

How to promote biodiversity for the provision of multiple ecosystem services?

WACASA meeting

12th of February, Heitor Mancini Teixeira

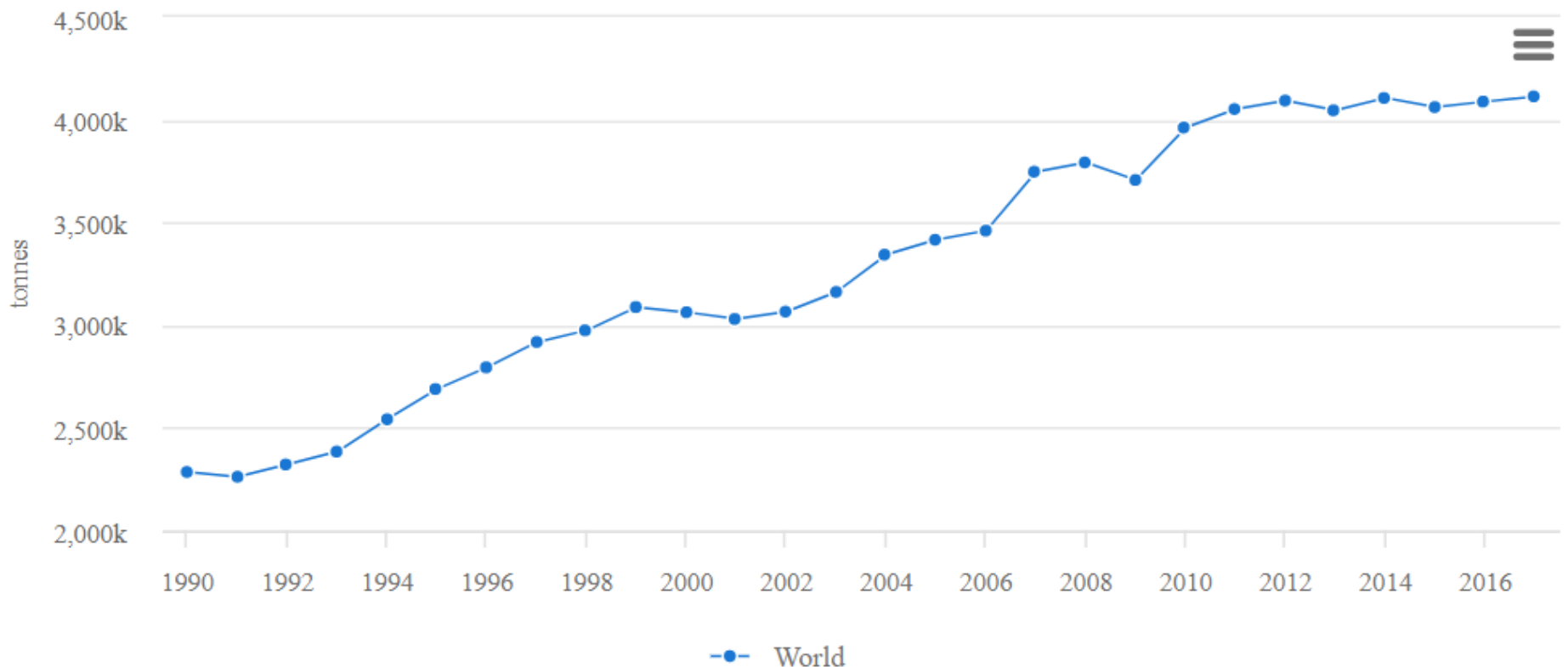


