

Wat zou het effect zijn van de groei van de bioproductie in België op milieu, natuur en klimaat ?

Philippe Baret, UCLouvain

What is the impact of the increasing share of organic farming on the overall sustainability of the Belgian food system?

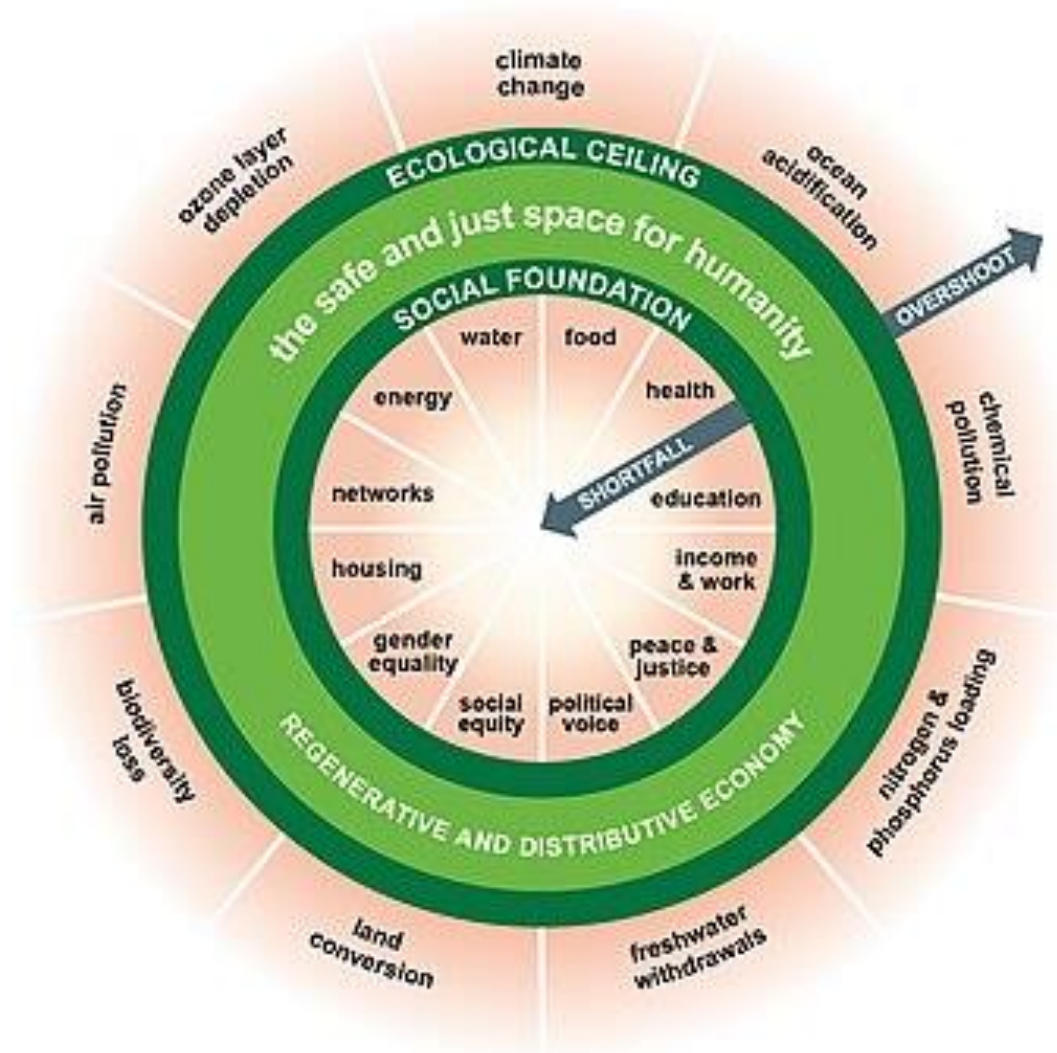
*The challenge is not to compare organic and non-organic food systems, but rather to make the entire mix of food systems more sustainable.*



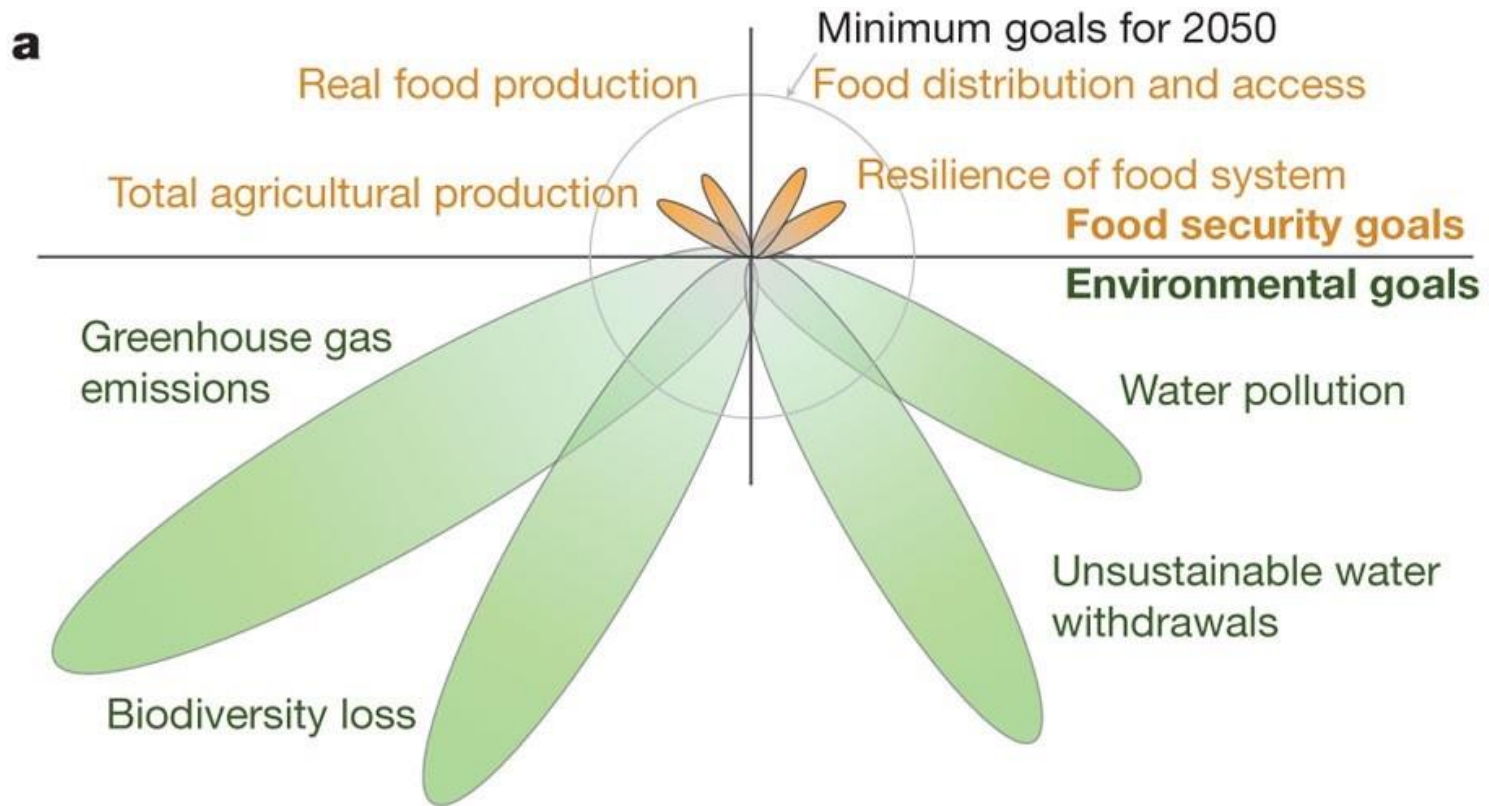
# What ?

