

Digital agriculture and corporate capture on food system

“The agriculture sector is both important consumer and supplier of data... Farm data can be particularly important across border to facilitate Global Value Chain Integration” –
OECD Food, Agriculture and Fisheries

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Corteva (the new company created from the Dow-Dupont merger) said that the way to “feed the planet” is by embracing new technology developments. – **BBC, “Follow the Food” documentary series**

In the digital tech world, power is based on data-- the capacity to collect and process massive amounts of it.

THE “DATAFICATION” OF FOOD SYSTEM. WHY THIS PROBLEMATIC FOR SMALL FARMERS, LOCAL MARKETS AND CONSUMERS??



1. Creating new agribusiness

- By using drones, AI, sensory devices, Big Tech companies such as Microsoft, Apple, Google and Facebook are able to harvesting real-time farmers' data and analyzing the condition of their soils and water, the growth of their crops, the situation with pests and diseases and the looming weather and climatic changes.
- Teaming up with giant agribusiness companies, Big Tech provide "advice" to the farmers on seeds, pesticides and fertilisers. Bayer said their app is already being used on farms covering over 24 million hectares in the US, Canada, Europe, Brazil, and Argentina. Syngenta digital tool managed 40 million hectares farmland worldwide
- In September 2020, Microsoft and AGRA formalised a partnership to help Microsoft expand its Azure FarmBeats platform across the continent and deepen their joint efforts to deploy Microsoft's "chatbot" app Kuzabot. This app provides small farmers with advice via WhatsApp and SMS, including information on what inputs to use and which companies to buy from.

World's biggest agrochemical corporations involvement in digital agriculture

Syngenta/ ChemChina

- [Syngenta bought Cropio](#) in 2019, a digital platform company, to advance its work towards digital farming. Combined, more than 40 million hectares globally will be managed using a Syngenta digital tool, and planned to double this by the end of 2020.

Bayer/Monsanto

- Bayer has [Climate FieldView](#), courtesy of Monsanto and climate.com that they acquired a couple of years ago.

BASF

- BASF has [Xarvio](#): helps identifying weeds, diseases, insects, etc. in the field and predicts when they become a problem and advises when to spray or fertilise.
- BASF is now setting up a [joint venture](#) with tech giant Bosch to advance digital farming.

Corteva

- Corteva has [Granular](#) "From each seed to every field, Granular gives you the tools to meet challenges across your entire operation"

FMC

- FMC Corp. has [announced](#) the launch of [Arc farm intelligence](#), an exclusive precision agriculture platform that they claim enables growers and advisors to more accurately predict pest pressure before it becomes a problem.

International institutions involvement in digital agriculture

AGRA • [Microsoft partners with AGRA](#) to support digital transformation in agriculture. Part of Microsoft's 4Afrika initiative. "We very much appreciate the opportunity to draw on Microsoft's digital architecture support on digital ecosystems and big data platforms," says Vanessa Adams, Vice President, Strategic Partnerships and Chief of Party at AGRA.

CGIAR • CGIAR created a "[Platform for Big Data in Agriculture](#)", bringing all their work on digital farming together. They are working with [Microsoft](#) to get big data to small farmers.

FAO • Google and FAO launched [new Big Data tool](#) for all. "I am convinced that transforming our food systems to feed the world will be achieved with digital agriculture" said FAO Director-General QU Dongyu.

World Bank • Worldbank funds multiple digital farming initiatives. [Their take](#): "Digital technologies can significantly reduce the costs of linking sellers and buyers; reduce inequalities in access to information, knowledge, technologies and markets; help farmers make more precise decisions on resource management by providing, processing, and analyzing an increasing amount of data faster; and potentially reduce scale economies in agriculture, thereby making small-scale producers more competitive."

2. Hooking farmers with loans and online payment system

According to World Bank, 1.7 billion people without bank accounts around the world, of whom 1.1 billion have mobile phones. Thus a huge potential financial market that tech companies, known as fintechs, can tap into, displacing the traditional giants of the financial system.

Alipay, the financial arm of Alibaba already the most use online payment app in China where roughly 224 million people without bank accounts

Arifu, the leading farmers “advisor” app in Kenya is now part of DigiFarm operates by Vodafone subsidiary. DigiFarm provides farmers in Kenya with input, loan, crops insurance, buy and sell of products, which they of course charge fee on all transaction.

3. The new middlemen and e-commerce

- Covid pandemic accelerate the shift to online retail sales. In many places around the world, farmers forced to went online to find buyers and organise alternative markets.
- Platforms that promised to help direct selling between farmers and consumers, but these digital platforms is increase their pricing power over farmers and bring labourers in the food system under the control of their invisible command centres. Major agriculture trading companies like Olam and ADM have reportedly use surveillance technology and the data it gathered to push down prices and maximise profits.




Digital colonialism,
illustration by Zoran Svillar



- Online retail help speed up the process to privatising food market in many places. The battle against privatization of market in India are one examples. Walmart enter India in 2016 after acquiring online retail startup before acquiring India's biggest retail platform Flipkart in 2018, with Amazon the two companies now control 2/3 of India retail sector. In the peak of global pandemic, Jeff Bezos wealth increase over 70 billion US\$ in just one year mostly from online groceries shopping.
- Big Tech works by “nudge” consumers food preference. Online buying help the app to read our preference and behavior patterns, providing advertisement for food industries, and limiting consumers choices.

- Digitalisation of agriculture and the whole food system are built on the basis that encourage centralisation, concentration and uniformity, and are prone to abuse and monopolisation. As such, they will only drive us deeper into the multiple crises afflicting the global food system.
- Small farmers, traders and consumers could also benefit from technology, but to do so we all need to work together to break up the power of Big Tech and its billionaires and to fight for a different vision; based on a democratic and diverse participation in the production and sharing of knowledge and information.



Some GRAIN publication on digitalization of food system:

- [Digital fences: the financial enclosure of farmlands in South America](#)
- [Infographic | Digital fences: technology and its use in land grabbing](#)
- [Digital control: how Big Tech moves into food and farming \(and what it means\)](#)
- [Where's the place for small farmers and traders in the digital marketing world?](#)