

Why a Complex Food System is Needed, Now

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Overview

1 NO POVERTY



2 NO HUNGER



3 GOOD HEALTH



4 QUALITY EDUCATION



5 GENDER EQUALITY



6 CLEAN WATER AND SANITATION



1. Sustainable Agriculture and Food Systems: Why

7 AFFORDABLE AND CLEAN ENERGY



8 GOOD JOBS AND ECONOMIC GROWTH



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



10 REDUCED INEQUALITIES



11 SUSTAINABLE CITIES AND COMMUNITIES



12 RESPONSIBLE CONSUMPTION AND PRODUCTION



2. What are the options?

3. What stands in the way of the transformation

4. How can „we“ do it

13 CLIMATE ACTION



14 LIFE BELOW WATER



15 LIFE ON LAND



16 PEACE AND JUSTICE



17 PARTNERSHIPS FOR THE GOALS



THE GLOBAL GOALS
For Sustainable Development

**...the push for more efficiency has many costs
(environment, social, economic)**



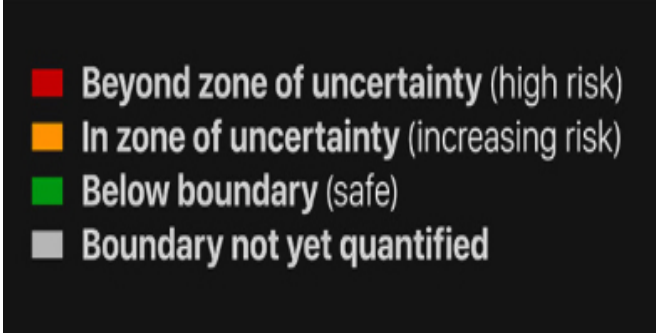
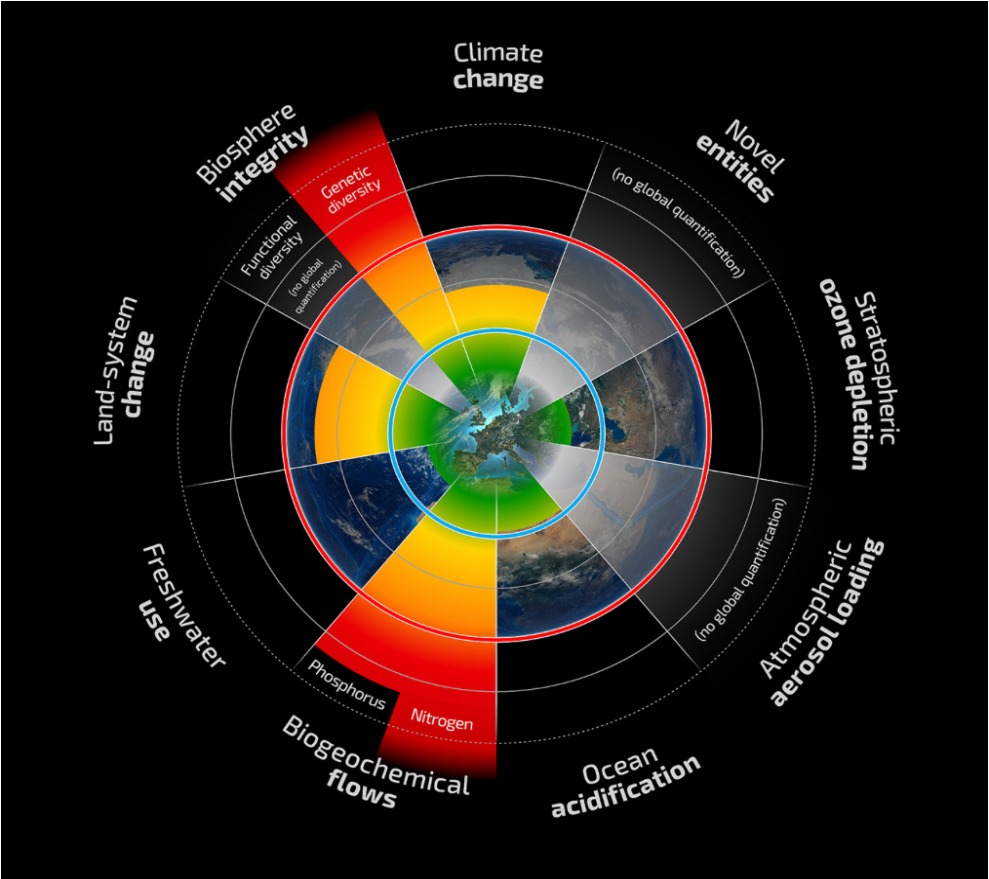
**Soil degradation; loss of biodiversity & ecosystem services;
excessive use of energy and water; climate change; ill health,
hunger & poverty;**

Why? ...because we produce too much in some areas, too little in others... ..leading to waste



Lundqvist et al 2008, Godfray 2010

Why? ...because with this ag and food system, we are pushing the planetary boundaries



Why? ...and when it comes to CO₂ and Carbon, we should get concerned...

