Transformations for Sustainable and Just Food Systems through Agroecology

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Food and farming is more then ever unsustainable

- All relevant biophysical indicators are turning negative, fast, steeply, dangerously
- The emerging context is beyond human experience
- Costs of mitigation, adaptation, remediation are rising sharply

IAASTD

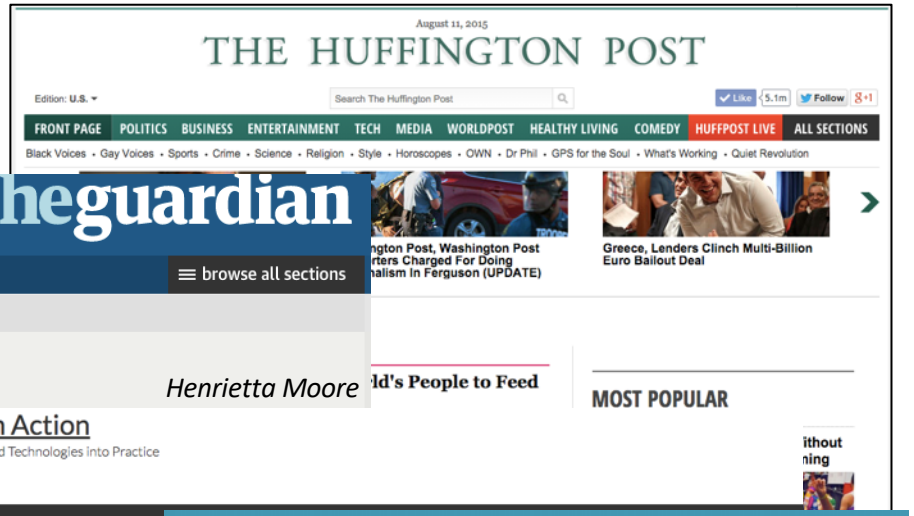
Recent policy support for agroecology

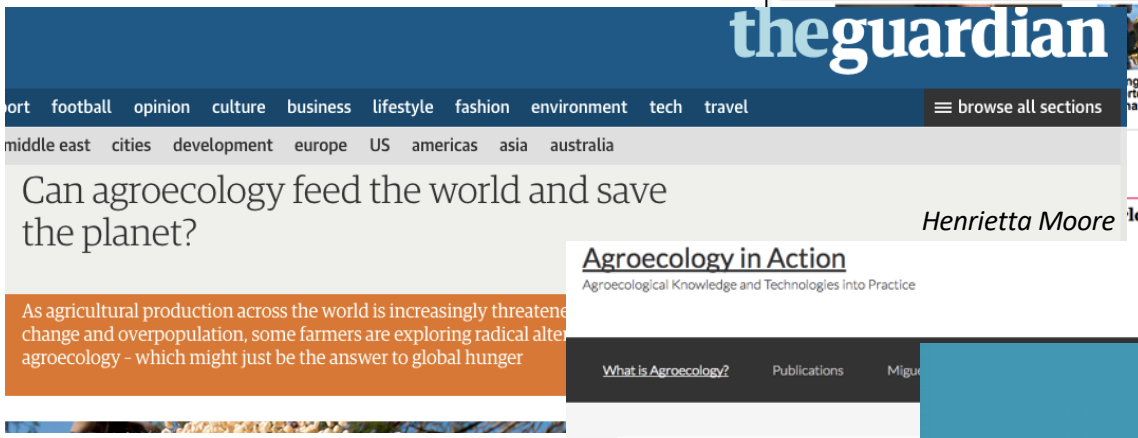
- **IAASTD** advocates reducing vulnerability of global food system through *locally based innovations* and *agro-ecological approaches* (IAASTD, 2008).

- **SCAR = EU Standing Committee on Agricultural Research.** Highest priority should be given to 'low-input high-output systems - integrating historical knowledge and *agroecological principles* that use nature's capacity and models nature's system flows (SCAR FEG, 2011).

- **UN FAO** – after over four years of international dialogue, two international symposia and six major regional consultations, the FAO announced its *Scaling Up Agroecology Initiative* in April 2018.

The Globalization of Agroecology





Henrietta Moore

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Multi-Stakeholder Consultation on A

24/11/2015-26/11/2015 **Bangkok, Thailand**

Food and Agriculture Organization of the United Nations

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Regional Symposium on Agroecology for Sustainable Agriculture and Food Systems in Europe and Central Asia

Budapest, Hungary, 23/11/2016 - 25/11/2016

Background

In September 2014 the International symposium on agroecology for food security and nutrition was held in FAO HQ, Rome. This has been followed in 2015 by three regional meetings in Latin America, sub-Saharan Africa and Asia and the Pacific.

In order to continue to develop this regional approach, from 23–25 November 2016 the regional symposium on title 'agroecology for sustainable agriculture and food systems in Europe and Central Asia' was held. It started

Webcast videos

- Part 1
- Part 2
- Part 3
- Part 4

Participant Handbook

Links

- FAO-led symposium on agroecology opens in Budapest
- Photos from the event
- International Symposium on

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Final Document

- Final Recommendations of the Regional Seminar on Agroecology in Latin America

Dakar, Senegal, 5-6 November 2015

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everse soil degradation and achieve food security

- Multi-Stakeholder Consultation on Agroecology for Asia and the Pacific
- Regional Seminar on Agroecology in Latin America and the Caribbean

Media Coverage

- Press Release
- Video message by FAO Director General, José Graziano Da Silva
- http://www.slideshare.net/FAOoftheUN/tag/agroecology (documents and presentations)

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The 5 levels of change through agroecology

Transformational

Incremental

Level 5: Rebuild the global food system so that it is sustainable and equitable for all

Level 4: Re-establish connections between growers and eaters, develop alternative food networks

FOOD SYSTEM LEVEL

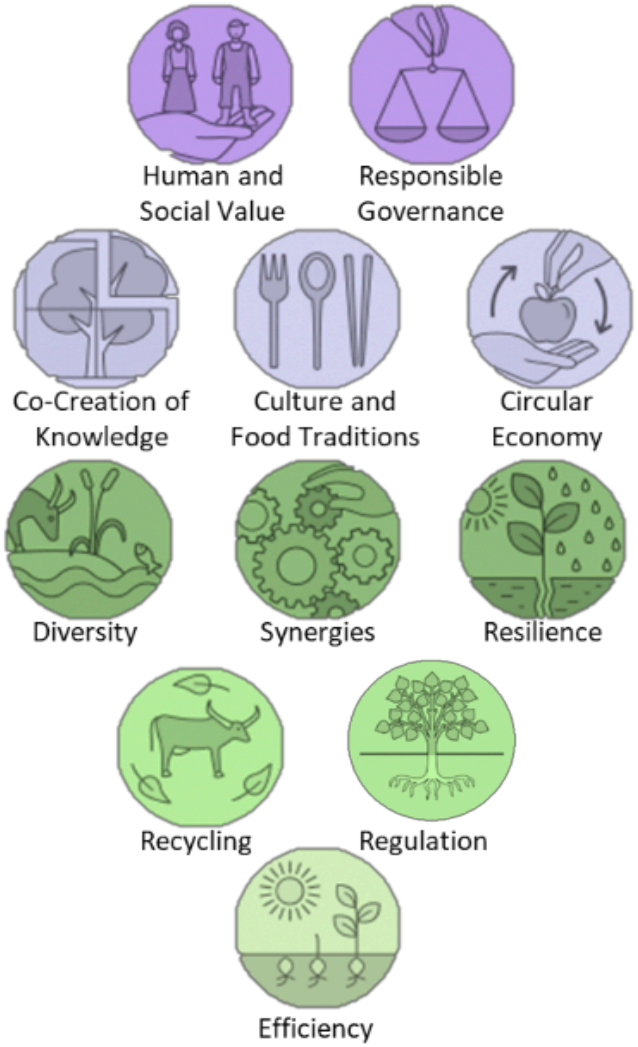
Level 3: Redesign whole agro-ecosystems

Level 2: Substitute alternative practices and inputs

Level 1: Increase efficiency of industrial inputs

AGROECOSYSTEM LEVELS

Level 0: No agroecological integration



Contested meanings of agroecology

Dominant agri-food model

- Agroecology as part of Sustainable Intensification and Climate Smart Agriculture (e.g. co-existence with GMOs)
- Emphasis on science
- Conforms to productivist model and ‘business as usual’ in food, farming and development

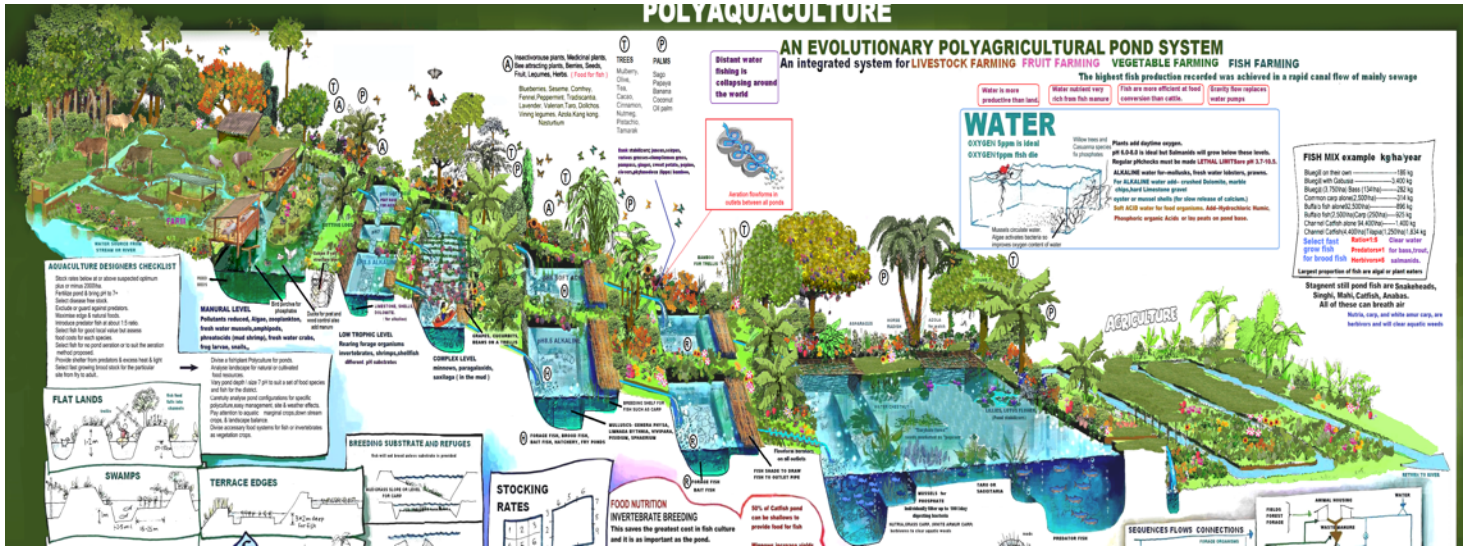
Socially just and sustainable agri-food systems