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Monocultures and Input Use

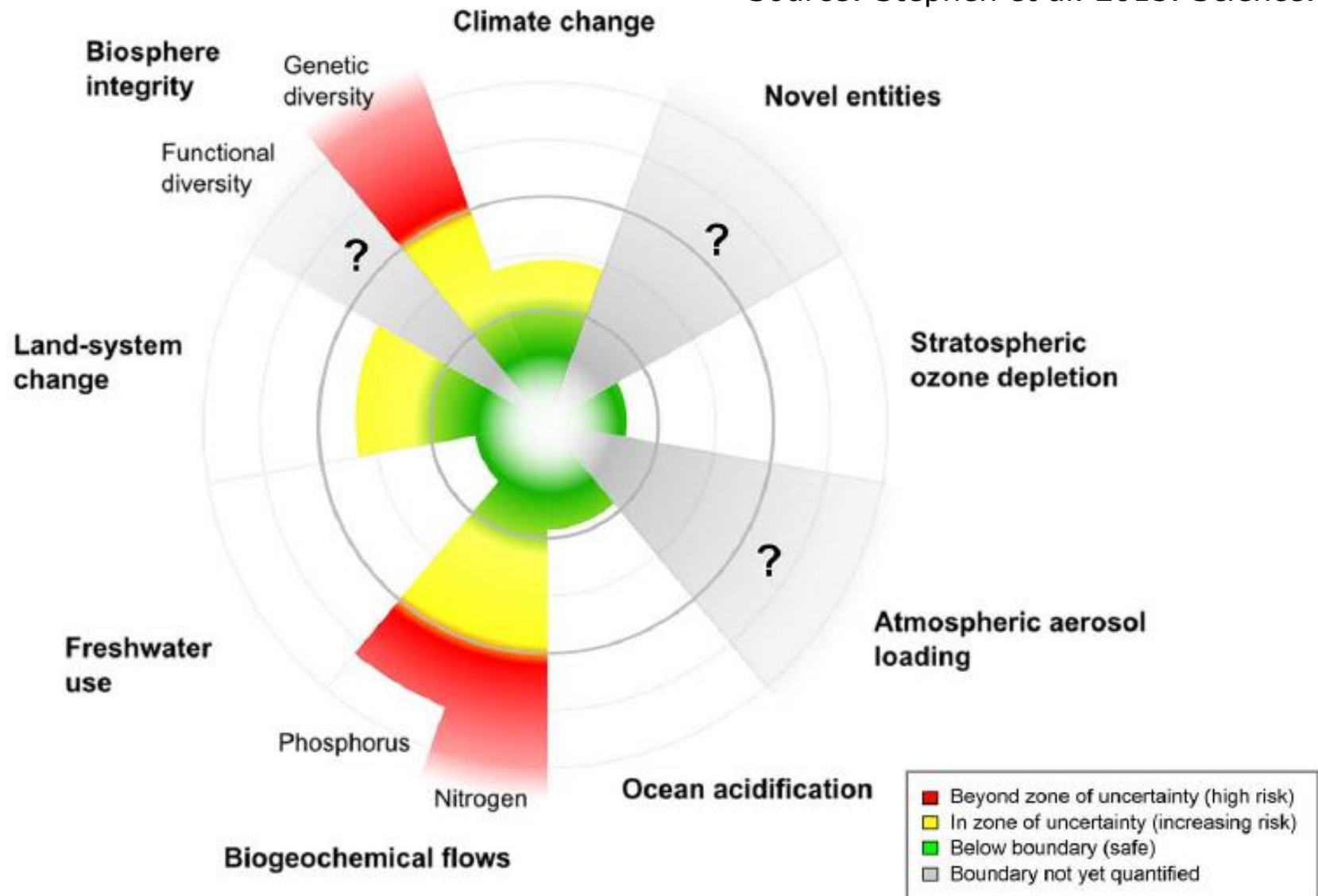
i.e.: Pesticide use in the world

Source: FAOSTAT, 2019.



