



PRACTICUM

Andrea Saltelli

Talk at the University of Reading, February 4th
2022, CREDS research consortium event

<https://www.creds.ac.uk/>





Pathways Leading to a More Sustainable and Healthy Global Food System

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By Krishna Bahadur KC, Evan D.G. Fraser, Samantha Pascoal, Goretty Dias, Trudi Zundel

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“What follows is a hypothetical executive summary from an imagined Food and Agriculture Organization (FAO) report on the state of the world’s food systems, written from the perspective of the 2050s”

<https://www.thesolutionsjournal.com/article/pathways-leading-sustainable-healthy-global-food-system/>

Executive Summary: FAO State of World Agriculture in 2050 Draft Report

“[...]this FAO report presents evidence that the international food system of the second half of the 21st century is more sustainable than the food system of the late 20th or early 21st centuries.



[...] today more people are being fed on less land and agriculture is requiring fewer inputs”

Executive Summary: FAO State of World Agriculture in 2050 Draft Report

“[...] despite there being 10 billion people on the planet, today agriculture requires 438 million hectares* less land than it did in 2015, yet produces more adequate nutrition for all.”

*Authors' estimate

This [438 Mha] figure was arrived at by assuming that:

- Agriculture shifts away from over production of cereals, oils, and sugars, but increases fruit and vegetables;
- Agricultural yields increase $\sim 1\%/y$ between now and 2050.
- Protein consumption shifts from 86% animals and 14% plants to 50% animal and 50% plant.

“Please contact the authors for references etc. pertaining to these calculations”



END

Our study:

- Gain in number of hectares: three significant digits (438 millions)?
- Balancing hectares growth and population growth (our computation) results in no change in food per capita at planetary scale.

Our study:

- Neglect of diminishing returns and ecosystem stress (fertilizers, pesticides)
- More adults (higher caloric intake) in 2050 population
- Can one educate citizens globally? The case of tobacco

In conclusion the

“mismatch between what the world needed for everyone to enjoy a nutritious diet and what the world was actually producing”

is the substitution of a political problem with a technical one

Food ethics (2017) 1:173–179
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DISCUSSION PAPER

Problematic Quantifications: a Critical Appraisal of Scenario Making for a Global ‘Sustainable’ Food Production

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