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AGENCE FRANÇAISE DE DÉVELOPPEMENT


# Improving the Integration of Agroecological Transition within Projects Financed by the AFD Group

***POSITION PAPER***

#WorldInCommon

*AFD, July 2023*

*The compilation of this document by AFD involved technical inputs provided by the French Institute for research and application of development methods (IRAM). However, the position of AFD as expressed in this document does not necessarily reflect IRAM's point of view.*

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| | |
|---|---|
| ACT | *Agroecology Criteria Tool* |
| AE | Agroecology |
| AFD | Agence Française de Développement |
| BMZ | German Federal Ministry of Economic Cooperation and Development |
| CIDSE | Coopération Internationale pour le Développement et la Solidarité (International Cooperation for Development and Solidarity) |
| CIRAD | Centre de coopération internationale en recherche agronomique pour le développement (French Agricultural Research Centre for International Development) |
| CFS | Committee on World Food Security |
| DeSIRA | Development Smart Innovation through Research in Agriculture |
| DyTAES | Dynamique pour une transition agroécologique au Sénégal (Dynamic for an Agroecological Transition in Senegal) |
| E&S | Environmental and social |
| FAO | United Nations Food and Agriculture Organisation |
| IFAD | International Fund for Agricultural Development |
| GHG | Greenhouse gases |
| GTAE | Groupe de travail sur les transitions agroécologiques (Working Group on Agroecological Transitions) |
| HLPE | High Level Panel of Experts on Food Security and Nutrition |
| IFC | International Finance Corporation |
| INTPA | European Union Directorate-General for International Partnerships |
| IPES-Food | International Panel of Experts on Sustainable Food Systems |
| IRAM | Institut de recherche et d'applications des méthodes de développement (French Institute for research and application of development methods) |
| KfW | German Public Investment Bank (Kreditanstalt für Wiederaufbau) |
| SDG | Sustainable Development Goals |
| GMO | Genetically Modified Organism |
| CSO | Civil Society organisation |
| AAP | Agroecology action plan |
| PBL | Policy Based Loan |
| PES | Payments for Environmental Services |
| SCV | Semis sous Couvert Végétal (Direct Seeding under Cover Crop) |
| PGS | Participatory Guarantee System |
| AET | Agroecological Transition |

# EXECUTIVE SUMMARY

**For the past twenty years, the Agence Française de Développement has been committed to supporting the Agroecological Transition (AET) of agricultural systems**. As knowledge and understanding of agroecology progressed, AFD has financed projects promoting an increasingly diverse range of agroecological practices, gradually adopting a territorial approach. Published in September 2022, AFD's intervention strategy for Agriculture, Rural Development and Biodiversity establishes the Group's resolute support for the agroecological transition, considering that **agroecological production systems constitute a combination of economic, social, environmental and health performance levers**. In the operations it finances, AFD strives to ensure that the AET converges with the economic interests of farmers, recognises the risks associated with any evolution in farming practices, and ensures the compatibility of the transition with its food and nutrition security objectives**.** These three conditions are necessary in order to ensure the support of AFD partners for the transition.

The ambition of this position paper is to establish a common language for characterising the AFD Group's initiatives in favour of agroecology. Based on methodologies which are now recognised standard among the international scientific community (Gliessman's 5 levels of transition for sustainable food systems, the FAO's 10 elements of agroecology and the HLPE's 13 principles of agroecology), the tool provides an **analysis grid whose aim is to enable users to determine a project's *ex ante* contribution to the AET**. Having examined the project's contribution to bringing about structural change in food and agricultural systems in favour of the AET and/or its impact at the agroecosystem level – of a territory or individual plot of land – the classification lists four categories:

- projects defined as AET **"precursors"**, as they help initiate a transition by optimising the use of natural resources;
- projects defined as AET **"initiators"**, as they allow for the implementation of alternative practices at the farm or territorial level;
- projects defined as AET **"catalysts"**, as they enable the creation of an environment favourable to the establishment of the AET;
- projects defined as **"transformational"** in terms of the AET, as they will have an impact not only at the farm and territorial level, but also at a more systemic level (those with an influence on the structure of the sector, or linked to agricultural policy, for example).

This classification constitutes **not only a decision-making tool** for AFD Group projects' teams, but also a **tool facilitating dialogue** between counterparts involved in the agroecological transition. It should also enable AFD to increase **accountability for funding allocated specifically to the AET**. Once a project is listed as contributing to the AET, the following two indicators will be systematically tracked by the beneficiaries of AFD funding: the number of family farms and surface area being converted to agroecological systems.

In order to enhance the integration of agroecology within the operations it finances, **the AFD Group herein formulates the operational orientations** for its implementation methods (multi-stakeholder approaches, synergies between projects, etc.) as well as the monitoring and evaluation of its operations (production of reference baselines to support political decision-making, for example). The AFD Group shall also strive to promote territorial diagnostic processes enabling analysis of local contexts and levers for change, to assist in the renewal of agricultural extension services, to support stakeholders and networks committed to agroecology, and to assist in the development of public policies that are favourable to the AET. **The achievement of the Sustainable Development Goals implies a transformation of food systems strongly focused on agroecology.**

# INTRODUCTION

Agroecology is becoming increasingly popular in both the Northern and Southern Countries as a model for ecological intensification of farming systems with low levels of inputs (sometimes referred to as "traditional"), and as an alternative model to so-called "conventional" farming practices (i.e. those resulting from the Green Revolution, increasingly associated with negative environmental and social effects).

The Green Revolution model was developed over the period from 1960-1990 in many Southern countries, based around high-yield crop varieties, intensive use of fertilizers and phytosanitary products (pesticides), mechanisation and motorisation, etc. In this sense, it stands alongside so-called "intensive" agricultural models used in Northern countries in terms of the intensive use of these same production factors. Despite their spectacular effects on agricultural output levels, the techniques used have led to a gradual "artificialisation" of agroecosystems, and have resulted in significant negative externalities such as: i) contribution to climate change; ii) deterioration of biodiversity, soils and water resources; iii) dependence on non-renewable energy sources; and iv) effects on the health and nutritional well-being of households. It has also resulted in a disrupted flow of ecological services, through for example negative impacts on natural cycles (water, carbon, phosphorus, etc.), soil fertility, food webs, genetic diversity and biodiversity. Today, it is widely recognised that a new agronomic revolution is required; one that will enable us to **rethink our agricultural models in order to produce more and in a more positive way, by optimising biological interactions in agroecosystems and by reducing negative impacts on the environment.**

In France, the **"agroecological project"** adopted by the government in 2012 intends to support and amplify a paradigm shift in modes of agricultural production that will mobilise more agroecosystem functions, and reduce dependence on external inputs and the excessive exploitation of natural resources.

At the international level, French cooperation began promoting systems of direct seeding under cover crop (SCV in French) in the early 2000s, as part of a plan integrating projects in several countries and a transverse support programme, which in 2007 became the "Multi-country Action Programme on Agroecology" (Programme d'actions multi-pays en agroécologie). Some fifteen years later, and following assessment of the programme's mixed results[1], a new generation of projects came into being and joined the wider ranks of agroecological approaches. In this way, AFD renewed its commitment to agroecology as an economically and socially viable alternative to so-called "conventional" models for the intensification of farming systems. The **agroecological transition (AET)** thereby outlines the full range of dynamic, interconnected processes via which new production systems based on the principles of agroecology can gradually and sustainably replace conventional systems[2].

Today, agroecology is held up at the global level as a credible alternative to conventional farming, capable of tackling a number of interconnected challenges faced by Southern countries:

- It could make a sustainable contribution to food and nutrition security[3], and meet consumer demand for healthy and diversified food products.
- It enables value to be drawn from the expertise of producers, and should help provide stable employment for a significant share of the global population, thereby improving quality of life.
- It provides various ecological services such as maintaining soil fertility and water quality, restoring damaged landscapes and helping to enhance biodiversity in rural areas.
- It constitutes both an adaptive and mitigating response to climate change. The land use sector (forestry, agriculture) is among the rare examples of a potential carbon sink. Consequently, agroecology finds itself at the heart of climate change mitigation mechanisms, encouraging, for example, carbon storage in soils (e.g. the "4 per 1000" initiative promoted by France[4]) and reduced use of synthetic fertilizers, but also of adaptation mechanisms involving the reintroduction of diversity within agricultural systems.
- Its systemic approach, covering the full range of ecological, socio-cultural, economic and political dimensions of food production systems, enables agroecology to contribute to the

[1] Levard, Vogel, et Castellanet, « Agroécologie : évaluation de 15 ans d'actions d'accompagnement de l'AFD ».

[2] https://www.afd.fr/fr/actualites/agenda/lafd-et-le-cirad-lagriculture-durable-pour-construire-un-monde-en-commun.

[3] FAO, « L'Agroécologie pour la sécurité alimentaire et la nutrition. Compte-rendu du Symposium international de la FAO. »

[4] https://www.4p1000.org/fr.

health of local territories consistent with the *One Health* approach ("human, animal and environmental health").

However, the economic constraints must not be underestimated: delayed return on investment, risk aversion, obstacles associated with innovation, etc.

The ambition of the agroecological transition is more than a simple adjustment of current practices – rather, it aims to transform farming and food production systems by tackling the root causes of problems in an integrated manner, with a long-term approach.

The AFD Group has renewed its ambitions in favour of agroecology through its sectoral intervention framework on "Agriculture, Rural Development and Biodiversity" and its "2020-2024 Territorial and Ecological Transition" strategy, and has the benefit of significant hindsight on the integration of agroecological practices in its operations. But in order to address heightened requirements in terms of accountability, it is necessary to take stock of AFD's past and ongoing experiences as well as those of other donors, and to renew the group's positioning in order to better guide its interventions. In addition to clarifying the semantic elements of the agroecological discourse, the goal is to lay out a clear vision of the means and methods of its operational adaptation within projects.

This paper has been compiled through the combined work of the various departments and entities of the AFD Group. Other donors have also been consulted: the EU/INTPA, IFAD and KfW.

This position paper is structured into the following sections: 1) baseline review and challenges of the agroecological transition; 2) review of interventions by AFD and other funding partners in favour of the AET; 3) the AFD Group's renewed ambition and positioning on the AET; 4) characterisation of the projects' contribution to agroecology and 5) orientations adopted in order to better integrate the AET into the AFD Group's operations.

# 1. BASELINE REVIEW AND CHALLENGES OF THE AGROECOLOGICAL TRANSITION

## 1.1 A DYNAMIC CONCEPT

### 1.1.1. Agroecology: a science, a set of practices and a social movement

**The first use of the term "agroecology" dates back to the 1930s** (Doré & Bellon, 2019). Pioneering Russian agronomist **Basil Bensin** (1881-1973) referred to the concept in various works, providing the first definition of agroecology as "**ecology applied to agriculture**". During this period he established the basis for agroecology at three levels of application: the field, the agricultural region and in science, in order to create more productive and fairer farming systems.

**In the following decades, from the 1950s to the 1970s, the term "agroecology" was not widely in use, but a number of "alternative" agricultural practices were documented during this time**, with each being examined from the academic perspectives of the authors who studied them. For example: an integrated agricultural ecology study of the relationship between crops and their environment (Girolamo Azzi, Juan Papadakis), soil biology and integrated control of crop pests (Wolfgang Tischler), geographic distribution of cultivated plants and links with geographical, cultural and social factors (Karl Klages), ethnobotany and preservation of varieties cultivated (Efraim Hernandez Xolocotzi). These authors all contributed to the development of agroecology, each according to their own academic discipline (agronomy, ecology, geography, zoology, biology, etc.) and share an inter-disciplinary and systemic vision of agriculture, as well as comparable approaches. They were primarily interested in crops (especially cereals), with livestock farming being essentially absent from their writings.

**The 1970s and 80s were characterised by the transformation of farming systems, in response to the critical need to provide food security for a growing and increasingly urban population.** In response to the "negative economic, social and environmental consequences" of the Green Revolution model, agroecology re-emerged within the academic sphere. The leading author in the field, who remains among the most quoted figure for his definitions of agroecology, is Miguel Altieri, Chilean agronomist and professor at the UC Berkeley. Pr. Altieri published the seminal text *Agroecology: The Scientific Basis of Alternative Agriculture*[5], which lays the theoretical foundations of agroecology and presents a range of agricultural practices which continue to define agroecology to this day, while also citing examples of traditional agricultural practices. The first editions of this work were largely focused on agricultural practices, but subsequent editions broadened their scope to include the socio-economic dimensions of sustainable ecosystem management. Miguel Altieri outlined **5 principles of agroecology** which are still used as reference, though they have been expanded in subsequent editions to include the role of animals and social dimensions:

- Increasing the accumulation of organic matter and the recycling of mineral elements;
- Encouraging biological activity in soils;
- Encouraging the mechanisms of natural regulation of weeds, insects and pathogenic agents;
- Minimising resource loss (soils, water, genetic resources);
- Enhancing biodiversity in agroecosystems, and the synergies between their components.