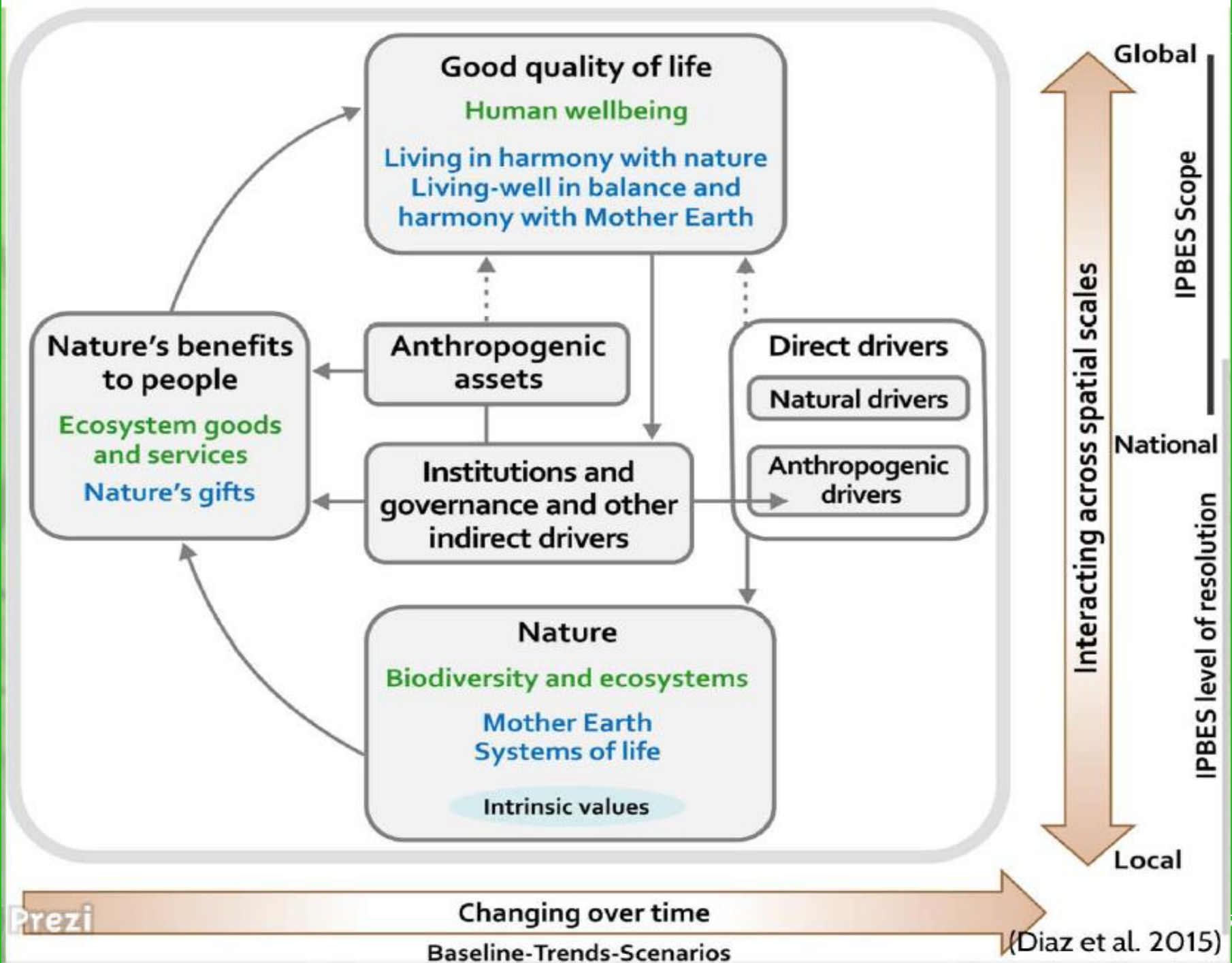
Planetary boundaries are being trespassed

Source: Stephen et al. 2015. Science.



