

Tagung zum Welternährungstag  
Agrarökologie – System Change in der Landwirtschaft  
Mittwoch, 16. Oktober 2019, HAFL, Zollikofen

## Landwirtschaft am Scheideweg

Der Weltagrarbericht von 2008 mit Blick auf  
die globalen Nachhaltigkeitsziele

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**Landwirtschaft am Scheideweg?**



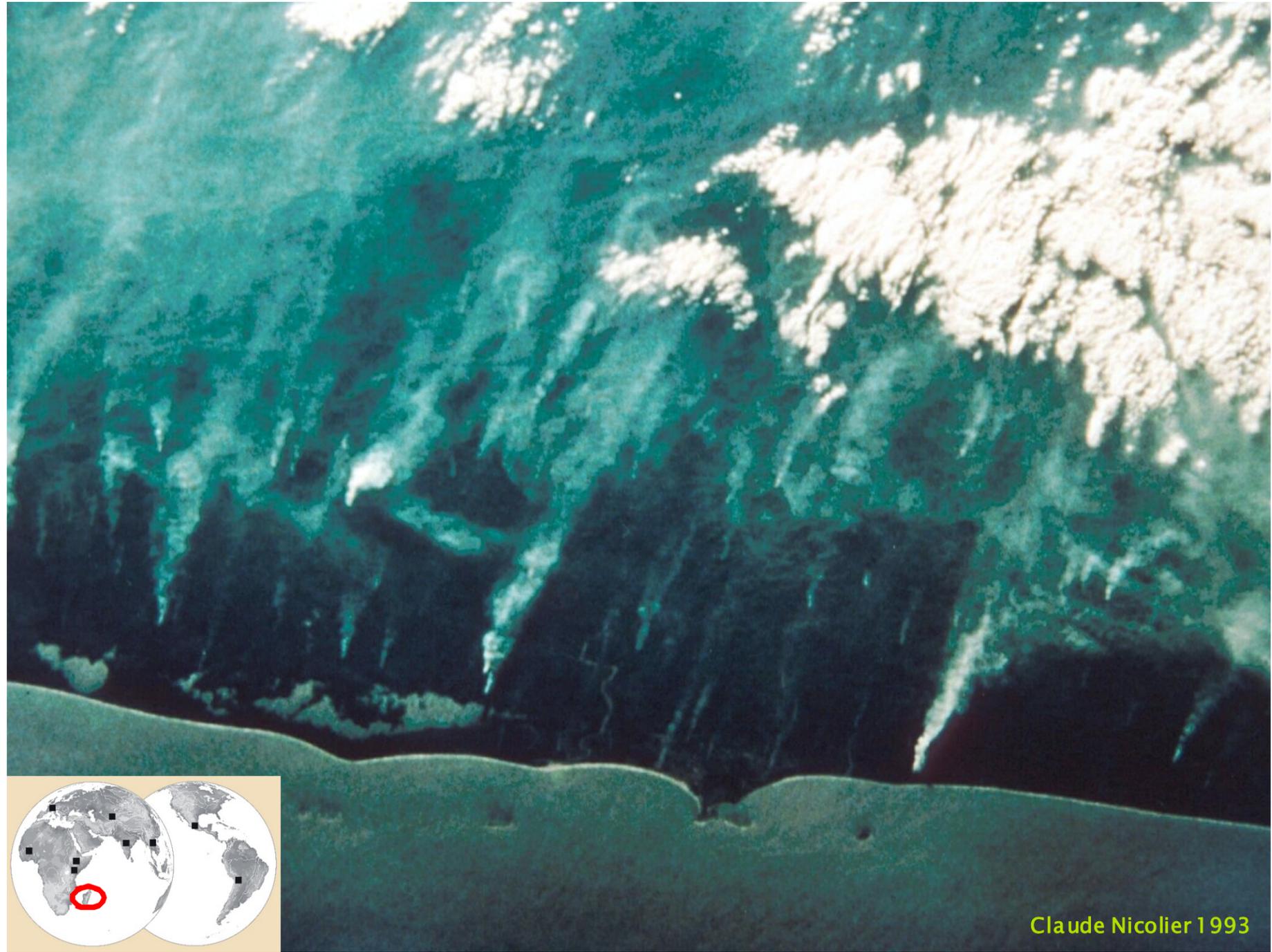


Urs Wiesmann 1982

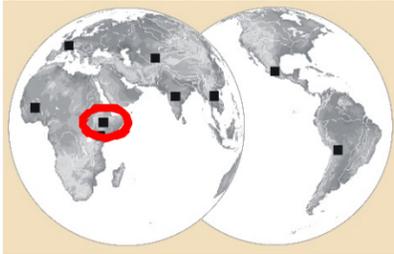
Ungefähre Bedeutung der Kleinbauern für den weltweiten Getreideanbau (eigene Abschätzung der Verteilungen\*)

Getreideanbau in der globalen Landwirtschaft (2004/05)	Gesamte Landwirtschaft	Metabolische* Landwirtschaft	Mechanierte* Landwirtschaft
Ackerfläche in Mio. ha	1600	800	800
Bevölkerung in der Landwirtschaft in Mio. (%)	2600 (100%)	2575 (99%)	25 (1%)
Anzahl Betriebe in Mio.	608	600	8
Ackerfläche pro Betrieb in ha	2.6	1.3	100
Getreideanteil in %	50	50	50
Getreideertrag in t pro ha	2	1	3
Getreideertrag pro Jahr in Mio. t	1600	400	1200

