



## Agriculture: Wisdom of the Uncivilized Crowds

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*This is a guest post by Suraj Kumar, who posts under the name [sunson](#). He is a software engineer living in Bangalore, India. This is a link to his [blog](#).*

Picture this: A remote Indian village in the Ganges delta a few hundred years ago. The farmer starts his day by letting his flock of ducks into his irrigated fields. The water from the river brings with it, besides nutrients and alluvium, some unwanted (for the crops) pests too. But that is not a problem--the ducks will keep the pests in control. Not only that, they will turn those pests into manure and drop it right inside the pool of collected water to be anaerobically decomposed under the water.

Maybe the farmer doesn't realize it and thinks the Sun god and Nature goddesses are helping him. But that's just a coincidence that's helping him continue his ways. They worship the arrival of the stork--which, by the way, even the Japanese and Chinese do. Coincidence? (I'm willing to bet Mexicans do that too!) There are still pockets in India where people's lifestyles are frozen in time and haven't changed much.



*The thorns that plants developed are the results of selection pressure. Blind nature can out-do our smartness in several unimaginable ways. Photo from [this blog](#).*

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The saying goes *Unity in Diversity*, and it's true for stable ecosystems. Agriculture as it has been practiced in India over centuries has relied and depended on nature's forces. Whether we evolved our practices, designed the system by hand, or got it by sheer luck overnight... every Indian alive today is a proof that we survived in this region for several thousand years. The fertility due to the

unique geographical structure of the sub-continent is a natural gift. Consciously/sub-consciously/systemically realizing it and living on it for thousands of years is wisdom.

## The Great Change

Then came along the colonialists. We all *kinda* know what happened. I'd just like to place an excerpt from [Lord Macaulay's speech](#) in the British Parliament on 2nd Feb 1835 (quoted elsewhere in various contexts on the web--typically nationalistic sounding ones). I first found it in Amartya Sen's book *The Argumentative Indian*:

"I have traveled across the length and breadth of India and I have not seen one person who is a beggar, who is a thief. Such wealth I have seen in this country, such high moral values, people of such calibre, that I do not think we would ever conquer this country, unless we break the very backbone of this nation, which is her spiritual and cultural heritage, and, therefore, I propose that we replace her old and ancient education system, her culture, for if the Indians think that all that is foreign and English is good and greater than their own, they will lose their self-esteem, their native self-culture and they will become what we want them, a truly dominated nation."

Several things changed after the advent of the colonialists. Some for "our" good, one could argue? For instance, the colonialists left at the end of a major war. (One of the root-causes was colonisation itself!) India was freed, right? The specific form of exploiting of India's resources changed from that of direct occupation to a more subtle and effective form called "Free Trade". The [Bretton Woods system](#) ratified all capitalist nations' interests in continued exploitation of natural resources by the still-ruling powers of the world (namely US, Britain, France, etc.). Free Trade, in other words, is a system of exploitation of a so-called *Third World* nation's resources by someone with *Little Green Pieces of Paper* on the lines of, "If you let me take your stuff, you'll get these little green pieces of paper with which you can *buy* the finished goods *I* produce using *your nation's resources*."

## Female infanticide

Besides improvement in the quality of lives of those people who accepted the little green pieces of paper, there were arguably some other improvements. For instance, they "taught" the peoples what it means to be "humane". Female infanticide, what a terrible and ruthless thing it is! But... it is also important to realize that this so-called "inhumane" killing of the girl baby is a very effective means of population control. (By no means am I justifying or arguing for female infanticide here. Far from it.)

In the wild, many males go unmated. A male doesn't mean more individuals. A female that survives, however, very likely results in more children. Educating the females coupled with eradication of female infanticide would have worked. But with India, it was a half done job... and that's worse than not doing the job at all.

Take away that population stabilisation mechanism of female infanticide and add to it the joke called the *Green Revolution*, and India saw her population rise and her once-stable ways of life completely changed forever. Today, we're a billion+ and to feed that growing population, we had to adopt ways of agriculture that were previously not thought of. Today, India boasts of vast areas of [degraded soil](#). It was a forgone conclusion that she would end up in this situation given

the decisions that were made by the so-called Leaders of that Era.

## Where be the Wisdom?

The colonialists are back (strong statement, indeed ;-)) --under the name of [Monsanto](#), [DuPont](#) and several other MNC "Agri Businesses" who promise to solve the problem of the world's poverty. ([Does that ring a bell?](#)) [Last time](#), it was by releasing the locked up nitrogen in a finite endowment of natural gas to create fertilizers, developing an infrastructure of farm mechanisation that relied (and still relies) on fossil fuels (specifically diesel) and quickly releasing water stored up in deep aquifers through the use of, yet again, cheap fossil fuels. (A significant portion of electricity comes from Coal + Oil + Natural Gas.)