The Ecosystem Services approach

- Consolidated in 2005 > Millenium Ecosystem Assessment
- Focus on the role of biodiversity for the provision of multiple ecosystem services.
- More recent frameworks: IPBES



Agroecology as a way to go

- Principles for the re-design of diversified systems
- Science, practice and movement (Wezel et al, 2009)
- Process and not a package
- Less chemical inputs, systemic view.
- On-going experimentation
- Social and ecological benefits



Food and Agriculture
Organization of the
United Nations

SUSTAINABLE
DEVELOPMENT
GOALS

working for Zero Hunger

FAO'S WORK ON AGROECOLOGY

A pathway to
achieving the SDGs



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United Nations

General Assembly

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Human Rights Council

Sixteenth session

Agenda item 3

Promotion and protection of all human rights, civil,
political, economic, social and cultural rights,
including the right to development

Report submitted by the Special Rapporteur on the right to food, Olivier De Schutter

Summary

The reinvestment in agriculture, triggered by the 2008 food price crisis, is essential to the concrete realization of the right to food. However, in a context of ecological, food and energy crises, the most pressing issue regarding reinvestment is not how much, but how. This report explores how States can and must achieve a reorientation of their agricultural systems towards modes of production that are highly productive, highly sustainable and that contribute to the progressive realization of the human right to adequate food.

Drawing on an extensive review of the scientific literature published in the last five years, the Special Rapporteur identifies agroecology as a mode of agricultural development which not only shows strong conceptual connections with the right to food, but has proven results for fast progress in the concretization of this human right for many vulnerable groups in various countries and environments. Moreover, agroecology delivers advantages that are complementary to better known conventional approaches such as breeding high-yielding varieties. And it strongly contributes to the broader economic development.

The report argues that the scaling up of these experiences is the main challenge today. Appropriate public policies can create an enabling environment for such sustainable modes of production. These policies include prioritizing the procurement of public goods in public spending rather than solely providing input subsidies; investing in knowledge by reinvesting in agricultural research and extension services; investing in forms of social organization that encourage partnerships, including farmer field schools and farmers' movements innovation networks; investing in agricultural research and extension systems; empowering women; and creating a macro-economic enabling environment, including connecting sustainable farms to fair markets.