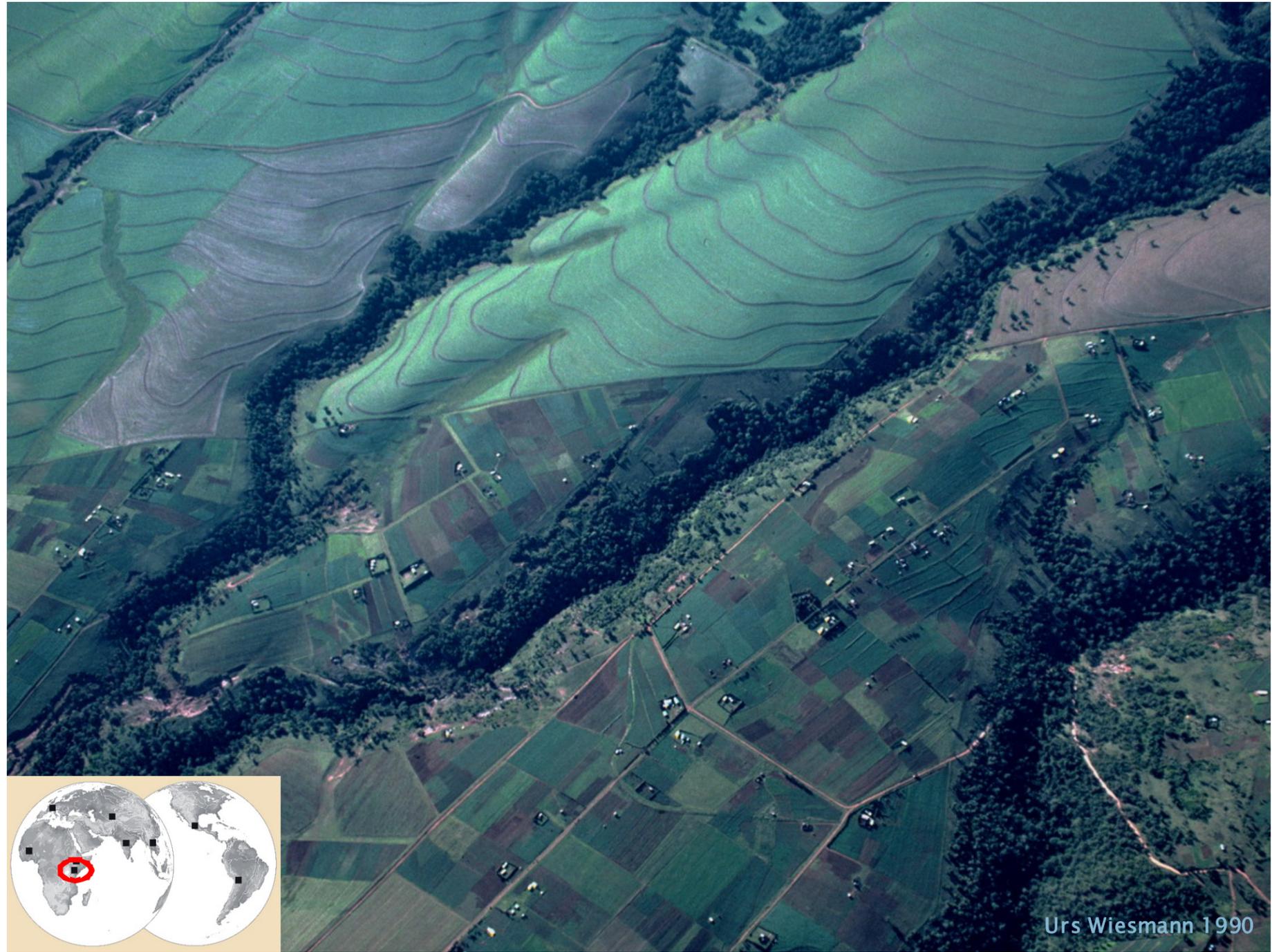
Hurni et al 2013



Claude Nicolier 1993



Martin Moll 1988



Urs Wiesmann 1990



Jean Schneider 2002