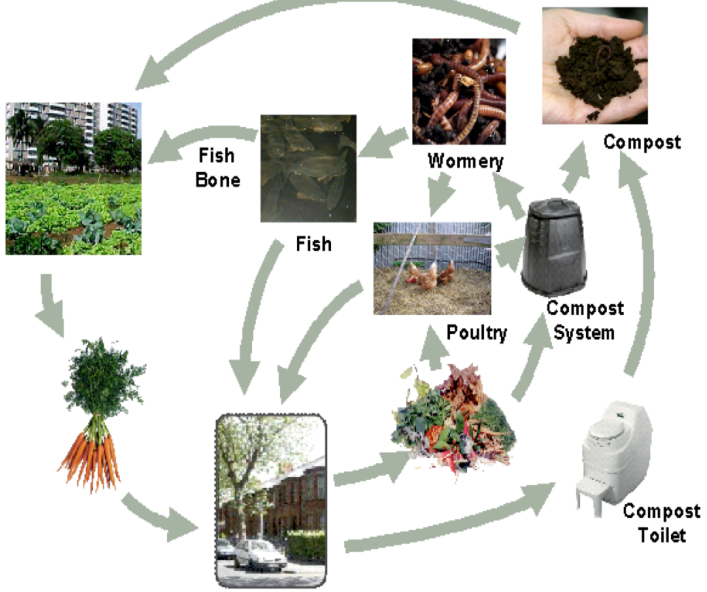
- Agroecology as a science, practice and social movement
- Emphasis on peasant agroecology as part of food sovereignty
- Transformation of dominant agri-food regime – system wide change

Transforming agroecosystems through agroecology – how can governments support this shift to sustainablity?

From Uniformity to Diversity

- Agro-ecology – mimicking natural ecosystems
- Eco-literacy and eco-design/permaculture/bio-mimicry
- Models of circular economy that combine food and energy production with water and waste management along rural-urban continuum.





Diversifying to strengthen resilience and self provision

Varieties free of rights

Functional biodiversity to reduce pest & disease outbreaks, while simultaneously enhancing dietary diversity on offer

- **Shropshire sheep** not only **control weeds** in commercial apple and pear orchards in northern Europe, they also **help limit the spread of fungal diseases** by eating fallen leaves

Diversifying crop varieties and livestock breeds in agroecosystems

- **Evolutionary plant breeding of wheat based on a diverse & complex mixture of varieties or lines.** This complexity renders the whole population resilient. Whatever the problem, there seems always to be some components of the population able to deal with it.
- Links with **artisan bakers**

Enhancing the conservation of soil, water and trees on the farm and neighbouring landscape

- By building terraces, swales, tree belts, hedges and ponds to conserve soil and water, **farmers' individual and collective action generate ecological complexity and heterogeneity at different scales**.

➢ this creates **habitats and micro-environments for providers of ecosystem goods and services (e.g. pollinators) as well as wild edible species** in agroecosystems and human-managed landscapes.

Public funding for agroecological R&D is low or insignificant

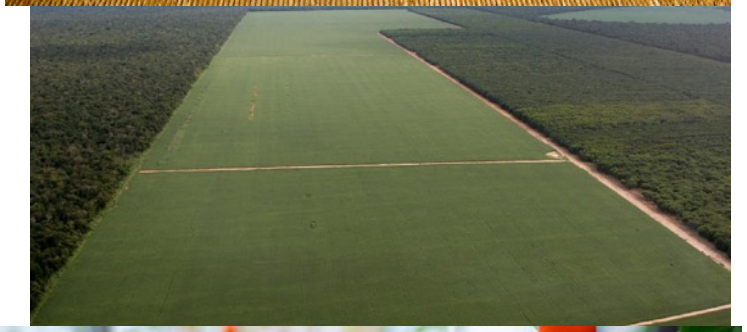
USA

in the USA, a recent analysis of funding by the US Department of Agriculture (USDA) showed that projects with an emphasis of agroecology based on agroecosystem diversification represented **only 0.6 to 1.5% of the entire USDA Research, Extension and Economics** (REE) **budget**

UK

Funding for agroecological research is **less than 1.5% of the total UK budget for agricultural R&D.**

Since 2010, agroecological research & development projects received **less than 0.1% of the UK's budget for official overseas aid on food and farming** in Africa, Asia and Latin America.



Priority funding for Agroecology Research and Education

- **Worldwide: urgent need for more public funding for agroecological R&D -** including for the creation of new research posts and expertise

- **Substantial increase in agroecology training courses** in formal and informal education institutions

Support agroecological R&D - a paradigm shift

- Agroecological solutions are not delivered top down. They are **developed through respectful intercultural dialogue** between scientists and farmers/citizens, - building on peoples' local priorities, knowledge and capacity to innovate

- Shift from a transfer of technology model of R&D to a decentralised, bottom up, and **participatory process of knowledge creation tailored to unique local contexts** in rural and urban areas

- **Knowledge intensive, transdisciplinary** and based on principles of **cognitive justice**

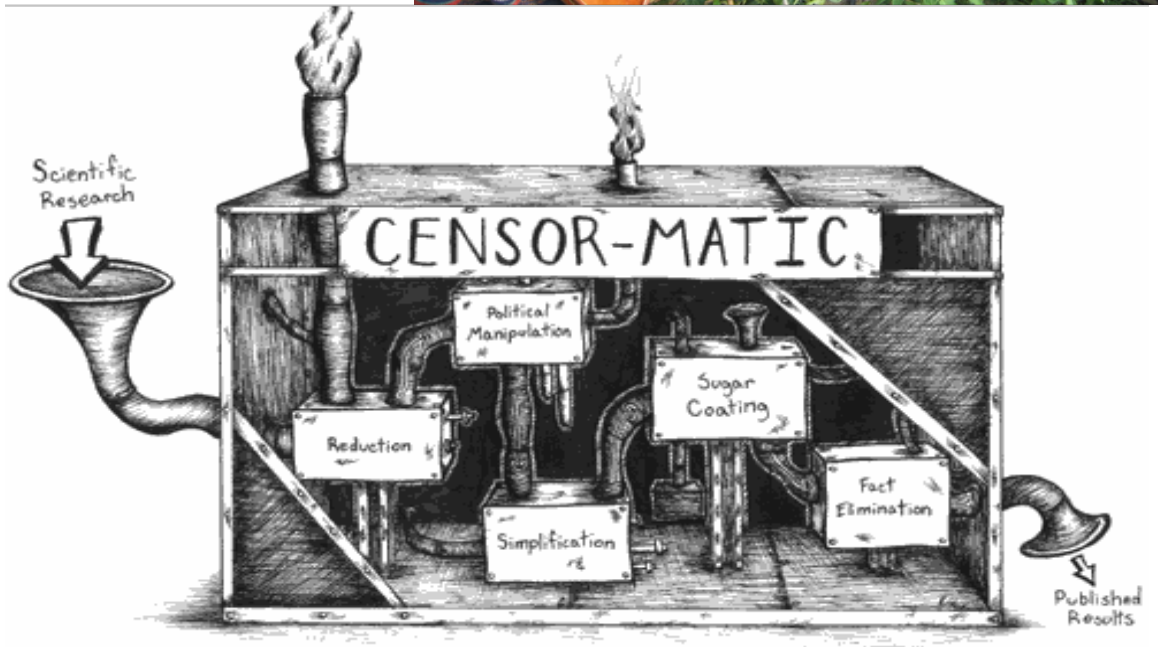
Cognitive justice and participatory research for agroecology transitions depend on two complementary approaches:

- **democratizing science and technology research**, with increased funding for public research and transdisciplinary approaches that include peoples' knowledge

- **de-institutionalizing research for autonomous learning and action**, with an emphasis on strengthening horizontal networks of grassroots research and innovation as well as citizen oversight over the production of knowledge.

Democratising public research and transforming knowledge for agroecology

- Increase funding for R&D
- A shift to transdisciplinary and participatory research that respects and includes farmer & peoples' knowledge
- New roles and ways of working for researchers
- Organisational transformation
- Protecting public research from corporate control and censorship



