

# Global Food Security

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Declaration: I hold no grants or consultancies from government or private sectors.

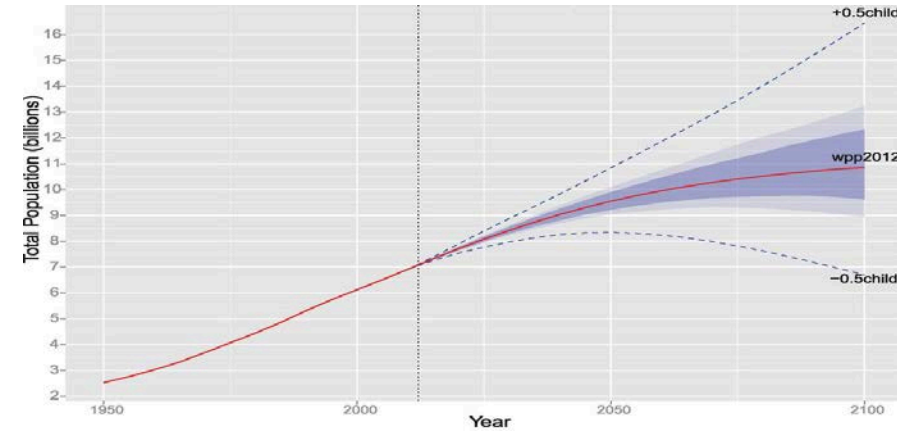
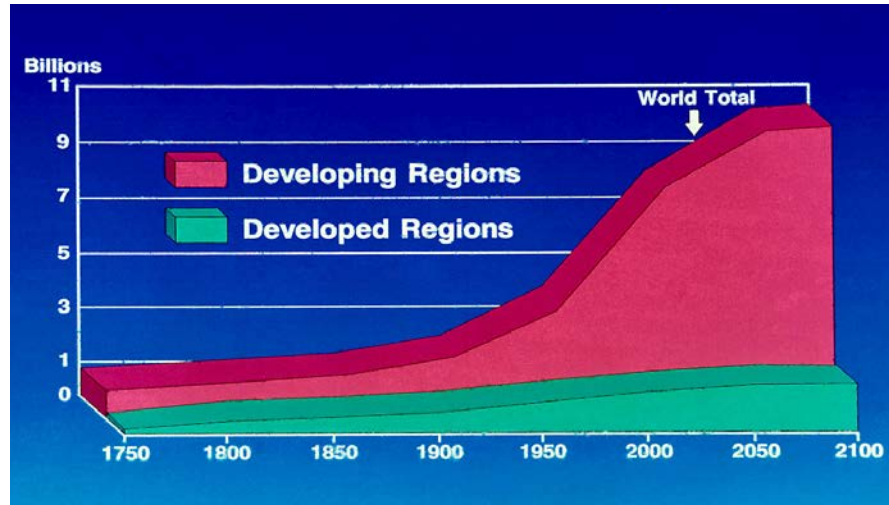


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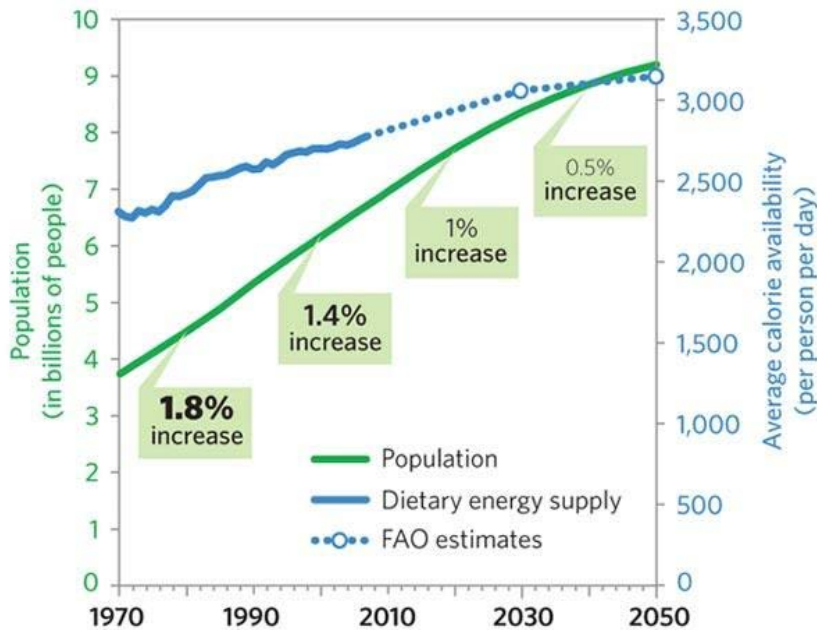