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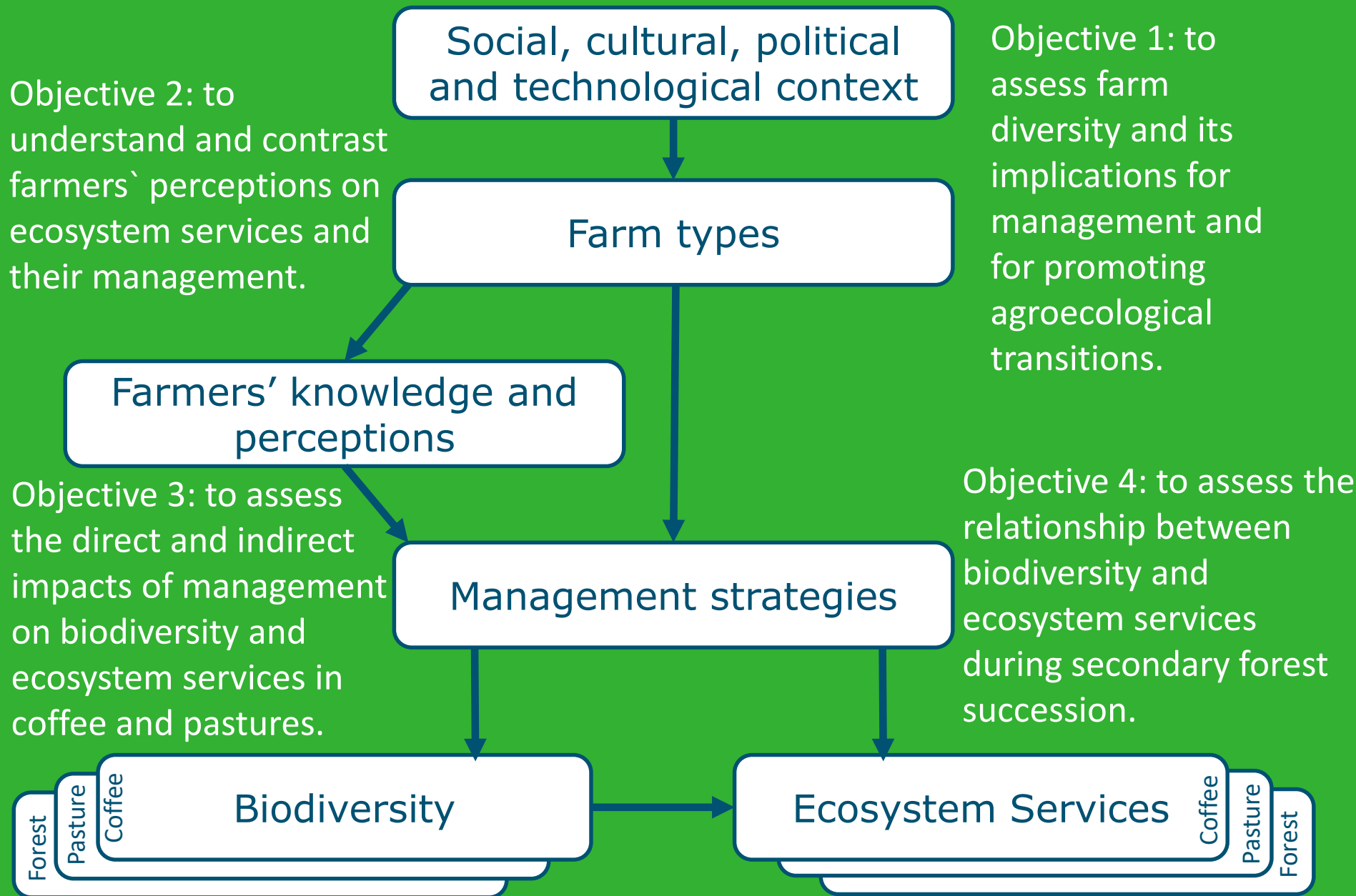
The Zona da Mata region





