DATA FIX: *Informational Imperialism & the Urban Enclosure of the Agrarian Knowledge Commons*

Benjamin Notkin & Timothy Ravis for Emergent Urbanizations in the Global South with Sai Balakrishnan and Nei Brenner
By 2024, the Earth's population will total more than 8 billion for the first time in history, adding new stresses on the global supply chain, which is already challenged by a volatile climate and water supply shortages.
- IBM

The world's population is growing, but the amount of farmland available per head is shrinking. Agricultural productivity will have to increase if we want to safeguard our food supply in the long term.
- Bayer Digital Farming

From detecting pests to predicting what crops will deliver the best returns, artificial intelligence can help humanity confront one of its biggest challenges: feeding an additional 2 billion people by 2050, even as climate change disrupts growing seasons, turns arable land into deserts, and floods once-fertile deltas with seawater.
- Intel

The current world population of 7.3 billion people is estimated to reach 9.7 billion by 2050. Around 83 million people are added to the global population each year. This growth must be met by corresponding increases in food production.
- Amazon Web Services

What role will protein-rich soybeans play in meeting the 70% increase in demand for food over the next 30 years?
- Google X Project

If current trends continue, by 2050, caloric demand will increase by 70 percent, and crop demand for human consumption and animal feed will increase by at least 100 percent.
- McKinsey

Agricultural development is one of the most powerful tools to end extreme poverty, boost shared prosperity and feed a projected 9.7 billion people by 2050.
- World Bank

In the face of these competing demands and challenges, agriculture will need to produce 60% more food globally by 2050, and 100% more in developing countries, with diminishing water resources.
- Asian Development Bank

Under current scenarios, it is estimated that we will have to increase food production by a whopping 50 percent to feed the extra 2 billion people that will live on our planet by 2050.
- UNDP

As the global population grows from 7 billion in 2010 to a projected 9.8 billion in 2050, and incomes grow across the developing world, overall food demand is on course to increase by more than 50 percent, and demand for animal-based foods by nearly 70 percent.
- World Resource Institute
organic composition of capital
the deployment of submarine cables
satellite heatmap of cropfields
“Before, selling more products meant more business for a company like Bayer; whereas in [the] future, the fewer products we sell the better, because we’re selling outcome-based services. With sensor devices, we can learn a lot more about what is and is not helping crops and livestock and create a better way of doing things.”

Bayer Monsanto Executive, 2018
reports on development & digital agriculture
Digital Agriculture

- Precision Agriculture
  - Crop Protection & Input Management
  - Animal Technologies
  - Sensors & Smart Farm Equipment
  - Imagery

- Agriculture Marketplace & Financial Technology

- E-extension

- Smallholder Management
Based on graphic by Deloitte in World Bank 2012
machine learning and plant gene sequencing
**Financial Capital (investment)**

**Inputs (material & informational)**

- Distance
- Concentration
- Cities
- Financial Capital (investment)
- Data
- Commodities (Cheap Food)
- Surplus Labor (depeasantization)
- Technofields

**Financial Returns**

**Extension**

**Concentration**
Precision Agriculture for Development

Information

Advice

e-extension
digital agriculture organizations in Cambridge
Levin had that winter begun writing a book on agriculture, the idea of which was that the temperament of the agricultural labourer was to be treated as a definite factor, like climate and soil, and that therefore the conclusions of agronomic science should be deduced not from data supplied by soil and climate only, but from data of soil, climate, and the immutable character of the labourer.
production under contract farming, in 1996 □ and 2017 □
production under contract farming, in 1996 □ and 2017 ■
land reform in Zimbabwe
By 2024, the Earth's population will total more than 8 billion for the first time in history, adding new stresses on the global supply chain, which is already challenged by a volatile climate and water supply shortages.

- IBM

The world’s population is growing, but the amount of farmland available per head is shrinking. Agricultural productivity will have to increase if we want to safeguard our food supply in the long term.

- Bayer Digital Farming

From detecting pests to predicting what crops will deliver the best returns, artificial intelligence can help humanity confront one of its biggest challenges: feeding an additional 2 billion people by 2050, even as climate change disrupts growing seasons, turns arable land into deserts, and floods once-fertile deltas with seawater.

- Intel

The current world population of 7.3 billion people is estimated to reach 9.7 billion by 2050. Around 83 million people are added to the global population each year. This growth must be met by corresponding increases in food production.

- Amazon Web Services

What role will protein-rich soybeans play in meeting the 70% increase in demand for food over the next 30 years?

- Google X Project

If current trends continue, by 2050, caloric demand will increase by 70 percent, and crop demand for human consumption and animal feed will increase by at least 100 percent.

- McKinsey

Agricultural development is one of the most powerful tools to end extreme poverty, boost shared prosperity and feed a projected 9.7 billion people by 2050.

- World Bank

In the face of these competing demands and challenges, agriculture will need to produce 60% more food globally by 2050, and 100% more in developing countries, with diminishing water resources.

- Asian Development Bank

Under current scenarios, it is estimated that we will have to increase food production by a whopping 50 percent to feed the extra 2 billion people that will live on our planet by 2050.

- UNDP

As the global population grows from 7 billion in 2010 to a projected 9.8 billion in 2050, and incomes grow across the developing world, overall food demand is on course to increase by more than 50 percent, and demand for animal-based foods by nearly 70 percent.

- World Resource Institute
In the next two decades we must find a way to feed two billion more people and secure our food supply in the face of climate change...

SHUT UP!