

Research needs and visions for innovation and sustainability – why ENSSEER is engaged

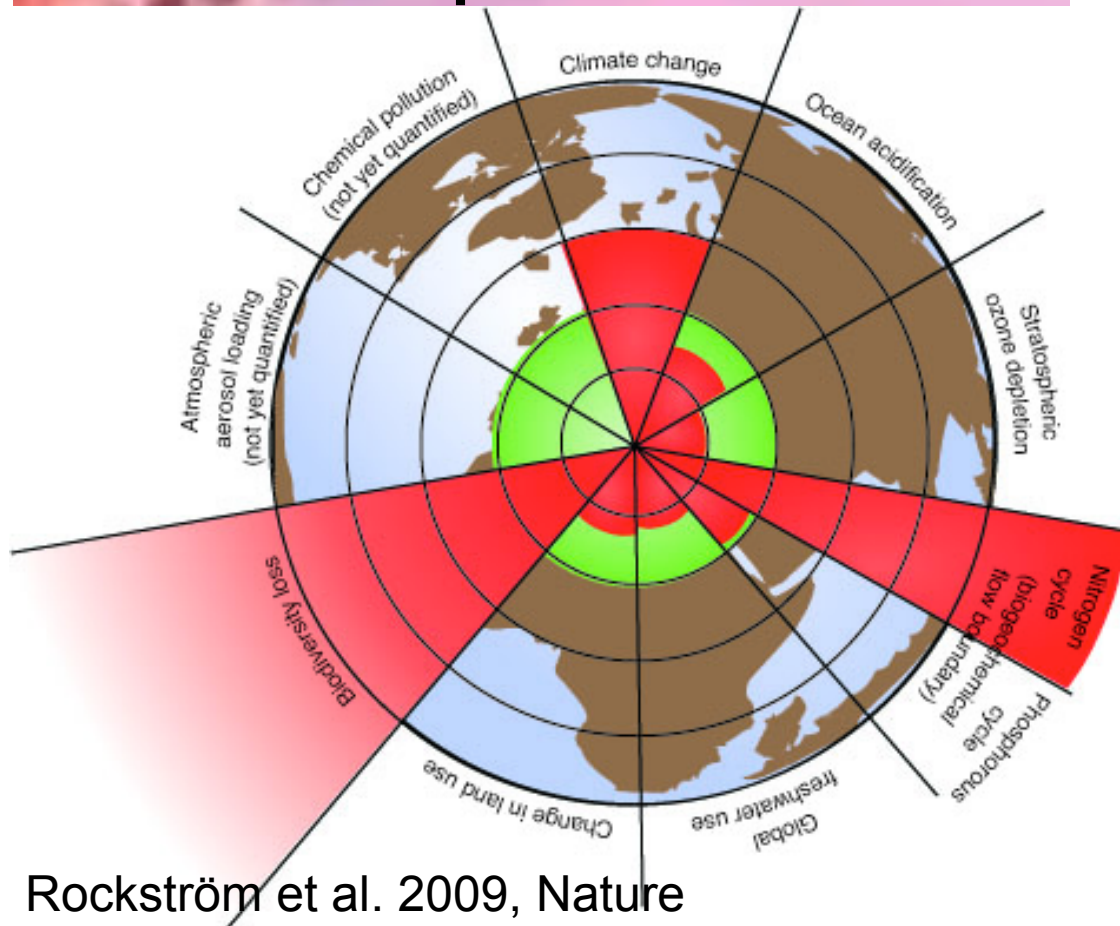
**Angelika Hilbeck, CHAIR
Swiss Federal Institute of Technology
Environmental Sciences, Zurich**

ENSSEER Mission

ENSSEER:

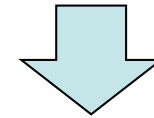
- advocates the use of science and technology in the public interest. This means benign and peaceful uses of natural processes, scientific discoveries and technological developments.
- promotes critical European and international discourse on new technologies, their impacts and their regulation
- participates in developing **alternative options** within technology policy, **strengthening innovation and long term sustainability**, while prioritizing public and environmental safety.
- contributes to shaping models for more democratic and participatory agenda-setting.

..... As we are exceeding planetary boundaries for safe operation of humans

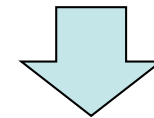


...this has triggered the
simultaneous degradation
of...