*Challenges and state of the  
food system*

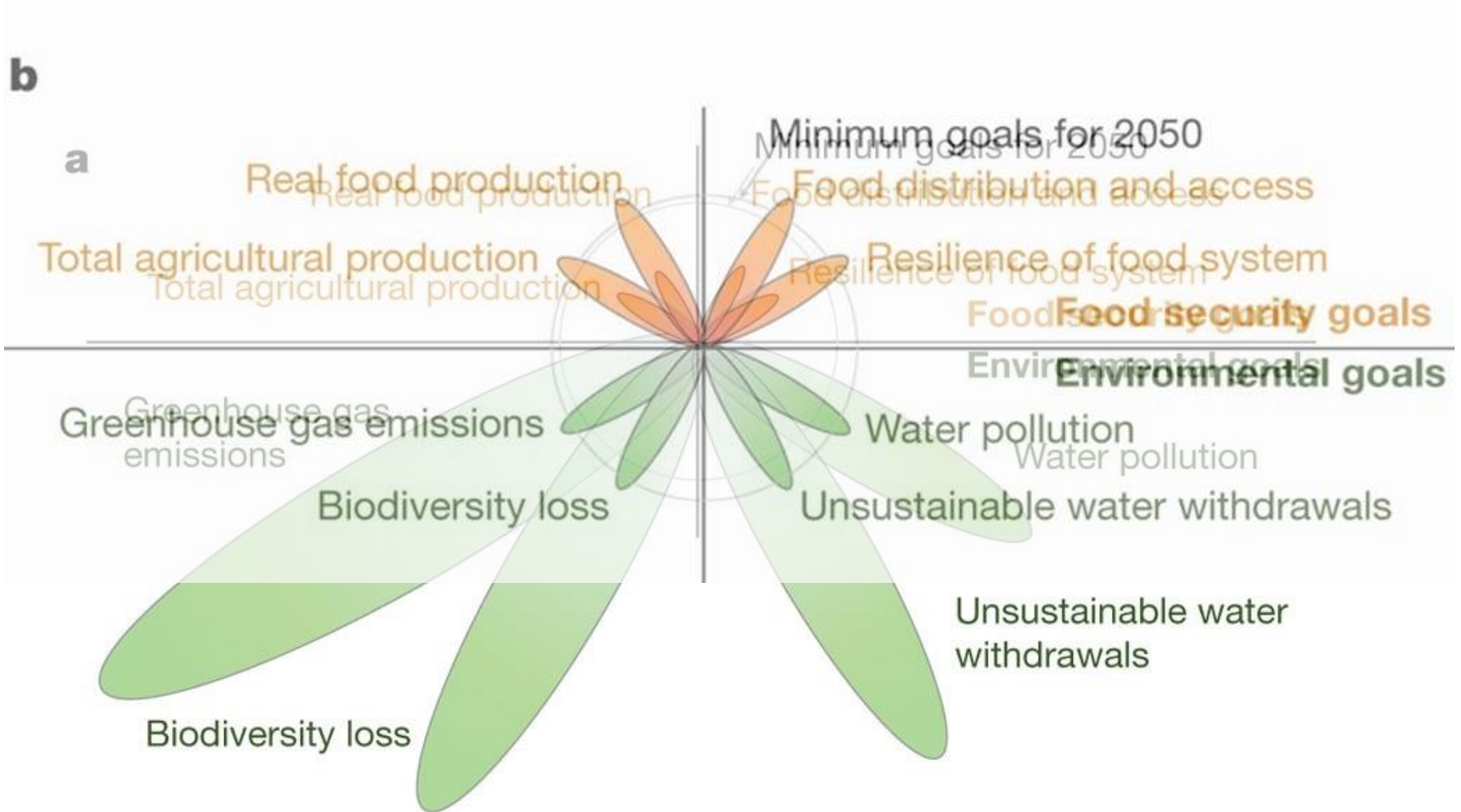
# Challenges to the global sustainability



# The today food systems are unsustainable

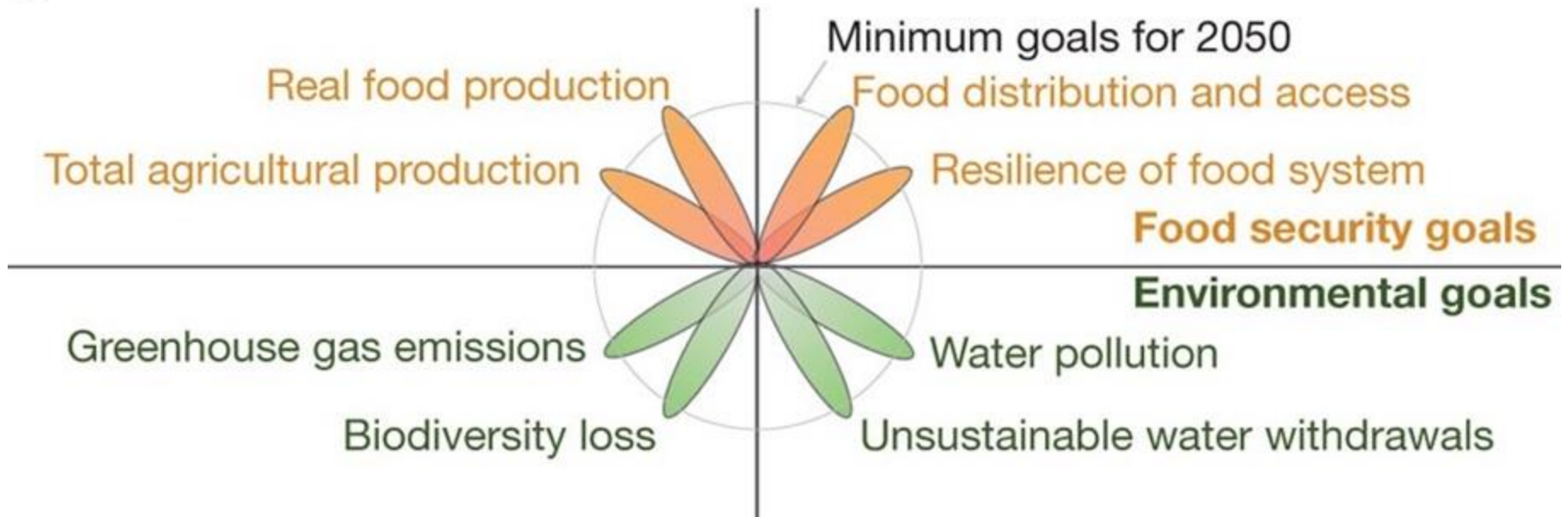


# The challenges are huge



# The challenges are huge

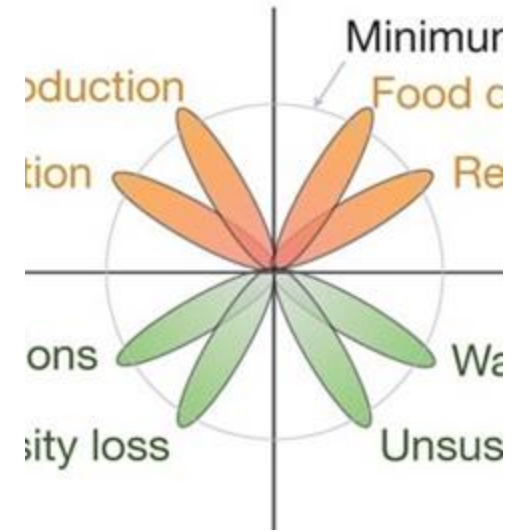
**b**



The challenges are huge

**Is organic farming the best option to address all these challenges ?**

**No !**





Comparative performances of organic ..