**SMART VILLAGES**  
New thinking for off-grid communities worldwide

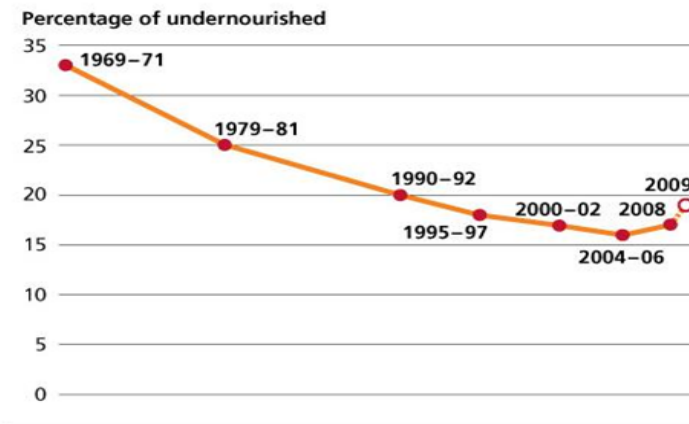
# 'Population increases geometrically and food arithmetically'



World population stabilization unlikely this century (Gerland et al. Science 346: 234 2014)

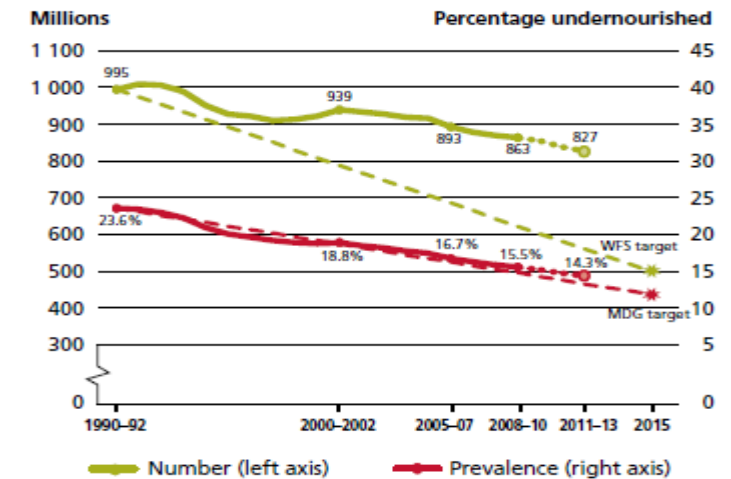


Number of undernourished has been on the rise since 2014 (FAO)



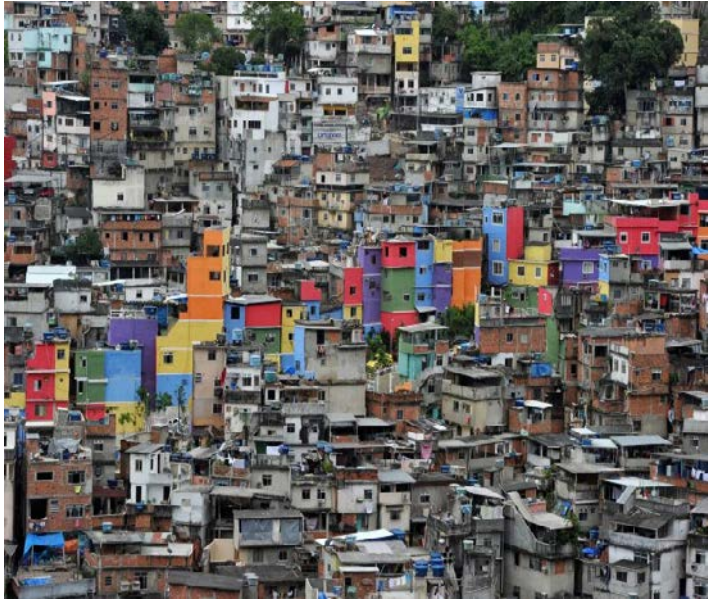
Source: FAO.