This time, they're back with the same old excuse of attempting to solve world's poverty by manipulating our domesticated life forms' DNA.

So what exactly is their system of "solving world hunger"?

1. The company has had a successful herbicide product called [Round Up](#). (Remember, [Agent Orange](#)?) The herbicide kills just about anything in its way. Earlier, farmers had to exercise care when spraying the herbicide because they ran the risk of killing their own crops too. Roundup is a non-selective weed killer. The paradox with life is that, the more we apply [selection pressure](#), the more "evolved" the species we're trying to kill becomes. This is because those individuals that could be killed are already gone! The ones that remain are the ones who were difficult to kill in the first place, and if they manage to leave their progeny, those progeny are likely equally difficult too! Over just a few generations, things become very difficult for one generation of humans. The use of just the herbicide alone didn't *scale well*. We talk "scale" only when we talk growth. However, [stability needs resilience](#). The job done by the frogs, [the sparrows](#), the spiders, the lizards and the earthworms were now replaced by one single plastic bottle with a TradeMarked logo on it. How neat?

2. Since the herbicide solution didn't scale they had to do a round two of their fight against nature - through Genetic Engineering. They "invented" a new "variety" of crop that was resistant to the herbicide (called "Round Up Ready Whatever"). All was good for a while, until recently (2 years ago) when farmers started reporting [Super Weeds](#). Life evolves in amazingly powerful ways. This was just one example.

3. Genetic Engineering has two peculiar problems:

a. Bugs: If a Microsoft writes buggy code, they can send a "fix". But what happens when there are "bugs" in the genetically engineered code? How do you fix a plant? Today's genetic engineering methods are still crude. It's not like we insert a nano-particle that reads through the genes and "modifies" the genes. They merely insert some other animal's genes that produces the desired proteins!

b. Intellectual Property: Life replicates. That's the equivalent of piracy, only naturally done by the bees.

To avoid these two problems, they introduced [Terminator Technology](#). Simply put, the seeds produced by the GM crops aren't seeds. They cannot produce new plants when sown. They're merely grains for consumption. [Seed saving](#)--the very practice that brought about agriculture, will no longer be applicable since the seeds are all impotent. I'm sure we have all read about [farmer suicides](#) and the wide-spread cause of suffering due to this very enslavement.

Ah, solve hunger by killing people? That makes sense! Oh wait, that "scale" requires farm machinery which, by today's infrastructure, is all designed to run on diesel.

Now, I'd like to draw you to the end of this post by instilling a sense of hope through this real life story that I've been quite proud of...

[On our farm](#), we decided to sow only [native variety rice](#) seeds. We picked two varieties namely "Garudan Samba" and "Gandakasala". We had to obtain them with much difficulty since the government makes only [narrow-mindedly designed rice varieties from the IRRI](#) available to the farmers. At first, the locals (having forgotten their own ways of traditional, resilient agriculture) laughed at us and even questioned if such things will be "practical" in today's world. *Grace be to the all merciless, non-existent God!* The rains poured and destroyed their crops at a completely unseasonal time. Our crops were damaged, but not destroyed completely. Now, they are beginning to see the advantages.

They're curious to find out how to obtain these seeds. They're still using pesticides. But they're beginning to see the birds perched atop our now-growing trees helping with pest control. They're still using fertilizers but that's because:

1. Fertile, naturally rich soils aren't anywhere around. Our soil has just begun the recovery from the [damages due to prolonged nitrogen fertilizer use](#) in the past (ie., before we bought this land).
2. Fertilizers are still pretty much free flowing in this [Peak Moment](#).

I've become pretty much cynical that most of the time, it is only *the shock doctrine* that helps bring the masses to reality. Those very things can also be learnt by applying thought--however challenging or [even depressing](#) that might seem initially.

If you'd like to "take away" anything from this post: All I ask the reader to do is to switch to locally produced foods that are **not GM**. Every paisa is a profit that helps further their ways of enslavement and suffering. It kills our wisdom, however foolish and ridiculous it might sound to the "Free Thinking" West. Ridicule works and we must not fall prey to their old ways. Free Thought brings with it a sense of confidence and a dash of arrogance. Knowing that arrogance is Wisdom. Evolutionary studies today show that the genetic differences amongst the so-called "races" are totally insignificant and that it has just been mere chance that led to the rise and fall of several civilizations. The people of this sub-continent didn't use coal in 19th century and oil in the 20th century like the "Colonisers" were doing. But coal and oil are just finite resources. The success of the West is only temporary, and eventually the West will have to deal with reality in ways we've all come to accept in the past--thousands of years ago.

An *American Indian* [quote](#) to end the post:

Only after the last tree has been cut down,  
Only after the last river has been poisoned,  
Only after the last fish has been caught,  
Only then will you find that money cannot be eaten.



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