No system is perfect !



Figure 5 : Comparison of impacts of organic and conventional farming

From competition to cooperation

**Is organic farming the best option to address **all** these challenges ?**

**No !**

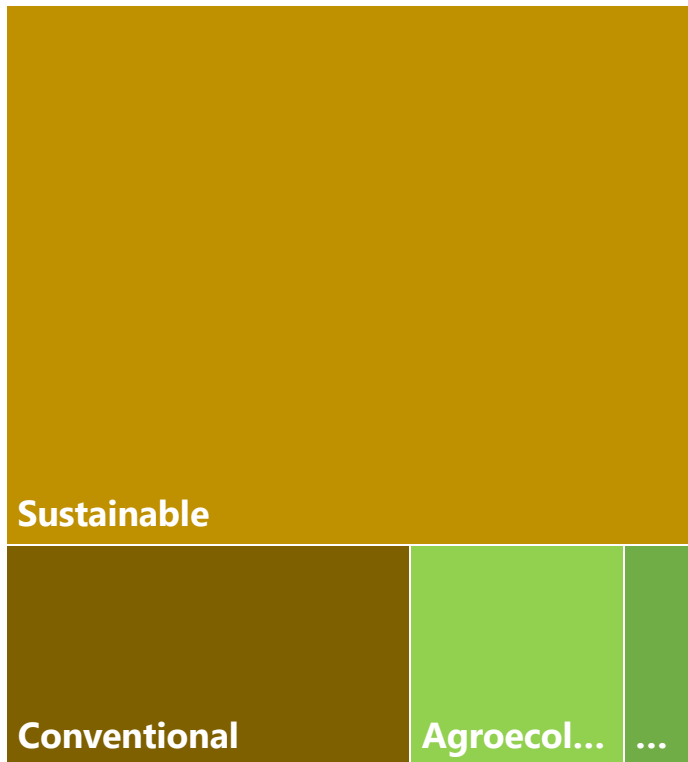
**Is organic farming the best option to address **most of** these challenges ?**

**Yes !**

# Share of land, share of production, share of impacts

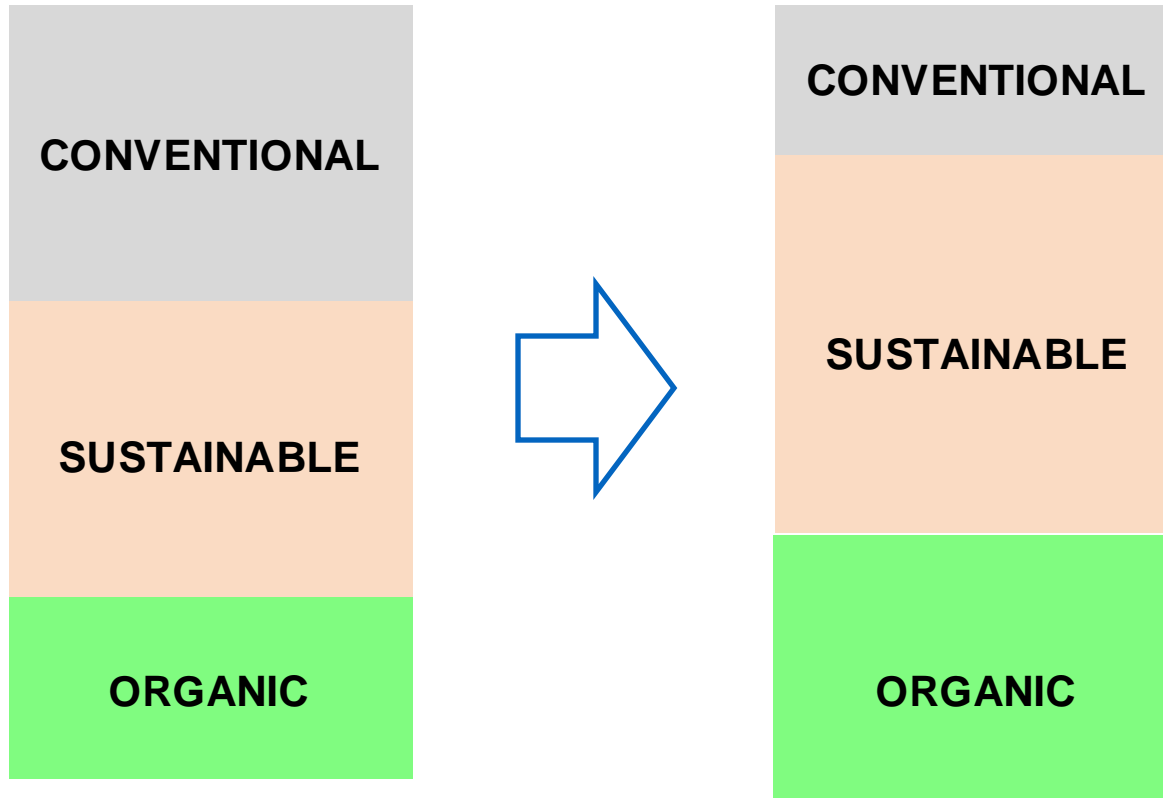
## Cereal production in Wallonia is a mix