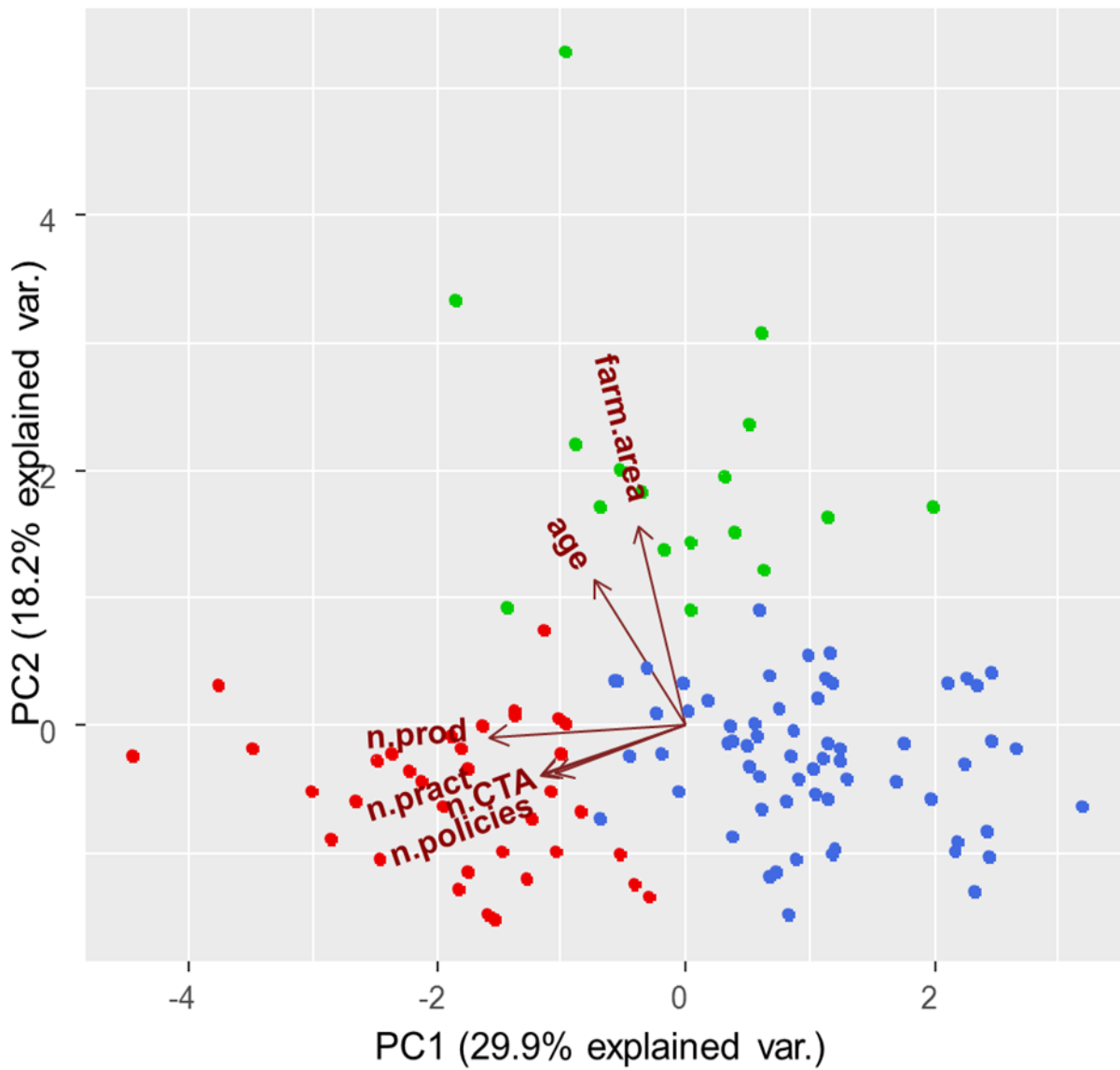
Research objective

To assess the relationship between farmers' perceptions, biodiversity and ecosystem services to inform the transition to more sustainable agroecosystems.



Farm diversity





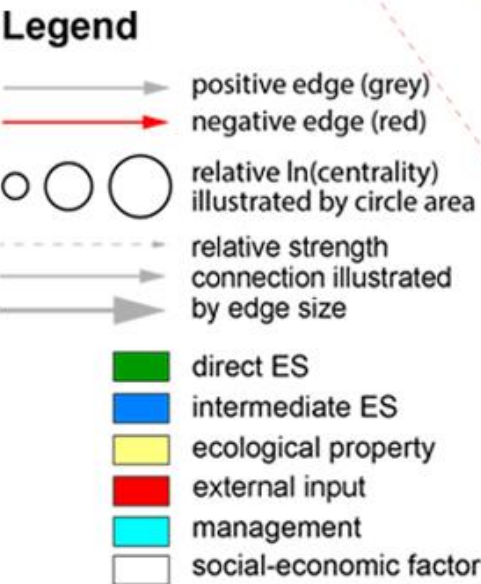
Farm types

- Conventional family farms
- Agroecological family farms
- Traditional family farms



