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

WACASA meeting

12th of February, Heitor Mancini Teixeira
Monocultures and Input Use

i.e.: Pesticide use in the world  

Planetary boundaries are being trespassed

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
Good quality of life

Human wellbeing

Living in harmony with nature
Living well in balance and harmony with Mother Earth

Nature’s benefits to people

Ecosystem goods and services
Nature’s gifts

Anthropogenic assets

Institutions and governance and other indirect drivers

Direct drivers
Natural drivers
Anthropogenic drivers

Nature

Biodiversity and ecosystems

Mother Earth
Systems of life
Intrinsic values

Changing over time
Baseline-Trends-Scenarios

Prezi

IPBES level of resolution
Local
National
Global

Interacting across spatial scales

Diaz et al. 2015
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
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 renunciation of their agrarian 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 organizations 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.
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.
Objective 1: to assess farm diversity and its implications for management and for promoting agroecological transitions.

Objective 2: to understand and contrast farmers’ perceptions on ecosystem services and their management.

Objective 3: to assess the direct and indirect impacts of management on biodiversity and ecosystem services in coffee and pastures.

Objective 4: to assess the relationship between biodiversity and ecosystem services during secondary forest succession.
Farm diversity
Farmers perceptions on the provision of ES
Linking management, biodiversity and soil quality
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 - %)

- Netherlands - labour income
- France - family income/family worker
- Germany - income per dairy cow
- Italy - income per hour
- Poland - income for feed and fodder
- UK - gross value added
- Spain - gross value added

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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