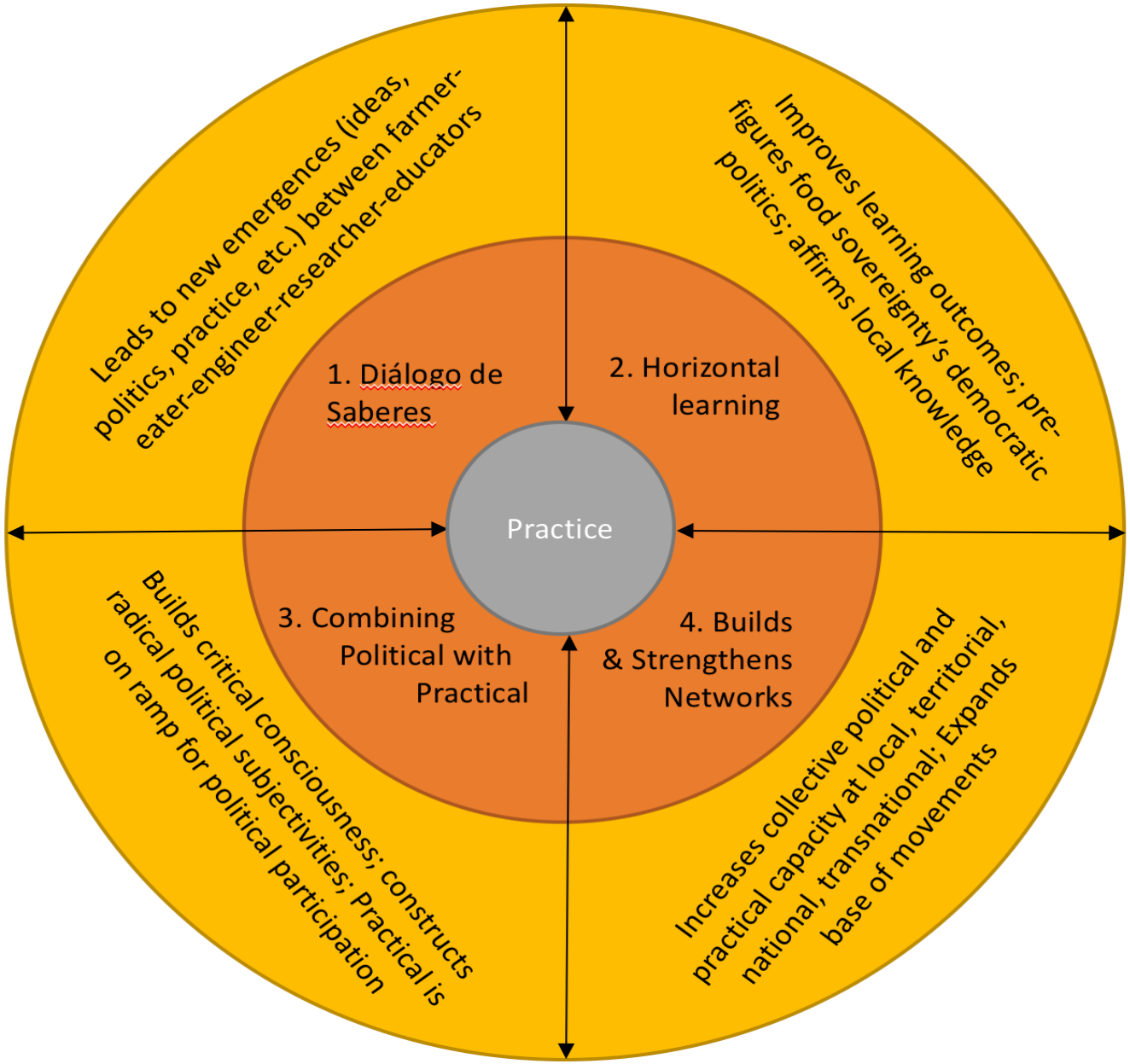
Expanding farmer/citizen-led agroecological research

- **Strengthening self-managed research and grassroots innovation in horizontal farmer-citizen networks**

Horizontal grassroots networks producing knowledge and innovations

- *Campesino a campesino* movements in Central America and Cuba
- Community-based Farmer Field Schools (FFS) in Indonesia
- MST agroecology schools in Brazil
- *Réseau Semences Paysannes* (Italy, France…)
- *Millet Network of India*
- *Farm Hack* (USA, UK) et *L' Atelier Paysan* (France)
- URGENCI the international network for Community Supported Agriculture (CSA)

Strengthening grassroots R&D system for agroecology



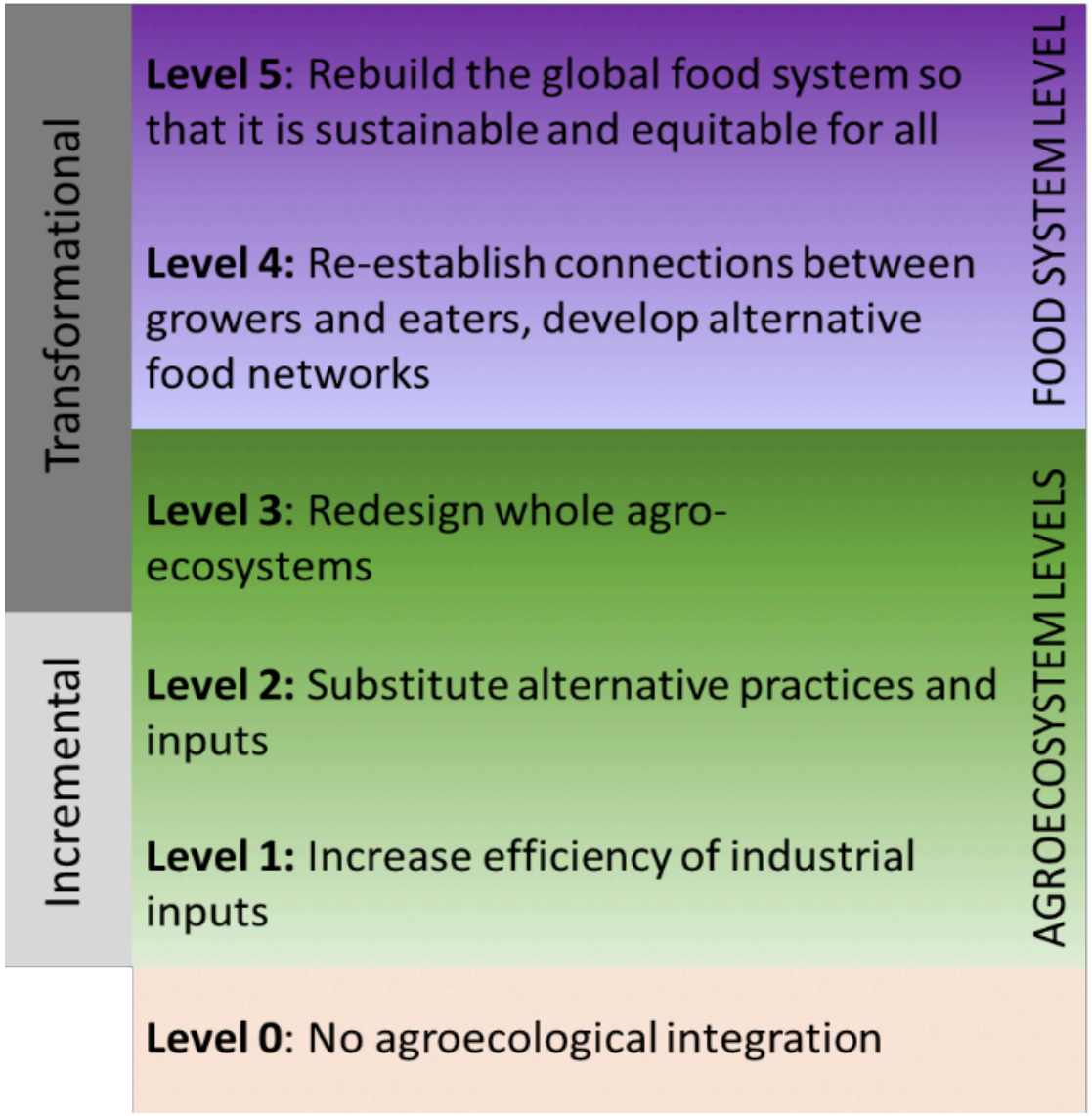
Tailoring agroecological research to diverse contexts by enabling farmer/citizens' participation in:

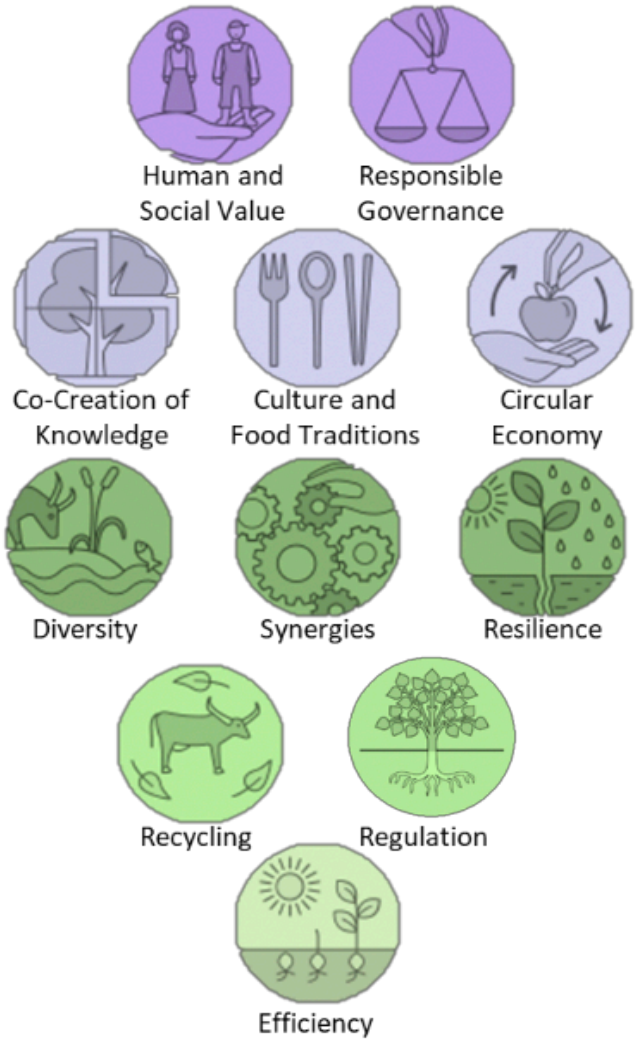
- the **framing of national and local policies** for science and development
- the **choice of upstream strategic priorities for R&D**, including decisions on budget allocations by funding bodies
- during scientific and technological research – **the production and validation of knowledge** in the natural and social sciences, as well as the arts and humanities
- **in evaluating research results** and impacts, including risk and sustainability assessments.

Additional policy reversals to support diversity rather than uniformity in agriculture

For example, **halt subsidies to industrial food and fibre production and re-direct those** to family farmers, indigenous forest dwellers, pastoralists, artisanal fishers and communities engaged in small-scale and climate friendly agroecological production

Transforming the food system through agroecology – what can governments do to support this shift to sustainability?





Transforming the food system through agroecology – what can governments do to support this shift to sustainability?