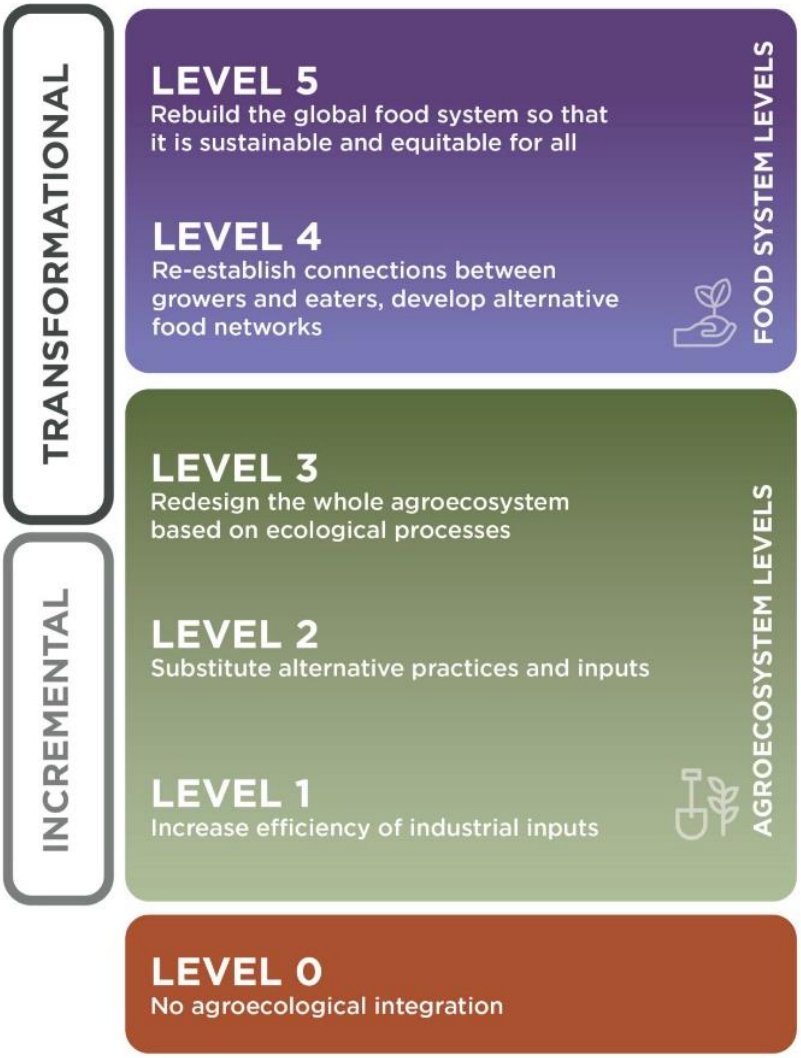
**Stephen Gliessman** also produced the seminal work *Agroecology: The Ecology of Sustainable Food Systems*, several new editions of which have since been published. Gliessman went into greater detail on the definitions of agroecology, and introduced the concept as "**the ecology of sustainable food systems**". He is a member of the IPES-Food international panel of experts[6]. Among Gliessman's most significant contributions to the field are **his 5-level classification of food system change** (cf. diagram below). The first three levels describe the changes which are possible at the level of individual farms (conversion from an industrial or conventional production system) and the two subsequent levels describe changes which go beyond the farm level to the broader food system and even societies as a whole. This 5-level classification system is widely applied in analytical tools used for the agroecological transformation of systems, as will be detailed in subsequent sections.

[5] The French version, published in 1986, included a foreword by René Dumont.

[6] https://www.ipes-food.org/

**More recently (in the 1990s-2000s), the socio-political aspect has taken on greater importance in definitions of agroecology**, thanks to the contributions of other academic disciplines (geography, sociology, economics, etc.) but also due to the growing link between agroecology and societal demands (protection of rural ways of life, alternatives to industrialised agriculture and food systems, land rights, etc.). Eduardo Guzman is among the authors to have encouraged this trans-disciplinary approach to agroecology, integrating the local knowledge of family farmers and historical practices. In France, this movement merges with the agroecology promoted by Pierre Rabhi, who proposes a research model comprising spiritual and humanistic dimensions.

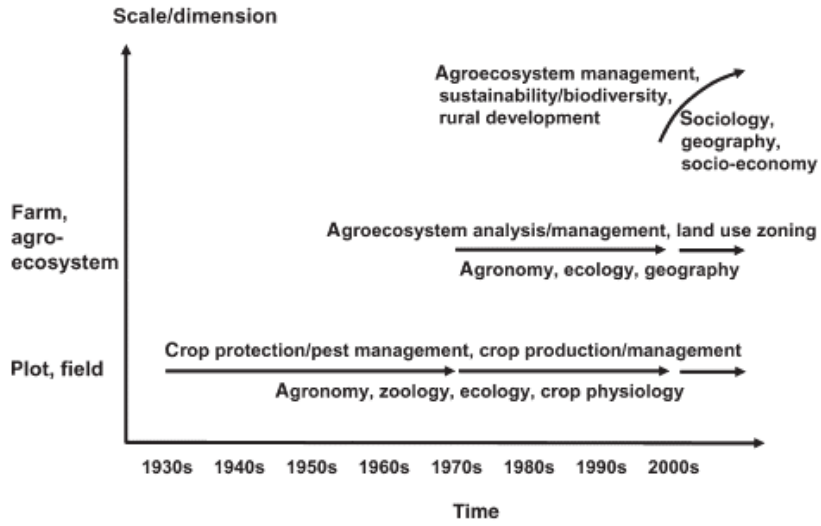
**Figure 1: The 5 levels of agroecological integration according to S. Gliessman[7]**




In their review paper, Wezel et al (2009) provide a schematic breakdown of agroecology's conceptual development as follows: **from an early approach narrowly focused on the field or plot of land being cultivated, the concept of agroecology has gradually expanded to include approaches at the agroecosystem level, then at the level of the food system, and even society as a whole, as authors from various disciplines brought their visions and definitions into the concept.**

[7] Infographic created by the Biovision Foundation (https://www.biovision.ch/fr/home/).

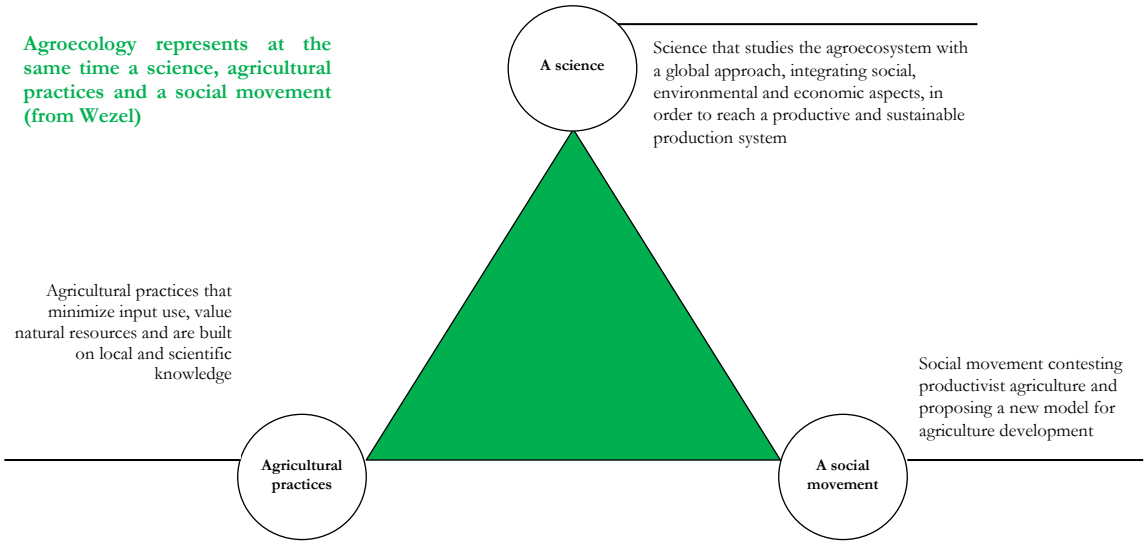
**Figure 2: Overview of the development of the concept of agroecology over time [8]**




These successive definitions evolved towards a systemic inter-disciplinary approach to the food system, seeking alternatives to conventional agriculture, paying attention to ecological processes, and valuing local knowledge, as opposed to a purely agronomic approach (i.e. increasing openness to economic, social and political dimensions).

By studying various local situations, Wezel & al's analysis (2019) – often cited in the literature – stresses that the term "agroecology" may now refer to **a scientific discipline**, and/or **a set of agricultural practices**, and/or **a political or social movement.**

**Figure 3: Agroecology: scientific discipline, agricultural practice, and social movement.[9]**




The authors acknowledge that "*These varied meanings of the term agroecology cause confusion among scientists and the public, and we recommend that those who publish using this term be explicit in their interpretation*".

[8] Wezel et al., « Agroecology as a Science, a Movement and a Practice. A Review ».

[9] Inter-Réseaux Développement Rural, « Agroécologie en Afrique de l'Ouest et du Centre : réalités et perspectives ».

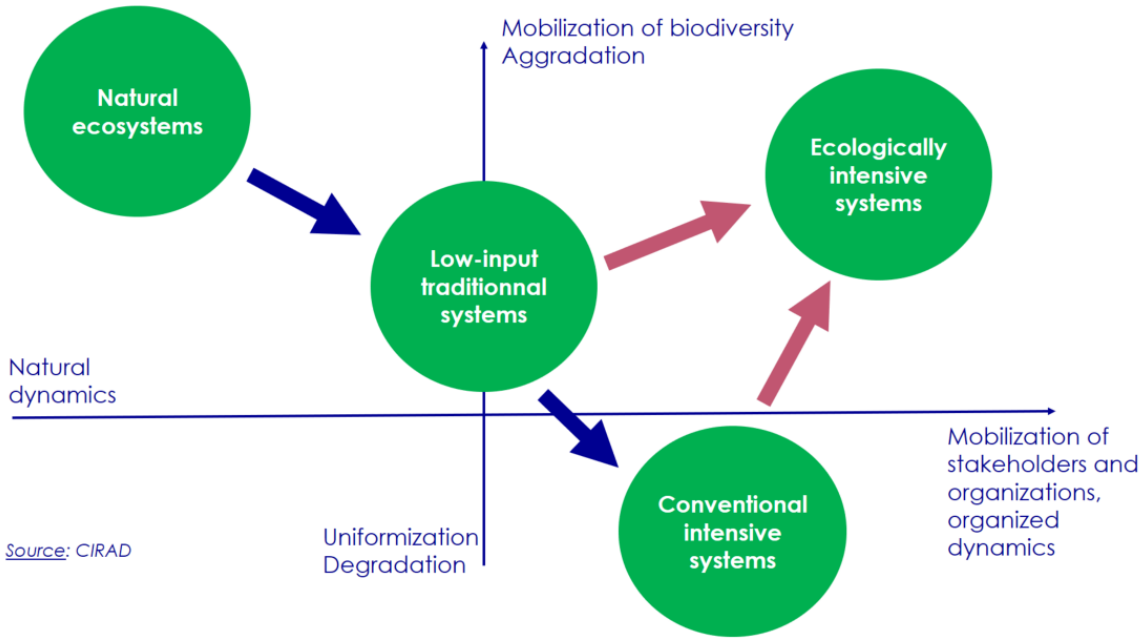
The agroecological transition is a range of dynamic process enabling a shift toward new systems based on the principles of agroecology. The trajectory taken depends on the point of departure, and as such it is more accurate to speak in terms of "agroecological transitions". Agroecological transitions primarily concern production systems based on intensive monocultures with high levels of chemical inputs. **Nevertheless, for a large proportion of farmers in the South, the transition constitutes a direct evolutionary trajectory toward systems with higher environmental and social value, without going through the way of intensive conventional systems based on heavy and widespread use of chemical inputs.** Different systems may also cohabit within the same country or even the same farm, such as (for example) market gardens using pesticides along with cereal or tuber crops using little or no inputs.

Using the model by Michel Griffon as illustrated below[10], the agroecological transition represents the capacity to develop innovative production systems by simultaneously mobilising biological levers along with organisational and institutional levers.

The dimension of the vertical axis is **biophysical.** It represents the growing mobilisation of biodiversity in replacing chemical inputs (primarily pesticides) and fossil inputs. This axis also takes into account the goal of improving efficiency in the use of resources (water, energy, soil, etc.) and that of optimising biogeochemical cycles in production systems.

The dimension of the horizontal axis **is organisational and institutional.** It represents the determining role of the joint dynamic between producers and other agricultural development stakeholders in the implementation of agroecological systems, from the field to the territorial level.

