope to solve hunger.²⁰ Ecological agriculture stores more carbon in soils,²¹ uses less water, and emits less nitrous oxide. Soils high in organic matter are more resistant to drought, protect

against runoff that pollutes river and streams, and help increase yields. Better soil management is a key climate strategy. Soils have the potential to effectively offset between 5-35% of global emissions.²²

Myth #6: Biofuel will save us.

While we were promised that biofuels would replace fossil fuels, it turns out, many are worse for the climate than regular gasoline. Mandates for corn ethanol use in the US have increased emissions by hundreds of millions of tons of CO₂.²³ Corn isn't the only culprit. According to the EU, fuels made from palm oil, soybeans, and rapeseed cause more emissions than gas.²⁴ Moreover demand for 'flex crops' - crops like corn, sugarcane, and palm oil that have use as food, fuel and feed - is driving deforestation and violent land grabs. In Guatemala's Polchic Valley, for example, farmers were removed at gunpoint from their lands in order to make way for a biodiesel plantation.²⁵ Farmers in Sierra Leone ended up going hungry after their lands were grabbed for sugarcane ethanol, and farmers in Indonesia have been killed in efforts to defend their lands from palm oil.²⁶ According to GRAIN, nearly 17 million hectares - an area larger than the state of New York - have been grabbed by developers to produce biofuel since 2002 - all for little to no climate benefit.²⁷ Up to 550 million people by one estimate could be fed on land that has been grabbed in the last ten years to produce crops for fuel and feed.²⁸

Myth #7: Climate and agriculture are rural issues.

Urban landscapes are a major part of the puzzle. When we send food waste to the landfill, it creates methane, a pollutant 36 times more powerful than CO₂. But that organic waste could be a valuable resource for compost - returning carbon and nutrients to farmland and creating jobs in the process. A study by the Blue-Green Alliance, a coalition of labor and environmental groups, found that if the US as a whole were to divert 75% of its waste from landfills, it would create over 1.5 million new jobs nationwide. Diverting organic waste creates one new job for every 2,000 tons of waste.²⁹ We need to see urban areas as landscapes. California cities for example, cover 3.6 million acres and are home to nearly 95% of the state's population. With so many people and so much space, urban ecology has a significant impact on the carbon cycle. More green space, urban trees, and urban agriculture are all part of the climate solution.

Myth #8: People demand more meat as they get wealthier, and there is nothing that can be done about it.

There is little better we could do for the planet than end industrial livestock production. The livestock industry alone is responsible for 18% of greenhouse gases.³⁰ But conventional wisdom has it that getting people to stop eating meat is impossible. The

“Ecological methods can also raise production without raising costs for small scale farmers - a review of 286 sustainable agriculture projects in 57 poor countries found that yields went up by an average 79% even as farmers' costs went down.”

average human alive today eats almost twice as much meat as their grandparent's generation. There are two related reasons for this shift: culture and cheap meat. Neither are permanent. The world's growing appetite for meat is primarily about pleasure and class aspirations, not health and nutrition.³¹ But there is no reason that growing wealth means the world should or will convert to an American style, meat-heavy diet. Excess meat consumption is associated with heart disease, stroke, diabetes, certain cancers, and early death.³² The new Chinese dietary guidelines recommends cutting meat consumption in half.³³ Since 2005, Americans ate almost 20% less beef, which is the equivalent of taking 39 million cars off the road.³⁴ Culture can change. Meat is also artificially cheap. The meat industry buys surplus feed grains at prices below what

it costs farmers to produce them.³⁵ They benefit from not paying to treat their substantial sewage – one hog farm in North Carolina, for example, produces 1.5 times as much sewage as the entire city of Philadelphia.³⁶ And the birth of concentrated animal feeding operations that make meat so cheap was only possible after lawmakers made it illegal for local communities to object to the polluting facilities.³⁷ A combination of public policy to clean up the meat industry, integrating animals back into farms where their waste is a source of fertility, and efforts towards healthier diets are both necessary and possible.

No More Myths

How do we solve climate change in the food system? We start with justice.

While governments and companies promote climate policies that benefit elites, the real work is already happening at the grassroots. Farmers, farmworkers, and communities around the world are taking control of their land, forests, and food systems and in doing so – are making crucial progress to stop climate change. We cannot consume our way out of climate change – we cannot vote with our forks to stop it. What we can do is organize – to defend ecological agriculture, land rights, and forest protections, and build a new food system built on diversity, justice, and food sovereignty.

Please visit foodfirst.org/climate-myths to view endnotes and citations in full.

The logo for Food First, featuring the words "Food First" in a stylized, handwritten script font.

Copyright © 2017 by Food First / Institute for Food and Development Policy
All rights reserved. Please obtain permission to copy.

Suggested citation for this Backgrounder:

Shattuck, Annie. "Food, Climate, and the Myths that Keep our Planet Hot," *Summer 2017 Food First Backgrounder* Volume 23 Number 2 (2017). Oakland, CA: Food First / Institute for Food and Development Policy.

Food First is a "people's think tank" dedicated to ending the injustices that cause hunger and helping communities to take back control of their food systems. We advance our mission through three interrelated work areas—research, education, and action—designed to promote informed citizen engagement with the institutions and policies that control our food.

www.foodfirst.org
www.foodfirst.org/become-a-member