ACREAGE

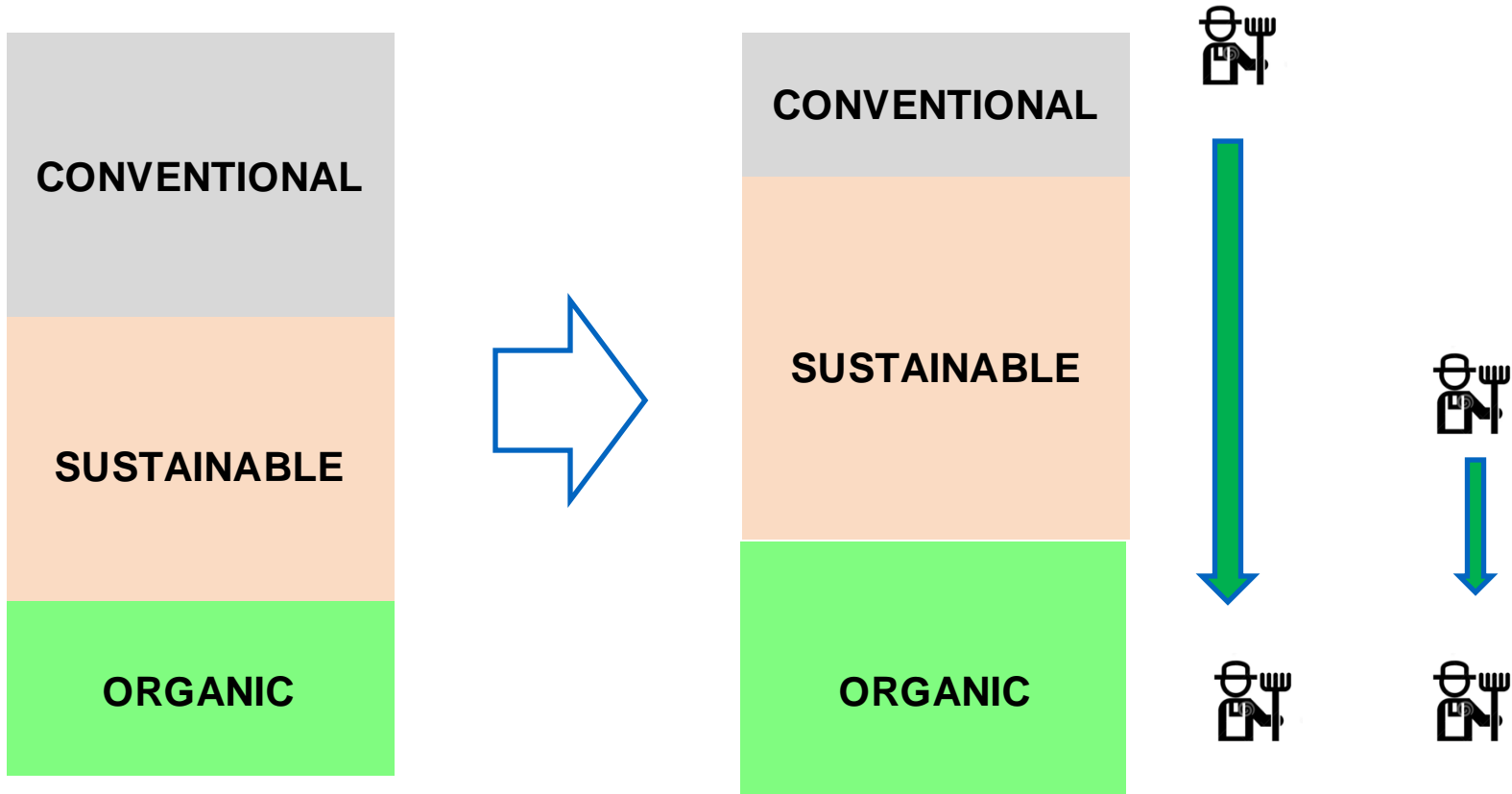


	Acreage	Production	Pesticides
Organic	3%	2%	0%
Agroecological	9%	7%	4%
Sustainable	71%	72%	70%
Conventional	17%	19%	26%

Change the share of models, to decrease impacts

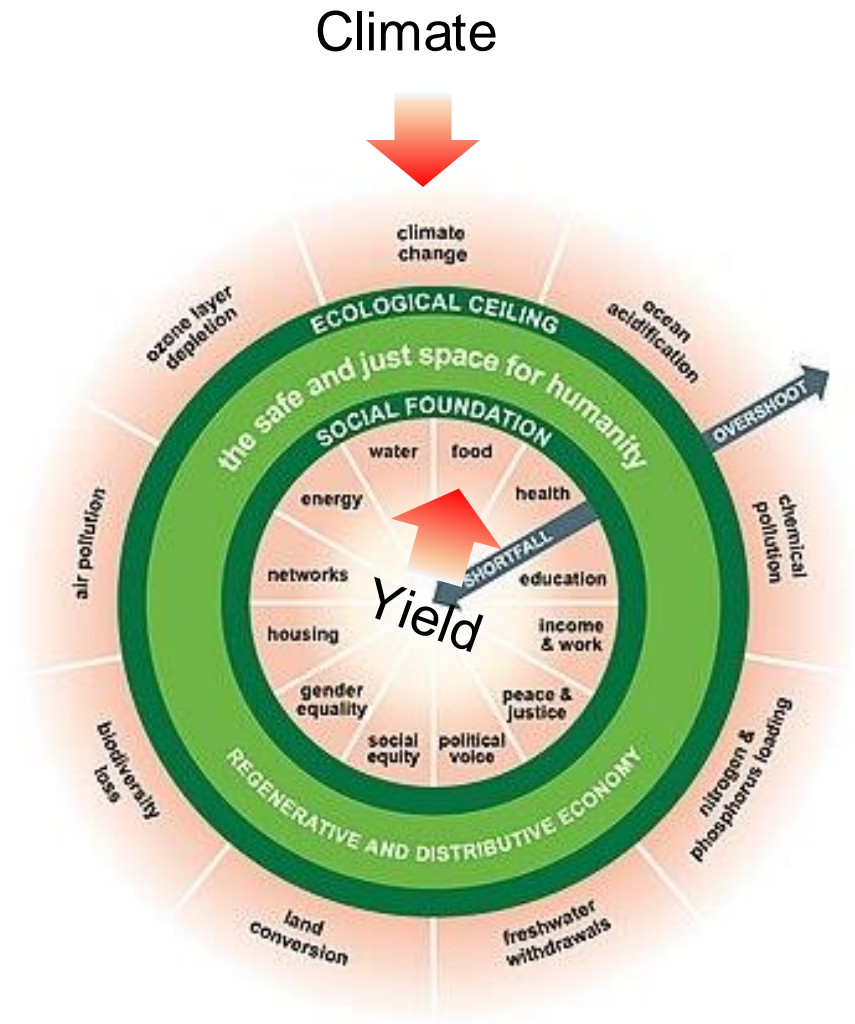


# Differential impacts



# Be serious

- Conversation such as ...
    - « Organic farming is not productive enough »
    - « Organic farming is not the most efficient solution for climate issue »
- ... are useless as we need a comprehensive approach.



## The target

- One target

**30 %  
organic**

**2030**

- Why 30 %, for three reasons
  - It will contribute to a more sustainable global food system
  - It is future proofed
  - It is feasible

## It is feasible

- **More organic will improve our sustainability**
- **More organic farming requires a shift of usage :**
  - **new diets,**
  - **new consumption pattern,**
  - **less exportation,**
  - **less waste**
- **More organic will increase our food sovereignty**

