

# Rooting for root causes:

## Moving from one-sided labels towards fruitful dialogues on future agricultures

Introduction Paper Science Policy Dialogue 07/07/2021

### 1. Introduction

COVID-19 has negatively impacted the previous decline in poverty growth for the first time in a generation, as 90 million people have been pushed into extreme poverty in 2020. Food insecurity was already on the rise prior to the pandemic, with [25.9% of the population affected by moderate or severe food insecurity](#). COVID-19 has exposed weaknesses as well as resilience in global food supply chains and caused further distress in already fragile settings. While COVID-19 is the latest threat, its consequences are aggravated by the previous and ongoing vulnerabilities and bottlenecks relating to and resulting from conflicts and climate change. The interaction between these 3C's (COVID-19, Conflicts and Climate Change) will affect whether and how we are able to reach our Sustainable Development Goals (SDGs) by 2030. The estimates are that if we fail to address climate change, between 68 and 132 million more people will be living in extreme poverty in 2030. The world will not be able to achieve SDG2 Zero Hunger if the recent trends continue, the number of people affected by hunger would surpass 840 million by 2030.

There is much debate on the direction agricultural development should take to achieve the SDGs. New definitions of agricultural systems pop up, older definitions resurface and definitions change over time (e.g. circular, regenerative, biological, agro-ecology, climate smart, mainstream, nature-based solutions etc.). Debates on these agricultural definitions or systems have been going on for decades and more political value has been placed upon it as international agri-food businesses and development organisations have been increasingly using these definitions in their

#### **Seductive yet empty labels don't advance debate about future agriculture**

*Now more than ever, we need serious reflection and debate about desirable futures for agriculture and food production. It is of such importance that this debate must be open and accessible to all.*

*What is very clear to us is that framing the debate about agriculture in terms of simple dichotomies – that suggest a battle of 'right' against 'wrong', 'good' against 'evil' – does no justice to either the seriousness of the challenge, or the enormous variation in agricultural environments and production systems.*

**[Blog: Sumberg, Giller, Hijbeek, Anderson](#)**

programs. It is increasingly suggested that polarisation, unfounded assumptions and a dogmatic choice for one specific system might not lead to sustainable agriculture and food security.

The need for food system transformation is more urgent than ever. Especially with the forthcoming 2021 UN Food Systems Summit the debate on agricultural systems is relevant and can be taken to a new level. Such a debate may also feed the international policy agenda of the Netherlands in Low and Middle Income Countries since the formation of the new government is still ongoing.

The Science Policy Dialogue will be focussed on key opportunities and problems and their root causes in order to support the coherence of agricultural development policy. The dialogue will not focus on a discussion and decisions about the particular agricultural systems. Discussions around empty labels without understanding how such definitions relate to the complexity and diversity of agriculture will not result in the desired impact. It is more fruitful to ensure dialogues focus on the opportunities for synergy which various systems offer and reorient the debate around what really matters in a particular context. This dialogue provides the opportunity to support in navigating within the complex field of agricultural systems.

## 2. Innovative approaches for sustainable agriculture enhancing Food and Nutrition Security

The challenge is to find solutions that fit the context and are able to deal with the root causes of the problems, rather than deciding for particular agricultural systems as an overarching principle. Appropriate approaches depend on the economics of scale in agriculture, context-dependent characteristics and the social and environmental externalities involved. Evidently, there are multiple innovative approaches available to achieve sustainable agriculture and enhance food and nutrition security.

As an example, [Verhagen et al., \(2017\)](#) identify seven approaches, namely: (1) Agroecology, (2) Sustainable Intensification, (3) Climate Smart Agriculture, (4) Landscape Approach, (5) Conservation Agriculture, (6) Organic Farming, and (7) Inclusive Green Growth. Each approach comparatively prioritises certain goals over others, namely improving production, work & income, environment, nature & landscape, health & wellbeing, and climate (Figure 1).

