Trade-offs between livestock, biodiversity and soils health and approaches towards positive impacts

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Agriculture and biodiversity crisis

- The high amount of land used for cultivation and livestock farming has dramatically shaped landscapes in Europe

- Agriculture is a fundamental human activity that intrinsically depends on nature and at the same time poses a threat to it.

→ Sustainability has emerged as a necessity in future agricultural policy and practice.

Fishing and biodiversity crisis

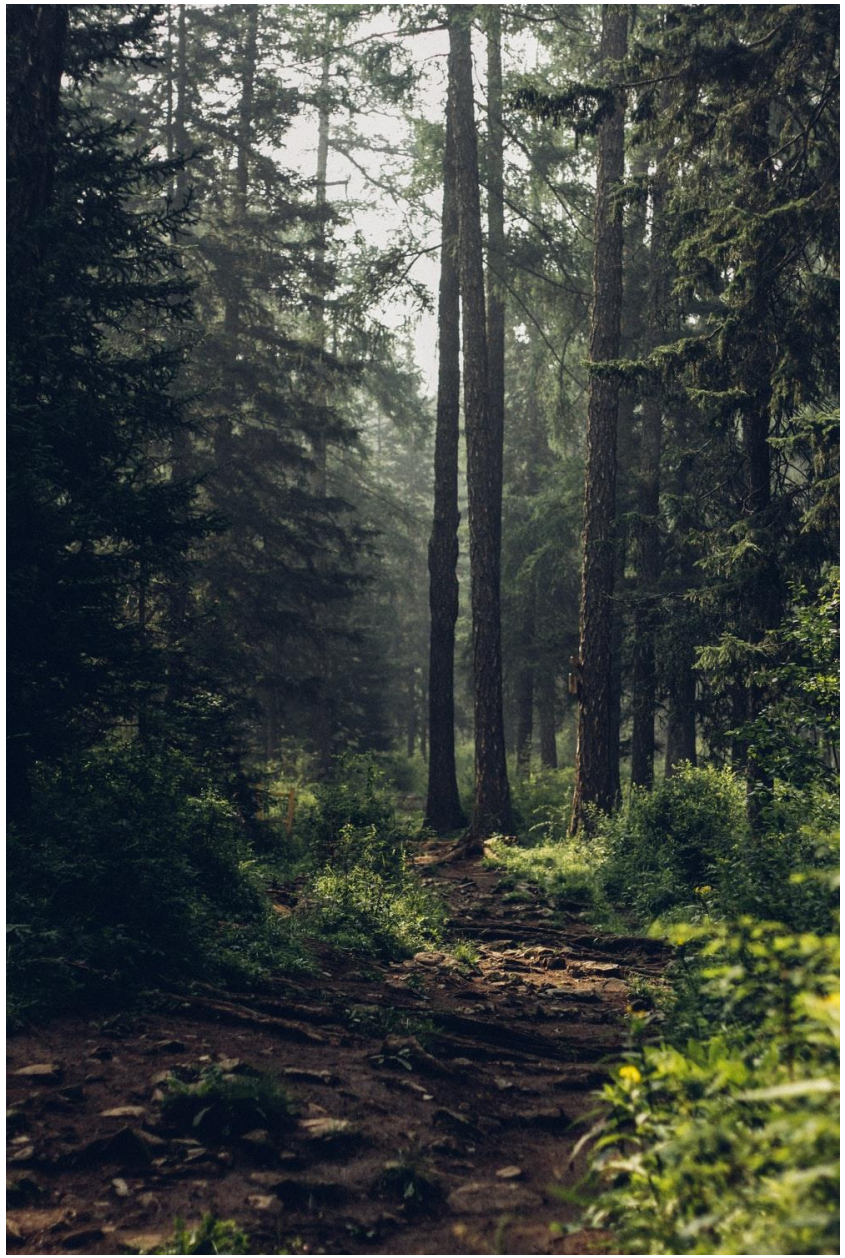
- The overall impact of fishery has been described as comparable, in aquatic systems, to that of agriculture on land in terms of the proportion of the system's primary productivity harvested by humans.

- **Fisheries deeply modify the trophic chain and the flows of biomass across the ecosystem**.

Forestry and biodiversity crisis

- Forests are the most diverse ecosystems on land, because they hold the vast majority of the world's terrestrial species.

- Forest biodiversity is threatened by **rapid deforestation, forest fragmentation and degradation, hunting** and the arrival **of invasive species** from other habitats.



