

## Permaculture is the Future of Agriculture

When I first arrived at Essex Farm, my soon-to-be boss Mark Kimball gave me a tour of the farm. Mark is a towering white dude seemingly always sporting a flannel long sleeve, blue jean overalls, and a straw sunhat. I would guess he is in his forties, but the deep wrinkles on his sunscreen covered face juxtaposed with his toddler energy levels makes it even harder to tell. We walk out into a field of fibrous oats and wet peas. Mark's leading barefoot, as I later learned he always does when in his domain. He snatches a pea as he turns to address me and throws it in his mouth, zealously chewing the still buzzing chlorofil. The magnificent mountains of Western Vermont bow in his presence and the sun turns to face him. "On this farm we have three goals," he says, "To capture as much sunlight as possible, keep as much of it where we capture it, and meet as much human need as we can."

Mark is one of the many farmers and food systems experts who acknowledge that modern agriculture is going in a fundamentally dangerous direction; from toxic pesticide and synthetic fertilizer runoff, to biodiversity loss, to inequitable access to produce, the environmental, social, and economic drawbacks seem endless (Magdoff). Mark has made it his mission at Essex Farm to challenge these trends and operate an agricultural enterprise that balances human need, the tenets of environmental sustainability, and the limits of space and time. The farm is a 1,500 acre operation that employs rotational grazing methods to harmonize diversified crop and livestock production. With the dream of eliminating reliance on external inputs (ranging from fertilizer to fossil fuels) the farm is one of the few in the United States still using horse teams to cultivate the fields instead of tractors. Mark believes that "big ag" is ruining agriculture and his alternative agricultural vision at Essex Farm is part of the solution.

Kudos to Mark for establishing an all inclusive year-round CSA, for bringing farm-fresh foods to urban centers, and for having the guts to even *attempt* not using a tractor on a 1500 acres farm in the 21st Century. I admire the ambition of what he and his equally impressive wife and business partner, Kristen, have created. I do believe it's better for the environment and society that hundreds of people eat meals from Essex Farm rather than from McDonalds, or even Trader Joes. But despite the homemade fertilizer, the rotational grazing, and the rejection of pesticides, the farm is down right unsustainable.

Essex Farm workers are paid minimum wage and often work 12+ hour days. There is constant turnover with staff, as few find the strength to sustain such a precarious, or non-existent, work-life balance. This makes the lives of those who *do* stay even harder, as they constantly have to train new “potential employees”. And when it comes to finances, Mark and his wife, Kristen, make less than most of their workers: at around \$10,000 a year, combined. They are rich in assets, but are essentially broke, and have two young kids to support. During my seven weeks on the farm, I heard dozens of references to the fact that the farm may not survive until next season, which is apparently old news. Struggling to meet its bottom line, Essex Farm has largely given up on hay powered horse teams for fossil fuel powered tractors to keep up with production demands. Furthermore, the farm heavily relies on transporting much of its produce five hours South to NYC where more can be charged per CSA memberships. The remaining income is from selling Kristen’s books about the farm. As the saying goes, “It’s hard to compete as a farmer in the business of growing food.”

In this borderline sadistic agricultural effort Mark has subject his workers and his family to the most unsustainable lifestyles. He is trying hard to work on the margin, a balancing act of orchestral synthesis. While attempting to compete with sustainable values under capitalist

standards of production, the work has become impossible by design. Mark took pride in carrying the burden of the massive externalities that our species have become masters at making. It's a noble feat, almost a big artistic stunt, as if to display to the world how hard it has become to do what he believes is truly sustainable agriculture. "Look! This ideal, just within our reach a century ago, is now impossible! But we will do it anyway!" Ultimately, he has not addressed the root cause of the issues he aims to tackle, he has only redistributed their burden on to himself and his community.

While Mark and other ambitious food systems experts may bemoan the industrial impact of capitalist pressures on their beloved yeoman farming practice, they fail to consider that perhaps agriculture as they practice it is problematic from the get-go, and possibly even sowed the seeds of its own demise. They are completely missing the point if they continue their well-intentioned operations using ideologies that industrial agriculture espouses, or capitalism forces them to assume. As Albert Einstein said, "We can not solve our problems with the same thinking we used when we created them."

Some experts are going one step further than Mark, and proposing that there is a crucial linkage between agriculture *itself* and the ailments of the 21st century. In other words, these issues have roots before the industrialization of agriculture. They argue that the transition away from hunter-gatherer societies to agricultural societies is the paradigm shift from which many of our civilization's wicked problems stem: from the climate crisis, to toxic power dynamics, to capitalism itself (Naveh).