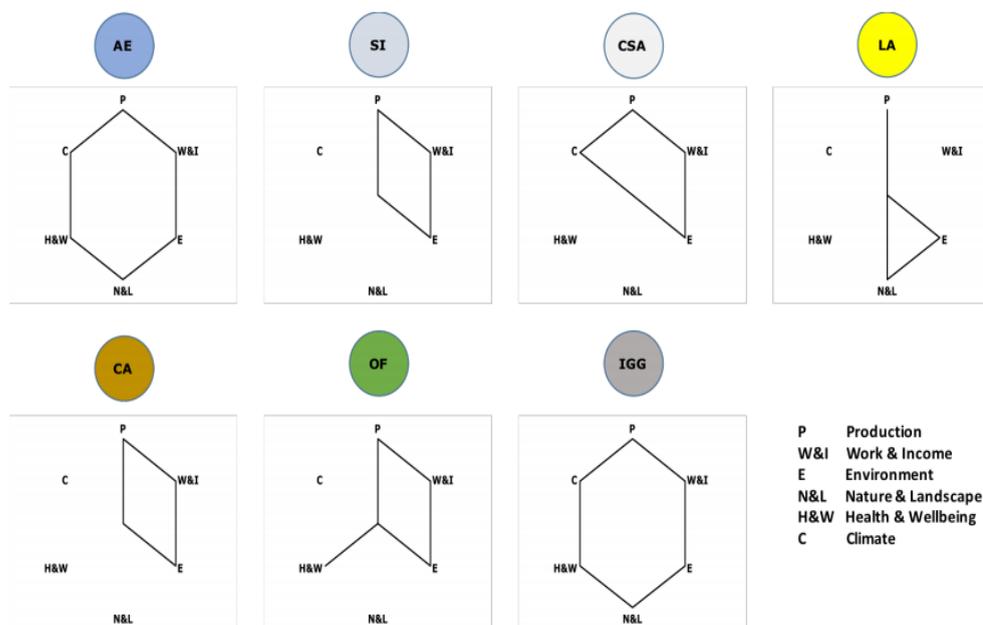


Figure 1. Foci of selected approaches (Verhagen et al., 2017, p.12)

The CFS High Level Panel of Experts (2019) decided upon ‘agroecology’ as a general concept and compared different innovative approaches towards Sustainable Food Systems (SFS) for Food and Nutrition Security (FNS). This report describes several innovative approaches and clusters them in two main categories which are grounded in different visions of the future of food systems: (i) **sustainable intensification** of production systems and related approaches (including climate-smart agriculture, nutrition-sensitive agriculture and sustainable food value chains) that generally involve incremental transitions towards SFSs; and (ii) **agroecological and related approaches** (including organic agriculture, agroforestry and permaculture) that some stakeholders consider to be more transformative.

### ***Regenerative agriculture; a new promising perspective?***

In the paper [Regenerative Agriculture: An agronomic perspective](#) in *Outlook on Agriculture*, Ken Giller and colleagues define the principles and origins and also take a critical look at regenerative agriculture. Regenerative Agriculture is seen as a solution to, where previously ‘sustainable intensification’, ‘climate-smart agriculture’ and ‘agroecology’ have been hailed, the global biodiversity and soil crisis. Giller et al. (2021) note that there is a high degree of diversity in agroecosystems, farm systems and policy contexts and that the nature of this assumed-to-be universal soil and biodiversity challenge dramatically varies over time and space. Whilst international agri-corporations, NGOs and development organisations have been increasingly using the label ‘regenerative’ as a magic bullet solution, there is also an inherent tension between a high-level narrative and the need for locally-adapted and contextualised solutions which are responsive to field conditions.

Giller et al. (2021) propose five key questions that need to be addressed in the design of regenerative agricultural practices on a smaller spatial scale. These questions are meant to stimulate critical reflection on the agronomic aspects of the mechanisms and dynamics of regeneration, the conceptual core of Regenerative Agriculture. Reflection along these lines is needed to differentiate Regenerative Agriculture from other forms of 'alternative' agriculture. Such discussion would also separate the philosophical baggage as well as extraordinary claims that are linked to Regenerative Agriculture and shift the focus to areas and problems where agronomic research might make a significant contribution.

Overall, there are differing opinions on how a food system should function and on its main characteristics. Also there are diverging strategies on how to implement transitions towards more sustainable food systems. Despite having the common objective of working towards sustainable food systems, the suggested approach depends highly on which definitions are used. These different perspectives illustrate where contention and divergence occur between the different visions on agricultural development, and highlights that focusing on one single vision would limit options to apply principles from other visions.