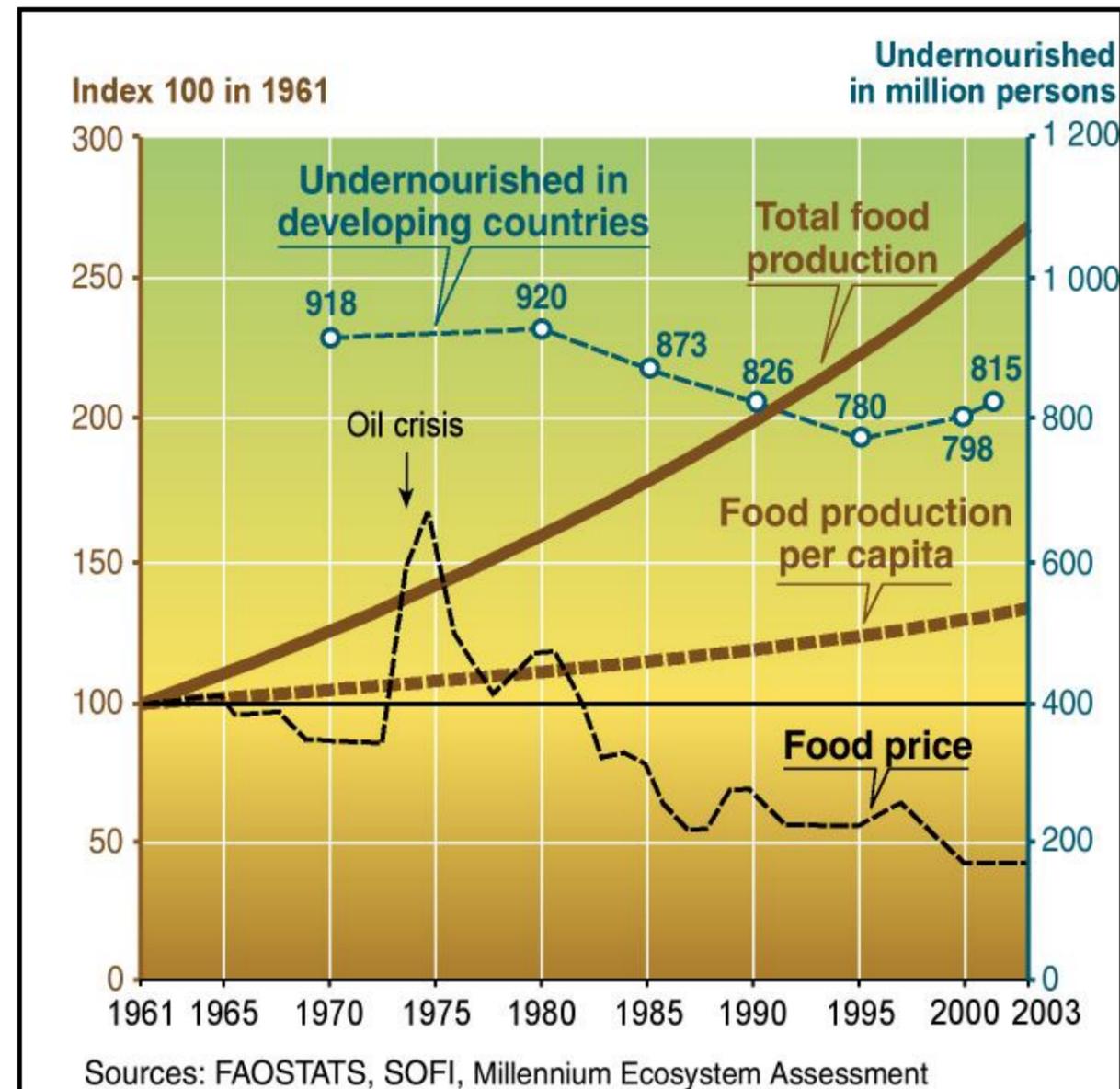






Martin Moll 1993

## Mehr Ertrag pro Kopf für weniger Geld



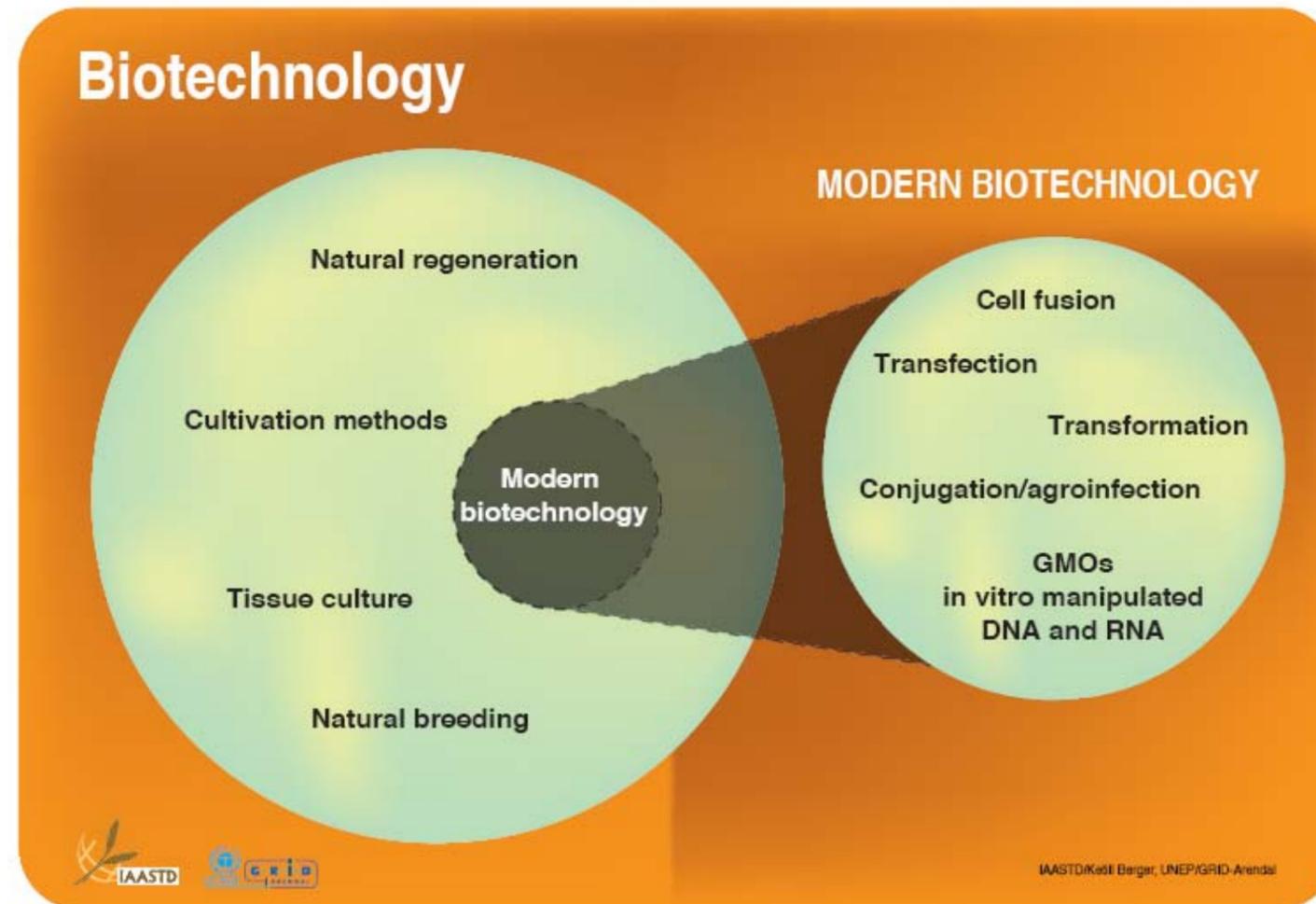
(2)