Agroecological approaches build alternative food networks through **forms of economic exchange that reinforce connections between producers and consumers within territories**, – re-localising production & consumption

- **Support public procurement of locally produced** agroecological/organic foods promotes access to more dietary diversity in schools, hospitals and public canteens in Italy, Austria, Denmark, and Brazil

Agroecology and local food initiatives are growing, - creating markets for farmers

- **Local Food Systems** - production, processing, trade and consumption of food occur in a defined reduced geographical area

- **Short Food Supply Chain** - the number of intermediaries is minimised, the ideal being a direct contact between the producer and the consumer.

Study of 84 different SFSCs in Europe (Kneafsey et al, 2013. European Commission)

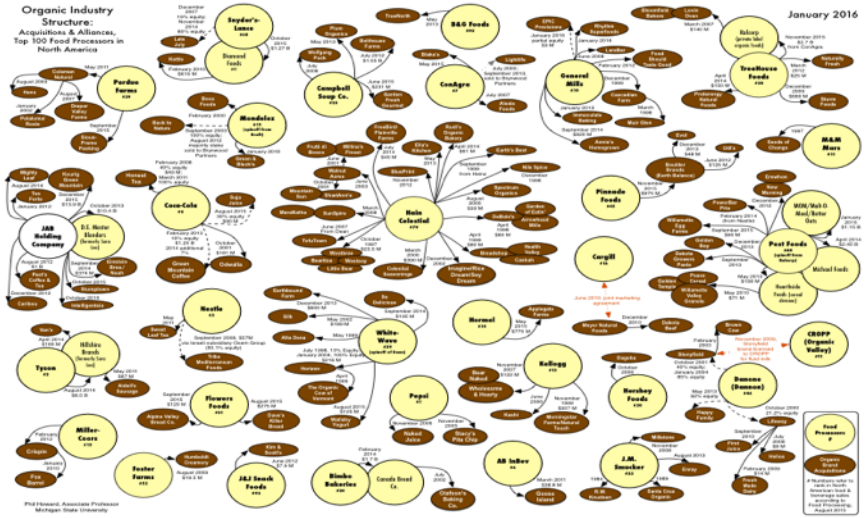
- CSA and AMAPs
- farm shops, pick-your-own schemes…
- farmers' markets, shops owned by farmers, farm-based delivery schemes, or through one single trade intermediary
- Farmer link with public procurement scheme

- Sell mainly to local and /or regional markets
- Products traded: fresh fruit and vegetables, animal products (meat, dairy), beverages
- Urban-driven schemes have grown rapidly in recent years in comparison with rural SFSCs

Reversing the cost – price squeeze that reduces income of farmers

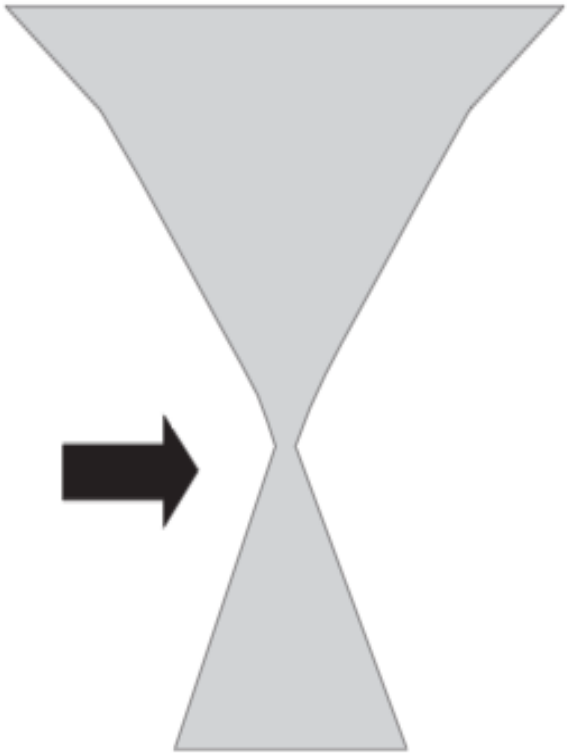
- In Germany today, only about 20% of the price of food goes to the farmer, whereas farmers received 75% of the share in the 1950s.

Concentration and Power in the Food System



- Costs of production (e.g. seeds, fertilizers, animal feed and fuel…) going up and farmgate prices going down. Cost – price squeeze leading to **farmer bankruptcy and exit from farming**

The Supply Chain 'Bottleneck' in Europe



French inter-ministerial study: *Départs précoces en agriculture. Analyse d'une situation peu connue* (ASP, 2016)

- 10 000 farmers *per* year leave farming before reaching retirement age – i.e. one third of total number of farmers who quit farming every year

- Young people unable to enter farming or find it hard to do so

- Retired farmers receive a very small pension

Reasons for leaving farming in France (ASP, 2016)

- Banks refuse to give loans; lack of cash; inability to reimburse money borrowed for farm investments

- Impacts of multiple crisis (climate change, illnesses, market volatility….) *"Farm enterprises are less and less able to absorb impacts of two consecutive years of crisis"* (ASP)

- Isolation (geographical and social); lack of recognition; insufficient income for long day's work

- Suicides – third cause of farmer death after cancer and cardio-vascular problems.

Re-localizing production and consumption to exit unfair commodity markets – a normative vision

- Re-embedding agriculture in Nature, relying on functional biodiversity & internal resources, - including rediscovery of local assets
- Farmers distance themselves from markets supplying inputs (hybrid and GM seeds, agri-chemicals….)
- Farmers diversify outputs and market outlets
- **Rebuild the infrastructure of local food systems** (e.g. local mills, abattoirs, community food processing units, micro-dairy….) in territories
- **Trade rules that protect local economies** (e.g. local food procurement; policies against food dumping that depresses prices)

Transforming the global food system through agroecology

Transformational

Incremental

Level 5: Rebuild the global food system so that it is sustainable and equitable for all

Level 4: Re-establish connections between growers and eaters, develop alternative food networks

FOOD SYSTEM LEVEL

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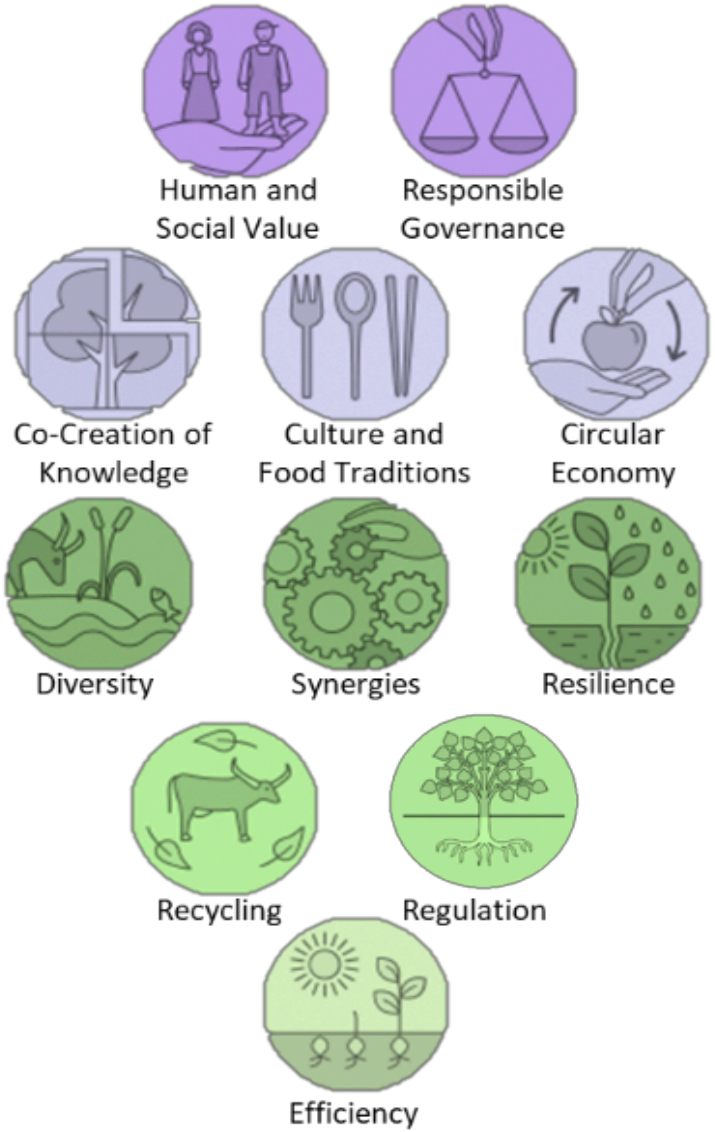


Transformations to rebuild the global food system for equity and sustainability – recent research findings

