

# ***‘Sustainability transition’ in rich country agriculture and the global poor***

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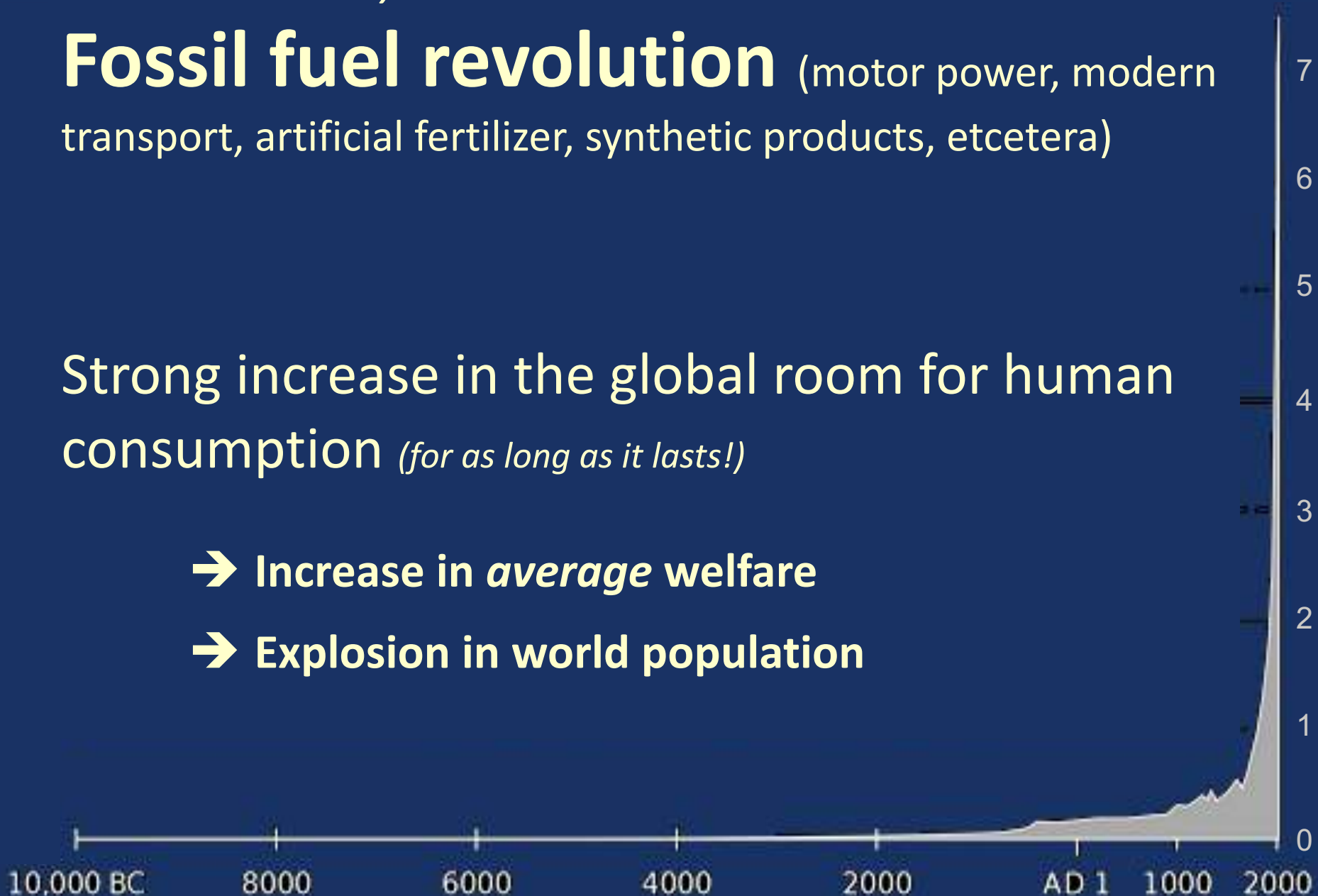
World population  
(billions)

*From 19th century:*

**Fossil fuel revolution** (motor power, modern transport, artificial fertilizer, synthetic products, etcetera)

Strong increase in the global room for human consumption *(for as long as it lasts!)*

- ➔ Increase in *average* welfare
- ➔ Explosion in world population



# Impact on agriculture

Dependence on soil-bound biological processes → Fossil Fuel Revolution revolutionized global production potential, but not economies-of-scale in farming

## Consequences:

- Squeeze on farm profits (oversupply not compensated by market power)
  - Farming left to self-employed workers (or 2<sup>nd</sup>-rate capitalists)
    - *Implementation of Fossil Fuel Revolution in agriculture ('green revolution') dependent on government support*