**Der Weltagrарbericht von 2008**

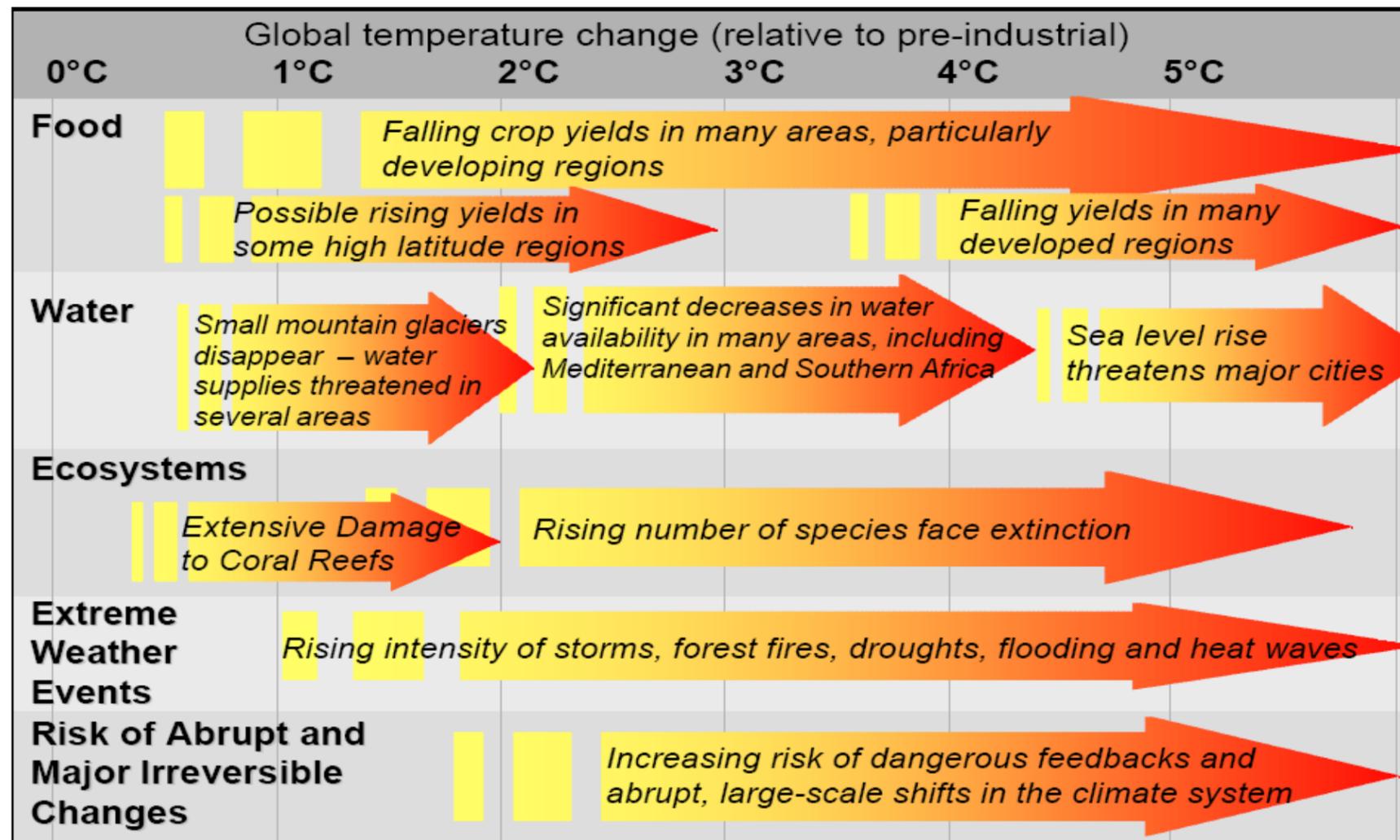
## Bericht zur Weltlandwirtschaft: Hauptfragen

1. Landwirtschaft 2050
2. Agrartreibstoffe
3. Biotechnologie
4. Klimawandel
5. Gesundheit
6. Natürliche Ressourcen
7. Kleinbauern
8. Lokales Wissen
9. Rolle der Frau
10. Handlungsmöglichkeiten