Farmers perceptions on the provision of ES

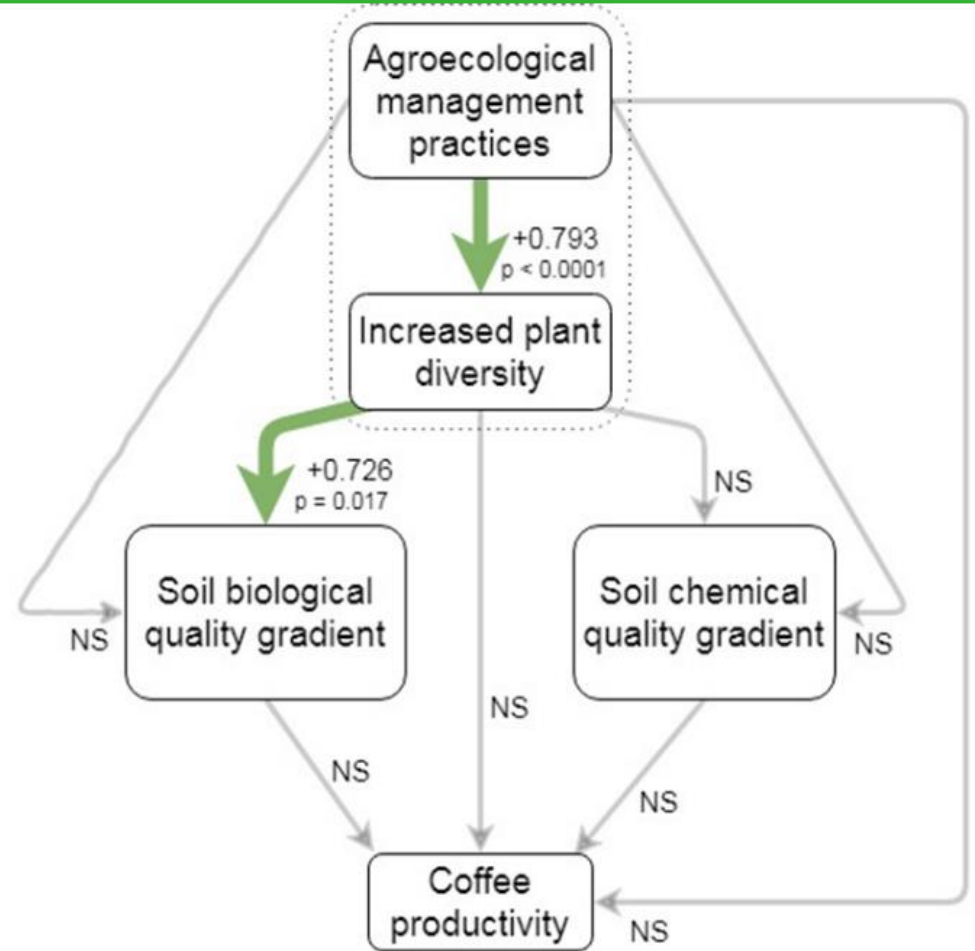




Linking management, biodiversity and soil quality



Coffee





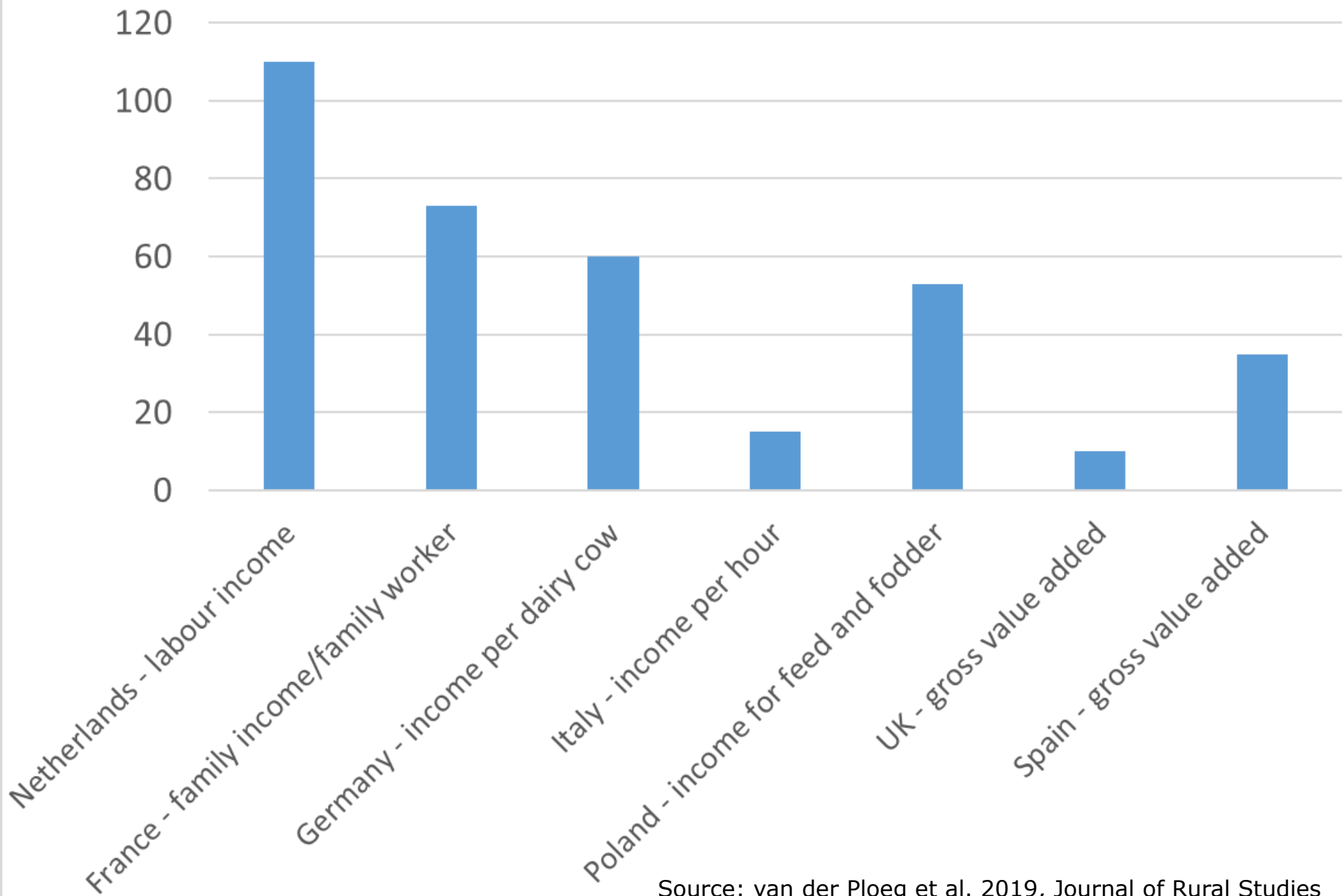


Examples from Brazil:

Organisation from local to international

- **Local/regional:** e.g. Farmers' unions, cooperatives, NGO`s, extension organs, social movements, universities and research institutions
- **National:** National articulation on Agroecology (ANA); National scientific association on agroecology (ABA); social movements
- **International:** Sociedade Científica Latina Americana de Agroecologia (SOCLA)

Economic benefits (Agroecology compared to average - %)



Source: van der Ploeg et al. 2019, Journal of Rural Studies

Diversification for sustainable systems

- Agroecology as a promising approach. How to scale up?
- What other approaches are being promoted and adopted?
- What are the impacts of (different forms of) diversification on the provision of multiple ecosystem services across the globe?

Impacts of diversification on agriculture

- New post doc with PPS, FSE and other chairgroups within PE&RC (SLM, CSA, SBL, SGL, NEM and HPP)
- PE&RC research theme: The re-design of agroecological systems

Planned activities

- Survey about diversification in agriculture.
- Workshop with scientists working with diversification.
- Review the work developed in different chairgroups.
- Study cases around the world to assess the impacts of diversification on the provision of ecosystem services.

Diversification as a common ground

- Diversity is a good thing?
- Key component for the re-design of sustainable systems.
- Maximize synergies and minimize trade-offs.
- Requires knowledge and favourable management practices, beyond input substitution.

Thank you!



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