Failure to reach targets



Note: Data for 2011-13 in all graphics refer to provisional estimates. Source: FAO.

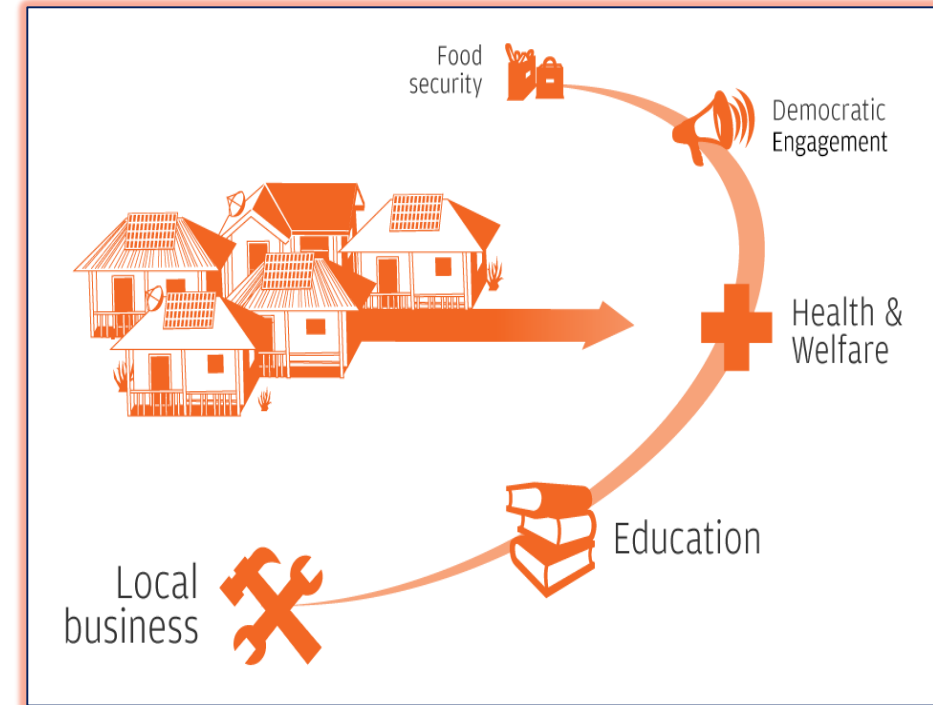
# Internal migration and food for the cities



Rio's Rocinha shantytown: informal settlements like this are booming as developing countries urbanise.  
Image: Getty.