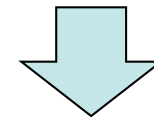
➤ **Environment**
Climate
Biodiversity
Water
Soil



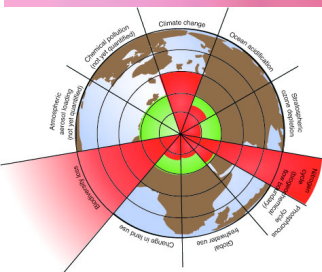
➤ **Economic / Financial
Systems**



➤ **Food & Health Care
Systems**



➤ **Global human society**



Industrialized agriculture part of the problem!

**Will/Must end soon:
Peak oil, peak water, peak
phosphorous, peak nitrogen,
peak soil,**



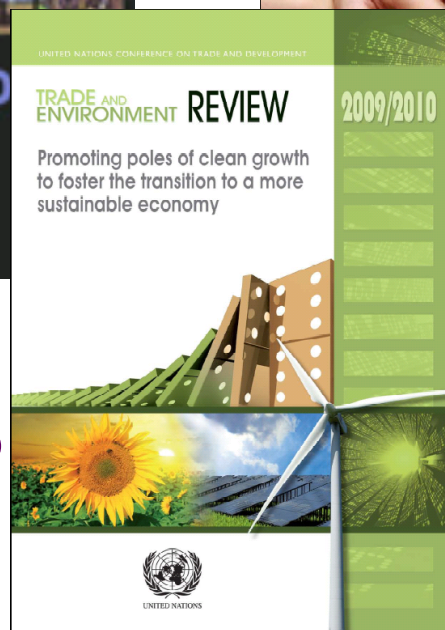
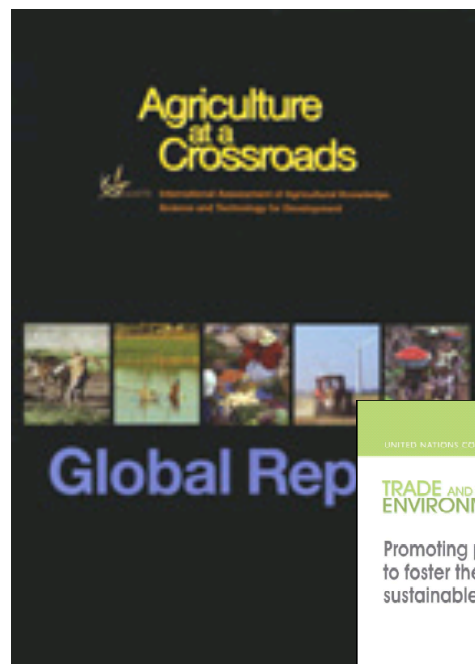
<http://www.foodincmovie.com>

Uniform production system – one model fits all, environmental differences are made to fit the needs of industrial agriculture. High input, high tech - unsustainable

Extraction/mining – Export – Industrial value chains

THE ANALYSES ARE DONE!

**TODAY, THERE IS A
WORLD OF ASYMMETRIC
DEVELOPMENT...
....THAT MUST CHANGE!**



European Commission – Standing Committee
on Agricultural Research (SCAR)