What is sustainable agriculture?

"Management and conservation of the natural resource base, and the orientation of technological and institutional change in such a manner as to ensure the attainment and continued satisfaction of human needs for present and future generations. Such development... conserves land, water, plant and animal genetic resources, is environmentally non-degrading, technically appropriate, economically viable and socially acceptable". (FAO, 1988)

Approaches to sustainable agriculture

- Agroecology
- Nature-inclusive agriculture
- Permaculture
- Biodynamic agriculture
- Organic farming
- Conservation agriculture
- Regenerative agriculture
- Carbon farming
- Climate-smart agriculture
- High nature value farming
- Low external input agriculture
- Circular agriculture
- Ecological intensification
- Sustainable intensification

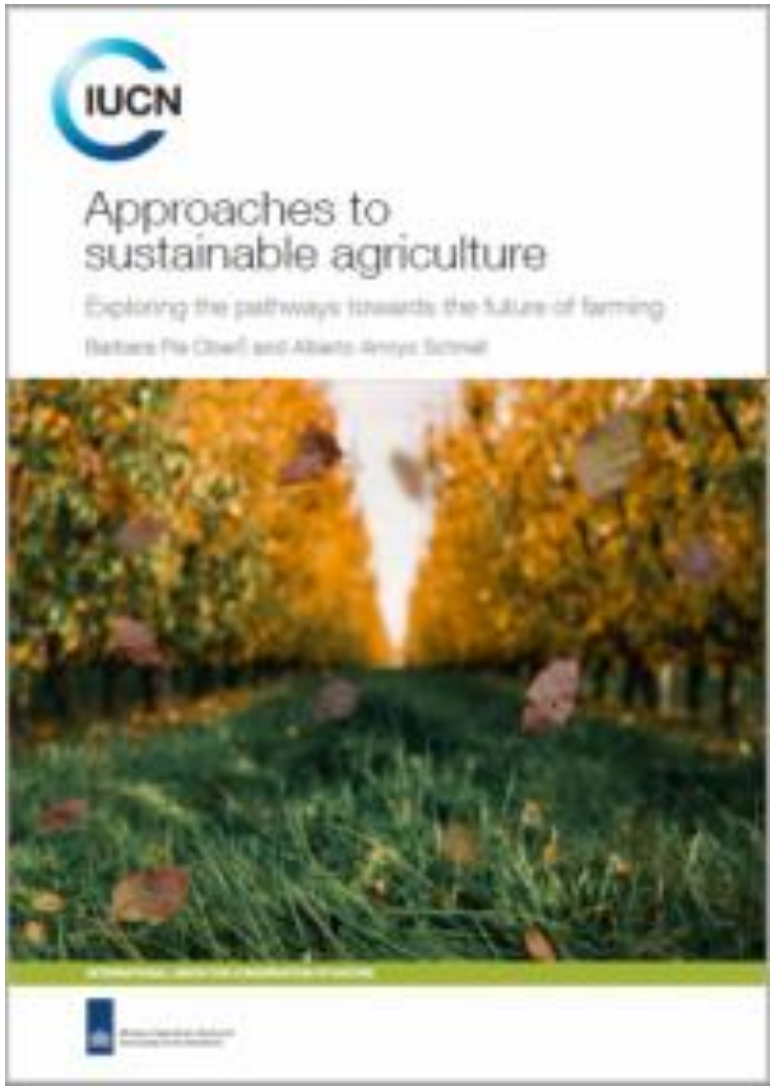
Example of supporting activities in sustainable agriculture

- Genetic improvement
- Precision farming
- Mixed farming systems
- Integrated farming tools
- Pasture-based and free-range farming
- Landscapes and ecosystems approaches
- Supporting socio-economic activities

Most common environmentally friendly practices

- Crop rotation;
- The inclusion of cover and companion crops;
- Mixed crop and intercropping;
- The reduction of synthetic pesticide and mineral fertiliser use;
- No or minimal tillage;
- Lower livestock densities, managed grazing, free range

… and much more in our report!



Concluding remarks

- We need to find a common vision for what sustainable agriculture should look like in the future.
- Different approaches exist: they have a number of important commonalities, but also that their diversity is a strength in itself.
- The choice of approach depends very much on local contexts and specific priorities.
- The challenge for policymaking is to enable dialogue and create the (market or regulatory) environment that will help define priorities according to local contexts, helping farmers follow the societally desired path.

Thank you for your attention!