# Regional differences

*N.B.: Some Western countries engaged in aggressive export policies*

## **West & Japan introduced active farm policies from the late-19<sup>th</sup> century**

- Early Green Revolution → ‘structural transformation’ (= industrialization etc.)
- Demographic slowdown (‘completion of the demographic transition’)

## **In Asia, colonialism postponed active farm policies**

- Poverty trap (vicious cycle of resource depletion and high population growth)
- Independent governments changed course in the 1960s-70s → belated Green Revolution → industrialization & dismantling of population bomb

## **In Africa, neocolonialism blocked a belated turn to active farm policies**

- Late decolonization and internal factors prevented Africa from introducing active farm policies before the advent of the neoliberal era
- No Green Revolution → Africa fell into the poverty trap from which Asia had escaped

*Meanwhile in rich countries:*

# Growing uneasiness about the Fossil Fuel Revolution

## **'Objective' reasons:**

- Climate change and other serious environmental problems
- Limits to potential for raising global food production through fossil-fuel-based techniques
- Gradual depletion of exploitable fossil fuel resources

## **'Subjective' reasons:**

- 'Biophilic gene', alienation and increased welfare leading to romantic longing for naturalness → anti-technologism (especially projected on agriculture)

# Arcadianism and the CAP

*From greenwashing dumping to sacrificing productivity?*

**From the 1990s, the EU has capitalised on Arcadian sentiments to greenwash its aggressive export policy**

- *'Green' direct payments to farmers to continue exporting below cost of production in spite of WTO restrictions on export subsidization)*

**New EU Farm-to-Fork Strategy: 20% less N-fertilizer, 25% of farmland under organic agriculture by 2030**

- *This means a reversal of agricultural intensification*
- *Few hard measures envisaged to reduce EU consumption, so this would raise international food prices*

**Model studies: EU farm production will be around 10% lower**

# How will Farm-to-Fork-type reforms in rich countries impact on the global poor?

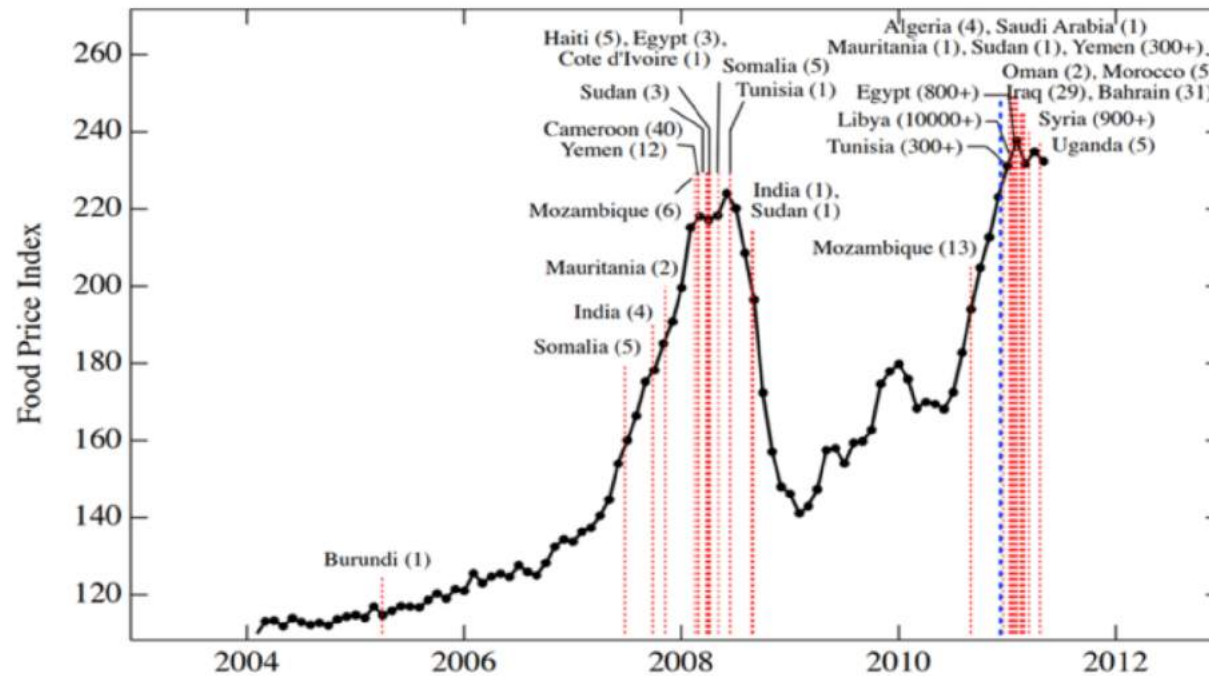
## *Potential positive effects*

- Higher world market prices may stimulate agricultural development in poor countries (*especially if they have active farm policies, but have they?*)
- Reduced production may reduce incentives for rich countries to pursue aggressive export policies (*such as the EPAs the EU is imposing on Africa*)