**Figure 4: Agroecological transitions**

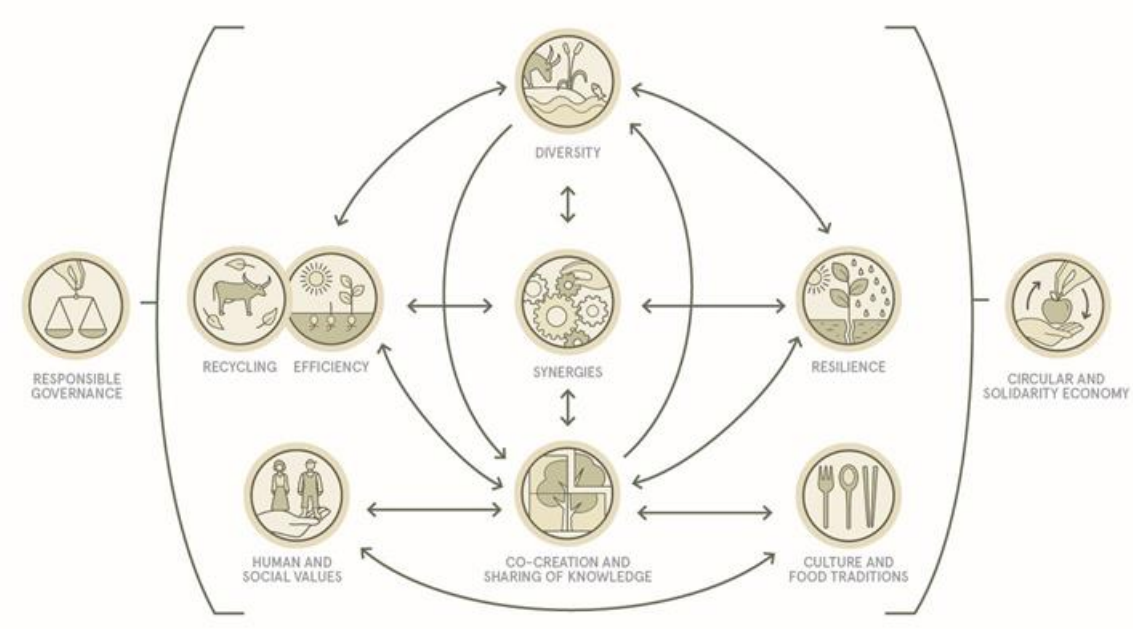



### 1.1.2. The inclusion of agroecology on the international policy agenda

In 2014, FAO launched a multi-stakeholder process aiming to establish a shared framework for the definition of agroecology; this process led to two international symposiums and the adoption of the "**10 elements of agroecology**" by the 197 members of the FAO.

[10] Adapted from Griffon, "What is Ecologically Intensive Agriculture?", M. Griffon, Quae publications, 2013

Figure 5: The FAO's 10 Elements of Agroecology[11]




In 2019, the 14th report by the **High Level Panel of Experts (HLPE) on Food Security and Nutrition** of the Committee on World Food Security (CSA) focused on agroecological approaches. It also made reference to the need to define a shared global framework. Drawing inspiration from the FAO's 10 Elements of Agroecology, it defined 13 Agroecological principles, offering a wider vision of the field notably in terms of rights, social equity and participation.

In 2021, the United Nations Summit on Food Systems[12] led to the creation of a **Coalition for food systems transformation through agroecology,** and reaffirmed the commitment to a comprehensive transformation of food systems: *"Though necessary, gradual measures to improve the efficiency of the prevailing green revolution approach are not sufficient in order to tackle the climate, environmental, human health and social challenges we face today."*

## 1.2 CONTROVERSIES OVER FARMING PRACTICES ASSOCIATED WITH AGROECOLOGY

In both scientific literature and analyses carried out by funding partners or civil society, it has been observed that "agroecological" shifts are heterogeneous and may refer to a varied range of farming practices. A multitude of practices align, to various extents, with the concept and principles of agroecology: organic farming, agroforestry, permaculture, regenerative agriculture, conservation farming, sustainable intensification, climate smart agriculture, sustainable food value chains, etc.

The HLPE categorises these various approaches to agricultural development into two branches of farming innovation. According to the HLPE, these two branches offer distinct approaches to tackling the challenges of efficient resource use, strengthening resilience, social responsibility and reducing the ecological footprint. On one side, **sustainable intensification of production systems** are based on the need to increase agricultural output per surface unit in a sustainable way. This approach is considered to make the most significant contribution to food security, nutrition, and the availability and stability of food production. Climate-smart agriculture, agriculture integrating the issue of nutrition, and sustainable food value chains fall within this branch. On the other side, **agroecology and its associated approaches** strive to reduce the use of inputs and to encourage diversity, alongside a social and political transformation. According to the HLPE, agroecological practices: (a) rely on ecological processes as opposed to purchased inputs; (b) are equitable, environmentally friendly, adapted to local conditions and controlled; (c) adopt a systemic approach embracing the management of interactions among components; and (d) foster co-learning among researchers and practitioners, as well as the horizontal dissemination of knowledge. Among these "agroecology-

[11] FAO, *Les 10 éléments de l'agroécologie.*

[12] https://www.un.org/fr/food-systems-summit.

related" approaches, the HLPE includes organic farming, agroforestry and permaculture (although in these approaches, organisational and institutional levers are less explicitly taken into account).

The Declaration of the International Forum for Agroecology, held in Nyéléni, Mali in 2015, included a categorical reminder of this distinction[13]: "*[these institutions] have tried to redefine [agroecology] as a narrow set of technologies, to offer some tools that appear to ease the sustainability crisis of industrial food production, while the existing structures of power remain unchallenged. This co-optation of agroecology to fine-tune the industrial food system, while proclaiming a formal commitment to environmental issues, has various names, including "climate smart agriculture", "sustainable" or "ecological-intensification", "industrial monoculture production of organic food," etc. For us, these are not agroecology: we reject them, and we will fight to denounce and block this insidious appropriation of agroecology.*"

**Still, this polarised vision is not fully shared by all stakeholders, and agroecology remains a debatable concept.** In addition to differing concepts and visions of agricultural development, **the controversies also touch upon agricultural practices implemented as part of agroecological transition projects**. It echoes evolving knowledge in terms of scientific expertise and internal practices, which must be put into context. Topics of controversies notably include:

i. The size and type of farms likely to contribute to the agroecological transition: **is agroecology limited to family farms?**

ii. On **the role of technology, biotech and digital tools** in this transition: What kind of **seed systems** can support the development of agroecology? What levels of **investment and capital** are needed to implement agroecological innovations? Is there a space for digital agricultural innovation? What about precision farming, or renewable energy?

iii. The use or prohibition of **chemical inputs** in this transition (fertilisers, herbicides and phytosanitary/pesticide products): should agroecological systems necessarily be deprived of chemical inputs? What approach should agroecology take to **animal health**?

iv. The issue of **export products**: Should agroecology be only associated with local supply chains? Or with food production?

v. What constitute the most "virtuous" types of practices, e.g.: protection of soils and cover crops, mixed farming, agroforestry, organic, etc.

vi. The question of livestock farming and irrigated rice, both of which are high GHG emitters (internal AFD Group study underway).

vii. The importance of biodiversity in crop farming and operating systems (the *landsparing* vs *landsharing*[14] debate), given that biodiversity is considered to be a major factor in terms of enhancing the resilience of systems for controlling pests and disease, local regulation of climate, water cycles, and soil and water quality (phytoremediation) and pollination, by multiplying the available responses to ecosystem disruptions.

viii. The impact of these practices on food quality ("*One Health*"): healthy soil results in healthier and more resistant plants, and healthy, higher-quality products for consumers.

### 1.3 GRADUAL INTEGRATION INTO PUBLIC POLICY

At the national level, several countries have gradually adopted public policies in favour of agroecology over the past decade. In this respect, France has positioned itself as something of a forerunner at the European level with its **agroecological project entitled "Produisons autrement"[15] ("Let's Produce Differently"), launched in 2012 by the Ministry of Agriculture**. The plan sought to integrate the challenges of the agroecological transition via a number of key methods: training and advisory services, the development of collective projects and experiments, through the work of Economic and Environmental Interest Groups (French: GIEE), and via economic support for the transition. In terms of practices, the plan focused particularly on encouraging the conversion to

[13] https://www.fao.org/agroecology/database/detail/fr/c/454189/

[14] Should agriculture be concentrated into small areas with intensive crop yields in order to preserve more natural spaces with abundant biodiversity elsewhere (*landsparing*)? Or should a more diversified yet lower-yield type of farming be prioritised, i.e. taking up more land area and leaving less space for natural habitats (*landsharing*)? Journal article (in French): "Land sharing or land sparing for biodiversity: how agricultural markets differentiate the two" - HAL Open Archive

[15] https://agriculture.gouv.fr/le-projet-agro-ecologique-en-12-cles.

organic farming, reducing the use of veterinary antibiotics, promoting apiculture, selecting the most suitable seeds, the use of trees and improvement of soils (under the framework of the 4 per 1000 Initiative). To support the plan, a law on the "Future of Agriculture, Food Production and Forestry" was passed on 13 October 2014, introducing a definition of agroecology into the "Code Rural" and organising the implementation of the plan. The definition included in the "Code Rural" stresses agroecology's "triple performance" at the economic, social and environmental level.

The "Produisons autrement" plan has been subject to disagreement, given its attempt to bring together the two movements of agroecology and sustainable farming[16]. Furthermore, the review of these measures considered that it achieved mixed results: the integration of agroecology into regional rural development plans was highly variable between regions ("*absence of consensus on the objectives being pursued, weak political support at the local level, conflict of perception with organic farming, etc.*"), and its practical integration within individual sectors was difficult ("*poorly defined goals resulting in actions which were sometimes highly disparate from the transition being sought, lack of ambition and explicit methodology, inappropriate institutional levers*"). Nevertheless, *through this policy France played a pioneering role among European nations in terms of institutionalising agroecology, carrying it beyond national borders and standing as one of its most fervent supporter during its adoption by the FAO*.[17]

With regard to the reduction of phytosanitary products, France launched the Ecophyto I Plan in 2008. In 2015, given the poor results obtained, a second "Ecophyto II" plan was defined with the goal of achieving a 50% reduction in the use of phytopharmaceutical products by 2025, with an intermediary objective of -25% set for 2020. The review of the policy showed that in 2020, there had been very little reduction in the overall use of these products, although a significant drop was recorded in the use of the most high-risk substances. The highest-consuming sectors of pesticides remained the major cereal and oilseed crops, as well as viticulture and fruit farming.

Furthermore, given the joint impact of agricultural land consolidation and the decline of livestock farming, the amount of hedgerows and tree rows in mainland France is in constant decline, despite planting programmes (losses estimated at 23,500 km/year from 2017 - 2021).[18]

At the same time, the number of organic farms rose from 23,198 in 2012 to 57,140 in 2021 for plant crops, and the surface areas involved expanded from 1 to 2.78 million hectares, i.e. 10.3% of all French farmland.[19]

In many Southern countries, agroecology has been integrated into public policy, often as a result of local movements initiated by civil society. Commonly cited examples include:

- **India**, where since 2015 the State of Andhra Pradesh has undertaken a programme to promote and amplify the adoption of *Zero Budget Natural Farming*, a set of agronomic practices and structural modifications to family farming operations;
- **Mexico**, which in 2018 adopted a combination of policies in favour of food sovereignty, re-foresting, experimentation with pesticide- and GMO-free farming, accompanied by flagship measures such as a ban on glyphosate, before adopting its *National Programme for the Agroecological Transition* in 2020;
- **Senegal,** whose Plan Sénégal Emergent (2019-2024) plans to achieve a "re-greening" of the country, notably through its support for the Great Green Wall, and for which the DyTAES network [20] has already gathered a coalition of stakeholders including professional farming organisations, local community organisations, regional governments, NGOs, researchers and private enterprises, to address the issues of the agroecological transition and promote enabling regulatory developments.

[16] Arrignon, « La transition agro-écologique ».

[17] Doré et Bellon, *Les mondes de l'agroécologie*.

[18] De Menthière, Piveteau, Falcone, Ory, *La haie levier de la planification écologique*, ("Hedgerows as a lever for ecological planning") Report n°22114 CGAAER, April 2023

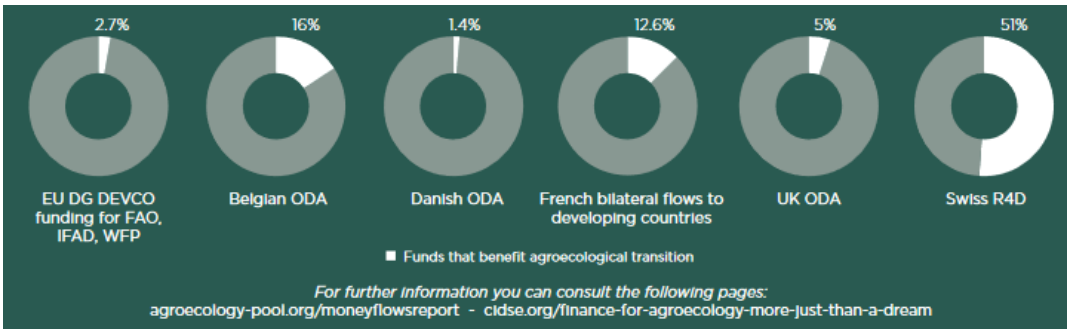
[19] https://www.agencebio.org

[20] https://dytaes.sn/

## 1.4 DONOR FUNDING FOR AGROECOLOGY UNDER THE MICROSCOPE: THE NEED FOR GREATER ACCOUNTABILITY

Given the growing significance of agroecology in debates over the course of recent years, **an increasing number of studies have examined the actions of international development agencies over the past 5-10 years,** often with the objective of showing the contrast between their discourse in favour agroecology and the reality of commitments made thus far.

**Figure 6: Proportion of international funding dedicated to financing the AET, according to the CIDSE's literature review[21]**




According to IPES-food[22], given that the financial sector generally seeks rapid return on investment and prioritises targeted technological solutions, agroecology does not align well with existing investment methods. International agencies therefore have a key role to play in promoting financial services that are favourable to the agroecological transition[23].

More specifically, French public development aid was analysed in a report carried out by BASIC and financed by three NGOs (Action Against Hunger, CCFD, OXFAM), which, according to the criteria adopted and the scope selected by the authors, estimated that 13.3% of financial support examined (10 years of French financing from 2009 - 2018, i.e. €6.2 billion) would support a genuine agroecological transition[24].