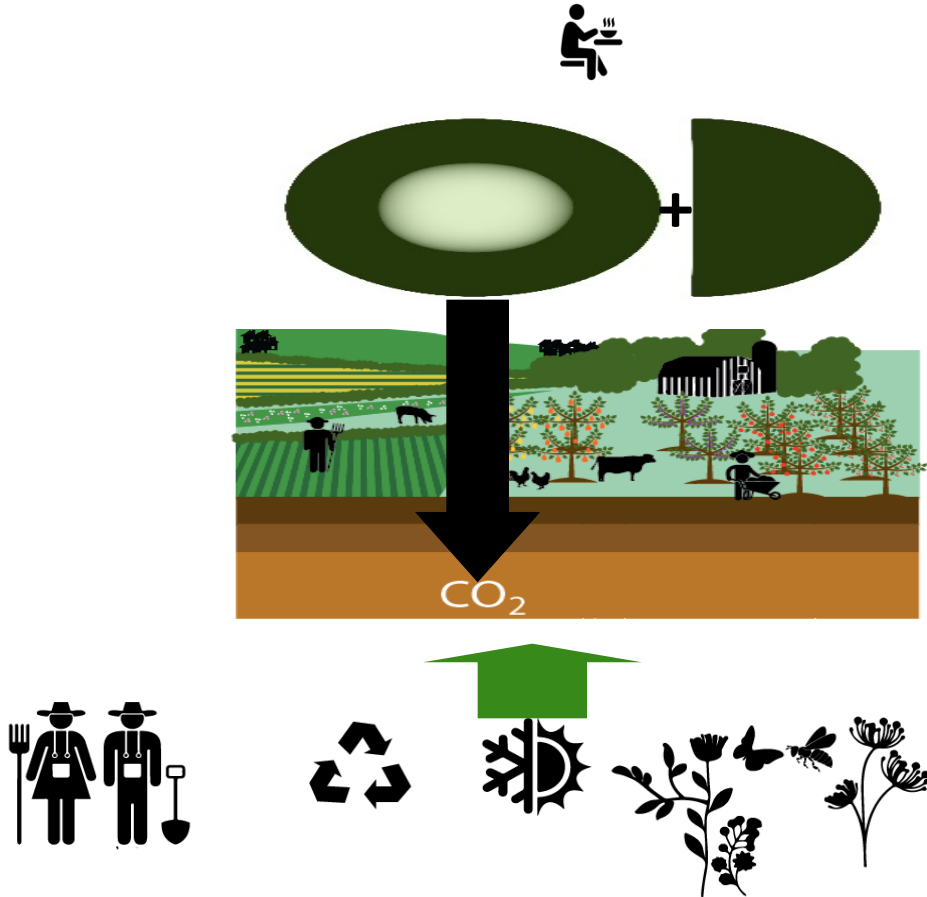
Just adopting renewable energy and stopping emission will **not** stop climate change

'4 per 1000'

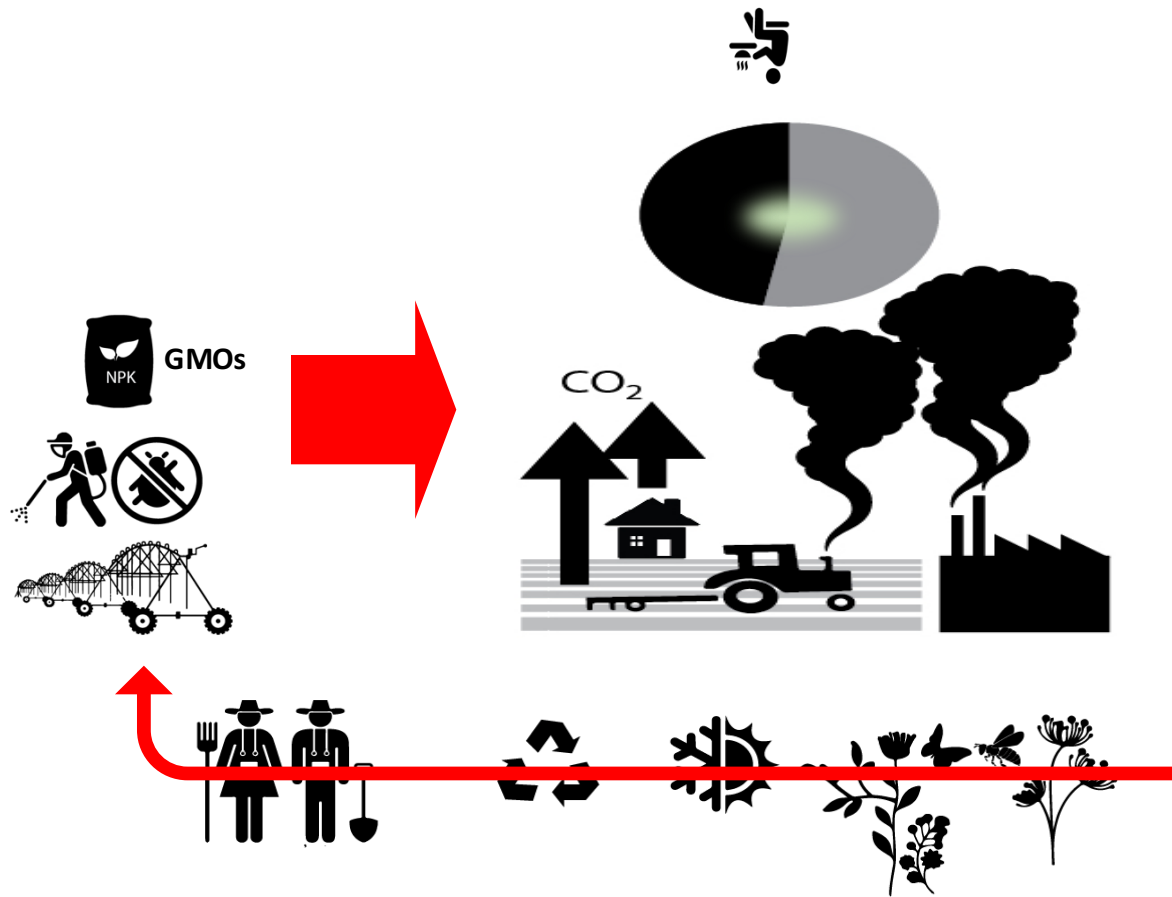
- The world will reach 400 ppm CO₂ in 2016
- This will mean 3.5 to 5 degrees warmer
- 4 degrees is regarded as catastrophic climate change
- **350 ppm is the number...how can we deal with this problem from the food system?**