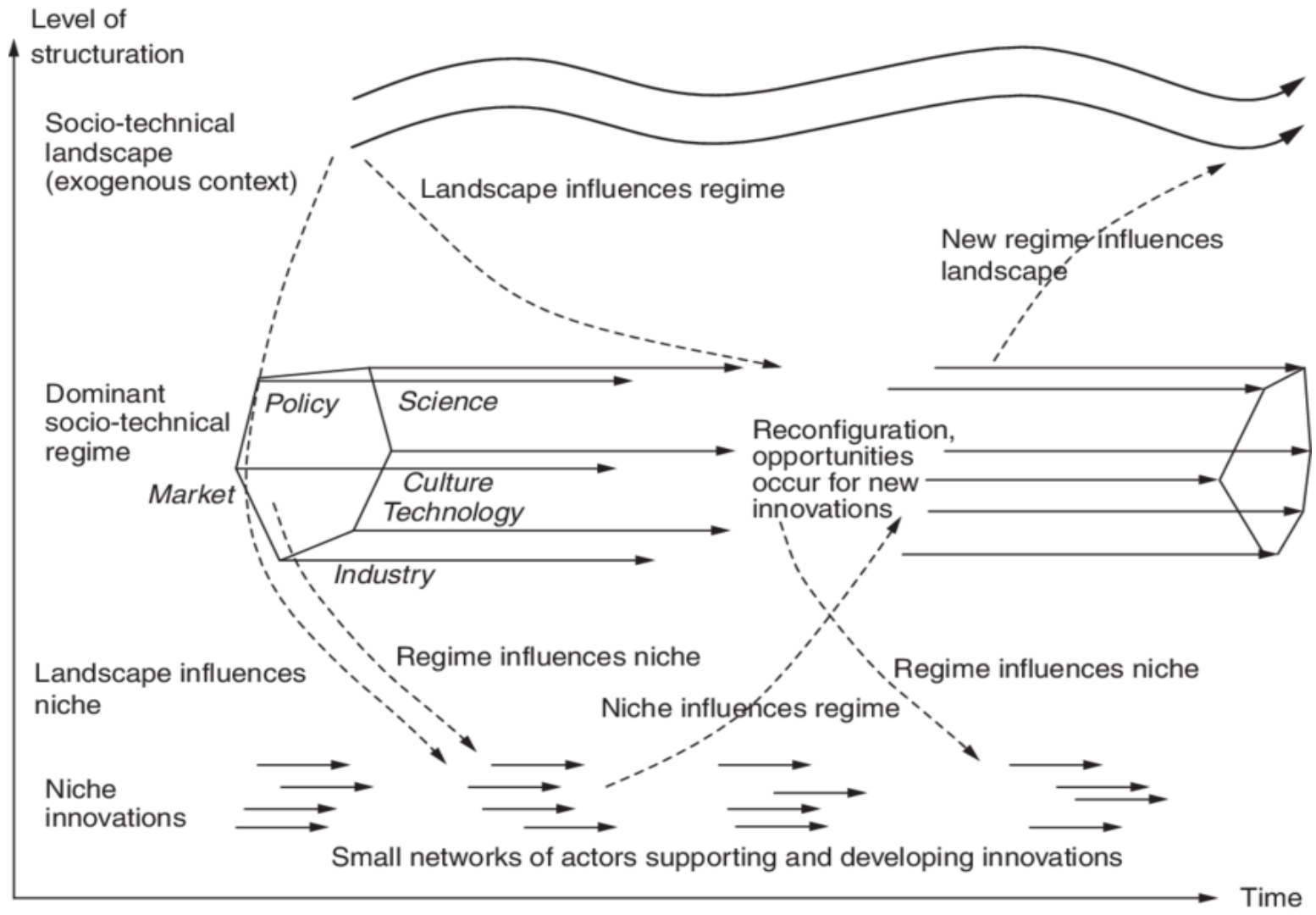
- Study requested by UN Food and Agriculture Organisation(FAO) done by Centre for Agroecology, Water and Resilience (CAWR) at Coventry University
- Critical review focused on the academic and grey literature that examines transition in agroecology - **2548 documents analysed**
- Examined these papers, distilling the **enabling** and **disabling** ('lock-ins') conditions for food systems transition through agroecology
- Enabling factors ('drivers') and disabling factors ('lock-ins') identified were mapped out against **six "domains" of transition/transformation** and analysed using **the Multi-Level Perspective on niche-regime dynamics**

Anderson, C.R.; Bruil, J.; Chappell, M.J.; Kiss, C.; Pimbert, M.P. From Transition to Domains of Transformation: Getting to Sustainable and Just Food Systems through Agroecology. *Sustainability* **2019**, *11*, 5272.https://doi.org/10.3390/su11195272

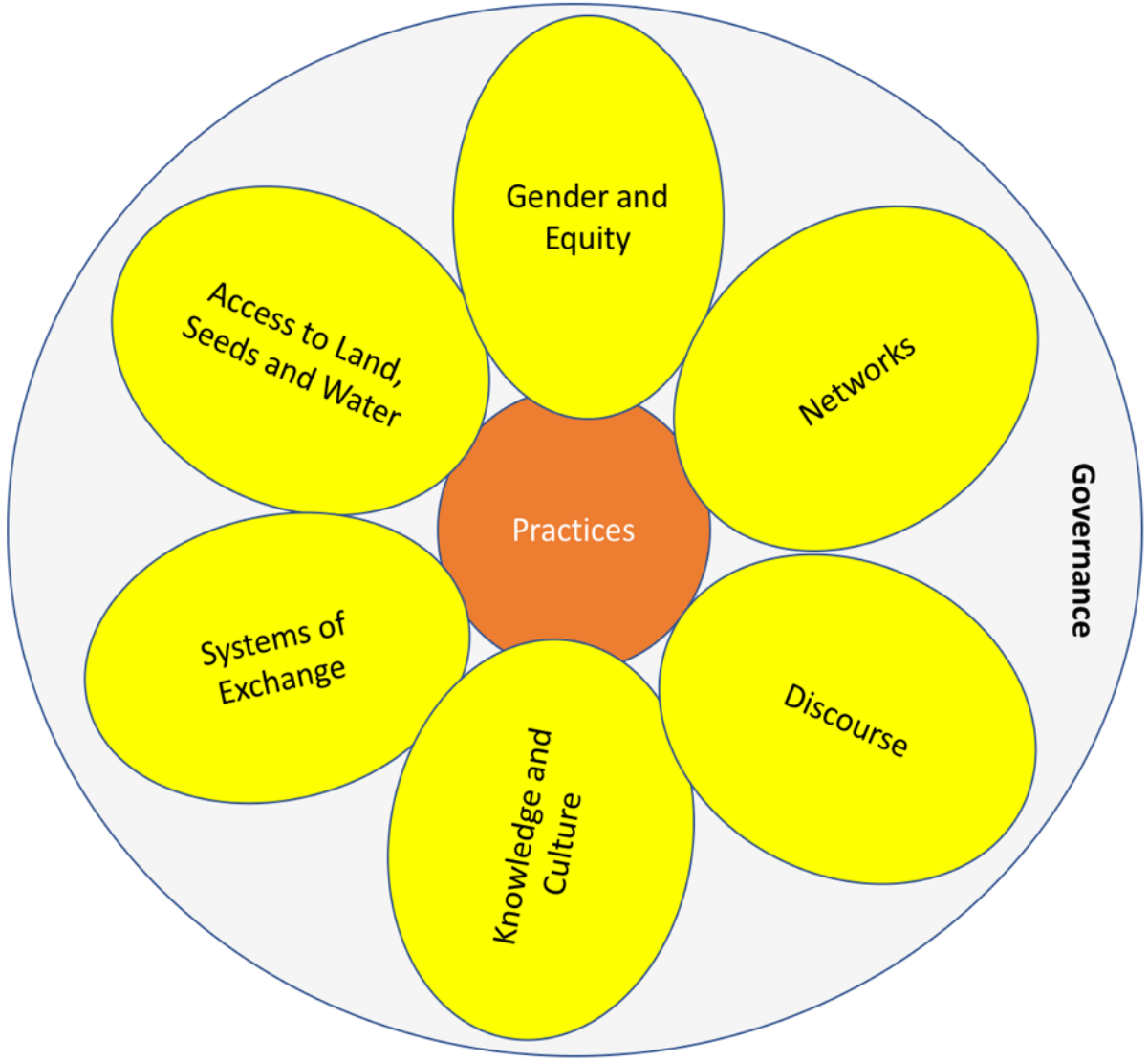
Sustainability Transitions-Transformations – Multilevel Perspective (MLP)

The six domains of transformation are:

(1) Access to Natural Ecosystems
(2) Knowledge and Culture
(3) Systems of Exchange
(4) Networks
(5) Equity & gender
(6) Discourse