Without detailing the results of these studies, that examine very different portfolios (research *versus* development projects, variable aid volumes, number of projects ranging from 20 - 2,500, inclusion or absence of a clear political commitment, etc.), it is interesting to highlight certain points raised by these analyses.

- The studies are linked by their shared use of **Gliessman's categorisation, usually in conjunction with the FAO's 10 criteria**[25]. The methods sometimes employ a diagram synthesising these two visions, developed by Biovision for its **Agroecology Criteria Tool (ACT).**
- Depending on the volume of portfolios analysed, the majority of methods were obliged to use **keyword analysis** in order to systematise (or automate) project classification[26].
- All the analyses are based on **ex-ante project documentation** (planned activities) rather than on project achievements.
- These analyses consider each **project in its entirety** and examine the project's global budget in order to list the number of agroecological projects within a portfolio (without any specific accounting of the share of the budget dedicated to "agroecological activities" within each

[21] https://www.cidse.org/2021/04/19/making-money-move-for-agroecology/

[22] Biovision et IPES-Food, « Money Flows: What is holding back investment in agroecological research for Africa? », http://www.ipes-food.org/pages/MoneyFlows.

[23] CIDSE, « Making Money Move for Agroecology ».

[24] https://www.actioncontrelafaim.org/publication/une-pincee-dagroecologie-pour-une-louche-dagro-industrie/

[25] Study by IPES Food, studies on Belgian and Danish development assistance (UCL, 2020, The share of agroecology in Belgian official development assistance: an opportunity missed & DanChurchAid, 2020, Sustainability Starts from the Ground: Agroecology in Danish official development assistance).

[26] Cf. Methodological Appendix to the BASIC report.

project). Certain methods attempt to distinguish whether agroecology is a primary objective of the project, or whether it is part of side activities.

We may also highlight certain methodological limitations of these studies, notably:

- Basing an analysis of a project's contribution to agroecology on **a keyword search provides only a partial vision of the project**; as previously explained, agroecology is a complex concept, and the term is used in various ways depending on the context and the stakeholders involved. Keyword searching is even more questionable given that, for certain methods, it is limited to documentation available online. Furthermore, the selected keywords and their interpretation in terms of classification are sometimes debatable[27].
- **Even when the ACT tool[28] is used, the result is rather a summary analysis** in relation to the tool's analytical capabilities: for example, in the IPES-Food method, any time a term listed in the ACT tool (e.g.: agroforestry) is mentioned in a project's documentation, it was considered that the project contributed to this activity. Moreover, the limitation of the ACT tool is that it synthesises a certain number of criteria in order to offer a "radar" view of the project, instead of producing a Gliessman categorisation as a result. We therefore observe that it has been necessary to apply certain "simplifications" of the use of this tool in order to link it to Gliessman's categories.
- In the Gliessman classification, a project is considered to be "genuinely" agroecological if it impacts both farming practices and a more global change in the agricultural and food system. From an operational point of view, **it is a highly complex undertaking to process the full range of aspects of a single project** (notably for institutional reasons). Several methods have opted to provide more nuance, qualifying certain projects as "potentially" or "partially" agroecological.
- It is important to keep in mind that **these methodologies are adjusted based on the availability of information and the volume of projects** analysed[29]. Furthermore, agroecology has only recently become an item on the agendas of international cooperation.
- In a general sense, **these reports tend to advocate for more effort on agroecology**, and their commissioners promote an "all-or-nothing" view of agroecology. This influences the analyses carried out: the interpretation of contributions to agroecology remains fairly strict, generally considering Gliessman's first two levels as not contributing to agroecology (*"there is no guarantee that these projects constitute a step toward a redefinition of the agroecosystem"*[30])

[27] Example: in the BASIC method, the phrases "productivity increase" or "irrigation" are synonymous with the "non-agroecological" classification.

[28] https://www.fao.org/agroecology/database/detail/fr/c/1364259/

[29] 19 in total in the DanChurchAid study, compared to 502 in the UCL Louvain study.

[30] CIDSE, « Making Money Move for Agroecology ».

# 2. REVIEW OF AFD INTERVENTIONS IN FAVOUR OF THE AGROECOLOGICAL TRANSITION

## 2.1. EVOLUTION OF AFD'S AGROECOLOGICAL APPROACH

The interventions supported by AFD in the field of agroecology form part of a history of involvement **dating back twenty years. Building on progress of knowledge in the field of agroecology and on lessons learned from AFD's portfolio, the approaches proposed within AFD-funded projects have evolved dynamically.**

The launch of the Agroecology Action Plan (Plan d'Action Agroécologique, or PAA) – an initiative bringing together AFD, the MAE and the CIRAD in 2000 – gave rise to the first "agroecological" projects, which focused primarily on spreading the concepts of direct seeding under cover crop and conservation farming. These projects aimed to break down their approach into multiple phases: following a technical experimentation phase for SCV at experimental locations (locally), a small number of farm systems were selected and put forward for the implementation of this practice on plots by "pilot" farmers, prior to the practice being promoted on a broader scale to groups of farmers.

Starting in 2008, and alongside AFD's adoption of a new transverse programme known as the Multi-Country Agroecology Support Programme ("Programme d'appui multi-pays en agroécologie", or PAMPA), projects began to open up to other agroecological practices. This evolution was linked to the observation of certain limitations associated with SCV, in particular the fact that on its own, this technical proposal was insufficient in order to address a certain number of technical challenges faced by farmers in the intervention zones (notably the renewal of fertility), and that it posed certain problems (notably in terms of integration into existing production systems). The SCV model has been reviewed or adapted, based on the zone in question, to take into account interactions within the production system (notably livestock farming) and the existence of local techniques, or to adapt the practices to a local agroecosystem. Projects have thereby developed an increasingly systemic approach to each farming operation, integrating innovations or elements of agroecological adaptation deployed by the farmers themselves.

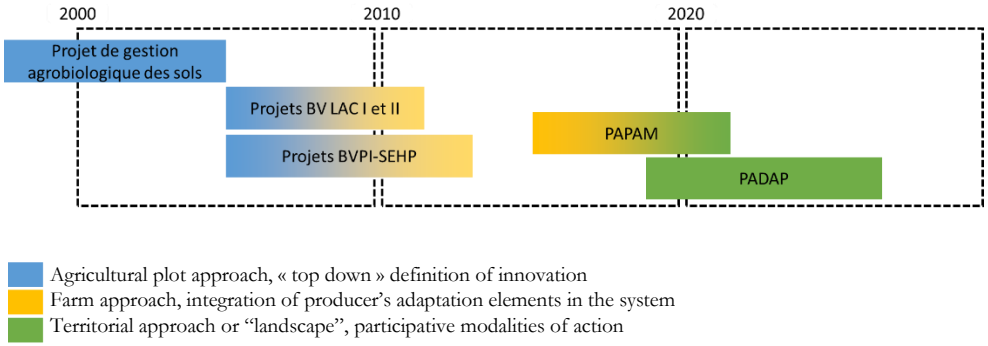
More recently (following the latest transverse evaluation in 2014[31], and in accordance with its recommendations), a number of projects have emerged using an increasingly territorial or "landscape-based" approach, whose goal is to integrate "agroecological" technical operations into a dynamic of local or regional development (combining local food, development of watersheds and irrigated areas, land access, farm services systems, etc.). In these recent projects, the approach adopted seeks to be more participatory in its methods of intervention, and includes planning phases aligned with territorial planning processes already under way (such as local development planning) or more specific projects (landscape development plans, for example).

While over the course of these successive interventions certain projects have met with failure (notably in terms of adoption of the "models" suggested), they have nevertheless enabled stakeholders to: (i) consolidate solid local partnerships, laying the foundations for intervention over the long term, and have done so by enabling a growth in investment from public authorities (ministries, local governments); and (ii) to gradually orient projects toward the use of a change management approach, which facilitates a dynamic of agroecological innovation.

This dynamic can be observed below in the sequence of projects funded by AFD in Madagascar.

[31] Levard, Vogel, et Castellanet, « Agroécologie : évaluation de 15 ans d'actions d'accompagnement de l'AFD ».

**Figure 7: Sequence of agroecological projects funded in Madagascar[32]**



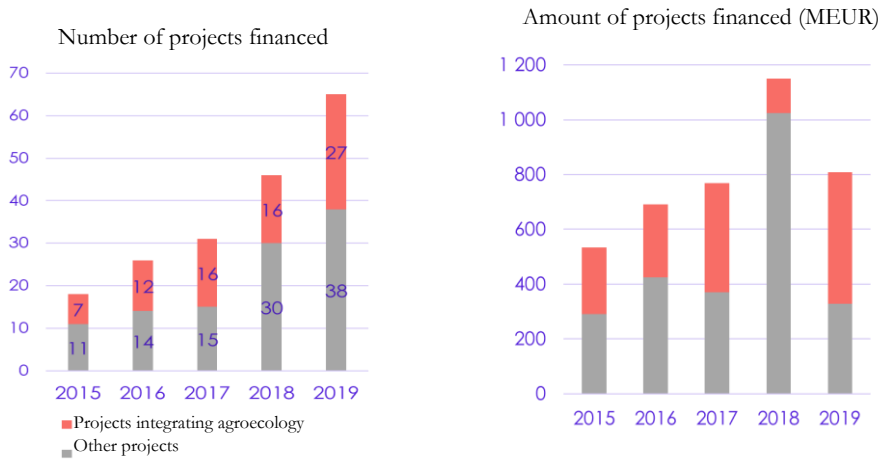

## 2.2. QUANTITATIVE EX-ANTE REVIEW OF PROJECTS FUNDED BETWEEN 2015 AND 2020

An internal portfolio review conducted in 2020[33] looking exclusively at projects overseen by the Agriculture, Rural Development and Biodiversity Division (ARB) showed a growing number of projects integrating the agroecological transition, and an increase in the volumes of funding associated. For this evaluation, a project was considered to have integrated agroecology based on the description of its activities as submitted to the AFD Board of Directors. 3 levels of integration were identified: i) agroecology is the project's principal objective; ii) agroecology is the subject of a dedicated component of the project; iii) the project considers the use and promotion of agroecological practices, but they do not constitute a strategic pillar.

Between 2015 and 2019, 78 of the 186 projects funded by AFD and overseen by the ARB division (i.e. 42%) were considered to have integrated agroecology (of which 32 as a primary objective).

The analysis also showed that projects whose primary objective was to contribute to the agroecological transition were mostly funded through grants/subsidies.

**Figure 8: Number & funding amount of projects integrating agroecology within the ARB division's portfolio [34]**




NB: The fact that a majority of 2018 funding went to "other projects" is explained by 3 projects amounting to almost €500 million which did not integrate agroecology.

[32] Diagram adapted and updated from "Agroecology: Evaluation of 15 Years of AFD Support".

[33] Lenseigne C., 2020, *Analyse de l'agroécologie comme réponse au sous-emploi des jeunes en Afrique* ("Analysis of agroecology as a response to youth under-employment in Africa") Master's Thesis in Theoretical and Applied Economics of Sustainable Development, Université Paris-Saclay, 56 p.

[34] Lenseigne C., 2020, « Analyse de l'agroécologie comme réponse au sous-emploi des jeunes en Afrique - Mémoire de Master

This qualification study carried out internally within the ARB division provides a first glimpse of the contribution to the promotion of the agroecological transition, and especially the need to develop a more fine-tuned methodology in order to provide a clearer characterisation of AFD actions.

## 2.3. FUNDING REQUESTS FROM (AND DIALOGUE WITH) COUNTERPARTS

The AFD Group acts in response to requests from its counterparts, and through dialogue with them. However, in light of the points of debate and differing interpretations surrounding agroecology, **the AFD Group's counterparts have varying viewpoints on this approach to agricultural development.**

**In projects developed by the ARB**

**At AFD,** agroecology has been clearly identified as a priority issue for promotion, as underlined in the agency's 2020 Activity Review for Agriculture, Rural Development and Biodiversity: "*Support for family farming and the promotion of environmentally friendly agroecological practices lie at the heart of our interventions, with the dual objective of food and nutrition security and improving quality of life for rural populations.*"

However, conventional agricultural practices based on the Green Revolution remain widespread, and are often recommended by partner ministries in each sector or agricultural advisory measures in partner countries, in alignment with agricultural or agronomic training provided in each country. They may also represent a certain form of "modernity" for women and young people, and fall within the strategic choices made by farms; e.g. the use of herbicides, which has enabled a considerable reduction in manual workloads in certain regions.

The multi-stakeholder, multi-scale and holistic approach needed for the agroecological transition may constitute, for certain state partners, an obstacle to the development of agroecology. The development of agroecology requires a transition at various levels, and across all stakeholders in the agricultural sector – both in the upstream phase (recommendations/popularisation, technical and vocational training, seed supply systems) and downstream (storage infrastructures, transport, structuring of local commodity chains, etc.),

Situations are highly contrasting depending on the country of intervention, and public policies or strategies implemented retain a certain ambivalence regarding the various agricultural "models" (programmes encouraging agroecology and subsidies for chemical inputs may exist side-by-side, for example). Certain countries have developed incentives as part of their environmental policies, or – as in the example of Costa Rica – their policy for "decarbonising" the economy (notably including payments for environmental services). Therefore, the most incentivising mechanisms are not necessarily found in the domain of agricultural policy.

The political systems (mode of governance, citizen participation) of countries, or political changes (elections), may impact political dialogue and affect the implementation of projects with a significant participatory component at the territorial level. We may nevertheless consider that in certain cases, agroecology has entered into a phase of institutionalisation.