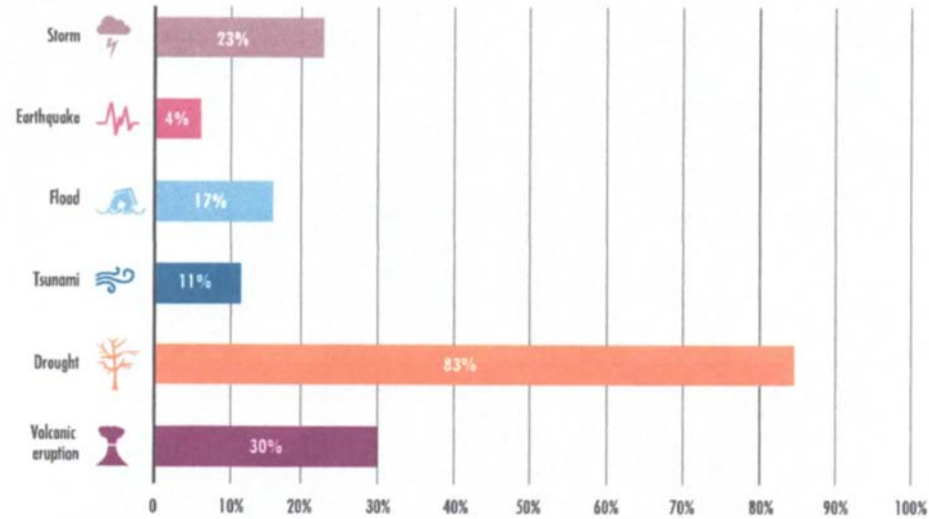
Smart cities by Capankajsmilyo -  
Own work, CC BY-SA 4.0,  
<https://commons.wikimedia.org/w/index