Where do we come from?



Where did we go?..... agribusiness replaced the complex and resilient nature.....and the farmers, with a reductionist and mercantile approach



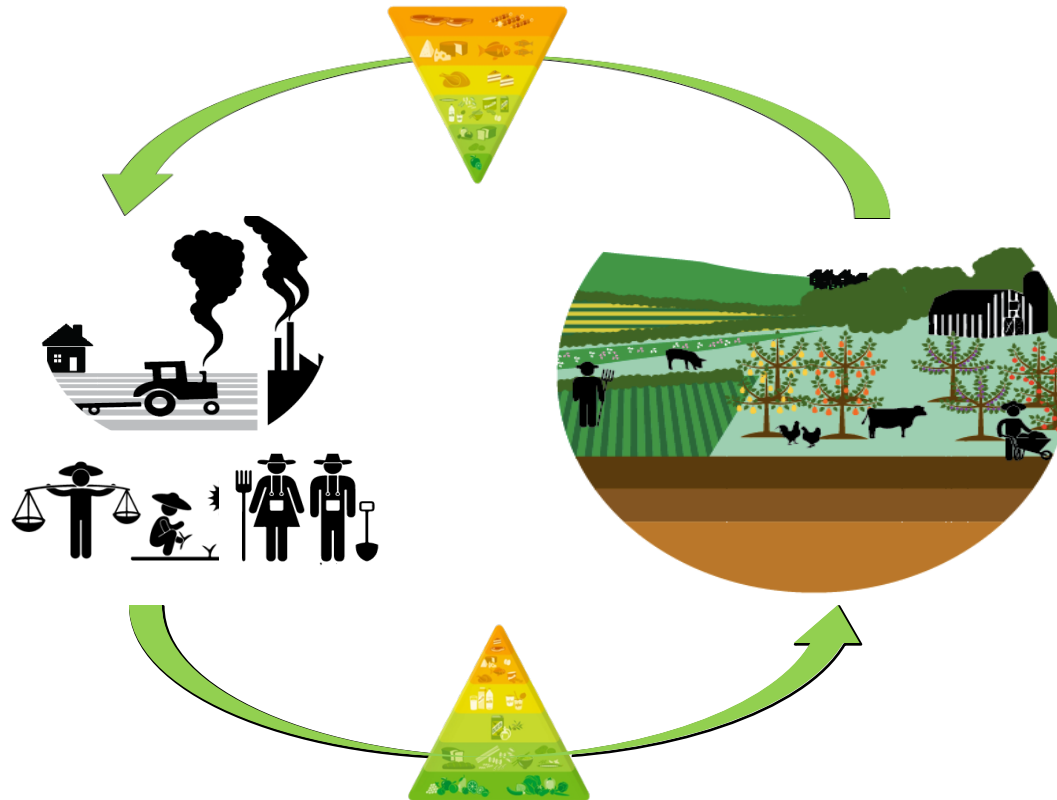
How did we get there?..... Agri-Food business dictates to consumers.....and farmers