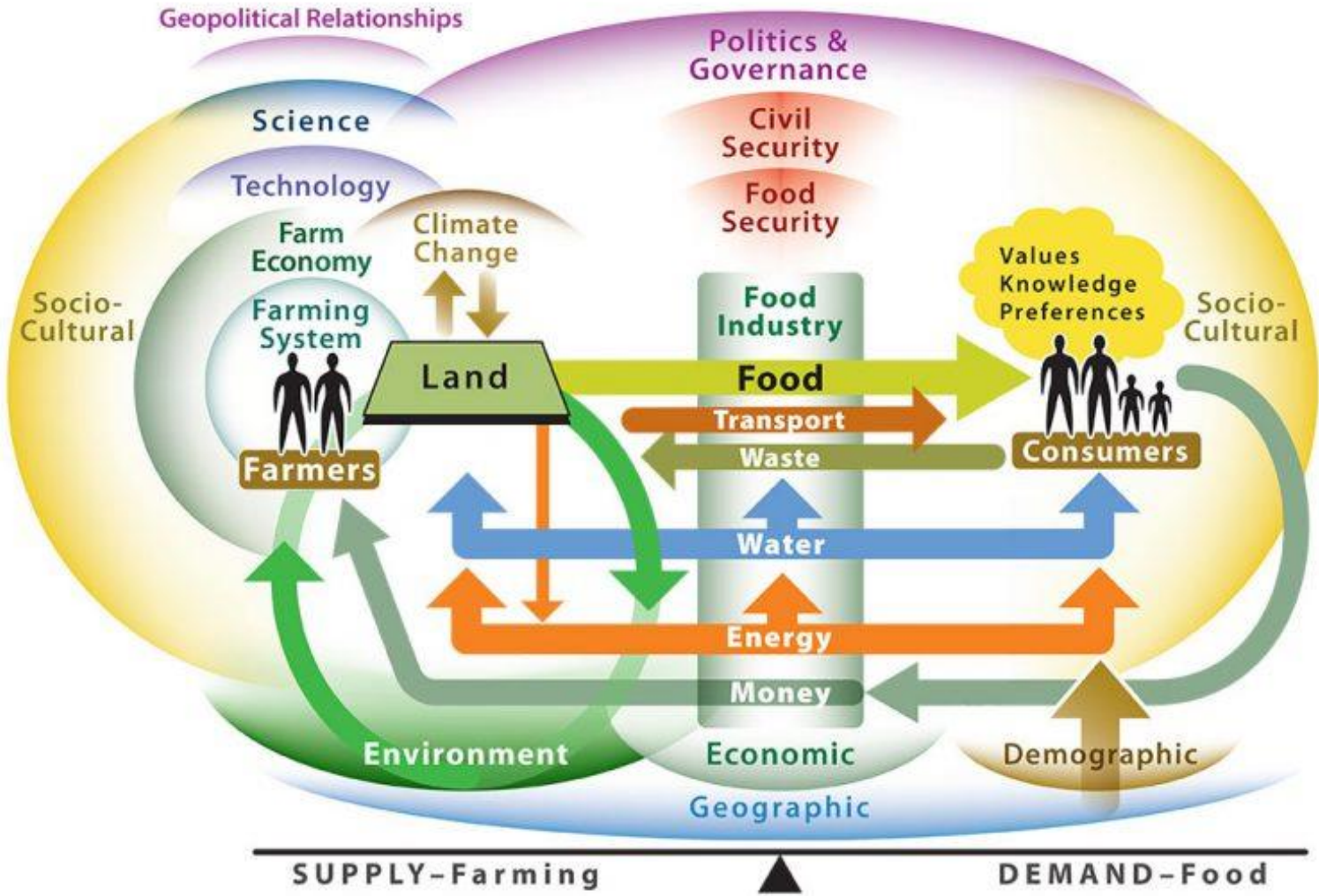


## Key messages

- **Challenges are diversives**
- **Addressing all challenges suppose to shift from a linear approach (yield) to a systemic approach**
- **Organic model is addressing a lot of challenges, not creating new problems and future proofed.**
- **Organic model is not the perfect model but all agricultural models are based on tradeoffs.**
  
- **Adressing the challenges suppose to increase the SHARE of organic models in our farm and FOOD systems -> 30 %**
- **Another big issue is the pathway of the 70 other percent : the models of today are**

# Food systems

Food System Map – Basic Elements





How ?

# How to reach 30 % in 2030

- **Create relevant alternatives**
- **Pressure the unsustainabilities of the system**
- **Increase the share of relevant farm and food systems**



Research Policy  
Volume 36, Issue 3, April 2007, Pages 399-417



## Typology of sociotechnical transition pathways

Frank W. Geels , Johan Schot

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<https://doi.org/10.1016/j.respol.2007.01.003>

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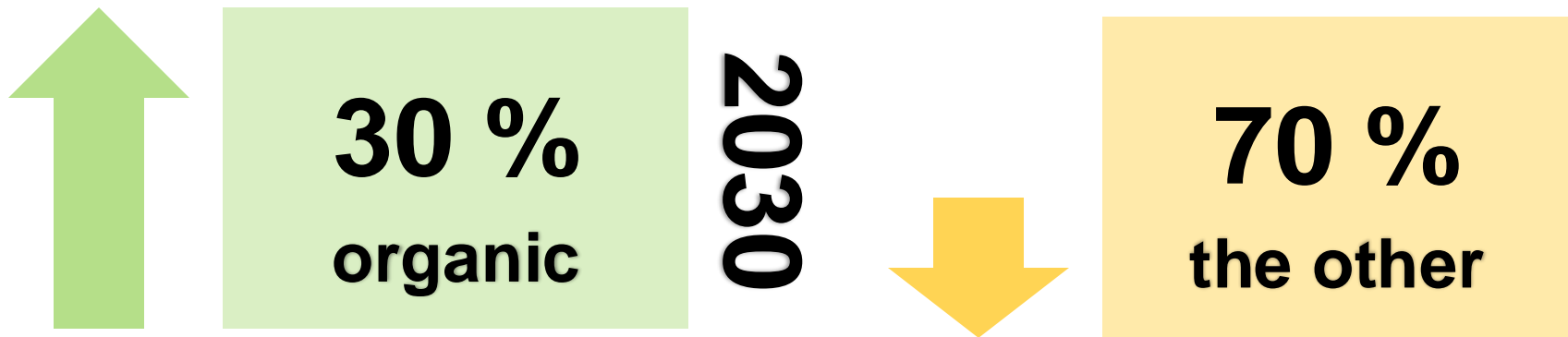
### Abstract

Contributing to debates about transitions and system changes, this article has two aims. First, it uses criticisms on the multi-level perspective as stepping stones for further conceptual refinements. Second, it develops a typology of four transition pathways: transformation, reconfiguration, technological substitution, and de-alignment and re-alignment. These pathways differ in combinations of *timing* and *nature* of multi-level interactions. They are illustrated with historical examples.

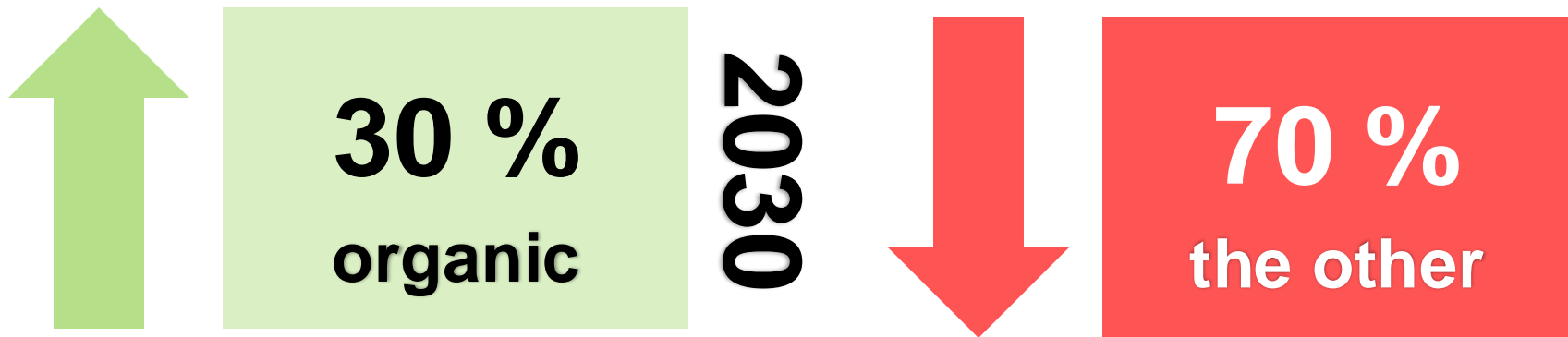
## Create relevant alternatives

- **Embed the technical »performance » in a global assessment of the food systems sustainability**
- **Two criteria :**
  - **Relevance -> doesn't create new problems**
  - **Impact -> contribute to a global best**
- **Most of the lock ins to the development of organic food systems are at the value chain level and are underexplored**