.php?curid=47611114>



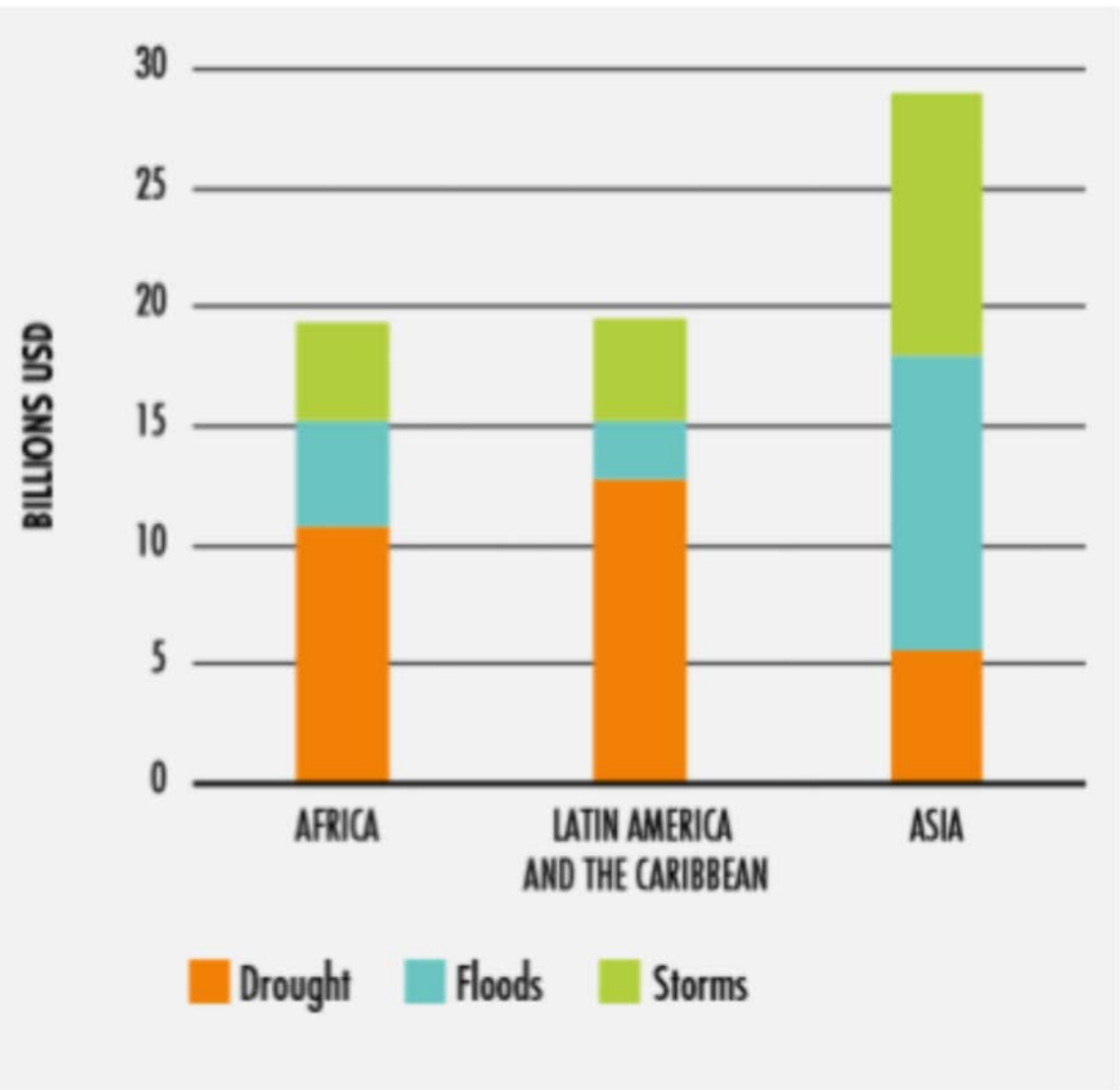
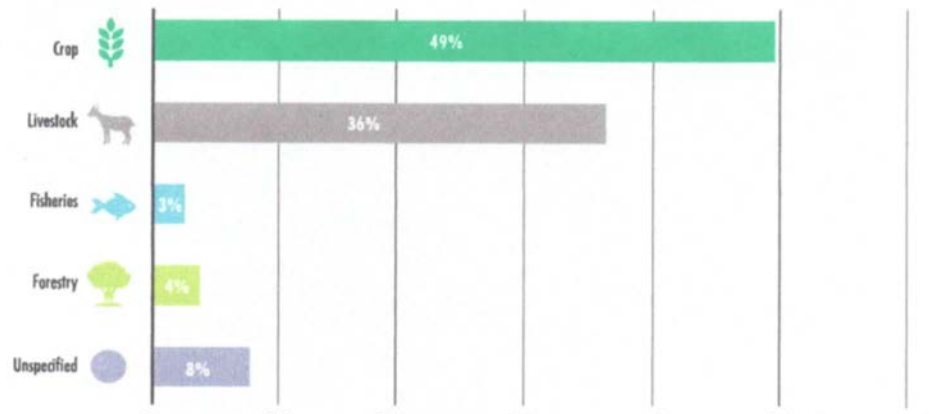
Smart Villages  
E4sv.org