...what's in the (your) plate matters when it comes to system transformation

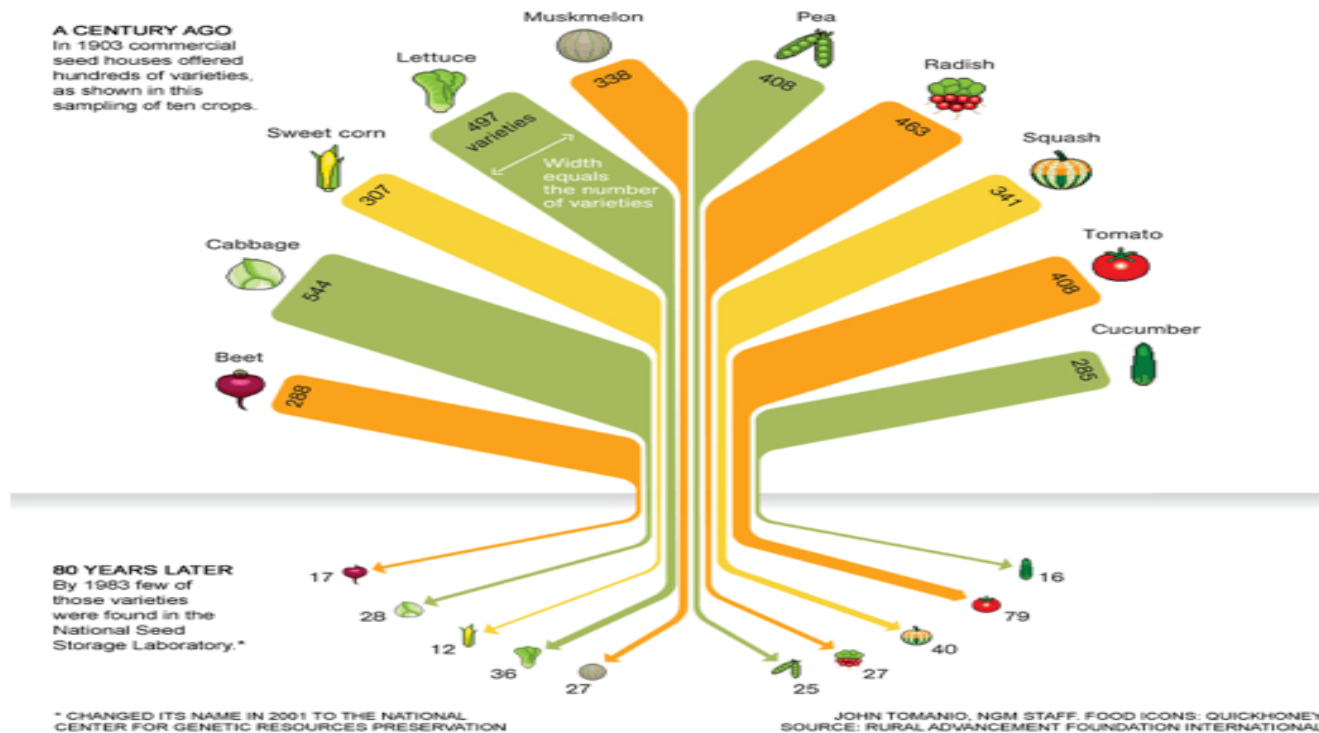


Barilla 2012

...the transformation process, back to diverse and diversified systems



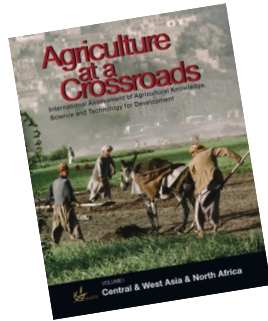
.... present trends of less diversity (varietal and genetic) works against the need for sustainable systems. ...but we live in the era of reductionism and short termism



...the call for change ...is not new, was strongly opposed and now also picked up in the SDGs



«Business as usual»
<http://www.ipes-food.org>



A paradigm shift from industrial agriculture to diversified agroecological systems

...how change the system?

