Twitter Thread by Wrath Of Gnon



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A story of inappropriate technology: in the 1970s it was decided to modernize the rice farming of Sri Lanka, whose system that had not changed much for 3000 years. The goal was to replace the water buffalo with the modern tractor, but the attempt had disastrous consequences...



Buffalos create "wallows", pools of muddy water without which they cannot control their temperatures. Always filled with water, these wallows create many eco-services: in the dry season the become a haven for fish that then migrate back to the paddies when these fill with water.



The fish is a valuable source of proteins for landless laborers and greatly help control the population of malaria causing mosquitoes who breed in the rice paddies. The vegetation around the wallows are breeding and hunting grounds for snakes and water monitor lizards who prey...



...on rats that eat the rice and the crabs that burrow into the sides of the rice paddies eventually causing them to lose integrity, leading to collapses of entire paddy systems.



Without the water buffalo wallows, villagers no longer had a place to soak the palm fronds they needed to thatch their roofs, leading them to rely on locally made clay roof tiles, which caused massive deforestation as trees were cut down to fuel the tile kilns.



And with no pest control since the birds were gone (no forests) the snakes and lizards and fish were gone (no wallows) malaria spread like wildfire. Even farms that used chemicals found that mosquitoes quickly became resistant no matter how much they upped the dosage every year.



All over the world, when a system that has evolved for long periods of time is radically changed or altered, we find the same examples of disaster and collapse. Here's Charles Marohn discussing the subject in the book Strong Towns:

"Peasants in medieval England participated in a common-field farming approach that consisted of three great fields. In any given year, the great fields would be designated for wheat or barley, or were left fallow in a rotation understood to maintain optimal soil conditions. By foregoing immediate production and giving a field time to recover, overall yields would be more stable and secure. It was a tradeoff between short-term production capacity and long-term stability, with the peasants opting for stability.

What is more interesting is how these great fields were subdivided among the peasants. Instead of each having their own contiguous section, each peasant would have up to a dozen scattered plots throughout. They would tend to each of these, shunning a consolidation of holdings for an approach that involved burning precious calories walking between plots.

A similar approach has been witnessed in modern times in the Andean mountains of Peru. There the subsistence farmers would likewise scatter their plots over a large area, walking long distances in between to tend to each one. Development experts studying this situation concluded that the Peruvians were paying "intolerably high" costs for all this inefficiency, something more advanced people would not do.

> *The peasant's cumulative agricultural efficiency is so appalling . . . that our amazement is how these people even survive at all.*

The expert recommendation was to create a land swapping program so these seemingly uneducated, backward peasants could consolidate their holdings and, through improved efficiencies, realize more of the fruits of their own labor. This was reported in a journal article by researcher Carol Goland, who, with a level of humility not seen in the development experts, sought to understand why peasants would scatter their plots in this way. What she discovered by asking—and then confirmed through measurement and calculation—was that spreading plots is a risk management strategy. In any given year, one plot may be randomly wiped out. Having enough plots, and having them spread out, ensured the peasant family wouldn't starve.

Geographer and historian Jared Diamond examined Goland's research in his book The World Until Yesterday. He notes that consolidation of holdings would improve efficiency. Peasant farmers could grow more food using fewer resources and less energy, but they would be—to quote the adage—putting *all their eggs in one basket*.

> *If your time-averaged yield is marvelously high as a result of the combination of nine great years and one year of crop failure, you will still starve to death in that one year of crop failure before you can look back and congratulate yourself on your great time-averaged yield. Instead, the peasant's aim is to make sure to provide a yield above starvation level in every single year, even though the time-averaged yield may not be highest.*

What the efficiency-obsessed development experts didn't appreciate was how fragile their consolidation strategy would make life for the peasant farmers. Instead of being ignorant, the peasants understood a spooky wisdom, insights gained over many lifetimes of trial and error experimentation. The farmers who didn't scatter their plots died. Those who didn't have enough plots also died. The farmers who survived had lots of scattered plots, a strategy for survival they passed on as traditional wisdom. The development experts were trying to meet a single objective—increasing efficiency—while the peasants were forced to harmonize many competing objectives in an infinite game, one where survival was the ultimate

— Charles L. Marohn, Jr. "Strong Towns"

The flip side on "inappropriate technology" is the famous parable of "Chesterton's Fence": if you come across a gate in a field and see no reason why its should be there, do not remove it until you have figured out why it was put there in the first place. https://t.co/edz7DbEWei

> Maybe the most famous quote of his, 'Chesterton's Fence', the long version. From the book "The Thing", 1929. pic.twitter.com/5YVftpcBYP
>
> — Wrath Of Gnon (@wrathofgnon) December 5, 2016

Millennia of hard earned handed down tradition and agricultural and ecological knowledge is being lost year after year, every time an old farmer dies without heirs. In many cases we have passed the point of no return: we will have to argue in the dark. https://t.co/4VJZrU2yyi

A variant\u2014even more obvious, and darker, than the original\u2014on Chesterton's Fence. pic.twitter.com/6mYV1Jl79v

— Wrath Of Gnon (@wrathofgnon) March 4, 2017