# Climate change - damages and losses in agriculture (FAO 2015, 2018)

A) DAMAGE AND LOSS IN AGRICULTURE AS SHARE OF TOTAL DAMAGE AND LOSS ACROSS ALL SECTORS BY TYPE OF HAZARD

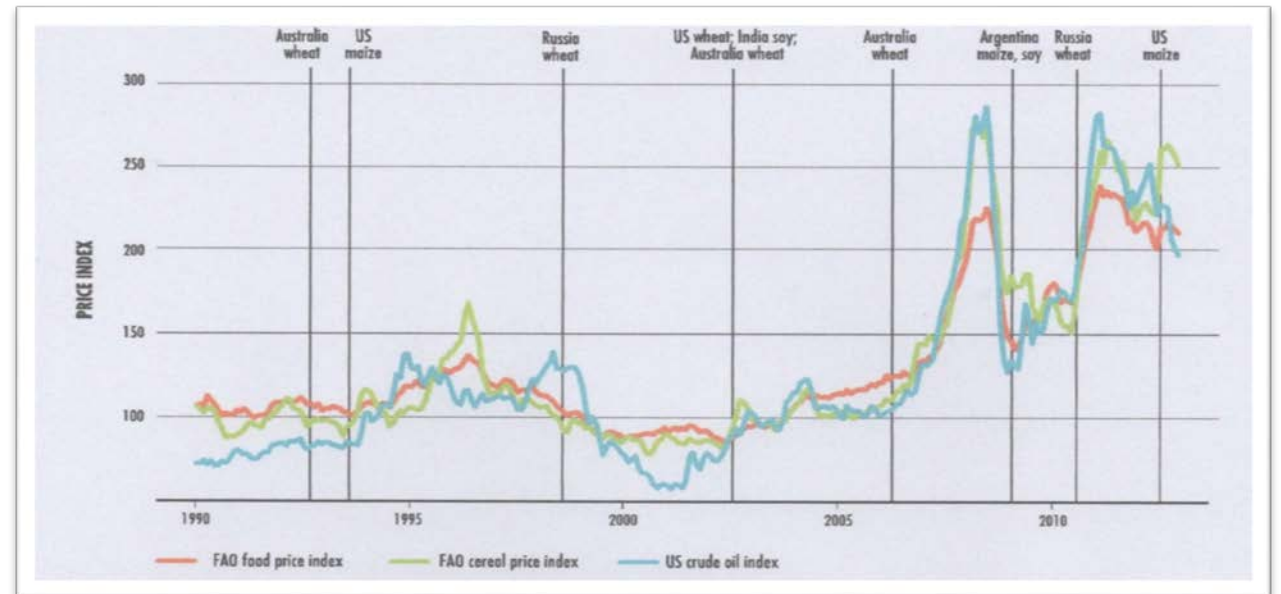
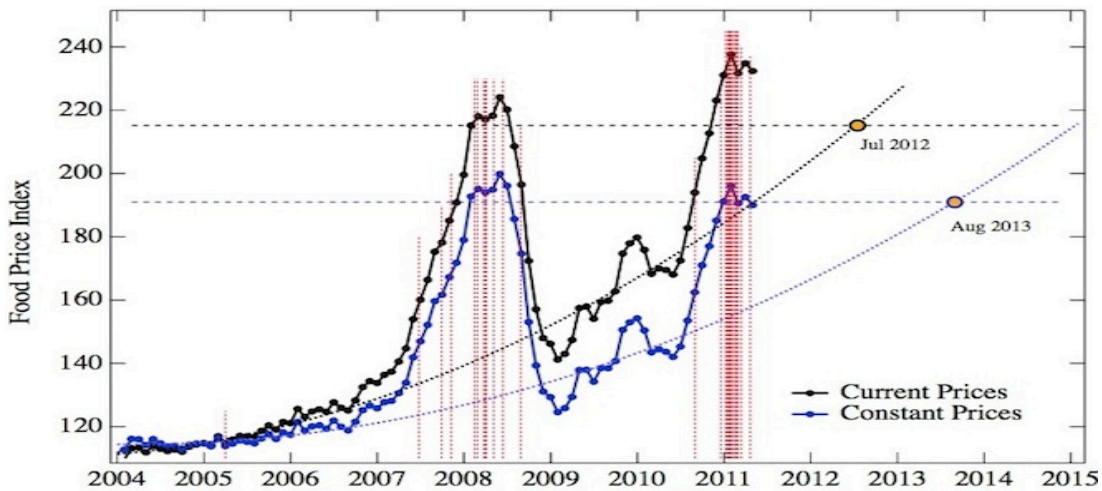