During the project appraisal phase, dialogue with AFD partners is essential – on the agricultural model being supported and existing/proposed agroecological activities – in order to develop a shared understanding of "agroecology" and its associated farming practices.

It is necessary to pursue efforts to document and disseminate the results and impacts of agroecological transitions and to provide evidence to counterparts: examples of projects implemented, results of experiments in the field, effects of agroecology on production factors (soil quality, natural resources) and on agricultural yields, technical-economic baseline data for these production systems, etc.

Several projects financed by AFD include elements of capitalisation or action research, often implemented in partnership with the CIRAD (DESIRA, PACTE Programme in Tunisia, WAT4CAM in Cambodia, Agroecology Programme in West African Countries, etc.). Nevertheless, agroecological transitions are by nature strongly tied to a territory and to the specific characteristics of the local agroecosystem. As such, while approaches and methods may be replicated across different territories, it remains impossible to propose ready-made models to our counterparts.

The development of strategic partnerships could enable improved coordination of interventions and approaches, notably via peer exchanges. In this regard we may underline the fact that the Programme for Agroecology in West Africa (PAE in French) was proposed by the CEDEAO as the result of dialogue with French Minister Stéphane Le Foll (concerning the French agroecology policy "Produisons autrement"). Collaborations between local governments (such as the current partnership

between PNR Ballon des Vosges and the Xianju National Park in China) may also act as a lever for changing practices.

**In projects developed by the CSO division**

**Within the "CSO Initiatives" framework, which in 2021 represented just over a third of all funding allocated by AFD toward Civil Society Organisations (CSO),** funding is allocated in the form of a subsidy, to the benefit of projects (or "initiatives") prepared by the CSOs themselves in the geographical areas and fields of their choice[35]. While agroecology may not be listed specifically within the transverse intervention framework supporting CSOs, the measures aim to "*contribute to the dynamics of economic, ecological and social transformation, and as a priority to the benefit of the most vulnerable populations*". Furthermore, the initiative must contribute to (i) AFD's "100% Paris Agreement" commitment, and must therefore accommodate projects with significant co-benefits for the climate, (ii) the biodiversity preservation objectives adopted by AFD in coherence with the Kunming-Montreal Global Biodiversity Framework (2022).

While approaches may be distinct between the structures leading the projects, the final reports and evaluations generally underline the fact that civil society (in both the Northern and Southern countries) has been a driving force behind the development of agroecology via its application of innovations and practical experiments in the field, even in geographical areas where the conventional agricultural model was still being promoted at the national level.

The challenge now is to institutionalise (and upscale) these approaches by more systematically integrating territorial dimensions, value chains, and even public policies into the transition suggested.

In CSO projects, but also in projects contracted by national governments and executed by operators, the implementation teams are facing vast transitional challenges: it is often necessary to prioritise in favour of technical activities and to adopt a pragmatic approach. While this "purely technical" approach may not be comprehensive (according to the various definitions of agroecology), it amounts to a compromise with project limitations such as budget restrictions, time restrictions and the geographical extent of operations.

**In projects developed by Proparco**

Proparco funding takes the form of loans disbursed to companies or financial institutions, ranging in value from €10 - 100 million. This funding mostly comprises medium- or long-term loans (over 7 - 12 years) provided on market terms. Financing agricultural and agro-industrial projects has historically been Proparco's core activity. As such, "*Proparco supports private investment in the agricultural and agri-business sectors. Proparco covers all steps in the production process: from improving agricultural production yields to the transport and distribution of products on the markets, as well as the intermediary processes of transformation and storage. The goal of its work is to promote agricultural and agri-business models which are more productive, but also more environmentally friendly.*" (Extract from the Proparco website[36]).

The institution reaffirmed its intention to continue deploying significant efforts in this sector via its 2023-2027 strategy. Boosting investment in favour of climate and biodiversity constitutes one of the 3 key objectives of this new strategy. This implies (i) amplifying action in favour of mitigating and adapting to climate change, (ii) supporting clients in their climate transition and (iii) promoting innovative solutions to protect our planet. The implementation of this strategy must also enable the reduction of inequality, notably by contributing to the development of virtuous agricultural value chains.

Companies rely on Proparco in the context of investments to be made and financed over the long term[37]. For example, this may involve expansion projects (Burapha, Nakheel), research and development (Seedco), boosting production capacity or the purchase of processing equipment (Golden Rice, KTDA, Seedco), production diversification (KTDA) or obtaining environmental and social certifications (Golden Rice).

[35] Prior to 2023, only French CSOs were eligible. Since 2023, eligibility was extended to locally-regulated CSOs having received funding for at least one completed project, either directly or indirectly via a French CSO, from an AFD Group entity.

[36] Proparco.fr/fr/page-thematique-axe/agriculture-et-agro-industrie" https://www.proparco.fr/fr/page-thematique-axe/agriculture-et-agro-industrie

[37] Proparco may also provide financing for working capital needs coupled with investments, via its long-term policy.

Proparco's incentivising role is noted as being favourable to the adoption of positive practices, in terms of the Environmental and Social plans negotiated with its clients and monitored throughout the entire duration of the project. These efforts may, however, be limited to the reduction of E&S risks, and at a minimum may involve adherence to the IFC's 8 E&S standards.

Proparco maintains a technical assistance portfolio (via subsidy) which can act as a lever for certain activities to be backed onto the company's investment plan, but this technical assistance portfolio remains limited and therefore rather selective in terms of the projects financed.

Collaboration on projects with AFD has helped encourage companies toward certain practices, or to strengthen links with other structures present in the territory.

# 3. THE AFD GROUP AND AGROECOLOGY: RENEWED AMBITION AND POSITIONING

## 3.1. AGROECOLOGY AT THE HEART OF THE AFD GROUP'S STRATEGY IN THE AGRICULTURE, RURAL DEVELOPMENT AND BIODIVERSITY SECTOR

Building upon France's international strategy for food security, nutrition and sustainable agriculture published in 2019, the AFD Group's new intervention strategy for Agriculture, Rural Development and Biodiversity, published in 2022, commits the Group firmly to supporting the agroecological transition.

The AFD Group uses the definition of agroecology established in the French law on the future of agriculture, food production and forestry (and as stipulated in France international strategy for food security, nutrition and sustainable agriculture), according to **which agroecological production systems combine increased performance levels in terms of economic, social (notably via a high level of social protection), environmental and health outcomes**. These systems prioritise the independence of agricultural operations, and the improvement of their competitive ability, by maintaining or increasing their economic profitability, improving the added value of their productions and reducing their consumption of energy, water, fertilisers, phytochemical & pharmaceutical products and veterinary medications, in particular antibiotics. They are centred on biological interactions and the use of eco-systemic services, and the potential offered by natural resources (particularly water, biodiversity, photosynthesis, soil and air) in maintaining their capacity for renewal from a qualitative and quantitative perspective. They contribute to mitigating and adapting to the effects of climate change.

In this way the AFD Group supports its partners' initiatives in favour of **the transition of farming systems toward agroecological intensification,[38] and the preservation of land and water resources. It employs a pragmatic approach, recognising that this transition will take several years to achieve and must be adapted to the specific conditions of rural areas and regions.**

In the operations it funds, AFD strives to ensure that the agroecological transition **converges with the economic interests of producers** (securing long-term access to production factors, profitability of agricultural operations, remuneration and decent work conditions), **recognises the risks associated with any evolution in practices,** and **ensures the transition is compatible with food and nutritional security objectives.** These three conditions must always be met, in order to ensure the commitment of AFD's partners in this transition.

Given the AFD Group's mission and the nature of its actions, the core of the agroecological approach deployed by the AFD Group sits closer to the "agricultural practices" point of Wezel's triangle as presented in Figure 3, without in any way excluding the scientific and social dimensions.

The agroecological practices supported by the Group in its operations are those which (i) prioritise the use of natural physical, chemical and biological ecosystem processes, minimising negative impact on said processes; (ii) encourage closed-loop systems for organic matter, water and minerals between crops and their ecosystems, thereby limiting the use of external inputs, and (iii) are based in particular upon local knowledge and participatory processes, in order to develop know-how and practices based on experience as well as more conventional scientific methods [39].

In order to address the issue of food sovereignty, AFD does not exclude support for production systems using fertilisers and pesticides, provided this occurs in a reasonable manner and using an integrated management approach to soil fertility, weeds, disease and pests, especially in territories where the quantity of synthetic inputs used is low. In West Africa in particular, where the use of mineral fertilisers is very low, agroecological practices alone would be insufficient in order to increase agricultural output to an extent capable of meeting the population's food supply needs in the

[38] Intensification refers to the process of increasing the economic added value generated per given unit of surface area. Agroecological intensification is achieved via the use of agroecological practices and a gradual reduction in the application of external inputs.

[39] Sourced and adapted from the definition of agroecological approaches as described in the report entitled "Agroecological and other innovative approaches for sustainable agriculture and food systems that enhance food security and nutrition", HLPE (2019)

short/medium term. The use of synthetic fertilisers in combination with organic matter may therefore be envisaged in order to maintain soil fertility over the long term.

Furthermore, when referring to synthetic inputs it is advisable to distinguish between i) pesticides (herbicides, fungicides, insecticides) and ii) mineral fertilisers. While the environmental and health impacts of the former are significant at the local scale, those of synthetic fertilisers can be controlled when used at optimal levels and conditions of application.

## 3.2. HOW TO BETTER CHARACTERISE AFD GROUP'S ACTIONS: EX-ANTE QUALIFICATION OF PROJECTS CONTRIBUTING TO THE AGROECOLOGICAL TRANSITION

### 3.2.1. Principles of a qualification grid

Various principles have been retained in order to define a qualification grid for projects contributing to the AET:

- Enabling AFD to be accountable regarding its funding of the AET: there are currently no simple criteria enabling the extraction of a list of AET projects financed by the AFD Group, which would provide an overview of AFD's actions in this regard.
- Providing a realistic vision of projects financed which contribute to the AET.
- Highlighting compromise between the requests made by counterparts, the possibilities of implementation within a predetermined budget and duration, and AFD's strategic frameworks. Consequently, a project's contributions to the AET are variable (in terms of the amounts spent, nature of activities, impacts, etc.).
- Taking into account, in addition to the project's specific and localised contributions, its participation to a portfolio of projects or a national/regional intervention that constitutes a system for contributing to the AET at the national or regional level.
- Offering a qualification tool that is simple to implement, without creating undue complexity in the process of project appraisal.
- Offering a tool in alignment with scientific literature and international reference bases to facilitate readability and accountability.
- Providing an account of a contribution to the process of transition and not its completion or outcome, which excludes a binary categorisation between "agroecological" and "non-agroecological" projects.

### 3.2.2. Relying on international references on agroecology

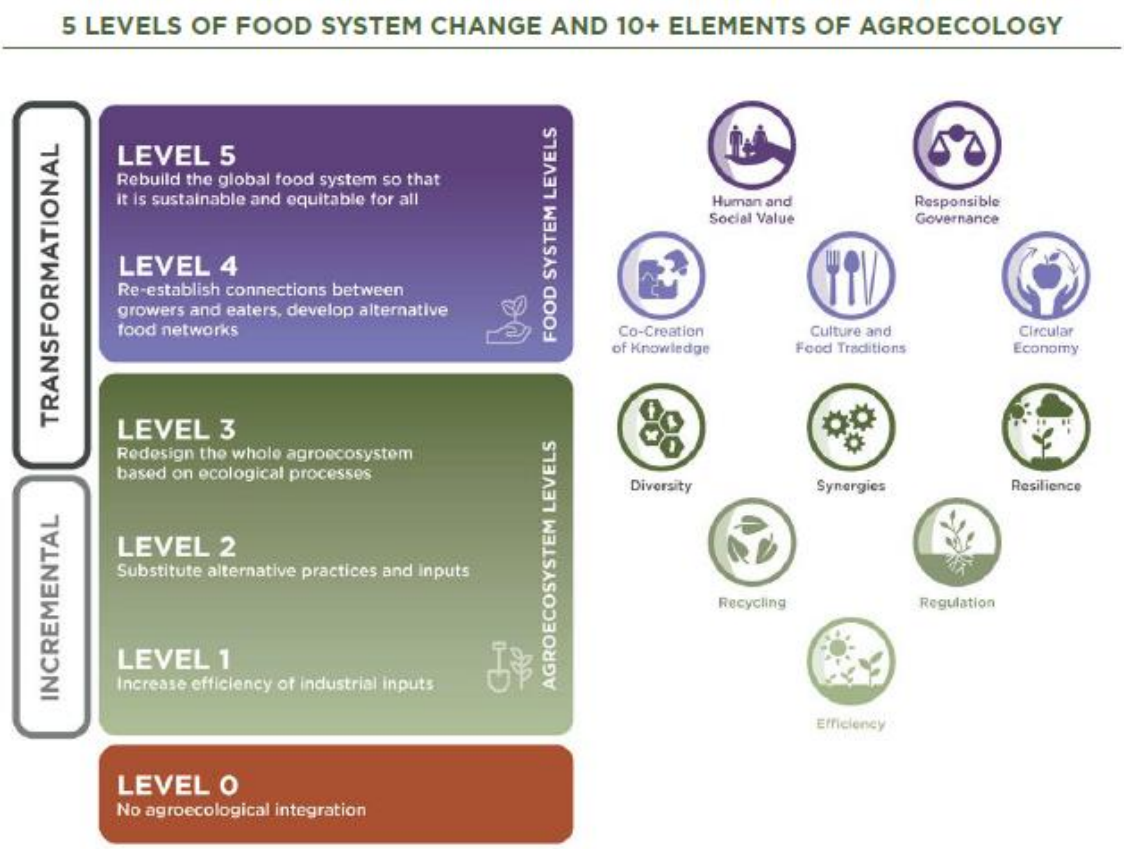
The consultation of methodologies used to analyse agroecological project portfolios enables the identification of certain essential reference criteria in the subject: (i) **Gliessman's 5 levels of food system transition** constitute a shared vision (as the classification is widely employed in portfolio analyses); (ii) **the FAO's 10 elements and the HLPE's 13 elements** represent two overviews of the principles of agroecology, resulting (respectively) from an international and multi-stakeholder process of consultation and a "high-level" scientific examination subject to peer review.