### 3. The current Dutch policy

The current policy document on foreign aid, [Investing in Global Prospects](#) (Kaag, 2018), mentions no specific vision on the preferred agricultural systems approach. The focus is on innovative, climate-smart solutions and integrated programmes in the field of food security, water and climate to boost productivity and revenues.

In [Towards a World Without Hunger in 2030: the Dutch contribution](#) (Kaag & Schouten, 2019), the government sets out its ambition to become a global leader in circular agriculture. This is part of the effort to build a circular economy, which is outlined in its policy document [Agriculture, Nature and Food: Valuable and Connected](#) (Schouten, 2017). This policy document is a collaborative effort between the MoFA and MoAgri.

The government supports the idea that in order to achieve food security, it is important to look at the entire food supply system as a circular system in which people know what healthy food is, whether it is safe, where it comes from, and how and by whom it has been produced. For this transition to sustainable and circular food systems, the government focuses on innovation, climate adaptation and food losses. Innovation refers to the export of knowledge and expertise where the 'Dutch Diamond approach' is central. Climate adaptation refers to any investment in agricultural food production that has to be based on both current and predicted climatic conditions. Lastly, food losses are the opportunity of the Dutch industry to achieve a vital transition in the global agricultural sector in terms of post-harvest losses (Kaag & Schouten, 2019).

In [Development aid funds for agroecology. Support for agroecology of Dutch ODA spending](#) (Achterberg & Quiroz, 2020), Both Ends concluded that the strategy of the Dutch Government to channel increased official development aid (ODA) funding through multilateral organisations and Public-Private Partnerships (PPPs) is not favourable to promoting agroecology. PPPs and multilateral organisations are not strong drivers of agroecology, and the projects funded through these channels have mostly promoted conventional agriculture. Thirty-five percent of ODA funding did not contribute to agroecology, and instead promoted conventional agriculture and trade. When agroecological elements were part of a project, this mostly remained limited to sustainable intensification through increased efficiency of external inputs by twenty-six percent. As recommendation, Both Ends concludes that MoFA and MoAgri should assess funding applications based on the integration of the ten elements of agroecology, and implement funding stimuli for projects which move beyond sustainable intensification towards more ecological integration.

#### 4. Five levels of transition and 13 principles of Agroecology

In the HLPE report (2019), [Agroecological and other innovative approaches for sustainable agriculture and food systems that enhance food security and nutrition](#), a set of 13 principles was created (Figure 2, on the right). These 13 principles of agroecology are organised around three operational principles for sustainable food systems: improve resource efficiency, strengthen resilience, and secure social equity/responsibility (Annex 1 presents the 13 principles in full).

Next to the set of 13 agroecological principles five different levels in agroecological transitions are illustrated in Figure 2 (on the left). Levels 1 and 2 are incremental, levels 3 to 5 are transformational. In level 3 there is a strong focus on interaction amongst components of the agroecosystems and on increasing synergies at a farm and landscape scales. Transition level 4 and 5 broaden the focus on the whole food systems. Level 4 focuses on securing social equity/responsibility. Finally, level 5 aims at the ultimate goal to design a food system that ensures FNS in the future in a sustainable way for all.

While most of these 'principles' are very general and perhaps undisputed, the principle of 'input reduction' is precisely one of the main critiques of Giller et al. (2021) of the way that Regenerative Agriculture is defined. There are many farming systems in the world where one could talk of 'recycling poverty' due to the unproductive nature of agriculture – where more inputs are needed to achieve a productive agriculture that can sustain livelihoods and provide food security.