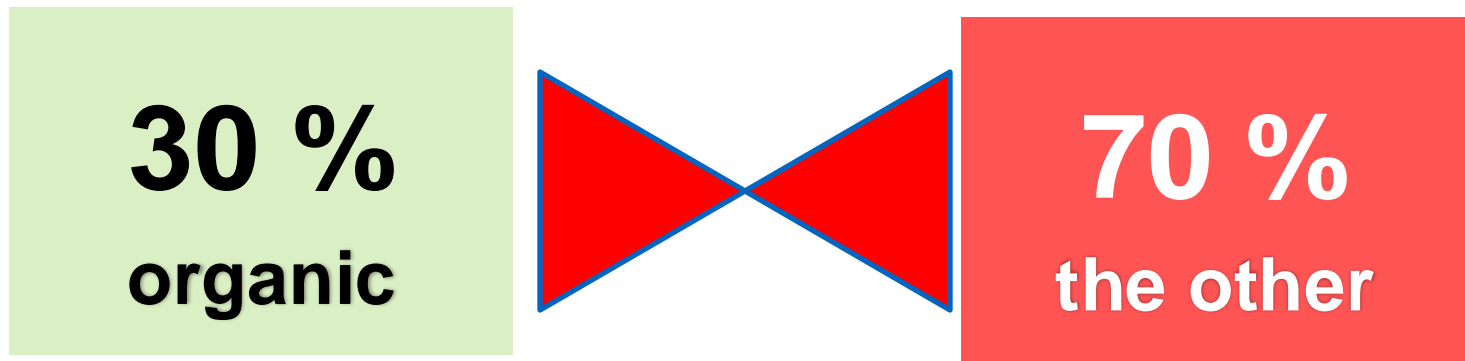
# Pressure the unsustainabilities of the system



# Pressure the unsustainabilities of the system



# Pressure the unsustainabilities of the system





# A battle of narratives

Bruxelles, janvier 2024



# More local food - Belgian pears

## Upward trend of Candidates for Substitution residues in fruits produced in Europe from 2011 to 2019

### Pears

#### Trend

Between 2011 and 2019, 9,409 pears were tested for pesticides. In 2011, 25% of the pears were contaminated with one or more Candidates for Substitution. Contamination increased to 47% in 2019. Based on the trendline, there has been a doubling (+103%) of contamination with Candidates for Substitution (Figure 12).

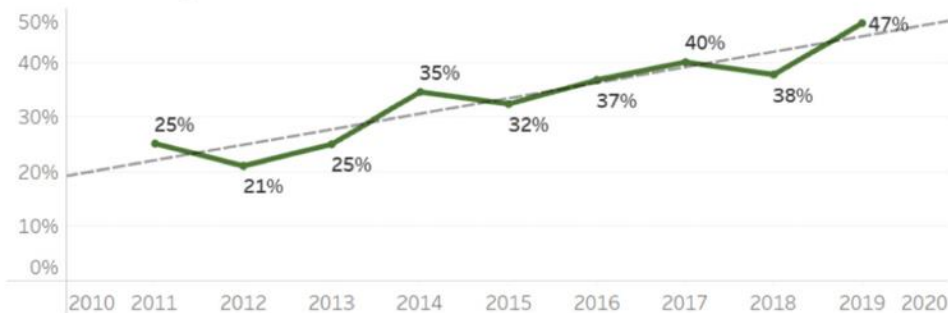


Figure 12. Increase of the % of pears contaminated with Candidates for Substitution



»We sell what they want to buy «

Consumers are not free !



**5.5 billions €**

**Marketing expenses  
in agri-food**

**France - 2023**

»We sell what they want to buy «

**5.5 billions €**

**Marketing expenses  
in agri-food**

**France - 2023**

**11 billions €**

**Health impacts of  
food systems**

**France - 2023**



# The climate – conservation agriculture plot

**REJOIGNEZ L'INITIATIVE**  
**4 POUR 1 000**  
 Les sols pour la sécurité alimentaire et le climat

En s'appuyant sur une documentation scientifique solide et des actions concrètes sur le terrain, l'initiative « 4 pour 1 000 » vise à montrer que **sécurité alimentaire et lutte contre les dérèglements climatiques sont complémentaires** et à faire en sorte que l'agriculture apporte des solutions. Cette initiative consiste en une coalition d'acteurs volontaires dans le cadre du Plan d'action Lima Paris (LPA) soutenue par un programme de recherche ambitieux.

**SOILCAPITAL**

AGRICULTEURS ▾ ENTREPRISES ▾ A PROPOS ▾ FR ▾ SE CONNECTER

**L'agriculture régénératrice pour la résilience du système alimentaire et l'action climatique**

**Agriculteurs**  
 Nos agronomes peuvent vous aider à régénérer votre sol et à gagner de l'argent en stockant du carbone.

**Entreprises**  
 Participez à une agriculture régénératrice des sols en investissant localement et/ou dans votre chaîne de valeur.

CO DÉCOUVREZ NOTRE PROGRAMME → CONTACTER NOTRE ÉQUIPE →

# The regenerative farming pota pota

## A TALE of TWO SYSTEMS

### INDUSTRIAL AGRICULTURE

*Separates animals & plants*  
unspooling a host of environmental ills

VS

### REGENERATIVE AGRICULTURE

*Unites animals & plants*  
in a holistic system to build healthy soil

#### MONOCULTURE

conventional feed  
grown with fertilizer  
and pesticides



**DEGRADED SOIL**  
dry, depleted dirt at  
risk of erosion

#### CATTLE CONFINED

fattened with  
corn and soy  
on feedlots



**SHALLOW  
ROOTS**  
starve soil



**POOP out of the LOOP**  
stored manure  
can leach into  
groundwater



**POOP in the LOOP**  
key nutrients  
are trod into  
the soil

#### CATTLE ROAM

holistic grazing mimics  
natural cycles & helps  
plants store carbon

#### BIODIVERSITY

of plants and  
wildlife all  
year round

**DEEP  
ROOTS**  
feed soil

**HEALTHY, RICH SOIL**  
prevents erosion, stores  
carbon and boosts  
biodiversity







## The regenerative farming potopoto

**100%**

**DES MATIÈRES PREMIÈRES DE DANONE  
CULTIVÉES EN FRANCE SERONT ISSUES  
DE L'AGRICULTURE RÉGÉNÉRATRICE**



A promotional graphic for Danone Nature yogurt. It features a stack of yogurt boxes with a yellow banner that says '12 pots + 4 OFFERTS'. A large red circle with the number '4' and the word 'OFFERTS' is positioned to the right of the boxes. Above the boxes, the price '1€' is displayed in large black font, with ',99' below it. The background is a light, textured surface with a dashed green line.