**The work of the Biovision Foundation attempts to synthesise these contributions** using a breakdown of the "10+ principles" of the FAO/HLPE, which it suggests cross-referencing with Gliessman's 5 principles via its *Agroecology Criteria Tool* (ACT[40]).

We may also observe that the majority of principles corresponding to Gliessman's levels 4 and 5 correspond to elements which are partly examined within AFD's "Sustainable Development Analysis" during project appraisal (excluding CSO and Proparco).

[40] https://www.agroecology-pool.org/methodology/

**Figure 9: Correspondence between Gliessman's levels and the 10+ FAO/HLPE elements**




### 3.2.3. Method to qualify ex-ante contribution to the AET

**Reminder of the Group's exclusion list (revised in 2022) and its application guide**

The AFD Group has high standards in terms of social responsibility, in order to guarantee coherence not only between its mission and its commitments, but also between its interventions and their impacts with regard to sustainable development. One of the tools employed to maintain these standards is the Exclusion List (revised in 2022).

The objective of this exclusion list is to clearly indicate which types of activities the AFD Group refuses to finance, based on environmental or social criteria which may be ethical or regulatory in nature or based on the transposition of normative requirements (standards) and strategic choices. Available for public consultation by the AFD Group's external stakeholders (partners, clients, civil society, etc.), the exclusion list is displayed on the websites of the AFD Group's entities[41].

Among the activities in the list, it is important to highlight that the production, use or trade of certain phytosanitary products are excluded from AFD Group financing in view of legislation in the destination country or in France, national or international regulations applicable in the destination country or in France, as well as international conventions or agreements establishing certain commitments for the destination country or for France.

The following pesticides are prohibited under the terms of the exclusion list:

- substances listed in Appendix A of the Stockholm Convention[42];
- methyl bromide (under the Montreal Protocol);

[41] https://www.afd.fr/fr/ressources/liste-exclusion-groupe-afd

[42] http://chm.pops.int/TheConvention/ThePOPs/AllPOPs/tabid/2509/Default.aspx

- substances which are banned for export (Annex V of Ruling n°649/2012 or PIC ruling (*Prior Informed Consent*[43]);
- substances listed in Annex II of the Rotterdam Convention[44];
- substances listed as I-a (extremely dangerous) and I-b (highly dangerous) by the WHO[45].

Finally, in addition to the list and in accordance with the Group's standards, counterparts are required to evaluate the hazardousness of the phytosanitary products they use, and to select those which present the lowest risk. It is also required that the conditions of storage and use be in line with best practices. The inability to meet these requirements can justify the revocation of financing by the AFD Group.

**Description of the method of ex ante project qualification**

**Preliminary: The proposed method of ex ante qualification is applicable to projects that comply with the AFD Group's exclusion list, and whose environmental and social risks are mitigated in accordance with the Environmental and Social Risk Management Policy for AFD-funded Operations**[46].

The first step involves asking whether the project:

1) **Contributes to global or structural level changes in farming and food systems** (on a regional, national or international scale). Does it include marketing circuits? Creating a network of stakeholders? Supporting public policies?
2) **Contributes to the AET at the agroecosystem level** (at the level of the field/farm/territory) through the farming practices implemented.

For each of these levels, a project qualification grid is then suggested, inspired by Gliessman's classification system and its interpretation by Biovision in the ACT tool, as detailed in the table below.

By cross-referencing these various analyses, we obtain the following typology comprising 4 categories:

- projects defined as AET **"precursors"** (Level A), as they help initiate a transition by optimising the use of natural resources;
- projects defined as AET **"initiators"** (level B and/or C), as they allow for the implementation of alternative practices at the farm or territorial level;
- projects defined as AET **"catalysts"** (level D and/or E), as they enable the creation of an environment favourable to the establishment of the AET;
- projects defined as **"transformational"** in terms of the AET (levels B or C and D or E), as they will have an impact not only at the farm and territorial level, but also at a more systemic level (those with an influence on the structure of the sector, or linked to agricultural policy, for example).

The following decision tree is proposed in order to determine a project's contribution to the AET:

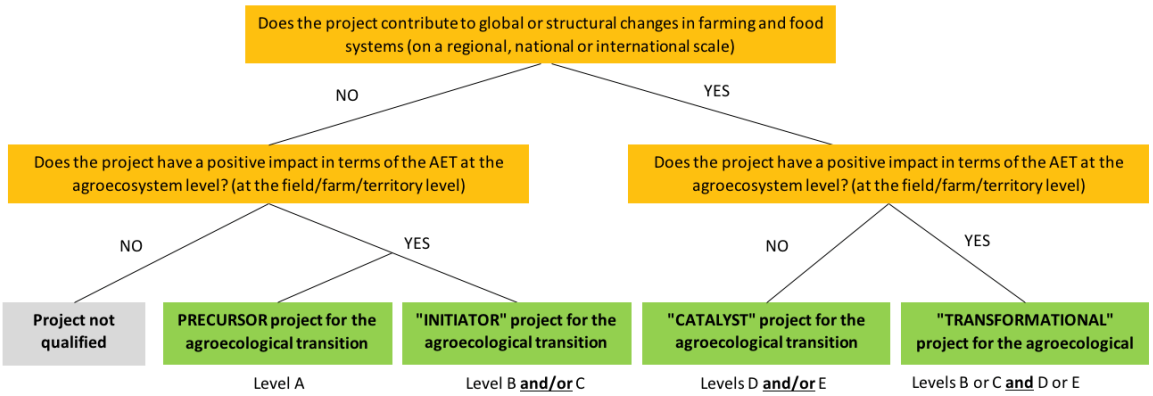
[43] Chemical products subject to the PIC - ECHA regulation (europa.eu)

[44] http://www.pic.int/LaConvention/Produitschimiques/AnnexeIII/tabid/1837/language/fr-CH/Default.aspx

[45] https://www.who.int/publications/i/item/9789240005662

[46] www.afd.fr/fr/ressources/politique-de-maitrise-des-risques-environnementaux-et-sociaux-lies-aux-operations-financees-par-lafd

**Figure 10: Decision tree for ex-ante qualification of a project's contribution to the AET**




| AGROECOSYSTEMS LEVEL | | | FARM AND FOOD PRODUCTION SYSTEM LEVEL | |
|---|---|---|---|---|
| **A** | **B** | **C** | **D** | **E** |
| **Optimisation of the use of natural resources** in agriculture and livestock farming systems | **Substituting "conventional"** practices and inputs with alternative, more sustainable practices and inputs | **Restructuring of agroecosystems** | **Re-establishment of links between producers and consumers, creation and sharing of knowledge, etc.** | **Development of public policies in favour of the agroecological transition** |

N.B.: a project not qualified as contributing to the agroecological transition remains subject to comply with AFD's exclusion list and its Environmental and Social Risk Management Policy (particularly with regard to the use of synthetic phytosanitary products).

**Figure 11: Qualification grid and typology of projects supporting the AET**

| | AGROECOSYSTEM LEVEL | | | AGRICULTURAL AND FOOD SYSTEMS LEVEL | |
|---|---|---|---|---|---|
| | **A** | **B** | **C** | **D** | **E** |
| **Contribution to the AET** | **Optimisation of the use of natural resources in agriculture and livestock farming systems** | **Substituting "conventional" practices and inputs with alternative, more sustainable practices and inputs** | **Restructuring of agroecosystems** | **Re-establishment of links between producers and consumers, creation and sharing of knowledge** | **Development of public policies in favour of the agroecological transition** |
| **Link with FAO principles** | EFFICIENCY | RECYCLING; REGULATION | DIVERSITY; SYNERGIES; RESILIENCE | CO-CREATION OF KNOWLEDGE; FOOD CULTURE AND TRADITIONS; CIRCULAR ECONOMY | HUMAN AND SOCIAL VALUES; RESPONSIBLE GOVERNANCE |
| **Associated activities (examples)** | Reduction in water/energy consumption, improvement of the efficiency of seed use, reduction of loss/waste, use of improved crop varieties or breeds, etc. | Replacement of synthetic fertilisers with alternative soil-enriching agents, green fertilisers/cover crops, recycling of grey water, recycling of biomass residue or upcycling into an energy source, carbon trapping practices (reduced tillage, SCV), biocontrol, soil coverage, perennial crops, organic farming, improvement of animal well-being, agroecological crop protection | Integration of uncultivated plants within the production system, agroforestry, rotational grazing, mixed agro-pastoral systems (silvopastoral, agrosilvopastoral, etc.), systems for optimising synergies between the Production System and its ecosystem, landscape development to improve agricultural ecosystem services (reforesting, restoration, hedges, terraces, etc.), local seeding system, integration of local crops/breeds, diversification of production/consumption, crop rotations, resilience to climate change and extreme weather or economic events (ecological diversification). | Relocalisation of the producer-consumer link, short marketing circuits (farmers' markets, PGS, etc.), quality value chains (geographical indication, fair trade, etc.), creation/reinforcement of the upstream/downstream services environment in line with the AET, creation of local added value (transformation, packaging, etc.), awareness of seasonal and local consumption, promotion of local products for their cultural and nutritional specificities, networks for exchange between farmers, communities of practice (including via digital tools), participatory approaches in the production of knowledge (field schools, participatory research, etc.), support for formal education and farmer training, FAR agricultural training initiatives integrating the principles of agroecology, collective territorial planning | Approaches focusing on gender issues and/or vulnerable groups, strengthening organisational capacities of agricultural associations or groups / ability to defend rights (notably land rights), Policies and programmes favouring inclusive market systems and fair trade, Food sovereignty programmes, Rural employment policies encouraging young people to work in agriculture, local public procurement policies, Nutrition policies / school meals programmes, support for inclusive public policies, recognition of traditional rights to natural resources, integration of agroecology into political processes about climate change, payment for ecosystem services, agricultural regulations and subsidies that respect biodiversity, FAR agricultural training policies integrating the principles of agroecology |

### 3.2.4. Internal analysis elements to be squared with this grid

Several socio-economic aspects linked to agroecology are related to topics that are already evaluated internally during the project appraisal phase: sustainable development (SD) analysis and quantification of climate and biodiversity co-benefits at AFD[47], risks and impacts analysis in the NGO Initiative proposal for CSO division, and the environmental and social (E&S) evaluation of projects at Proparco.

Taking these elements into account helps ensure coherence between certain analyses (e.g. governance, gender, social inclusion, circular economy, etc.).

**Coherence with the AFD Sustainable Development analysis**

For projects whose funding requires an SD analysis and rating: it is advised that the project's SD grid be referred to for certain criteria. When a project claims to support the agroecological transition, it must be able to coherently demonstrate a positive contribution to certain elements of the SD grid.

However, it should be specified that the SD analysis of a given dimension of a project is a multi-criteria process. As such, the final rating for each dimension will be based on this multi-criteria analysis. It is therefore not possible to establish a systematic equivalence between the AET project qualification grid and the "Sustainable Development Analysis and Rating" grid. The table below nevertheless enables identification of the criteria which can be employed for each of the dimensions of the SD grid, examined in greater detail as part of the appraisal process in order to optimise the integration of SD challenges within the AET.

[47] It should be noted that the SD analysis and rating grid was reviewed on 1 January 2022, notably in order to integrate AFD's latest strategic updates (social links, biodiversity, etc.). It is organised around the three pillars of sustainable development, grouped under the terms "planet," "human" and "economy and governance," which are broken down into six operational dimensions: biodiversity, climate, society, gender, economy and governance. In order to take into account the issues of climate change mitigation and adaptation, the climate dimension is divided in two: low carbon trajectory and resilience to climate change. The sustainable development analysis carried out by the project team therefore consists of a detailed analysis of the project's expected impact on each of these dimensions, using a grid that enables an estimation of the potential positive and negative impacts on a scale of +3 to -2. The sustainable development rating for the project is then issued by the "Sustainable Development Analysis and Rating" committee, an entity which is independent from the operational teams.