Anthropological research on hunter-gatherer societies in the Amazon suggests that the collapse of mutual land-based relationships within a community begin once external food, or energy sources, were introduced to the native communities. Once the reliance began to shift, an

extractive framework was applied to the land by the community which “allowed for rapid population growth that, in turn, exerted higher pressures on both animal populations and forest cover.” (Iwamura et al. 82) This story has parallels to Essex Farm, where because it operates too much within the framework of *traditional agriculture*, it is unable to escape the gravitational pull of the collapsing star that is *capitalism*, and vice versa. The story of this community, and of Essex Farm, is a microcosm of our global history, where external input reliance sparks the colonial, exploitive, capitalist paradigm of modern land-based relationships.

In its 2008 report, the International Assessment of Agricultural Science and Technology for Development (IAASTD) claimed that “a fundamental change in farming practice is needed to counteract soaring food prices, hunger, social inequities, and environmental disasters.” The document written by four hundred global experts, proposes that, as Aili Pyhälä put it, “indigenous and local knowledge [play] as important a role as formal science” in the imperative shift to truly sustainable agricultural practices (Pyhälä 196).

The IAASTD is not the first to act on this desire to mesh western science and technology with indigenous knowledge and techniques. One ideology, known as Permaculture, attempts to do just that. The design methodology, indigenous science, and global-movement was developed in the 1970s in Tasmania, Australia by colleagues Bill Mollison and David Holmgren (“The History of Permaculture”). With backgrounds in landscape design and environmental psychology, the two coined the term Permaculture: a contraction of the words “permanent” and “agriculture.” According to Bill Mollison, “Permaculture is a holistic and interdisciplinary system of design based on a set of design principles and techniques for developing closed-loop, symbiotic, self-sustaining human habitats and production systems that do not result in ecological degradation or social injustice.” (Mollison 1988)

Prior to my time on Essex Farm, I spent six months of my gap year studying Permaculture Design on an educational farm in central Israel. The farm, when compared to the scale of Essex Farm, is more aptly described as a massive garden. While we grew some intensive annual crops, much of the caloric and nutritional production on site was from the clever, intentional design of the area twenty years prior to my arrival. This includes landscaping to preserve on site ecosystem services (like water retention), establishment of native plants to support wildlife (which help support crops via pollination or other functions), and integrated planting of edible plants (known as food forests). Guided by Permaculture concepts, there were no open loops on the farm; that is to say, almost all systems started and ended on site. We did our business in compost toilets and processed it to be used months later as fertilizer for the fruit orchards. Water used to sustain the desert oasis was harvested and stored uphill during rain events and released via gravity when needed. The farm community lived on site, and we had no reason to leave as all three tiers of our Maslow's Hierarchy of Needs were met, and then some. During my entire time on the farm I had produced one small bin worth of trash, and I was the happiest and healthiest I have ever been.

I am more than willing to admit that my amazing experience on this farm makes me biased, but I believe that my contentment during that time is also an indication of the social sustainability of Permaculture. Still, I was, in fact, paying to be on the farm via an educational program. Furthermore, we were not able to produce all of our meals, because the program had to balance educational programs and field labor. I certainly was not producing the same net calories per hour, or per acre, as I was at Essex Farm. I would go so far as to say upfront that permaculture is not efficient (by the standards that we generally measure efficiency, anyhow). And I do believe that there are many problematic elements to Permaculture. For one, the claim

that Bill and David “created” Permaculture is just false. Sure, they synthesized global indigenous knowledge with western technology to make a new field, and gave it a name. But when proponents of Permaculture idolize these two white men, and these guys make money from this process while failing to acknowledge that much of their “discovery” is a recontextualization of indigenous science, they are completely missing the point.

Nevertheless, Permaculture challenges the paradigms that are leading us to our demise by recontextualizing and redefining our concept of agriculture *and* society using the tried and true ethos of indigenous cultures. It espouses a beyond sustainable, regenerative way of existing that traditional-alternative-agriculture (if I may be so bold) could never accomplish. Mark claimed that Permaculture was idealistic and unproductive. I begrudgingly agreed, and we moved on. But what I wish I had said to him was that he was right on the money. Permaculture is inefficient and cannot possibly support hundreds of families with a dozen laborers like Essex Farm can, and that is *exactly my point*. For sustainability and capitalism are incompatible, and capitalism and traditional agriculture go hand in hand. The ability of Permaculture to encourage a lifestyle fundamentally antithetical to capitalism is exactly why I think it is the most sustainable evolution of traditional agriculture.

## Works Cited

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