## Faktoren einer unsicheren Zukunft: Technologieadaptation



## Faktoren einer unsicheren Zukunft: Der Klimawandel

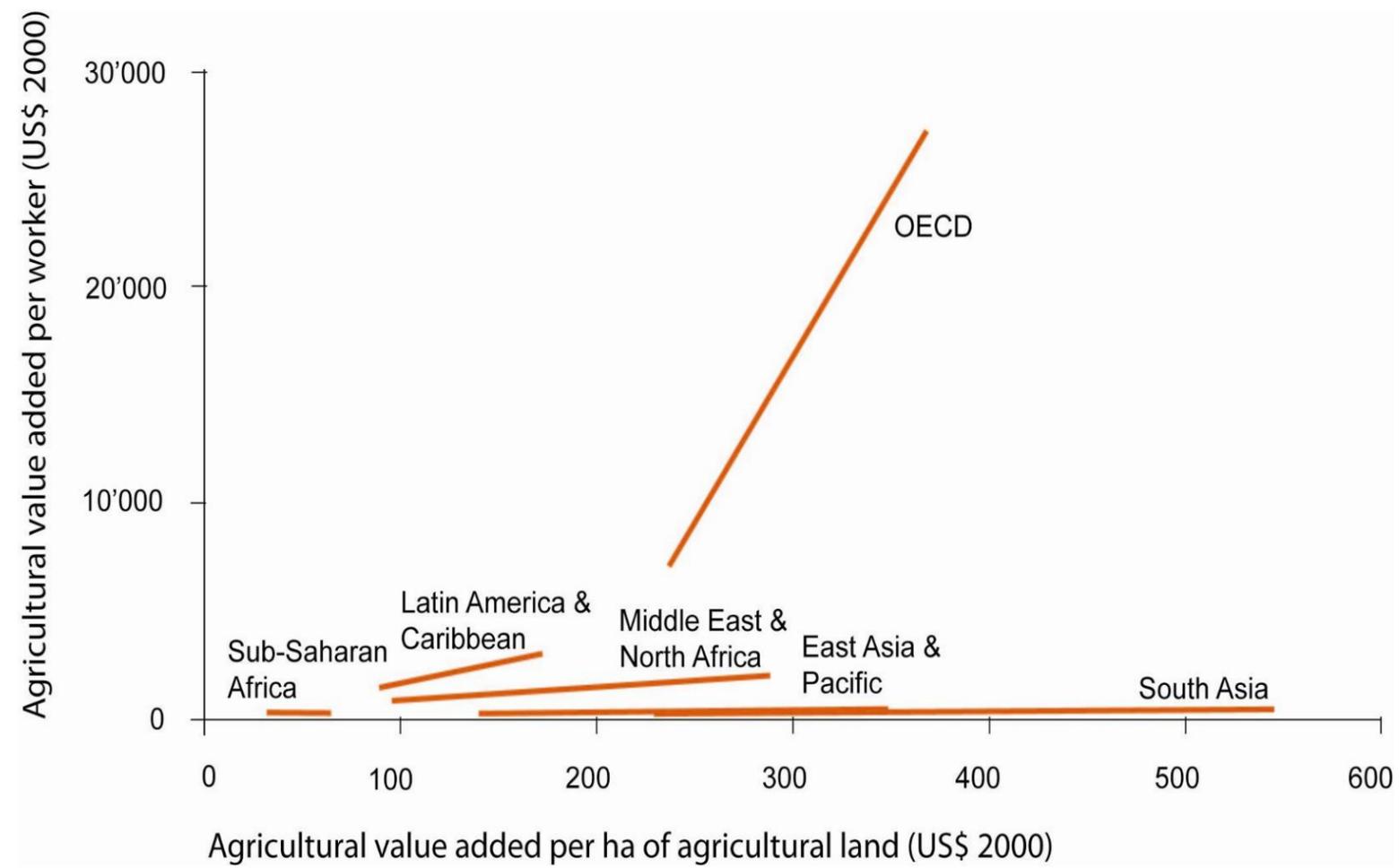


Stern Review 2007