The 3rd SCAR Foresight Exercise

**Sustainable food consumption and production in
a resource-constrained world**

February 2011

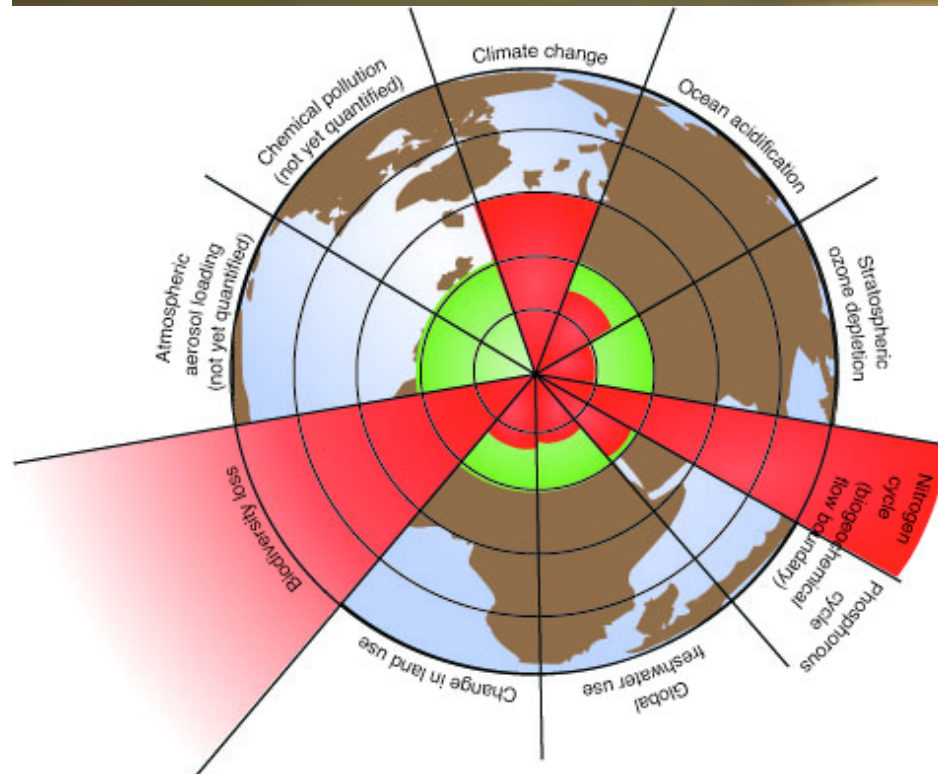
Annette Freibauer (chair), Erik Mathijs (rapporteur), Gianluca Brunori, Zoya
Damianova, Elie Faroult, Joan Girona i Gomis, Lance O'Brien, Sébastien Treyer



**Business
as usual no
option
anymore!!**

The CHALLENGE before us:

Conversion towards
sustainable, agro-ecological system

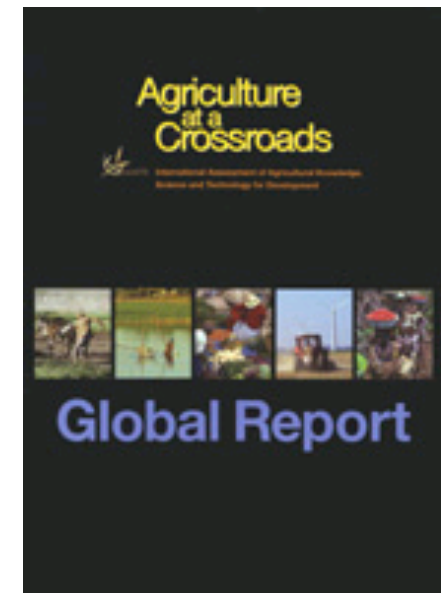


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The way forward for AGRICULTURE:

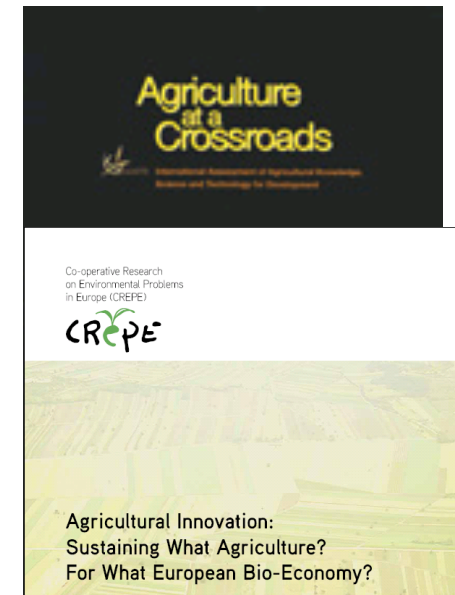
MULTIFUNCTIONALITY OF AGRICULTURE



MAKING PARADIGM SHIFT HAPPEN!

A shift will include:

- the *internalisation of externalities*
- Development of *context – specific and localized technologies*
- *decentralized solution options*
- *diversified farms*, food processing
- *Short / local supply-* and *value-chains*
- democratic decision-making and participation



Co-operative Research
on Environmental Problems
in Europe (CREPE)

CREPE

Agricultural Innovation:
Sustaining What Agriculture?
For What European Bio-Economy?

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MAKING PARADIGM SHIFT HAPPEN!

Agroecology offers solutions

Increase, develop and disseminate agro-ecological methods through knowledge, science and technology to reduce environmental problems and increase productivity.

Agriculture becomes part of the solution!

FOUR MAJOR THEMES

Sustainable agroecological models need to be developed AND embedded in an enabling socio-political and economic context.

These main themes were identified and will be addressed:

- Transformation knowledge
- European innovation partnerships for agroecology
- Common Agricultural Policies (CAP) in support of Agroecology
- Progressive research agenda setting

THANK YOU!