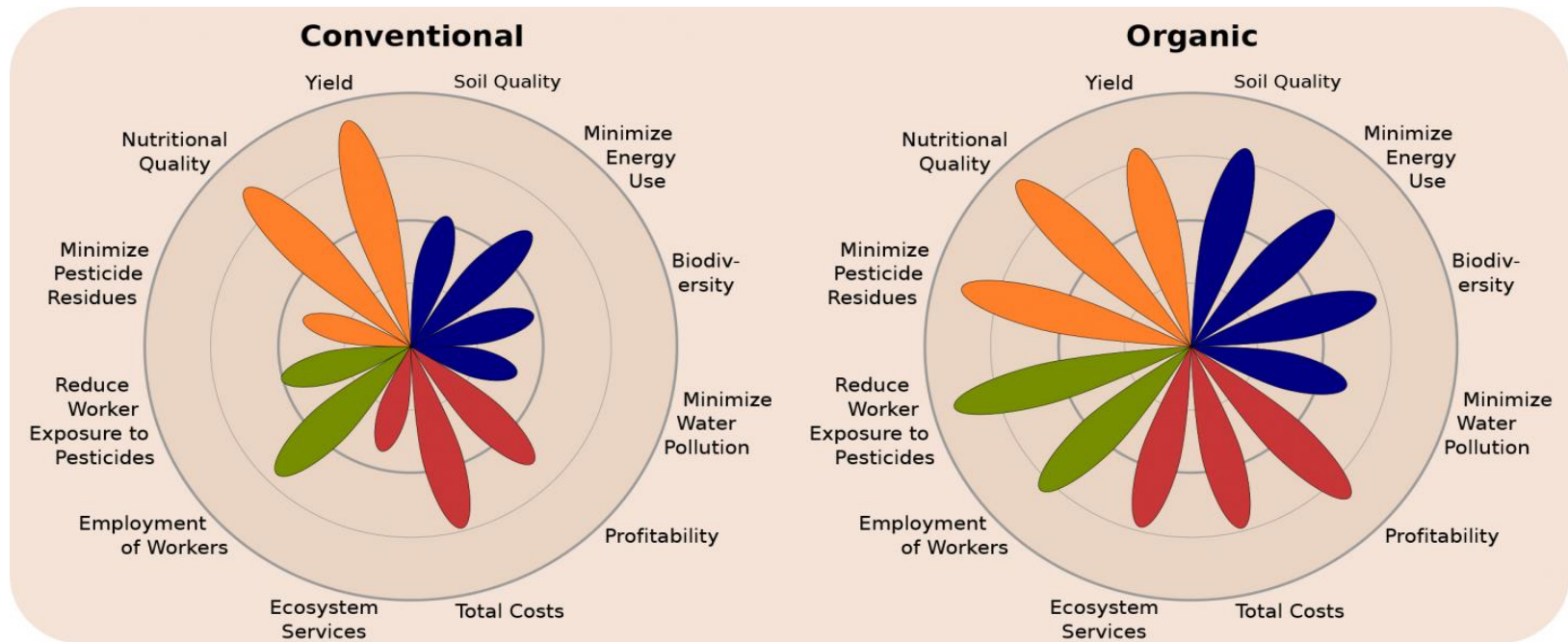


A fundamental shift in Agricultural Knowledge Science and Technology and agri-food system policies => institutions => capacity development => investments

Paradigm change: transition to agroecology: sustainable / ecological / regenerative agriculture addressing the multi-functionality and resilience needs of small-scale and family farmers (agroecology vs C smart agriculture), deals with the causes of the problems and not only the symptoms)

Need to use a systemic and holistic approach / National multistakeholder assessments (IAASTD/Rio+20/CFS/SDGs)

...how change the system?