**1€  
,99**

**4  
OFFERTS**

**DANONE NATURE**  
125 g x 12 + 4

**DANONE NATURE<sup>(1)</sup>**  
12 + 4 offerts (2 kg)  
Le kg : 1 €



# The regenerative farming poto poto



# Organic regenerative farming is the option

## Absolute requirements

- A value chain approach
- Integration of the overconsumption
- Multi criteria – donut model
- Global consistency

100%

DES MATIÈRES PREMIÈRES DE DANONE  
CULTIVÉES EN FRANCE SERONT ISSUES  
DE L'AGRICULTURE RÉGÉNÉRATRICE





Céline Chevalier



# The paradoxes of the protein transition

Duluins Océane (Presenter) & Philippe Baret

187<sup>th</sup> Seminar of European Association of Agricultural Economists

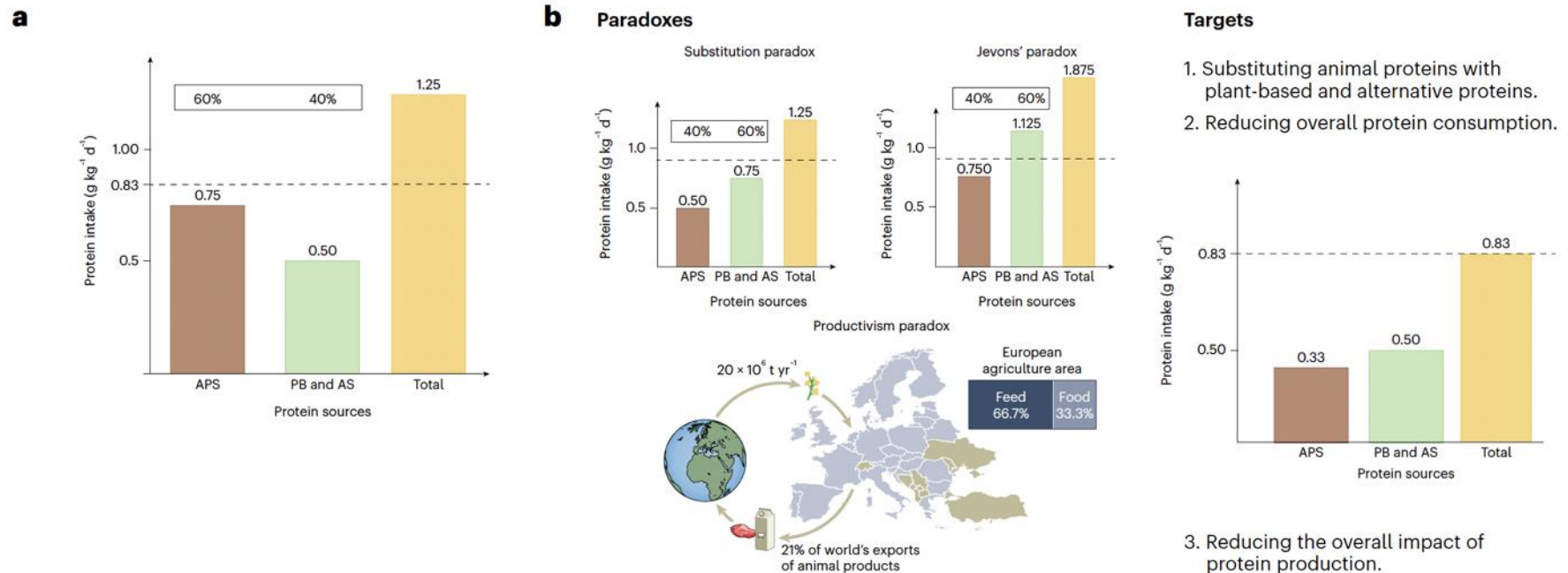
12-14 June 2024



# Overconsumption & exportation are key elements

## Perspective

<https://doi.org/10.1038/s43016-024-01036-4>



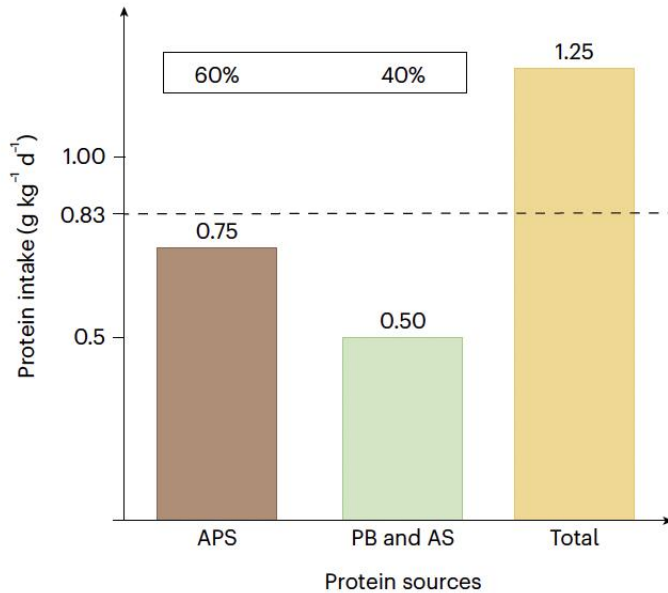
**Fig. 1 | The paradoxes of the protein transition. a**, The current situation. **b**, The paradoxes (left) and targets (right) of the protein transition. The recommended protein intake (dashed horizontal line in all plots) is from the European Food Safety Authority and Food and Agriculture Organization recommendations<sup>15,16</sup>. The targets are derived from multiple sources, including refs. 1,17,20. APS, animal protein sources (including meat from domesticated animals, fish and seafood,

dairy products, eggs, and game meat); AS, alternative protein sources (including novel plant-based substitutes (often referred to as meat mimics or analogues), lab-grown proteins (such as cultivated or cellular proteins) and processed products from insects); PB, plant-based protein sources (including traditional protein preparations such as tofu and seitan, whole foods, legumes, grains, seeds or mushrooms).