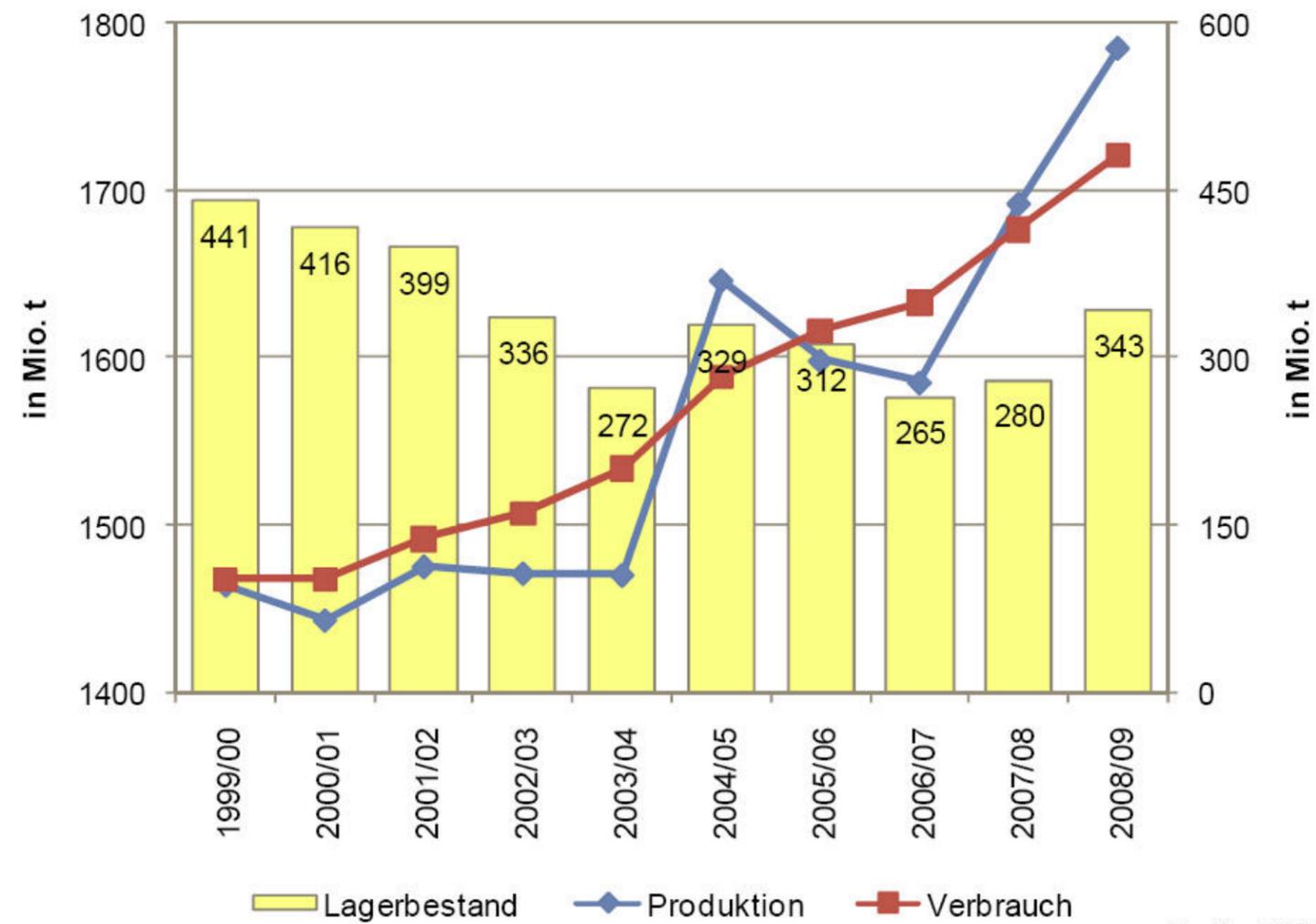
Markus Giger 2005

## Regionale Produktivitätsgewinne bei Land und Arbeit, 1971–2003



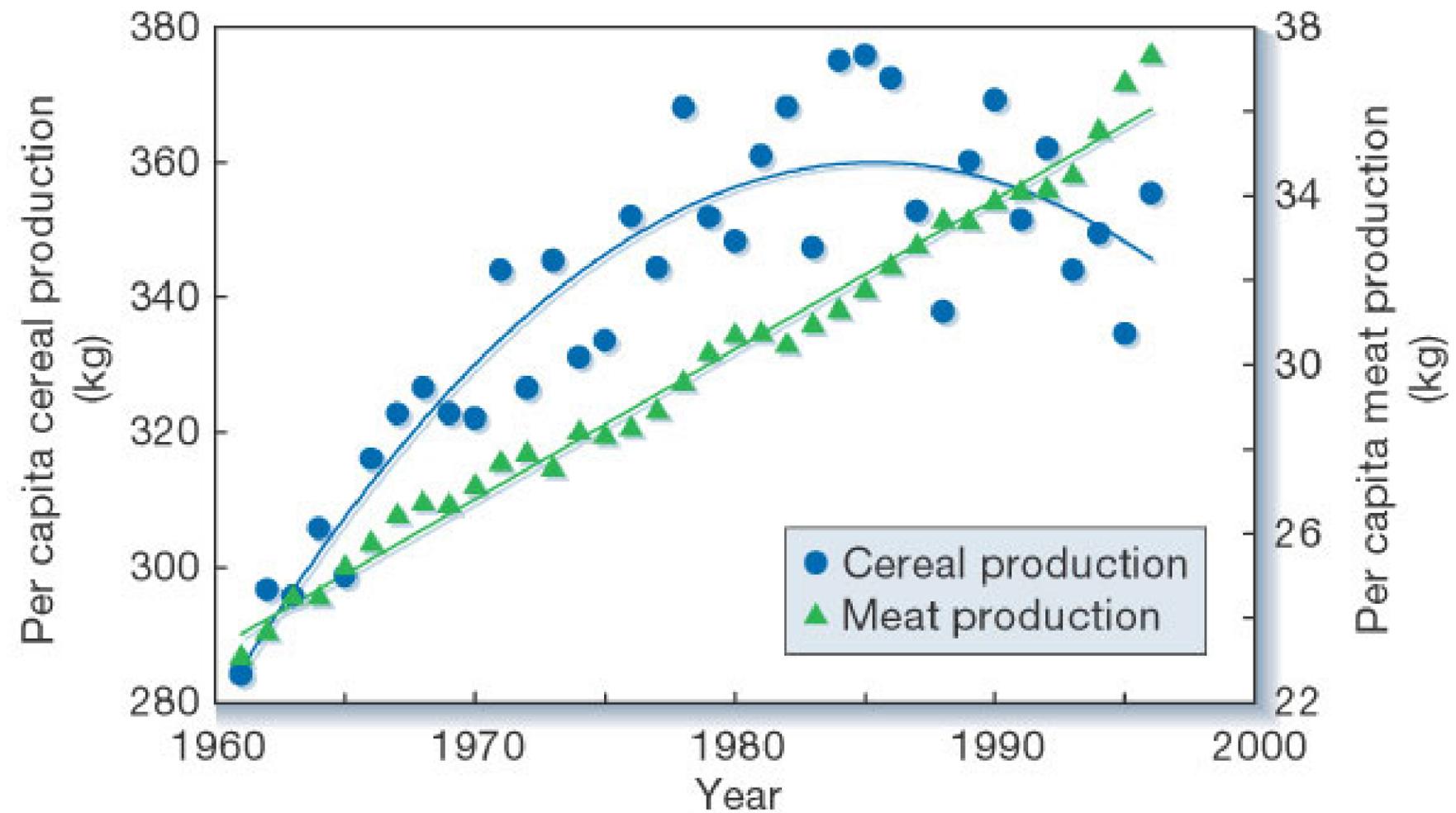
Source: UNDESA, 2008 (modified)