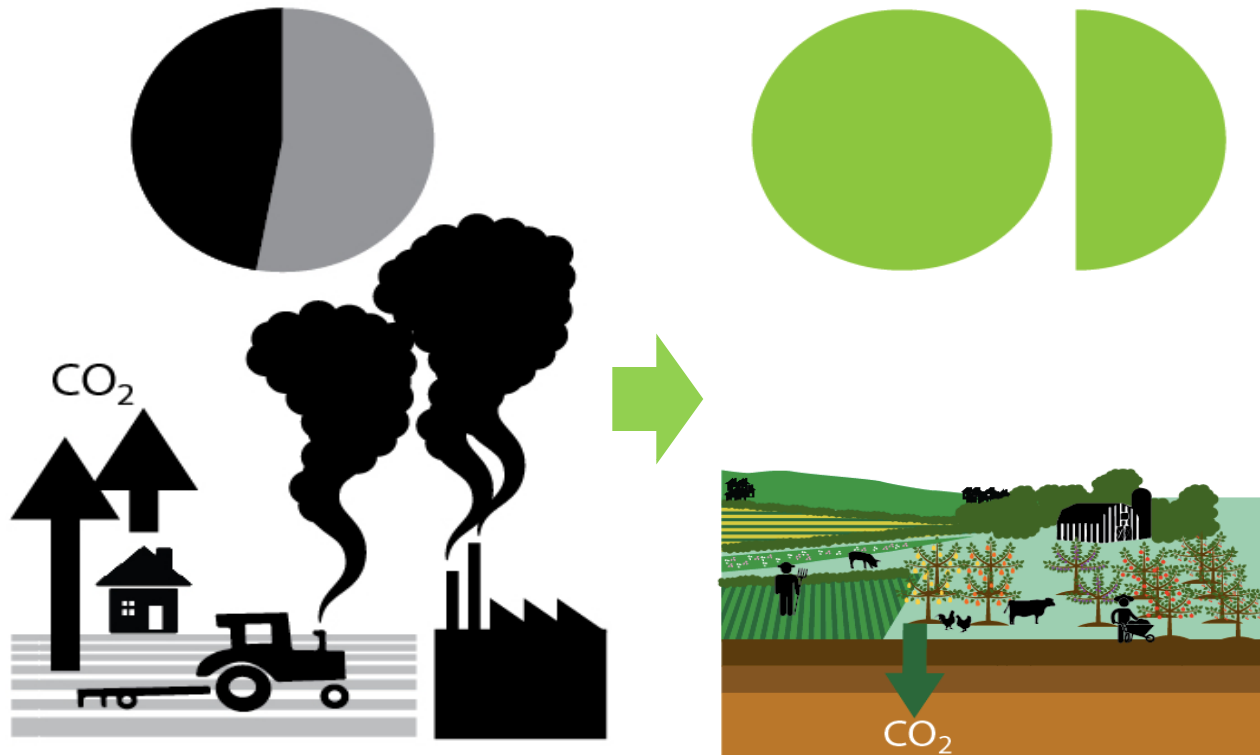


Reganold and Wachter. Nature Plants 2016

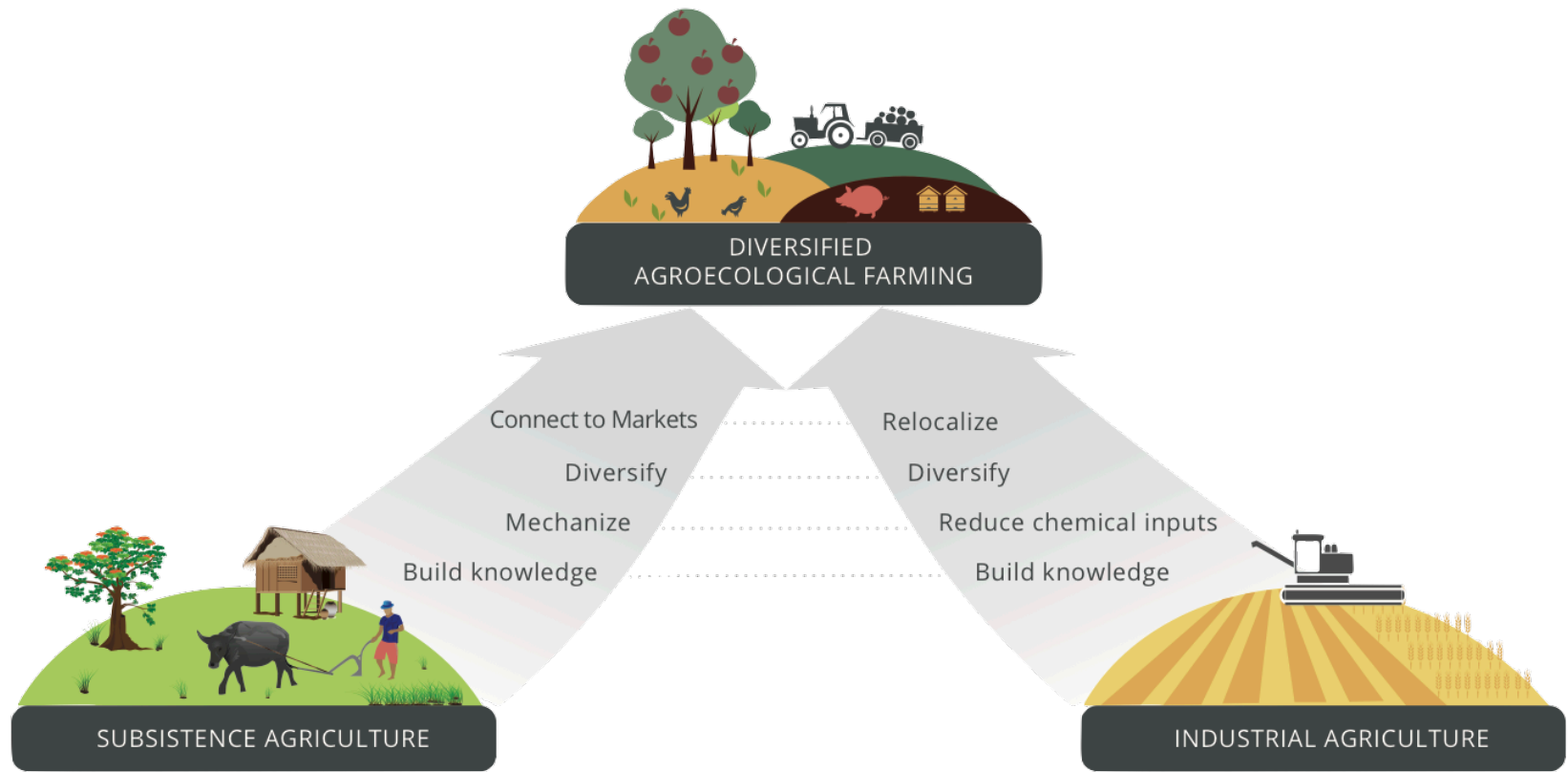
...the transformation process

...how to **Reverse** Climate Change?

Via sequestration of carbon in the soil (.4%/year)