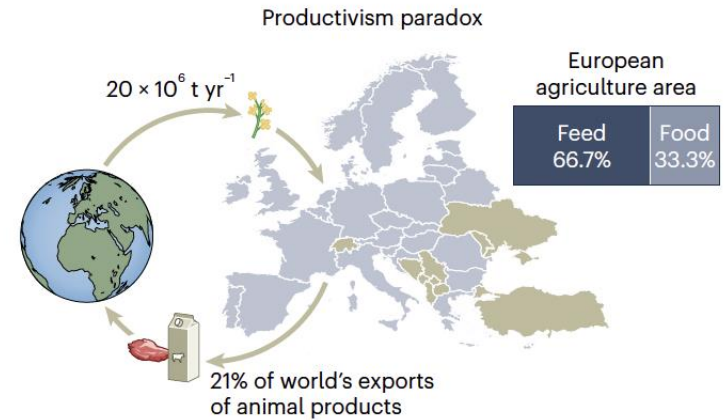
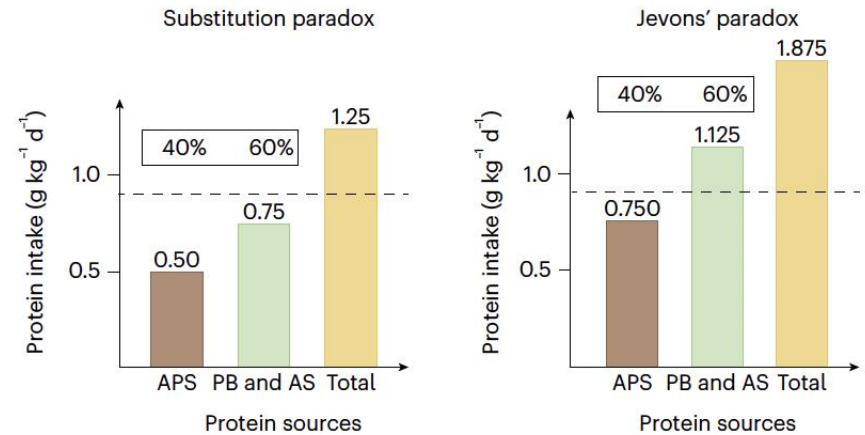


# Overconsumption & exportation are key elements

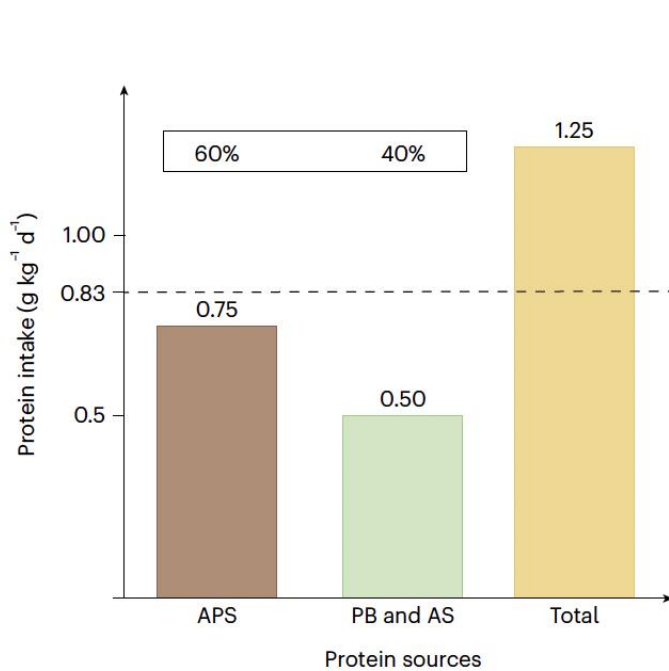
**a**



**b** Paradoxes

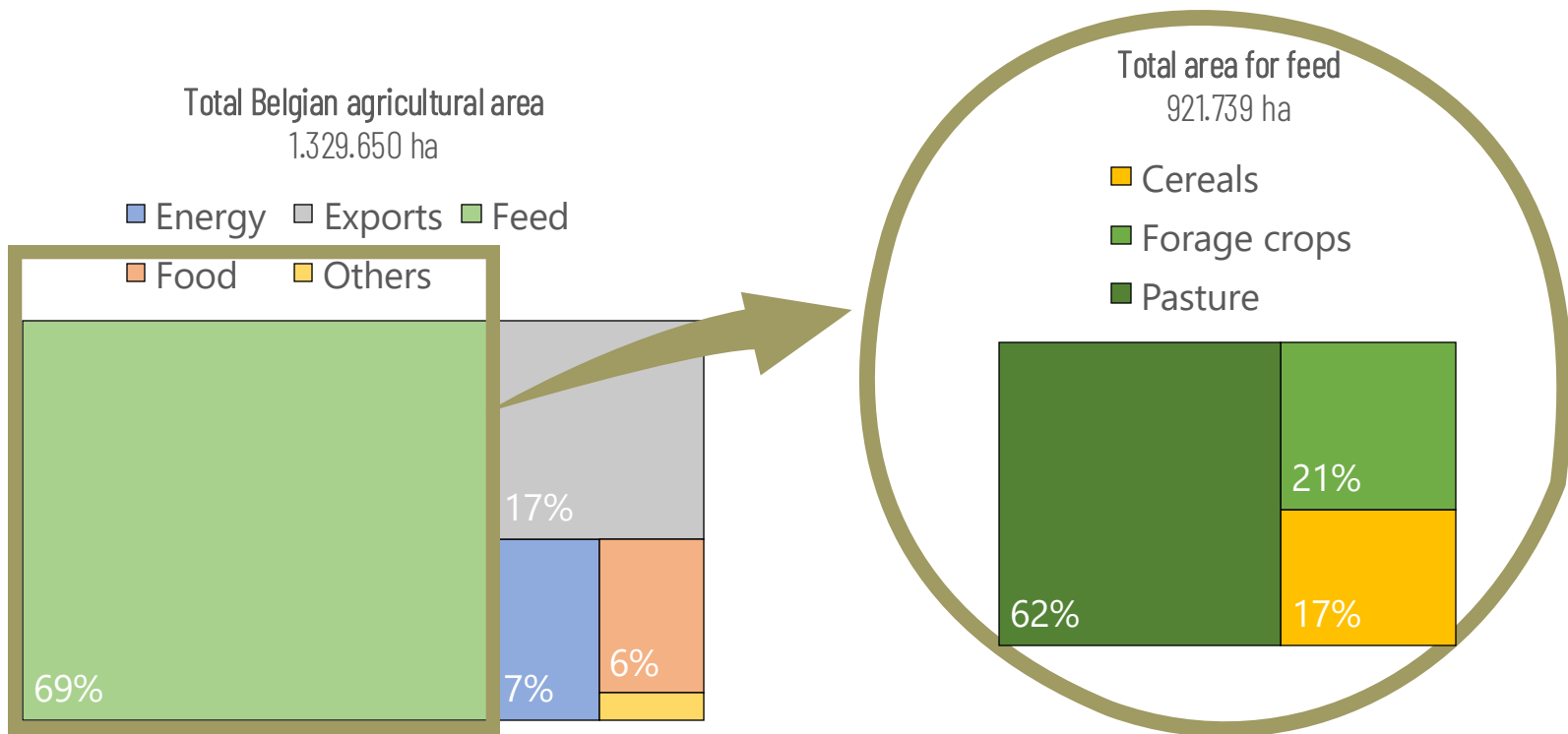


# Overconsumption is the elephant in the room



# Use of production – current situation

Nearly 70% of agricultural land is used for animal feed (>900.000 ha) while only 6% are directly destined for used for food production.



## Key issues for research

- **Research for framing research**
- **Global assesment of farm and food systems**
- **Rebalance research investment in favor of more systemic approach**
- **Improve the science policy interface**
  
- **A barometer of food systems including the impact of the « share of organic »**



# What is missing ?

We miss ....



**An articulation between the level of policies and the level of farming practices**



**A comprehensive approach of organic farming**



**A competitive and relevant narrative**





transition of  
food systems

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