**Figure 12: The AET, the FAO's 10 principles and SD Dimensions**

| SD rating dimension | SD grid criteria which can be employed | Corresponding FAO principle |
|---|---|---|
| Preservation of biodiversity, management of natural environments and resources | • Ecosystem integrity, functionality, and connectivity<br>• Sustainable use of natural resources<br>• Involvement of local populations in the management of natural resources | • Diversity<br>• Recycling<br>• Efficiency |
| Transition to a low-carbon trajectory | • Coherence with a low-carbon trajectory, public policy supporting the AET, long-term strategies<br>• Mobilisation of stakeholders toward a low-carbon trajectory for agricultural sectors | |
| CC resilience | • Maintain or improve ecosystem services and the management of natural resources | • Resilience |
| Social link: reduction of inequalities and inclusion | • Individual/collective capacity building<br>• Employment and decent work in formal sectors, higher income for beneficiaries<br>• Participation and inclusion in social and political life<br>• Reducing factors of sensitivity to tension/conflict<br>• Human rights approach (e.g. land law) | • Human and social values<br>• Joint production and knowledge sharing |
| Gender equality | • Women's independence and leadership within decision-making spaces<br>• Project design and governance<br>• Fair, sustainable and effective access to resources<br>• Equality of capabilities, opportunities and revenues | • Human and social values |
| Sustainable and resilient economy, designed to serve humanity and the planet | • Inclusive economy<br>• Local economy<br>• Innovation and green sectors<br>• Balanced regional development | • Circular and solidarity economy<br>• Cultures and traditions |
| Long-term effects of the project and framework of governance | • Consultation and participation | • Responsible governance |

**Coherence with AFD's "Nature +" analysis grid**

AFD has adopted a set of principles of positive funding for nature and biodiversity, referred to as "Nature +", which enables a project's potential biodiversity gains to be calculated. By restoring nature and ecological processes to their central role within agriculture, the development of agroecology provides a number of co-benefits for biodiversity.

**It is possible to identify a link between these "Nature +" principles and a project's levels of contribution to the AET,** notably via precise monitoring of the effects of an AE transition on biodiversity (measurement of co-benefits). An agroecological project's potential contributions to the preservation of biodiversity may be envisaged as presented in the table below:

**Figure 13: AET & potential Biodiversity co-benefits**

| **Contribution to the AET** | AET **"precursor"** and **"initiator"** projects (levels A, B and/or C) | AET **"catalyst"** projects (levels D and/or E) | **"Transformative"** AET projects (levels B or C and D and/or E) |
|---|---|---|---|
| **Potential biodiversity outcome and weighted biodiversity co-benefits (*)** | **20%** Elimination of occasional and chronic pollution from anthropic sources<br><br>**to 40%** Sustainable management of natural resources and value chains | **40%** Sustainable management of natural resources and value chains<br><br>**to 50%** Integrated public policies and mobilisation of financial resources in favour of biodiversity | **50%** Integrated public policies and mobilisation of financial resources in favour of biodiversity<br><br>**to 60%** Integrated spatial development of rural and urban areas |

(*) the weighting figure corresponds to a percentage of the project's budget, aiming to measure the global contribution of the AFD Group's Nature + funding.

This equivalence may only be considered on the condition that the project states a certain level of ambition, which must be evaluated with regard to its eventual biodiversity outcome.

For example, a project that would be categorised as level E ("Development of public policies in favour of the agroecological transition") would contribute to outcome 4 ("integrated policies/strategies, biodiversity governance and mobilisation of financial resources in favour of biodiversity /50%") as and when the main activities being financed involve (among others) the integration of agroecology into political processes pertaining to climate change, payment for ecosystem services, agricultural regulation and subsidies which respect biodiversity, fiscal incentives, etc.

### 3.2.5. Ways of using the qualification tool

This decision tree serves as **decision-making tool for the AFD Group's project teams**, providing a grid on which to position agroecological projects and consider potential ways to boost levels of ambition in this field. The widespread use of this method will **ensure the AFD Group's accountability in terms of its annual commitments to the AET**.
The decision tree may also be used as a **tool for dialogue** with counterparts when discussing AFD's objectives on the topic of the agroecological transition.

**Specific features of the project based on the main theme of the intervention**

The qualification of projects' agroecological criteria can be crossed with the main areas of intervention and activities of the AFD Group's Agriculture, Rural Development and Biodiversity portfolio: farm services, biodiversity, livestock farming, supporting public policy, local development/management of natural resources, irrigated agriculture, farming and rural training, etc.

Based on the topic of intervention, specific approaches can be identified, capitalising on AFD's experience. However, it remains important to examine each project on a case-by-case basis, as the agroecological approach rely on the analysis of the specificity of each local context.

**Figure 14: AET approaches per intervention topic**

| Topics | Characteristics | Approaches promoted |
|---|---|---|
| Agricultural services | Activities: training/advisory services, supply of seeds, technical field support (at the farm level or value chain, etc.), technical assistance.<br><br>Various operators and partners: producer organisations, NGOs, ministries, research centres.<br><br>Targets : family farms, support for producer associations, structuring national farming advisory services<br><br>Examples: *PAPAM (Madagascar), TAZCO 2 (Benin), PRCC Cacao (Multi-national), PRCC Coffee and Tea (Laos), PACTE (Burkina Faso)* | • Agroecology is associated with an increase in agricultural value added per ha, along with innovation and development research in organic value chains and other high-quality/premium value chains to increase producer incomes.<br>• Family farms require **a higher level of expertise to manage complex agroecological systems** (practices which are more intensive in terms of knowledge and practical expertise) than when applying standardised technical solutions.<br>• Farming advisory service providers must also take into account the **diversity of these systems** and fine-tune their skills in order to support **local innovation processes.**<br>• Developing participatory approaches to on-farm trials<br>• Contribution to the **reduction in the use of phytosanitary products, possibly including the elimination of certain products** (whose level of harmfulness has been proven and/or whose use has been prohibited notably in Europe, non-approved products, etc.)[48] and the optimised use of mineral fertilisers **(to be coupled with practices that will improve the structure and/or increase the organic matter of soils**)<br>• In accordance with the development of agroecological practices, **evaluate the evolution of workloads, including how they are shared throughout the household in order to ensure gender issues are suitably accounted for**. Indeed, agroecological practices can be more intensive in terms of workload. This constitutes an opportunity to create rural jobs, but can also forms an obstacle to the adoption of new practices. |
| Terrestrial and marine biodiversity | *Objectives/Activities:*<br>• develop and strengthen protected areas via improved governance and management; | • These projects have the opportunity to act as **precursors to the agroecological transition**, particularly in peripheral areas ("buffer" zones) around conservation zones, and to inspire other regions and sectors: agricultural services around the edges of protected areas in |

[48] The AFD Group's exclusion list stipulates that the production, use or trade of […] all products (including chemical products, pharmaceuticals, pesticides/herbicides, ozone-depleting substances or any other hazardous product) whose production or use is banned or set to be phased out in the regulations of destination countries or internationally, are excluded from financing by the Group.

| | | |
|---|---|---|
| | • involve protected areas in territorial projects, through setting up local planning bodies and the development of sustainable commodity chains;<br>• ensure long-term financing for protected areas using innovative mechanisms;<br>• reinforce public policies and partnerships in order to promote protected areas on various scales;<br><br>Examples: *Talaky and Kobaby (Madagascar), Marine protected areas (Senegal), Xianju National Park (China)* | order to consolidate local economies via sustainable practices, to recover deforested zones and to reduce pressure on forest resources.<br>• Contributing to more systematic monitoring of the effects of practices on biodiversity, using dedicated tools.<br>• **Functional biodiversity or agrobiodiversity,** to be accorded greater value (diversity of species cultivated, varieties, micro-organisms in farm soils, trees etc.) in the monitoring evaluation process. |
| Livestock farming/<br><br>Pastoralism | Objectives/activities: training/advisory services for livestock farming, animal health, mixed farming systems, secure mobility pathways (water access, secure access for herds, demarcation of crop fields and grazing areas, etc.), leadership/support for public policy in pastoral development<br><br>Examples: *Bounkassa Kiyo (Niger), aviculture sector (Guinea), LAIF (Cuba), PASTOR (Chad)* | • Promoting the dissemination of technical and organisational solutions based on **the symbiosis between crop and livestock farming**, within the framework of agroecological systems (soil fertility, tillage, transport, etc.). These solutions may include manure contracts, the use of draught animals, more efficient upcycling of crop residue in animal feed, the development of fodder chains, combined rice/fish farming, and agro-silvo-pastoralism.<br>• Agro-silvo-pastoralism systems experiment with **socio-organisational forms of land and resource management** in accordance with the principles of agroecology.<br>• Highlighting the role of mixed farming within the agroecological transition, **along with analysis of the environmental impact of livestock farming systems**, by differentiating between models and taking into account their various aspects (GHG emissions, biodiversity, landscape maintenance, etc.), as the results may contradict one another<br>• **Using the *One Health*** approach as a lever to ensure the implementation of agroecological transitions (climate co-benefits, biodiversity, health) |
| Support for public policies | Objectives/activities: financial transfers, dialogue on public policies backed by an indicator matrix, technical cooperation<br>• Support for the formulation/implementation & evaluation of one or several sectoral or multi-sectoral policies<br>• Multi-stakeholder dialogue to enhance sustainable public policies, peer exchanges,<br>• Intra- and inter-ministerial coordination<br>• Etc. | • Examining overall coherence between public policies (trade policy, policies favouring conventional agriculture or the AET, environmental costs of certain subsidies, etc.)<br>• Work on alternative agricultural models, **paradigm change,** cohabitation between humans and nature (e.g. the *One Health* approach)<br>• The issue of compromise between **short-term objectives** (notably ensuring food security) **and long-term goals** (protecting ecosystems)<br>• **Securing land access** while avoiding expansion into forested areas |

| | | |
|---|---|---|
| | Examples: *Agroecology in West Africa (multi-country), Decarbonisation (Costa Rica),* | • **Strong governmental support for agroecology, with dedicated national policies** (e.g. Senegal or India)<br>• The state's role **in the implementation of a regulatory framework**, via (for example) the authorisation of certain chemical products or the implementation of **appropriate fiscal measures** (e.g. "polluter pays" schemes).<br>• **Policies for food production systems, short distribution channels, etc.** (for example, supplying school canteens with healthy and local produce) |
| Forest ecosystems | Objectives/activities: forestry development (encompassing forest management but also social and biodiversity aspects), local development, capacity building for local stakeholders, etc.<br>Examples: *Plan Sierra (Dominican Republic), CAFI Savannah and Degraded Forests (DRC)* | • The local territory as the **catalyst for the agroecological transition**: thinking in terms of the territory as a whole, application of consultation methods and undertaking diagnostics at the territorial level<br>• Link to the agroecological transition via territorial organisation dimensions, aiming to encourage **sharing and sustainable use of resources** (territorial planning, management plan, measures for governance of land and natural resources, etc.)<br>• Agroecology enables the **restoration of spaces of key social and economic importance** for the territory (access to innovative agro-forestry and agroecological pathways)<br>• Based on a **high level of stakeholder participation**, including stakeholders in agricultural and pastoral production, and comprising a significant territorial dimension<br>• Importance of **capacity building for local/decentralised governments and consultation/regulation institutions**<br>• **Using the *One Health*** approach as a lever to ensure the implementation of agroecological transitions (climate co-benefits, biodiversity, health) |
| Local development<br>Management of natural resources | Objectives/activities: These projects guide the process of decentralisation and support a holistic territorial approach to ensure coordinated progress across all development-limiting factors. They address issues of governance, social or economic development, and also capacity building for stakeholders and the management of land and natural resources.<br>Examples: *DECLIC (Mauritania), ACACTAE (Morocco)* | |
| Irrigated agriculture | Objectives/activities: hydraulic irrigation or drainage infrastructures, support with water management and development, structure of value chains, etc.<br>Examples: *Wat4Cam (Cambodia), Qaddoussa (Morocco), PPink (Laos), GERTS (Chad), ASARIGG II (Mauritania)* | • Agrarian systems using irrigated agriculture can be considered **potential contributors to the AET**.<br>• Irrigated systems make significant contributions to **food security** and involve valuable social organisations (such as water user associations)<br>• Case-by-case project analysis, taking into account the **diversity of irrigated systems** (and types of hydro-agricultural development)<br>• Agroecological systems (or those at least capable of reducing negative environmental effects): System of Rice Intensification (SRI), conservation agriculture, rice-fish polyculture |

| | | |
|---|---|---|
| | | • A specific initiative on **"Agroecological transitions in irrigated systems" was undertaken under the COSTEA framework**[49] in order to identify action tracks: increasing productivity of irrigation water, reducing costs of irrigation, reduction of chemical inputs, crop rotations, limiting erosion, increase in organic matter and integration of livestock farming into systems, etc. |
| Agricultural and Rural Training (FAR) | Objectives/activities: renewal of FAR programmes, improvement of professional qualifications for stakeholders in agricultural and rural development, professional integration, improvement of infrastructures for technical and professional training, etc.<br><br>*Examples: AFOP (Cameroon), GIFT (DRC), RIFAR (Multi-country), ProFAR (Benin)* | • Offering **agricultural training and advisory programmes,** integrating the key principles and practices of agroecology<br>• Developing **partnerships between Research and family farmer networks** to encourage innovation and highlight local knowledge and practices adapted to the local context |

[49] COSTEA collaboration : ACTION STRUCTURANTE TRANSITION AGROECOLOGIQUE DES SYSTEMES IRRIGUES (costea-collaboration.net)

Certain projects place particular emphasis on capitalisation, experience sharing, and networking among stakeholders. The ASSET programme (which notably aims to consolidate the ALISEA network – *Agro-ecological Learning alliance in South East Asia*) incorporates, for example, objectives in terms of capitalisation and practical experience sharing, whose results have been considered as positive during the evaluations[50] of previous phases. The Agroecology in West Africa programme also sets significant objectives in terms of capitalisation and peer exchange at various levels (ranging from projects on the ground to the national and regional levels), but also in terms of public awareness (sharing "best practices" via radio/broadcast media); the results of these activities have not yet been evaluated, and have been heavily impacted by Covid 19.