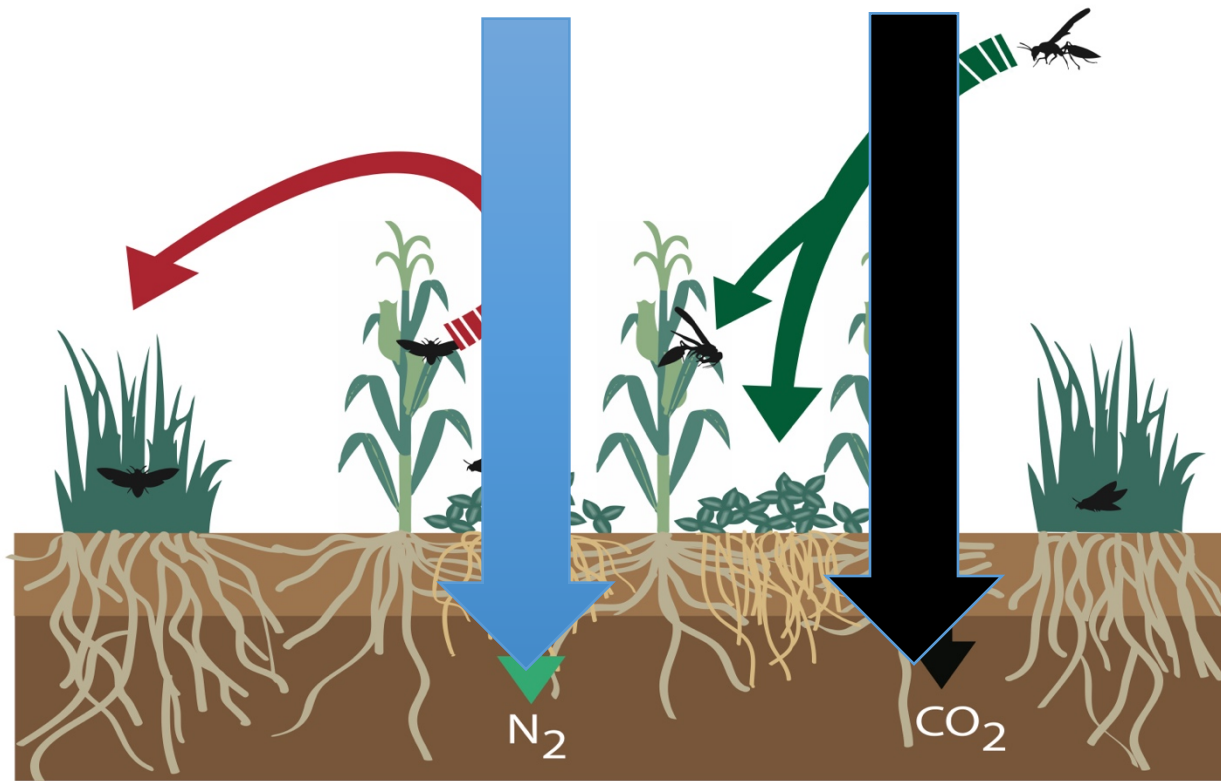
...different pathways, a common goal: agroecology



IPES FOOD 2016

...what's needed for the paradigm change?

So(i)lutions (ecosystem services, fixing N and C into the soil, self regulating systems), natural pest control (agroecology)



...outcomes of diversified agroecological systems: productivity



...a major question then

Why do we **not** see a major transition towards diversified agroecological systems, given the **expanding evidence** that they can deliver on all dimensions of sustainable food systems?