## *Potential negative effects*

- Increased structural scarcity may exacerbate food price peaks that wreak havoc in poor countries
- *More generally:* Farm policy Arcadianism may stimulate the idea that poor countries should forgo the agricultural Fossil Fuel Revolution

## FAO Food Price Index, food riots, and protests triggering the Arab revolutions



Source: Lagi et al. (2011)

### *Potential negative effects*

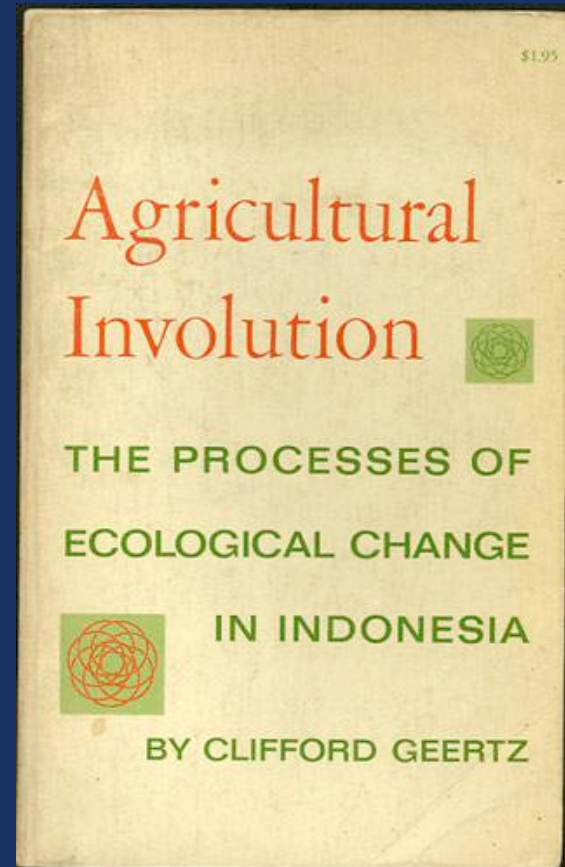
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*In Asia before the Green Revolution, low-external-input coping strategies didn't allow the rural poor to break out of the poverty trap*



Clifford Geertz



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# Why low fertilizer approaches won't help Africa

- **African population is exploding**
  - *Demographers project a 50% to 100% increase between now and 2050*
- **Land is growing scarcer → preventing high food import bills** (which Africa cannot pay for) **requires large yield increases**
  - *Van Ittersum et al. (2016): without sacrificing biodiversity, yields must grow even faster than during the Asian Green Revolution*
- **On average, natural land productivity in Africa is low → achieving sufficient yields requires large additions of soil nutrients**
  - *Today, fertilizer/ha in Africa is only one-seventh of that in rich countries!*
  - *Inserting legumes etc. is useful, but far from enough*

***Approaches that resist strong increases in modern inputs condemn Africa to the poverty trap***

# Is there an alternative?

- 1. Reduce the pressure of the global affluent on land resources**
  - *Reduce food waste, feedlot beef & biofuels. Build dense green cities, etc.*
- 2. Allow poor countries to develop, also to dismantle the population bomb**
  - *Stop enforcing free trade, stabilize international commodity markets, co-finance investment in hard & soft infrastructure, co-finance employment programs etc.*
- 3. Return to a balanced organization of agricultural markets in rich countries, and couple it to responsible environmental policies**
  - *Impose sensible environmental minimum norms on farmers. Stabilize prices at a level that allows farmers to respect them, using supply controls to prevent surpluses*
- 4. Work at a new post-fossil fuel technical revolution that increases the carrying capacity of the planet for human life**
  - *Advanced biological/ICT-based farming techniques, ocean farming, decarbonization of the non-food economy*

# What can Wageningen academics do?

- **Expose the real problems, including Western trade policies**
- **Criticize romantic ideologies that obfuscate the reality of our world**
- **Work at advanced post-fossil-fuel techniques**
- **Stop asking tax money for biobased economy research**

*More  
information:*

Earthscan Food and Agriculture

earthscan  
from Routledge

Niek Koning

Food Security,  
Agricultural Policies  
and Economic Growth

Long-term Dynamics in the Past,  
Present and Future