B) DAMAGE AND LOSS IN AGRICULTURE BY AGRICULTURAL SUB-SECTOR, PERCENTAGE SHARE OF TOTAL





# Food insecurity and social impact

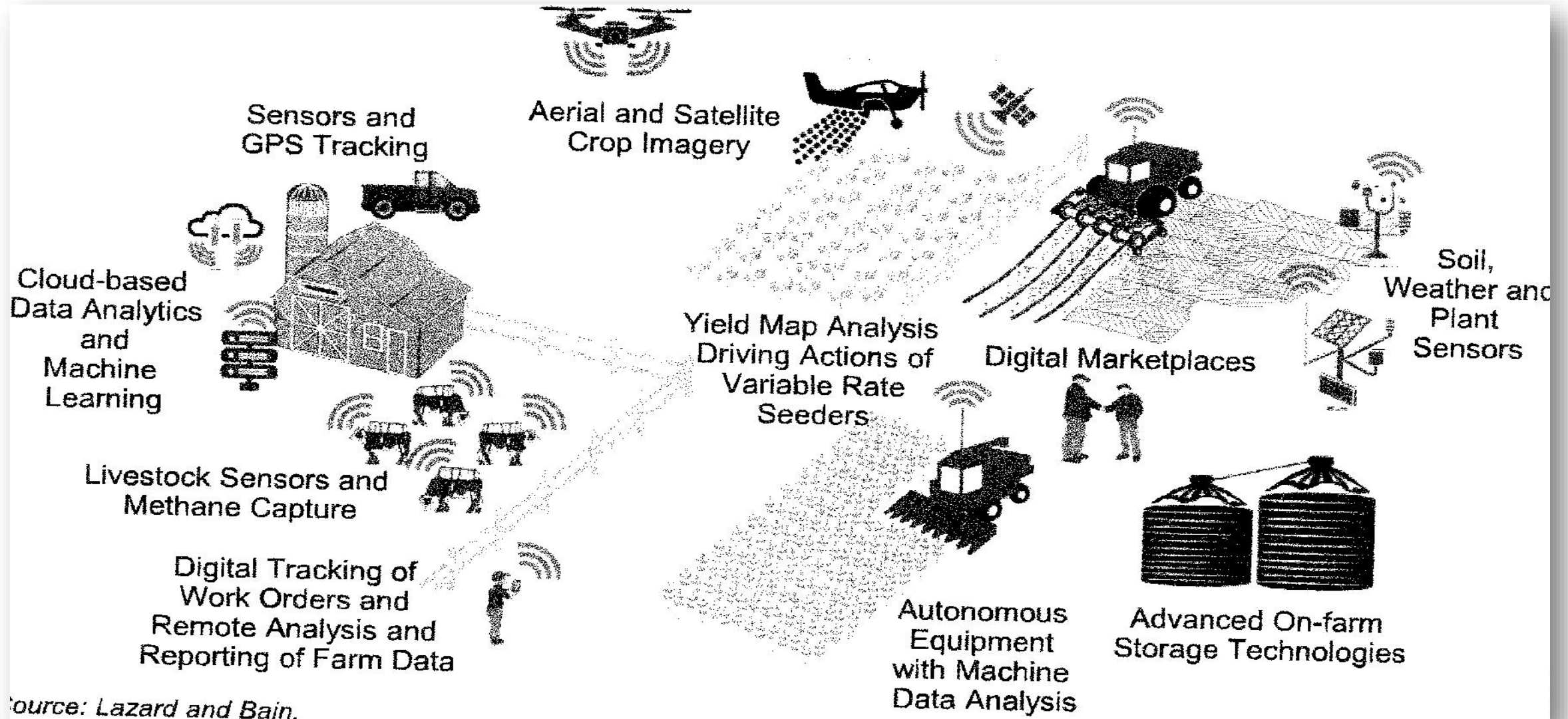


# The 'sustainome' and risk



# New technology proliferation

after Brook-Cunningham 2019



Source: Lazard and Bain.



# Global Food Security initiatives

after Brook-Cunningham 2019

## Developed countries

- **Consumer-driven** - change in food chain – quality, authenticity, sustainability
- Farmers need integrated solutions to increase productivity and profitability
- Sleepy agribusinesses need infusion of innovation
- Ag Tech innovators need capital, experience and better relations with agribusiness

## Developing countries

- **Farmer-driven** - need integrated solutions to increase productivity and resilience
- Policies to develop food systems that are accessible and sustainable
- Agribusinesses need an infusion of innovation
- Ag Tech innovators need capital, experience and grow relations with agribusiness



**Hunger allows no choice  
To the citizen or the police  
We must love one another or die  
Defenceless under the night  
Our world in stupor lies:  
Yet, dotted everywhere,  
Ironic points of light  
Flash out wherever the Just  
Exchange their messages;  
May I, composed like them  
Of Eros and of dust  
Beleaguered by the same  
Negation and despair,  
Show an affirming flame**

W H Auden

from M S Swaminathan (2002)