→ The political economy of food systems / lock-ins

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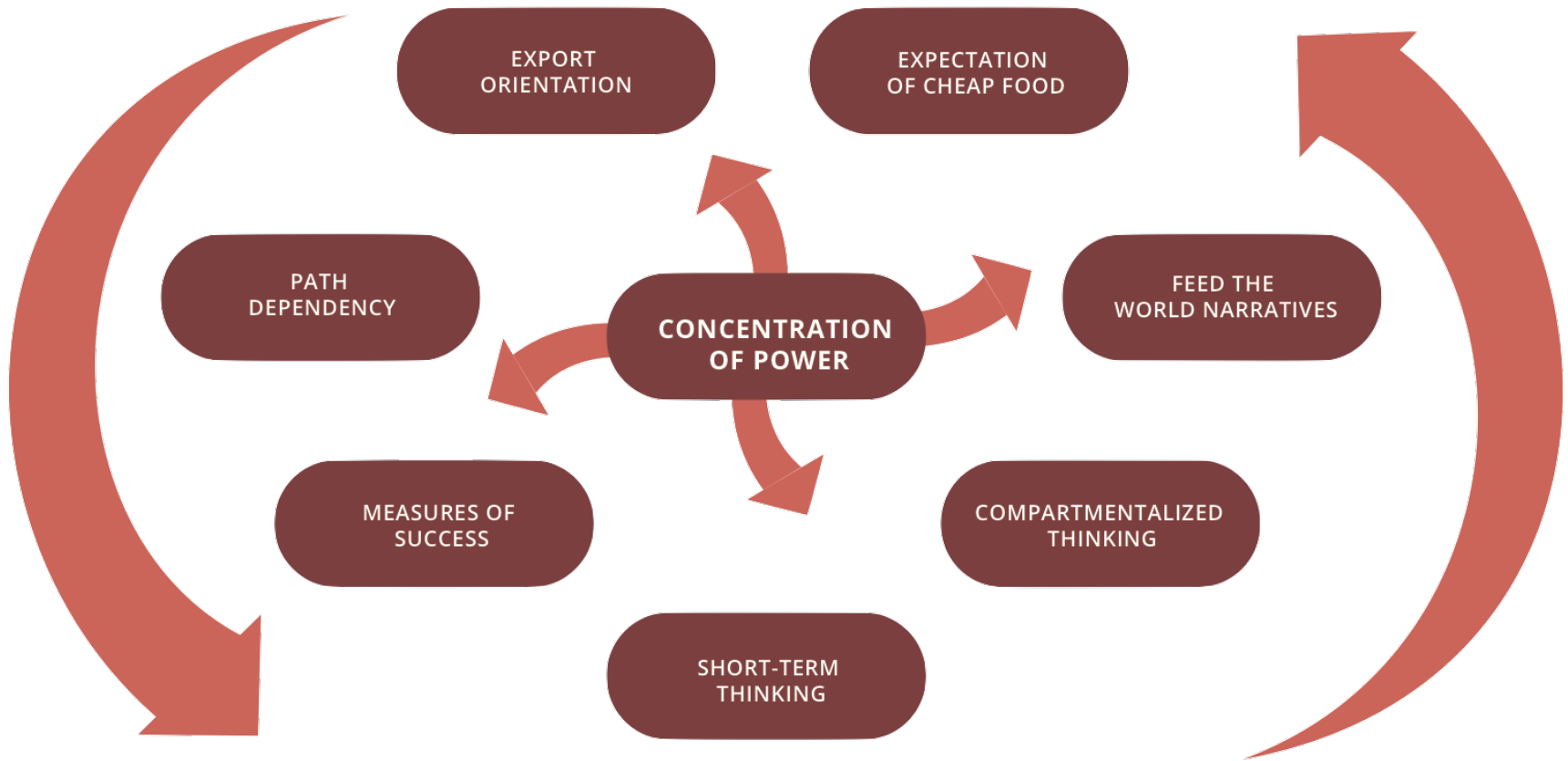
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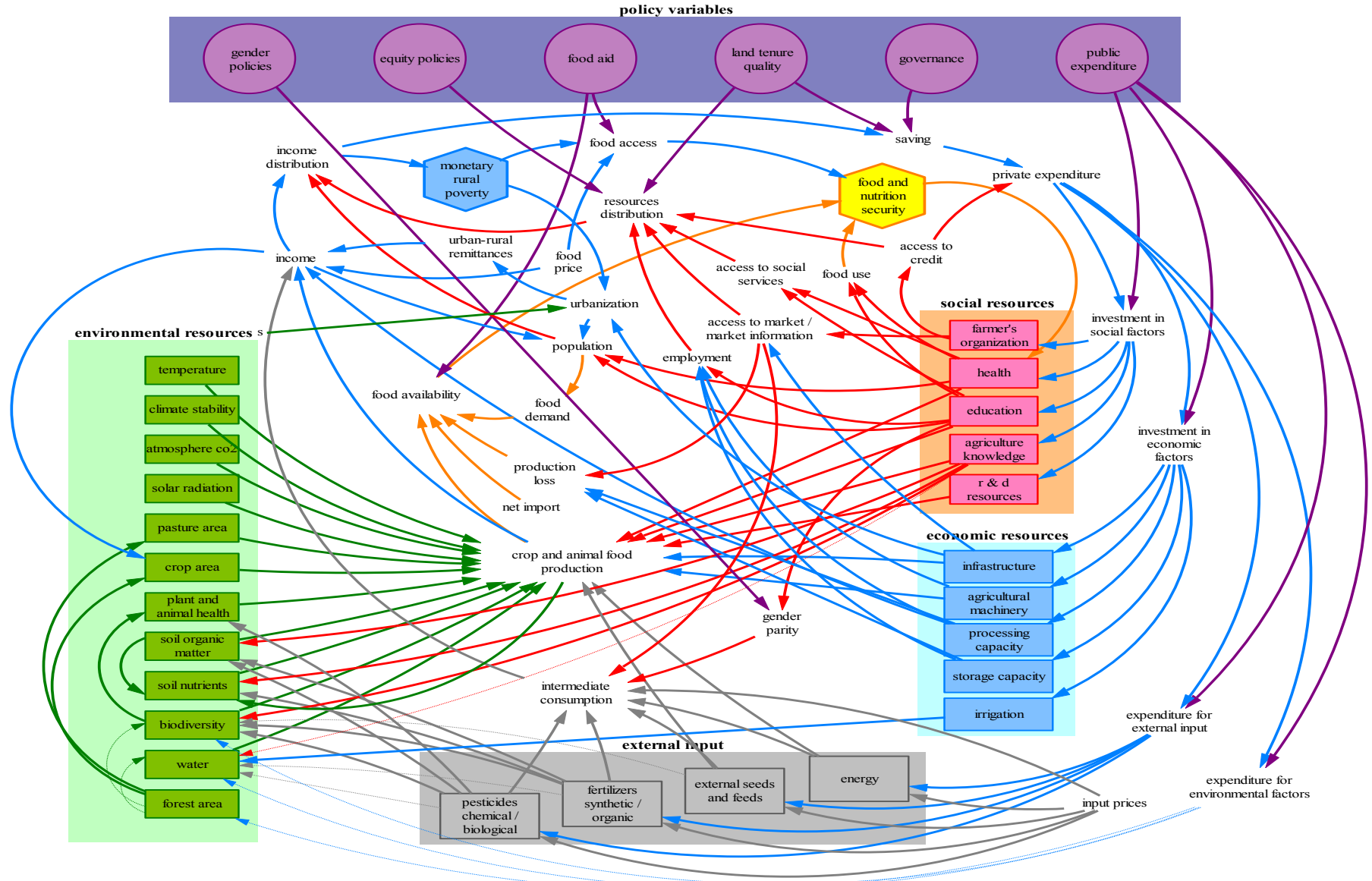
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...what prevents the needed transformation: 8 lock-ins (from "from Uniformity to Diversity" www.IPES-Food.org)



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A systemic view (partial) of a food system.....



...**what's** in the (your) plate, and **who** controls it, matters when it comes to ag and food system transformation



...so, what will you do for the next generations?....it matters

You cannot solve the problem with the same
kind of thinking that created the problem

Albert Einstein

Thank you

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