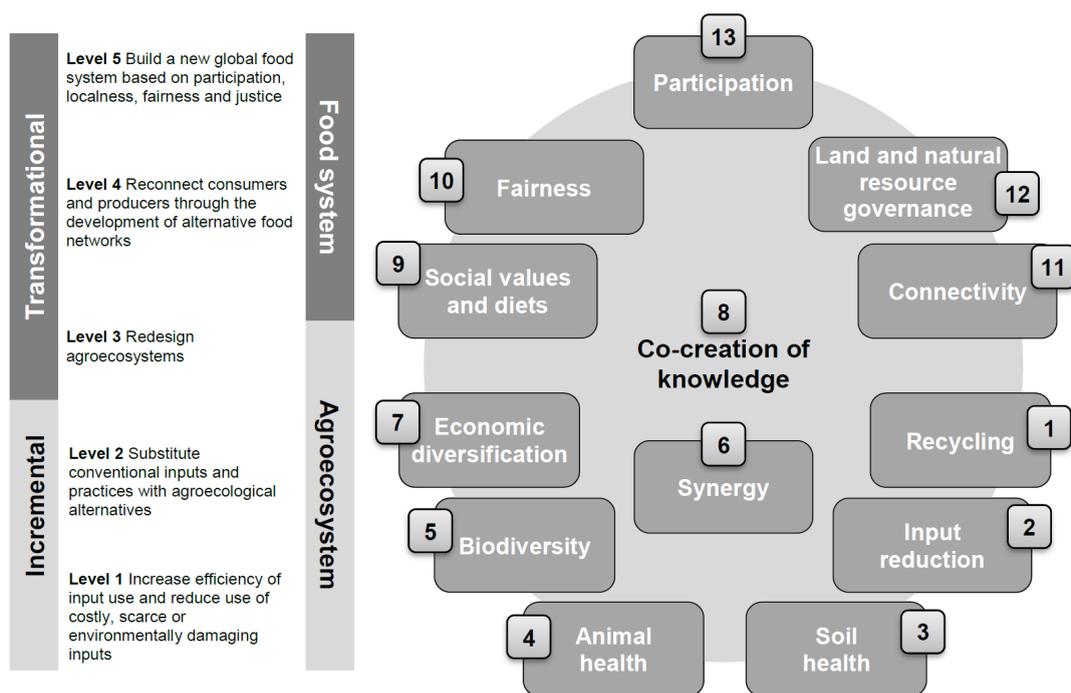


Figure 2. Five levels of transition towards SFSs and related principles of Agroecology (HLPE, 2019, p.51)

## 5. Framework for innovative approaches to sustainable food systems

There is no “one-size-fits-all” solution to realising the needed transformation of global food systems. It will require supporting a diversity of transitions from different starting points, along different pathways, adapted to the local conditions and challenges faced in different places by different people. (HLPE, 2019). The different approaches outlined in the HLPE-report all identify particular trajectories and opportunities for change that may contribute to designing a food system transition framework. All pathways aim for sustainable food systems, as well as the realisation of the right to sufficient and nutritional food. The framework presented by HLPE shows how approaches, principles, FNS pillars, outcomes and impact can be brought together to explore the implementation of different innovative approaches for transformative change of food systems (Figure 3).

It should be noted that structural transformations in the sociotechnical, policy and institutional environment as well as (ecological) transition pathways intimately interact, and hence affect mainstream change. There are a number of barriers to change from the status quo. Identifying the key drivers and structural challenges for the transition to sustainable food systems is critical. Drivers, as well as constraints, are very much dependent on the context and are related to governance, economic, resource, social and cultural, as well as knowledge factors.