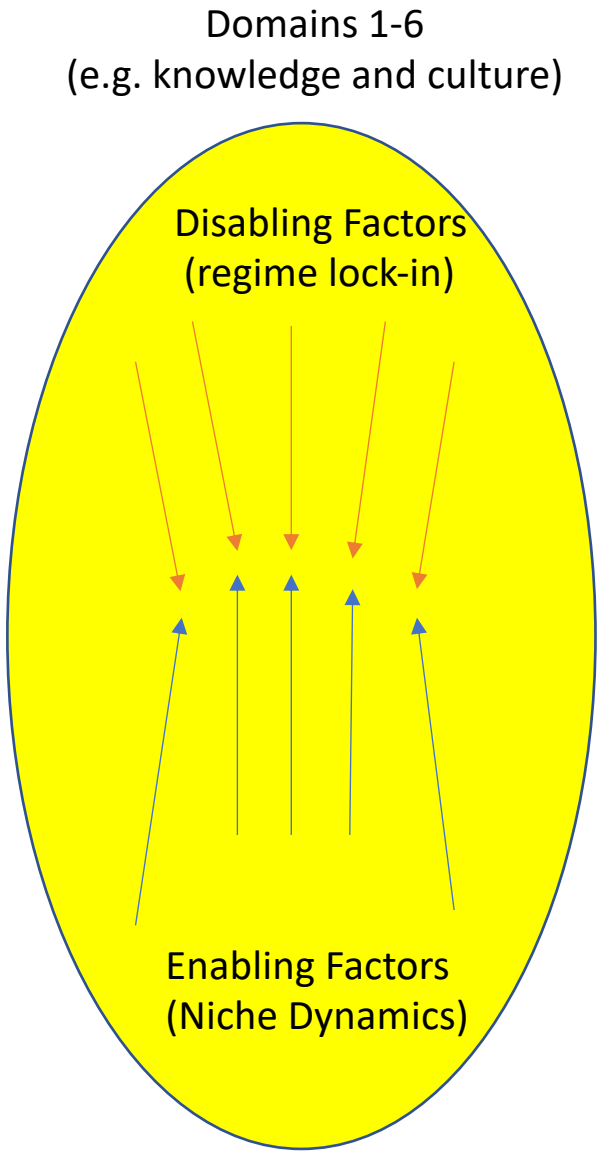


Transformations to rebuild the global food system for equity and sustainability



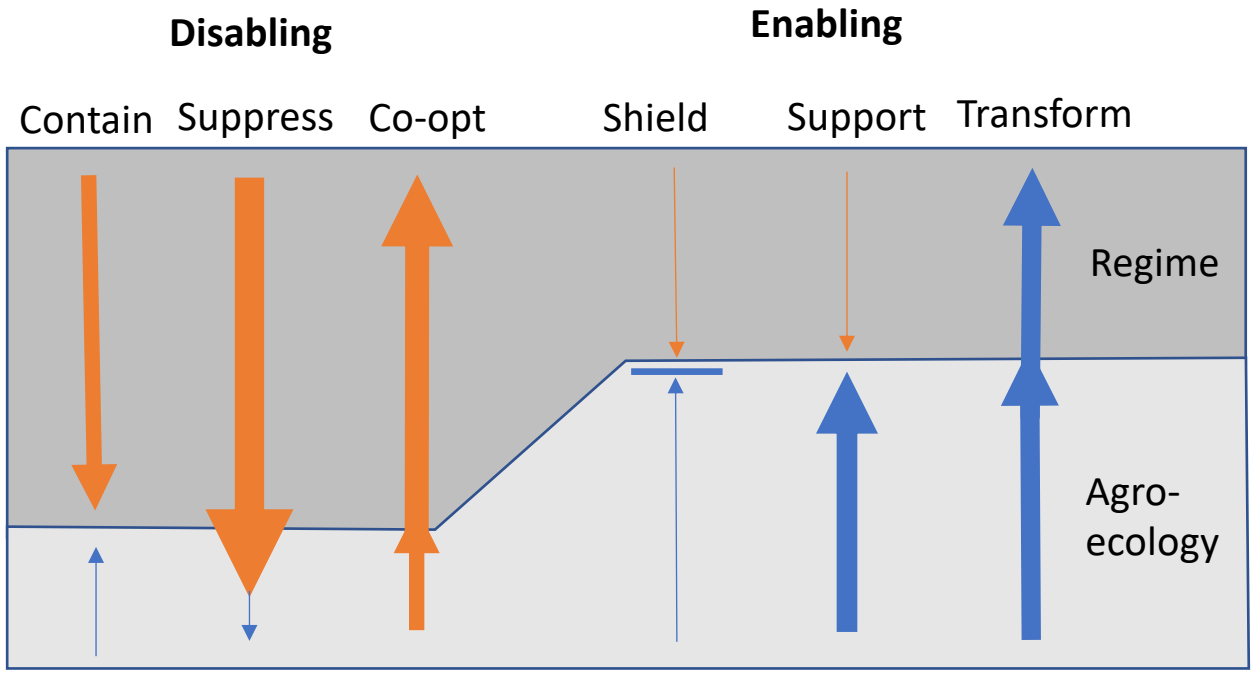
Six transition/transformation domains strongly shape agroecological practices, and are determined by **governance**

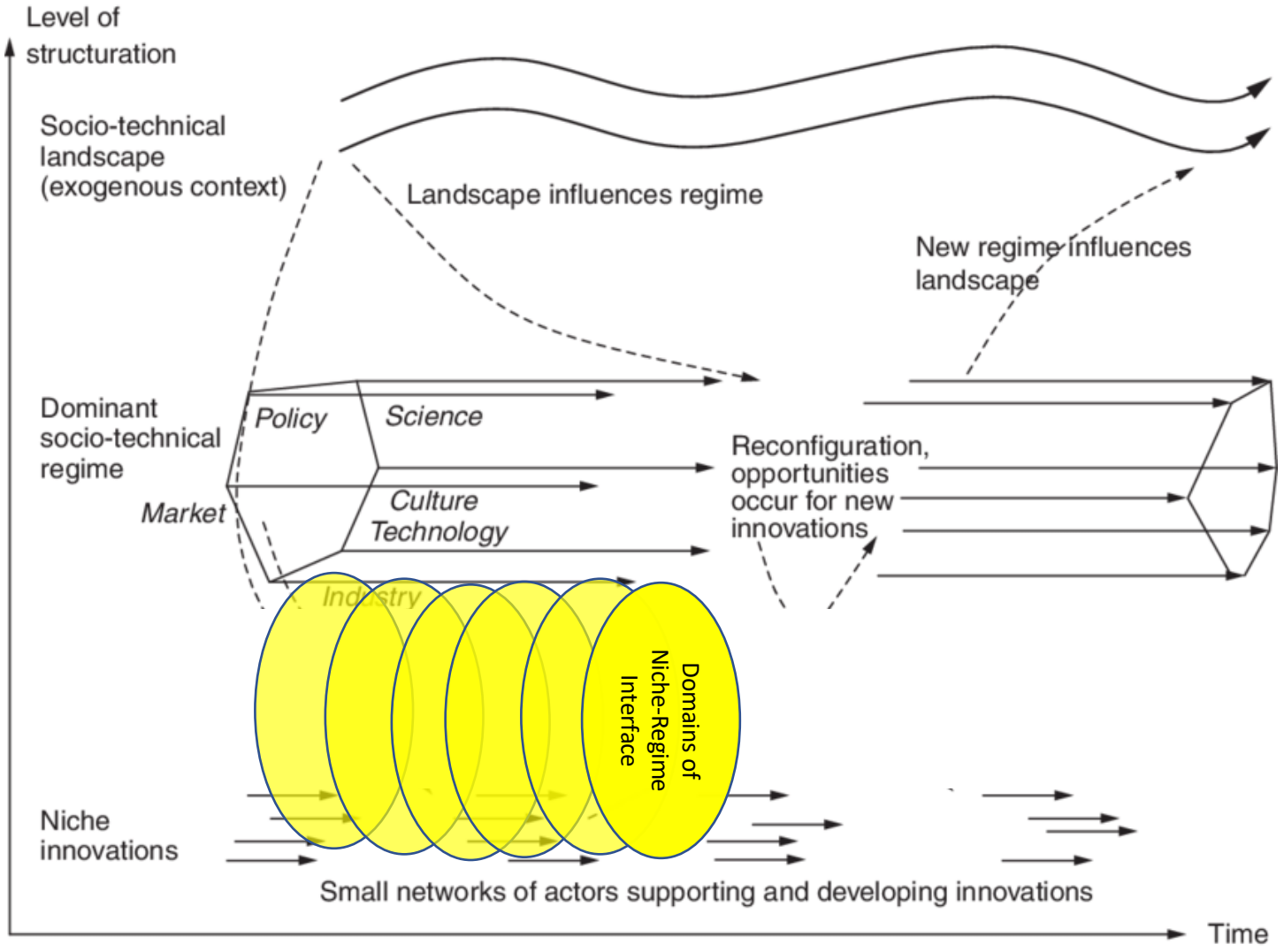
Need to focus on the wider social, political and economic context that shapes food system transitions/transformations through agroecology



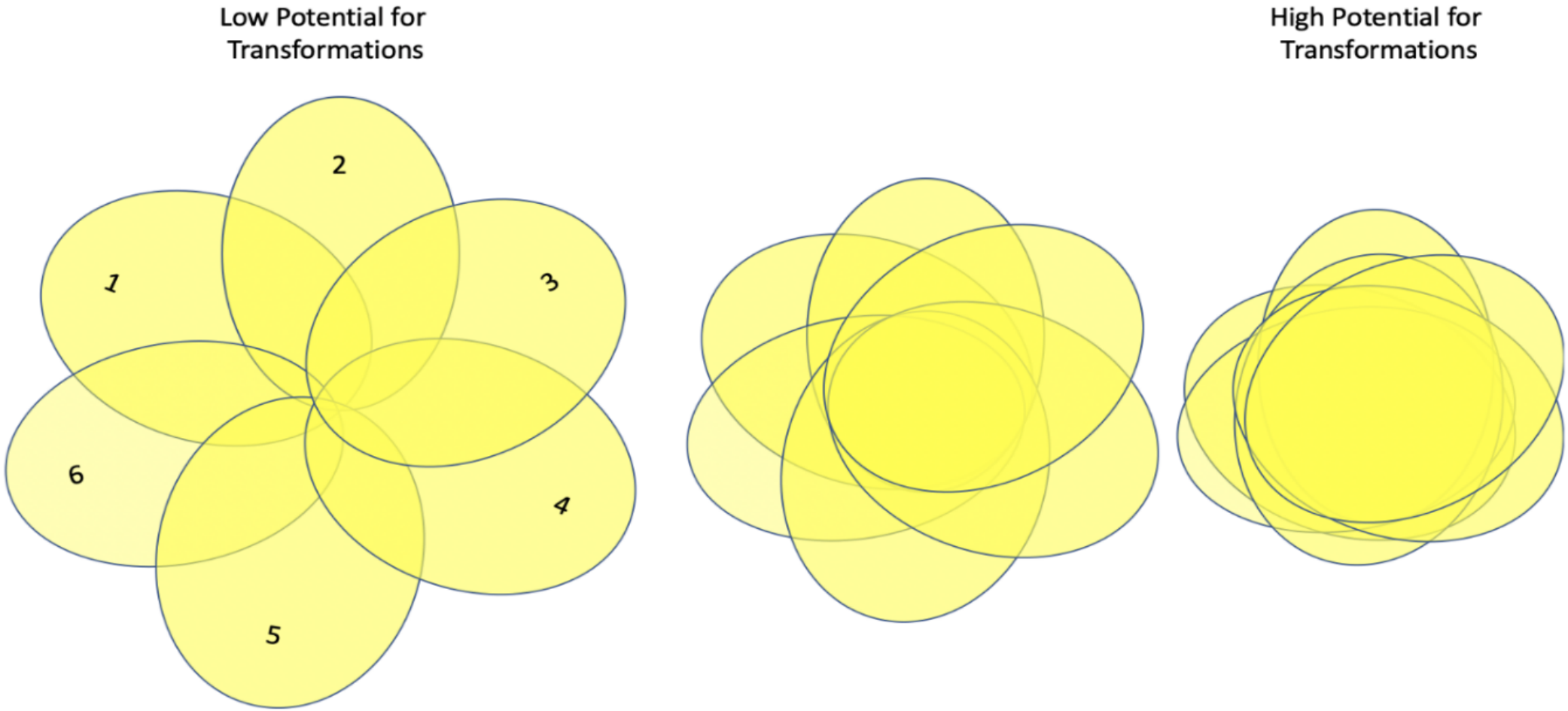
Within each domain, there are factors, dynamics, structures and processes that constrain agroecology (orange arrows), and those that enable it (blue arrows).

These occur within the wider context of the governance of food systems, within which public policy can have an important influence, in addition to the role of the market and of civil society.