## Entwicklung von Angebot und Nachfrage sowie der Lagerbestände bei Getreide



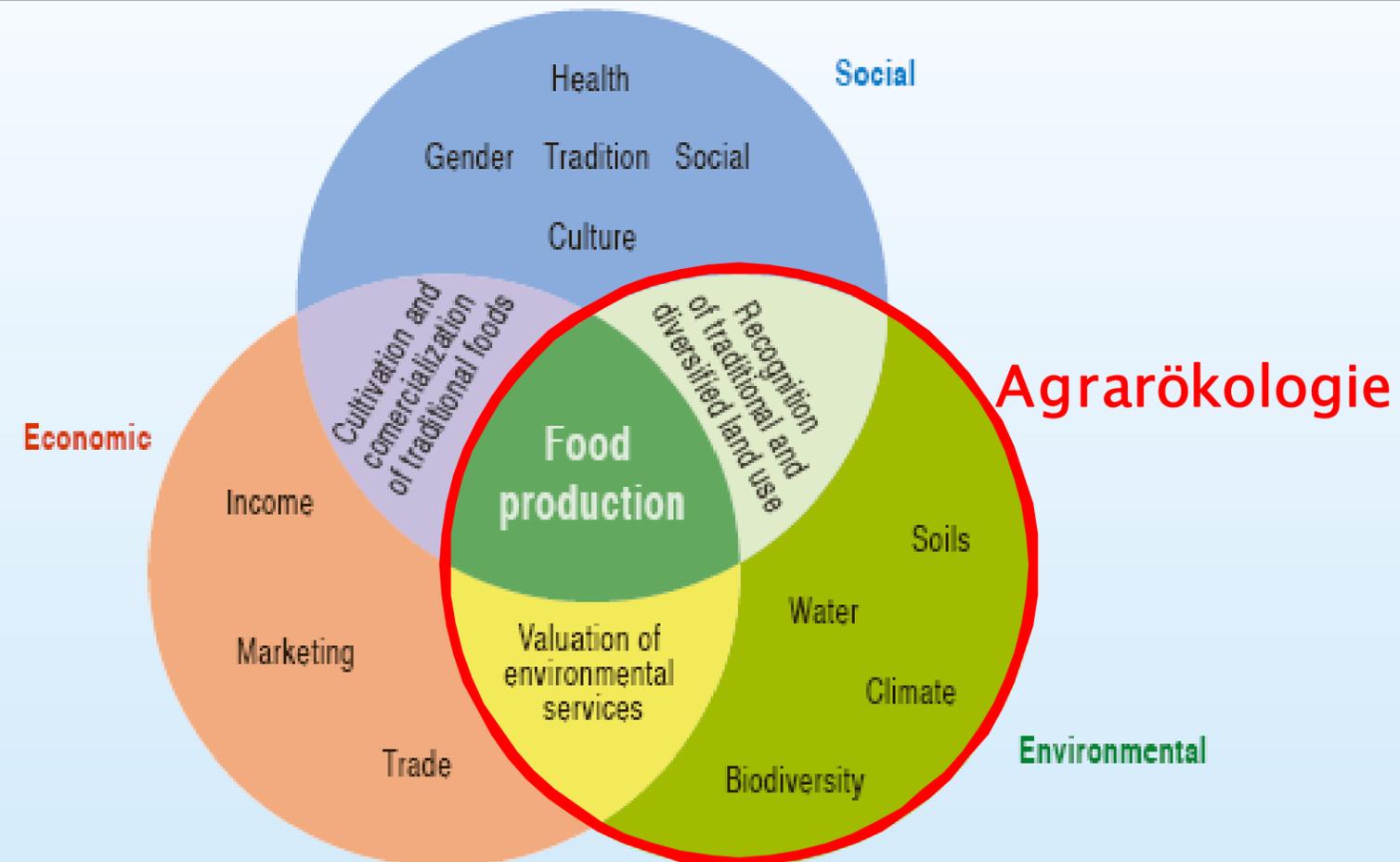
Quelle: USDA BR, 6. Mai 2009

## Durchschnittliche jährliche pro Kopf Produktion von Getreide und Fleisch



## Multifunktionelle Landwirtschaft

Die unabänderliche Verbundenheit der verschiedenen Rollen und Funktionen der Landwirtschaft



(3)

**Entwicklungen seit 2008**

## Entwicklungen seit 2008

- Klimabewegung
- Biotreibstoffe
- Internationale Landverpachtungen
- Sonnen- und Windenergie
- Verzicht auf fossile Energie
- Verzicht auf Atomstrom
- Vegane Ernährung
- Reduktion von Food Waste
- Zero Waste Bewegung (z.B. Original Unverpackt)
- Diversifizierung der Produktion
- Direktvermarktung ab Hof
- Integration im regionalen Markt
- Internet und Mobile Apps

(4)

**Die Nachhaltigkeitsziele von 2015**



---→ SDG 12: Responsible consumption and production

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**Agrarökologie im Global Sustainable  
Development Report (GSDR 2019)**

## GSDR 2019

### 4. A call to action

The world is on an unsustainable path. Persistent pursuit of economic growth is severely damaging the natural environment and undermining the prospects and even survival of future generations. Time is running out. We may already be reaching tipping points that take the world beyond the point of no return. The only hope is to reset our economic and social systems and send the world along the necessary pathways to sustainable development.



#### 4.3. Food and nutrition

Scale up reliance on agroecology as a means to sustainably intensify food production and to accelerate the transition toward a synthetic pesticides free agriculture. This will require a complete reassessment of production practices, with the least possible pesticide use and no critical residues in plants and foodstuff.

The six entry points are:

- ▶ Human well-being and capabilities
- ▶ Sustainable and just economies
- ▶ Food systems and nutrition patterns
- ▶ Energy decarbonization and universal access
- ▶ Urban and peri-urban development
- ▶ Global environmental commons

The Report also identifies four levers:

- ▶ Governance,
- ▶ Economy and finance,
- ▶ Individual and collective action, and
- ▶ Science and technology.

**Food systems and nutrition patterns: changing food systems is essential for sustainable development**

 More equitable global access to nutritious food is needed

2 billion people suffer from food insecurity

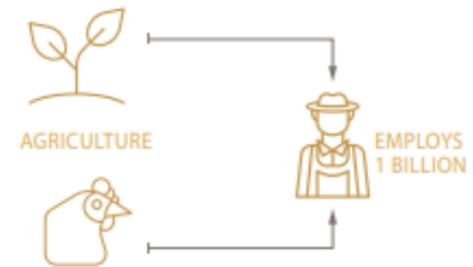


One third of all food produced is either lost or wasted



 Livelihoods in agriculture must be considered

Agriculture employs over 1.1 billion people



 Climate and environmental impacts of food production must be minimized

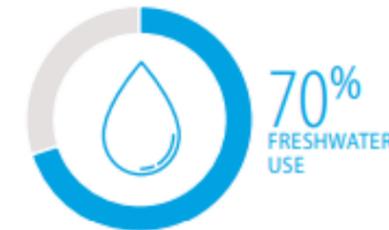
Agriculture is responsible for 80% of global deforestation