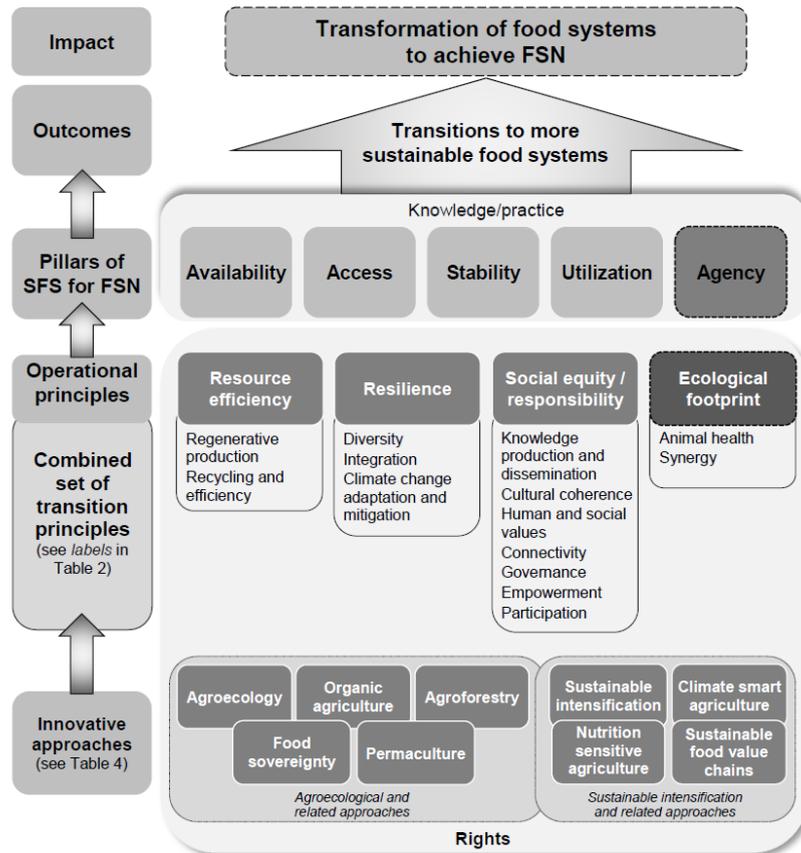


Figure 3. Framework for innovative approaches to SFSs for FSN (HLPE, 2019, p.67).

## 6. Questions for the Policy Science Dialogue

Considering the ambition of the Netherlands to contribute to sustainable food systems in emerging economies and developing countries, main questions are:

1. How do policy makers experience the debate on different agricultural systems, do they engage in such discussions and - if so - in what way does it influence their decisions on policies and programmes?
2. Are the 13 principles of agroecology as defined by the HLPE a useful framework for the overall policy of the Netherlands in LMICs and a starting point for programme development and interventions at regional, national or local level by EKNs?
3. Can the five levels of transition help to define realistic ambitions for Dutch support to food system transformation in a specific context? Should the Netherlands always strive for new food systems (level 4/5) or focus on incremental change and redesigning agrosystems?

## Annex 1: Consolidated set of 13 agroecological principles (HLPE 19, page 41)

### *Improve resource efficiency*

1. **Recycling.** Preferentially use local renewable resources and close as far as possible resource cycles of nutrients and biomass.
2. **Input reduction.** Reduce or eliminate dependency on purchased inputs and increase self-sufficiency.

### *Strengthen resilience*

3. **Soil health.** Secure and enhance soil health and functioning for improved plant growth, particularly by managing organic matter and enhancing soil biological activity.
4. **Animal health.** Ensure animal health and welfare.
5. **Biodiversity.** Maintain and enhance diversity of species, functional diversity and genetic resources and thereby maintain overall agroecosystem biodiversity in time and space at field, farm and landscape scales.
6. **Synergy.** Enhance positive ecological interaction, synergy, integration and complementarity among the elements of agroecosystems (animals, crops, trees, soil and water).
7. **Economic diversification.** Diversify on-farm incomes by ensuring that small-scale farmers have greater financial independence and value addition opportunities while enabling them to respond to demand from consumers.

### *Secure social equity/responsibility*

8. **Co-creation of knowledge.** Enhance co-creation and horizontal sharing of knowledge including local and scientific innovation, especially through farmer-to-farmer exchange.
9. **Social values and diets.** Build food systems based on the culture, identity, tradition, social and gender equity of local communities that provide healthy, diversified, seasonally and culturally appropriate diets.
10. **Fairness.** Support dignified and robust livelihoods for all actors engaged in food systems, especially small-scale food producers, based on fair trade, fair employment and fair treatment of intellectual property rights.
11. **Connectivity.** Ensure proximity and confidence between producers and consumers through promotion of fair and short distribution networks and by re-embedding food systems into local economies.
12. **Land and natural resource governance.** Strengthen institutional arrangements to improve, including the recognition and support of family farmers, smallholders and peasant food producers as sustainable managers of natural and genetic resources.
13. **Participation.** Encourage social organisation and greater participation in decision-making by food producers and consumers to support decentralised governance and local adaptive management of agricultural and food systems.