Disabling
Enabling
Contain
Suppress
Co-opt
Shield
Support
Transform
Regime
Agro-
ecology


Level of structuration
Socio-technical landscape (exogenous context)
Landscape influences regime
New regime influences landscape
Dominant socio-technical regime
Policy
Science
Market
Culture
Technology
Industry
Reconfiguration, opportunities occur for new innovations
Domains of Niche-Regime Interface
Niche innovations
Small networks of actors supporting and developing innovations
Time

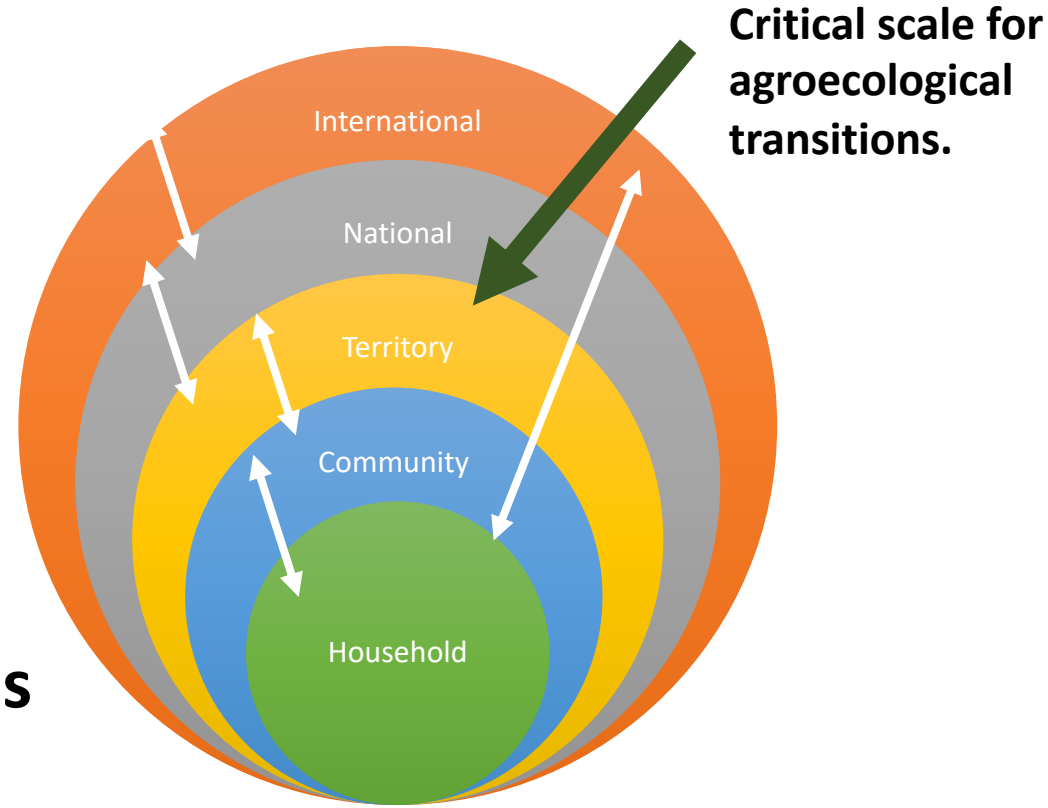
Each of the circles represents a domain of transformation. On the **left** side, the small overlapping space between domains reflects a situation of largely disabling conditions for agroecology. As domains start to overlap and enabling conditions in each domain become more robust and aligned, a greater potential for durable, widespread and deep agroecology transformation ensues (**right**)



Territorial Approach in context of Multi-scale Governance

Agroecology should be considered within **a multi-scalar governance framework that examines the dynamic relationship between actors, institutions, systems and policies** across household, community, territorial, national and international scales

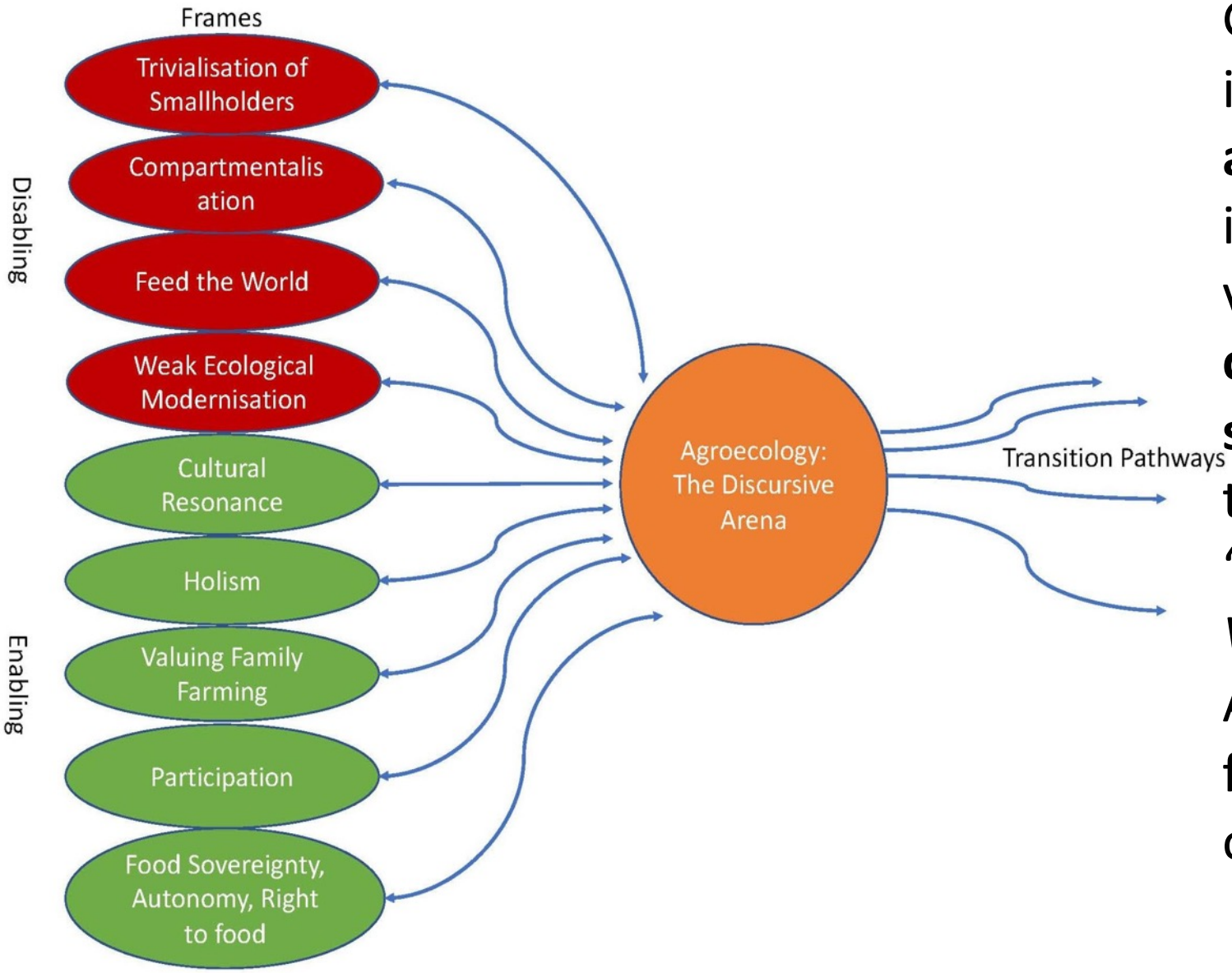
At same time, there is growing evidence over the **importance of the territorial scale for agroecological transitions/transformations**



Three key areas for agroecological transformation of the global food system

A. Restructuring economies for agroecology and sustainable food systems
B. Re-inventing modernity and promoting enabling discourses for agroecology
C. Deepening democratic governance

A) Re-inventing modernity and promoting enabling discourses



Growing numbers of people – including youth – are affirming **another vision of modernity** that is rich in meaning and hope. This vision **rejects the commodification of nature and social relations** and focuses on the creation and maintenance of "the good life"— including *Buen Vivir* or *Sumak Kausai* in Latin America, De-growth in Europe, feminist subsistence perspectives, or Ecological *Swaraj* in India

B) Restructuring economies for agroecology and sustainable food systems

1. Equitable and gender inclusive access to land, water, seeds, the commons, and other means of production

- Implement international instruments and agreements, including:

  - The Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries, and Forests in the context of National Food Security (VGGT)

  - The United Nations Declaration on the Rights of Peasants and Other People Working in Rural Areas (UNDROP).

B) Restructuring economies for agroecology and sustainable food systems

2. A shift to circular economies to re-localise production and consumption

- Planetary limits are being exceeded. Reversing these trends depends on re-structuring and re-locating food and fibre production, distribution and consumption within decentralised and nested circular systems

- Circular systems that combine food and energy production with water and waste management can reduce carbon and ecological footprints, while maintaining a good quality of life through *controlled processes of de-growth in consumption and production.*