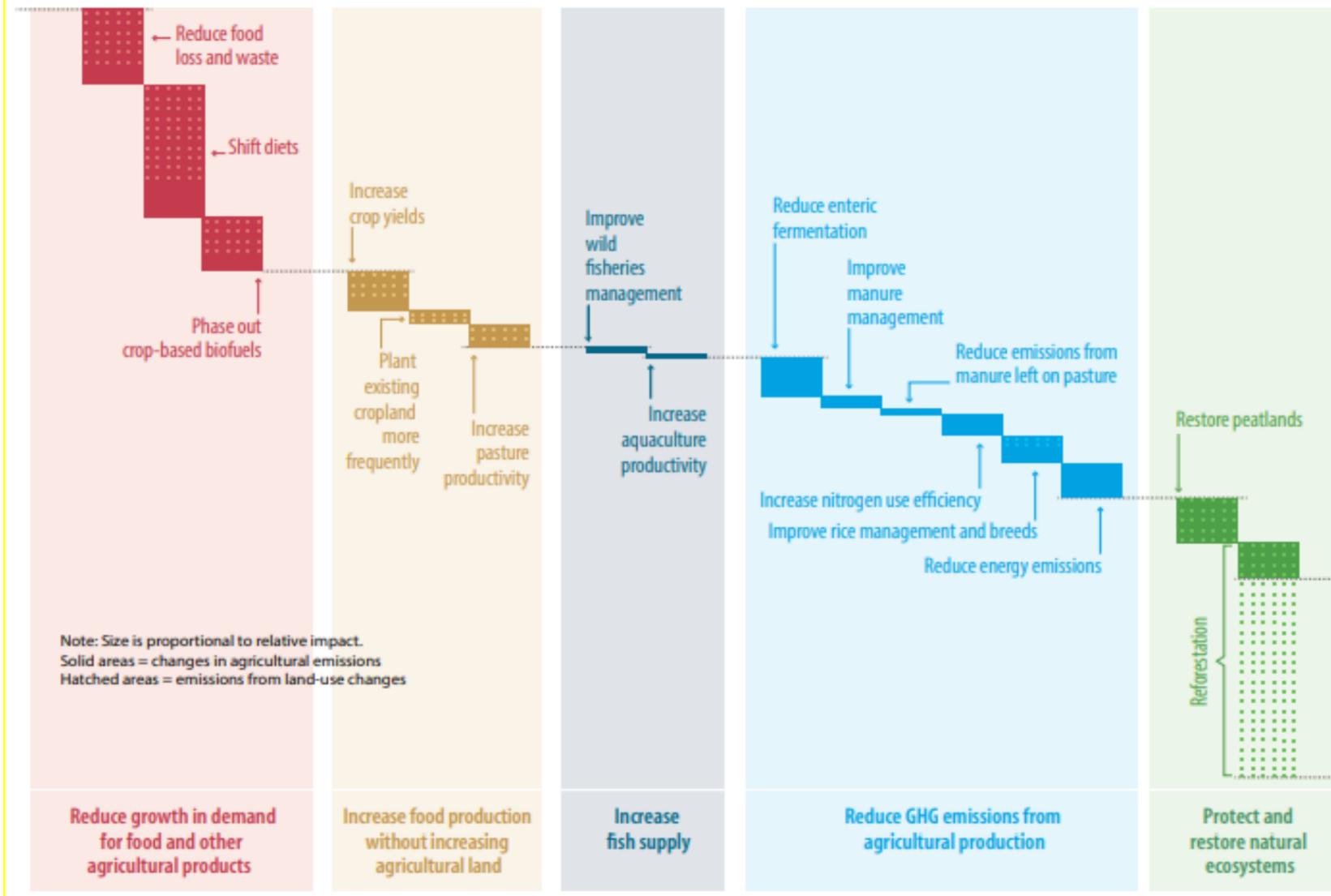
Food systems release 29% of global GHGs



Agriculture accounts for 70% of freshwater use

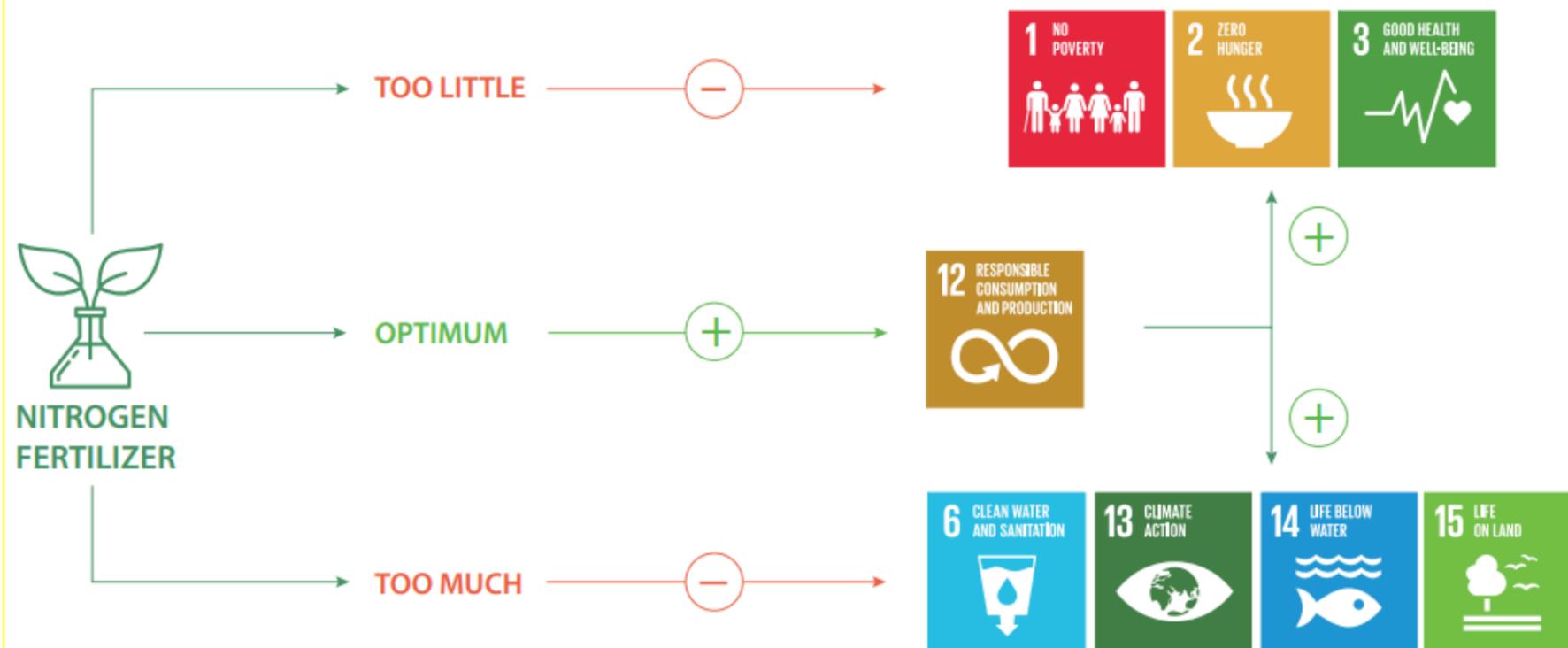


### Solutions to reduce agricultural emissions



### Impact of nitrogen fertilizer use

Impact of nitrogen fertilizer use on the achievement of related Sustainable Development Goals and situations in which too little, too much or optimal level of nitrogen





The 17 SDGs:

- 1 No poverty
- 2 Zero hunger
- 3 Good health
- 4 Education
- 5 Gender equality
- 6 Water and sanitation
- 7 Clean energy
- 8 Work and growth
- 9 Infrastructure
- 10 Reduced inequalities
- 11 Sustainable cities
- 12 Responsible consumption and production
- 13 Climate action
- 14 Life below water
- 15 Life on land
- 16 Peace and institutions
- 17 Partnerships