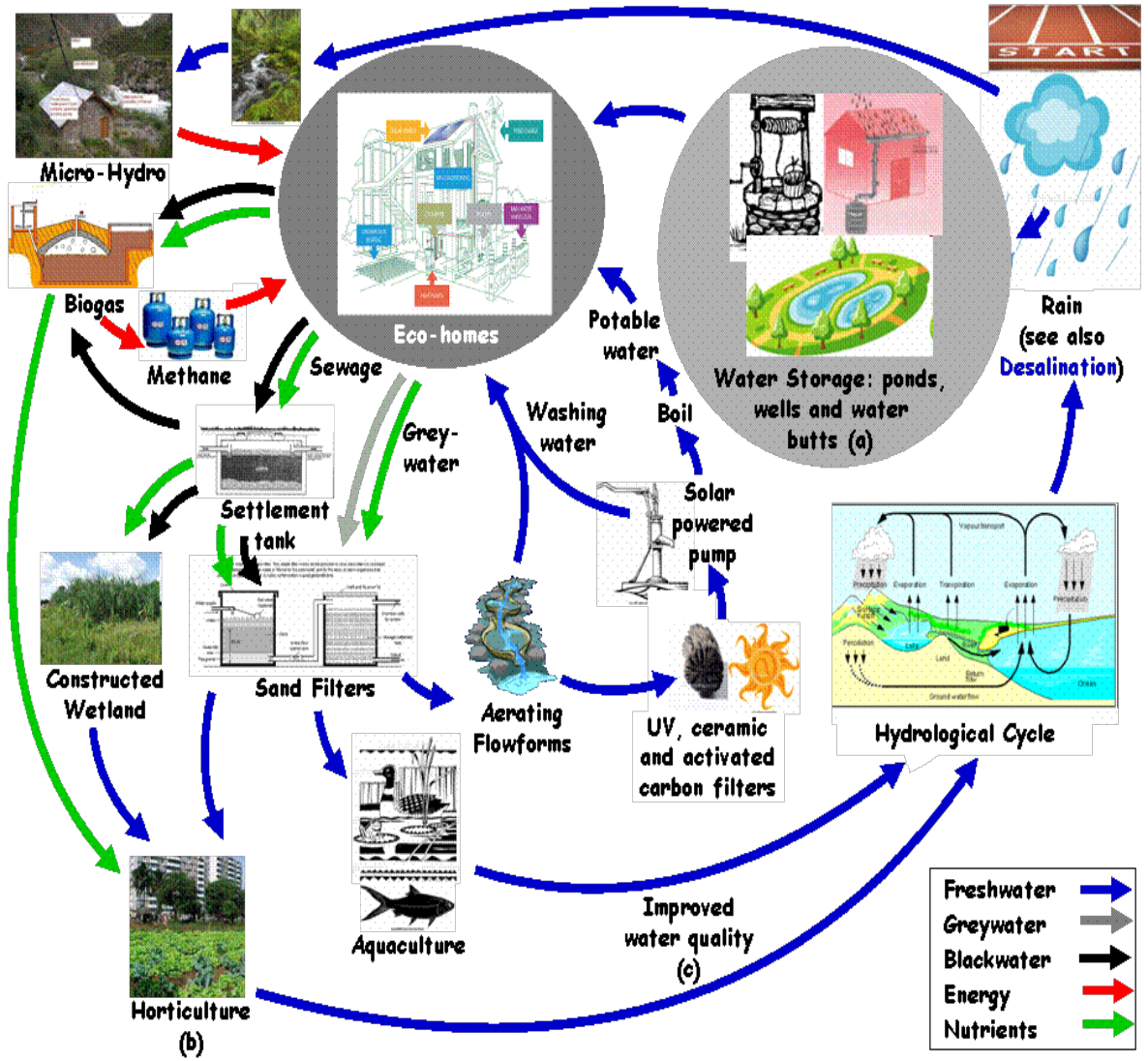
Prioritize policy support and R&D funding for circular and integrated water, energy, sanitation and food systems

Circular systems that mimic natural ecosystems at different scales, - **from individual farm plots to entire cities:**

- *functional biodiversity*

- *ecological clustering of industries and zero waste*

- *re-localised production, processing, consumption, and waste recycling in territories*



B) Restructuring economies for agroecology and sustainable food systems

3. *Reclaiming economics for just and sustainable food systems*

Agroecology for sustainable food systems often relies on economic exchanges that combine money-based market activities with non-monetary forms of exchange based on barter, reciprocity, gift relations, care, and solidarity.

- these **plural forms of economic exchange** should be acknowledged, developed and strengthened
- **protect local economies** against the dumping of cheap food and fibre by using quotas and tariffs to guarantee fair and stable prices to small-scale producers, food processors, and small enterprises
- **phase out food security and aid programs** that import foods which **displace nutritious native crops and livestock**, knowledge, livelihoods and local economies.

C) Deepening democracy for agroecological transformations

Deepening democratic governance assumes that:

- every person is competent and reasonable enough to participate in democratic politics, assuming a different attitude than passive taxpaying and voting (**education for active citizenship**)
- meaningful forums and processes for **inclusive deliberation and decision-making** can be organised-- including peoples' assemblies, citizens' juries, referendums, and sortition as alternatives to elections
- **safe spaces** are created to integrate different types of knowledge, beyond western science
- **people have material security and free time** to think about what type of policies and institutions they would like to see, and how they can develop them

Deepening democracy also implies greater gender justice

- Agroecology has not yet incorporated an **explicit gender approach** that can:
  - ➢ problematise social relations in patriarchal contexts
  - ➢ adequately value the role(s) of women in food and farming
  - ➢ make more visible the relationship between women's domestic work and care with socio-environmental sustainability.

This hides from view many inequalities between men and women in food and farming systems.

- Agroecology as a science, practice and social movement needs to be supported to develop ways of knowing, knowledge, and practices **informed by a feminist agroecology that challenges patriarchy and forms of structural violence against women** in particular.

C) Deepening democracy: re-writing the rules of governance

- Governance refers to the interactions among people and structures that determine **how** and **by whom power is exercised**, - **how and where** decisions are taken

- Governance is about **power, relationships, responsibility and accountability**

- A **power structures perspective** to understand food system governance - from local to global

- **Re-writing governance rules *for, with*, and *by* people**

D) Expanding democratic governance for agroecological transformation of the global food system: a dual power approach

1. Strengthening community self-governance and federations for decentralised decision making and democratic oversight of policies & institutions

2. Transform State governance - changing the organisational structures, professional culture, and practices of municipal, local and national government so that can enable bottom-up and participatory policy processes

C) The bigger picture: time and material security are pre-requisites for democratizing governance

- Without people and farmers on the land there is no participation possible for the co-production of knowledge, policies and laws
  - ➢ Deep policy changes are needed to **reverse economic genocide of farmers** and give them **more material security**

- Women and men need **free time** for democratic deliberations, learning citizenship, and **practicing the art of participatory democracy**

Restructuring the economy for democratic participation in policy making for food and agriculture

- the re-localisation of plural economies that combine both market oriented activities with non-monetary forms of economic exchange based on barter, reciprocity, gift relations, and solidarity within and between territories

- a guaranteed and unconditional minimum income for all

- a significant drop in time spent in wage-work and a fairer sharing of jobs and free time between men and women

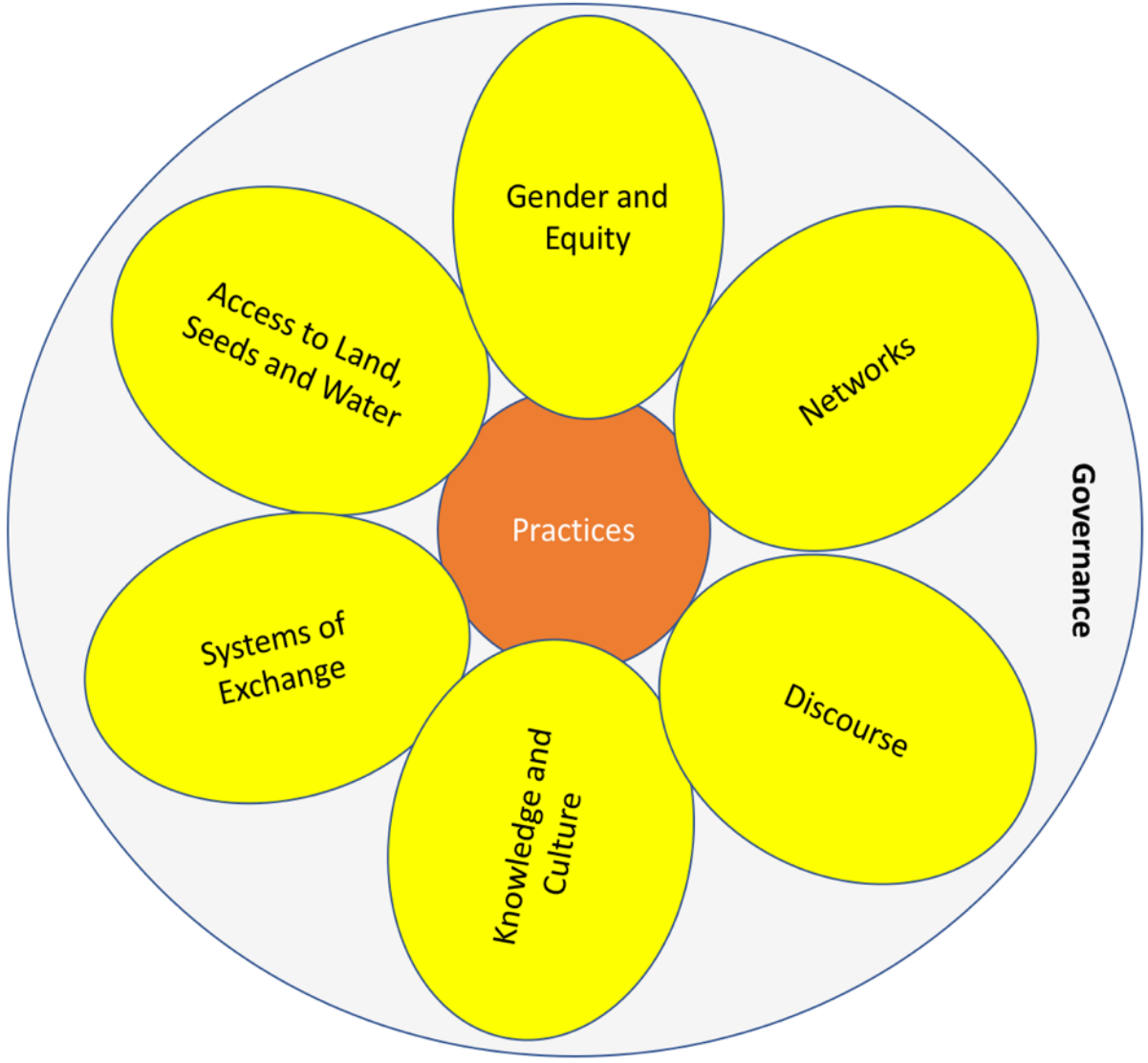
Restructuring the economy for democratic participation in policy making for food and agriculture

- a tax on financial speculations, - to fund the regeneration of local economies and ecologies

- the use of alternative local currencies, time banks, and cooperative exchange to regenerate assets and retain wealth in re-territorialised economies

- a shift from globalised, centralised and linear systems to re-localized circular models that mimic natural cycles and link sustainable food and energy production with water and waste management in rural and urban areas.

Rebuilding the global food system for equity and sustainability – a major 21st century challenge



Agroecological transformation needs to **focus on the wider social, political and economic context** that shapes global food system

Systemic rather than sectorial approach to change, - with **simultaneous and mutually reinforcing actions** in all 6 domains of transformation

Danke

Thank you