Certain projects financed by AFD have also begun to create or consolidate existing agroecology-related networks and programmes (such as DyTAES in Senegal, GSDM in Madagascar, or ALISEA in South-East Asia, etc.).

[50] CEDAT et TREBOUX, « Evaluation Report of ACTAE (Appui à La Transition Agroécologique En Asie Du Sud-Est) Project (Mid-Term) ».

### 3.3. Orientations to improve the integration of agroecology in projects financed by the AFD Group

In order to improve the integration of agroecology within the projects it finances, the AFD Group is committed to the following approaches.

**Methods of intervention**

- **Encouraging multi-stakeholder approaches, process approaches and co-construction**: agroecology is based on a combination of knowledge issuing from research and local insights. This dimension encourages the implementation of participatory approaches leaving room for experimentation and **excluding "turnkey" advisory approaches** (such as certain strictly "top-down" farming advisory approaches).
- **Strengthening dialogue with stakeholders and clients in order to channel financing toward the agroecological transition.** The use of the project categorisation grid should enable clarification of the various levels of agroecological integration within a project.
- **Seeking out synergies between projects at the country portfolio level**, as a single project generally cannot integrate the full range of levels described in Gliessman's classification (cf. fig. 1).
- **Promote capitalisation, peer exchange, awareness among stakeholders, communication and networking.**

**Accountability, monitoring and evaluation of interventions**

- Once a project is qualified as contributing to the agroecological transition based on the grid developed, the two aggregated indicators for the agroecological transition **((i) the number of family farms being converted to agroecological systems and (ii) the surface area of land being converted to agroecological systems)** will be completed by the beneficiaries of AFD financing (cf. Appendix 2).
- In the **logical frameworks and monitoring-evaluation measures for the projects it funds**, the AFD Group will continue to focus particular attention on the coherence between the project's objectives in terms of the agroecological transition and its associated, objectively quantifiable activity and impact indicators.
- **Producing reference data to support political decision-making:** at this stage, it is necessary to pursue efforts to produce reference data in order to corroborate agroecology's social, economic, biodiversity and climate impacts. Assessment is also crucial in order to **quantify the impacts and improve AFD's interventions to promote agroecological intensification**, evaluating aspects such as economic viability, enabling economic and socio-political conditions, the organisation of stakeholders within the commodity chain so as to equitably spread out the actions undertaken for the agroecological transition, and also the introduction of adapted mechanisation in agroecological land plots in order to reduce the arduousness of farm work, while also considering, depending on the circumstances, the potential harmful effects of mechanisation. **The production of reference data via increased and long term collaboration with research organisations, CSOs, etc.** will be essential in order to engage in dialogue and public policymaking with AFD's partner countries and sub-regional institutions.

**Agricultural practices from field to landscape**

- **Promoting the use of initial territorial diagnostic assessments including the various stakeholders from the territory**: agroecological activities are based on an in-depth knowledge of the local area, including its production and agrarian systems. When not required for the project feasibility study, these diagnostics may be carried out during the project's initial phases. Furthermore, the appropriation of the results of these initial diagnostic assessments at the various territorial levels by the partners (notably technical and finance ministries) is essential in order to ensure the relevance of the resulting intervention.
- **Articulating contextual analysis and change levers.** The diagnostic assessments carried out prior to a project must not be limited to the identification of problems. They should examine their causes and analyse the underlying institutional configuration (interests of various stakeholders, economic relations, existence of trade agreements on agricultural produce, etc.) in order to

identify levers for action or change with genuine relevance. The implementation of these levers must be undertaken using a process/programme approach, which implies continuous flexibility and readjustment based on interim results.

- **Supporting partners and clients in the renewal of their approaches,** in order to shift from a process of distributing a model to a process of supporting change, by i) integrating diversity of production systems, ii) mobilising shared knowledge between farmers and a variety of stakeholders, iii) remaining aware that agroecological innovations are not achieved through linear propagation, but through a process of co-construction of new systems.
- **Encourage the definition and implementation of projects combining experiments in rural areas**, **monitoring and evaluation of changes brought about, and development of innovative techniques on a broader scale.** The continuation of experimental measures in controlled environments over the long term also remains necessary, in addition to on-farm experimentations.
- **Providing long-term support** for the agroecological transitions promoted – an essential condition for supporting any transition in a sustainable way by seeking out mechanisms to ensure its sustainability.

**Stakeholders and networks**

- **Fostering an enablingenvironment for the development of** agroecology by focusing on conditions of access to services prior to production: seeds, inputs, credit, light mechanisation, etc.
- **Encouraging agricultural value chains to commit to the agroecological transition in both** local and international markets (projects supporting quality labels and certification in connection with more transparent and profitable value chains, etc.).
- **Promoting exchanges of experience and the consolidation of reference data and knowledge on agroecology, notably by combining technical approaches with these stakeholder and network dynamics** (including the upstream & downstream of the agricultural sector and consumers). The networks to be mobilised also include producer associations, unions and organisations active on various scales, along with inter-professional associations (notably in the quality value chains, certification), research, private sector, local governments or participatory guarantee systems (PGS), etc. Establishing networks of these stakeholders constitutes a means of giving a voice to stakeholders at the national and supranational levels, and thereby of bringing greater visibility and political recognition to agroecology.

**Public policy**

- **Accompanying initiatives to develop public policy around agroecology** Upscaling the agroecological transition requires activating a broad range of political and financial levers: regulation and control of chemical inputs, training measures and advisory services, using public money to support farming revenues (potentially via payments for environmental services, or PES, or funding the cost of the transition for farms, following the example of organic farming conversion grant aid schemes), implementation of land reforms, support for local governments in their territorial projects (such as the "Territorial Food Strategies" in France), awareness campaigns on nutrition, involvement of banks and the IMF in green financing subjects, trade regulations, etc.
- **Contributing to the identification of strategies for financing the AET (AFD internal work process to be undertaken).** Issues regarding financing for this transition and modes of production and remuneration over the long term (markets? certification? PES?) must be able to be examined.
- Promoting the integration of agroecology into higher education courses, **existing professional and rural agricultural training** (updating curricula, training educators and teaching staff) as well as in programmes helping young people find work and settle in rural areas.
- **Promoting the *One Health*** approach as a lever for the implementation of agroecological transitions (co-benefits for the climate, biodiversity, and health)

# APPENDIX 1: DEFINITIONS

| Agricultural development approach | Principles | Practices | Criticisms/points of dispute |
|---|---|---|---|
| **"Conventional" or Green Revolution agriculture** | "Conventional" agriculture refers to practices resulting from the sector's structural and technological transformation during the nineteen-sixties. Its techniques are based on forcing ecological and biological systems using external inputs containing high levels of synthetic products and energy (Griffon, 2013).<br><br>The Green Revolution refers to a mindset of controlling the environment and its variability factors. It aims to achieve highly artificial agroecosystems able to function independently of climate and biological variabilities. It was primarily implemented in countries with abundant water supply and high population density, both essential factors for its success with regard to small farms. (Michel Griffon, Jacques Weber, 1995, "Vers une révolution doublement verte") | It is characterised by the use of high-yield crop varieties and heavy use of fertilisers and phytosanitary products, making it intensive in terms of chemical inputs and sometimes in terms of irrigation as well. In almost all cases it uses seasonal credit (to finance the purchase of inputs) and equipment credits, making it capital-intensive. It is also based on livestock farming using enhanced breeds and extensive medical and healthcare protection (Griffon, 2013). | Yields caps, environmental damage (water, air, etc.), exhaustion of resources necessary for agricultural production (phosphorus, energy, soils, biodiversity, etc.) and significant climate impacts.<br><br>Where the Green Revolution has achieved marked success in terms of yields, we now know that these successes have come at an environmental cost that is not taken into account by markets: soil salinisation and rising groundwater in intensely irrigated zones, pollution via chemical inputs, loss of biological diversity (notably in terms of local cultivars), reduction in fertility levels, and hydric erosion in rain-fed agriculture zones. (Michel Griffon, Jacques Weber, 1995, "Vers une révolution doublement verte") |

| Agricultural development approach | Principles | Practices | Criticisms/points of dispute |
|---|---|---|---|
| **Organic Agriculture**<br><br>A system of production based on ecosystem management which prohibits the use of synthetic chemical inputs (non-organic fertiliser and pesticides)[51]. | According to the International Federation of Organic Agriculture Movements (IFOAM)[52], it has 4 principles:<br><br>- Sustain and enhance the health of soil, plant, animal, human and planet as one and indivisible health.<br><br>- Ecology: based on living ecological systems and cycles.<br><br>- Fairness, via relationships with the common environment and life opportunities.<br><br>- Principle of Care: organic agriculture should be managed in a precautionary and responsible manner. | - Elimination of chemical and synthetic inputs. Based on ecological processes and natural sources of nutritional elements such as compost, crop residues and manure. Reduction in tillage.<br><br>- Promote in the long term the stability of edaphic factors, and encourage the improvement of soil quality if combined with soil protection measures<br><br>- Certification mechanisms which boost the sale price of organic produce. | - Controversy regarding the use of ploughing, which is frequent in OA but highly damaging to soil health and in terms of GHG emissions<br><br>- Certification mechanisms overseen by third-party organisations can be extremely costly for small farmers (notably in Southern countries)<br><br>- Controversy regarding productivity levels: certain studies show that conventional systems produce higher yields than diversified organic systems in certain contexts[53], while others have concluded that diversified systems obtain better results in developing countries, where the difference can be as high as 80%[54]. In either case, any potential shortfalls in yields are supposedly balanced out by a reduction in production costs and/or higher sale prices for certified produce.<br><br>- Controversy regarding coherence between organic agriculture's environmental commitments and certain production systems whose produce is primarily destined for export and/or which are linked to other issues (land grabbing, deforestation) not taken into account in the certification process |

[51] HLPE c/o FAO, « Approches agroécologiques et autres approches innovantes pour une agriculture durable et des systèmes alimentaires qui améliorent la sécurité alimentaire et la nutrition ».

[52] IFOAM - Organics International, « The Four Principles of Organic Agriculture ».

[53] Reganold et Wachter, « Organic agriculture in the twenty-first century ».

[54] Badgley et al., « Organic Agriculture and the Global Food Supply ».

| Agricultural development approach | Principles | Practices | Criticisms/points of dispute |
|---|---|---|---|
| **Agroforestry**<br><br>A term referring to practices in which trees are combined with agriculture, as well as to an inter-disciplinary field encompassing land use systems on various scales […] involving interactions between trees, people and agriculture[55]. | - Using the ecosystem services provided by trees in combination with agricultural measures. It can provide significant gains in productivity without causing environmental damage.<br>- The specific mechanisms in question are improved mutual input into water and nutrient cycles, greater abundance of soil micro-organisms and intensification of their activity, ability to absorb climate stress, higher level of carbon trapping in vegetation and soils, and diversification of revenues and dietary intake.<br>- Local knowledge is recognised as an indispensable resource (importance of participatory research). | - Several types of associated practices: silvo-arable agroforestry (trees growing in crop fields), silvo-pastoralism (trees growing in grazing pastures), planting commensal trees or farm crops in production systems combining perennial trees and crops (coffee, cacao, tea, rubber tree, oil palm, coconuts, etc.), forest agriculture (grazing forests and controlled use of non-timber forestry products), multi-level modes of plant production (including domestic vegetable gardens) and rural woodlands.<br>- Reduction in tillage.<br>- The approach is facilitated by multi-party innovation platforms and guided by modelling livelihood trajectories. | - Concept is ambiguous and often poorly defined — a broad variety of so-called agroforestry practices exists.<br>- Certain agroforestry systems are associated with (i) practices with negative environmental impacts: monocultures, planting of exotic species, land clearing to make way for cash crops, or (ii) negative socio-economic effects: dependence on monetary revenue (possibly resulting in a reduction in food sovereignty in favour of cash crops), increase in inequality, speculative investments and influx of migrants into conservation areas or forests as a socio-economic consequence[56]. |
| **Permaculture**<br><br>A systemic conceptual framework based on the idea of porous borders between agriculture and ecology, and a vision of the land as the result of a process of co-evolution between human and natural systems[57]. | - Strategies for spatial reasoning used to analyse site conditions, select practices and integrate them into the site conditions and the land use objectives.<br>- Emphasis is placed on:<br>• The specific features of the site, including a focus on microclimates.<br>• The interactions between components at several levels, from polycultures at the field level to the | In the design of agricultural systems, practitioners of permaculture promote complex polycultures across several strata, using perennial plants, combining plants and animals, a wide diversity of habitats, water management across the entire landscape and the production of sustainable energy on site[59]. | - Its opponents argue that practitioners of permaculture can be reluctant to get involved in systemic scientific research whose results could call into question or dampen their idealistic or simplistic affirmations.<br>- Others question the possibility of upscaling this type of system, or drawing revenue or sufficient volumes of marketable produce from it.<br><br>That said, scientific research has begun to document these aspects of permaculture; cf. results of the INRAE study on the Bec Hellouin vegetable farm in France. |

[55] Sinclair, « AGROFORESTRY ».

[56] Ollinaho et Kröger, « Agroforestry transitions ».

[57] Chakroun, « La permaculture au sein des dynamiques territoriales ».

[59] Morel, Leger, et Ferguson.

| Agricultural development approach | Principles | Practices | Criticisms/points of dispute |
|---|---|---|---|
| | diversity of land use at the agroecosystem level.<br>• Spatial configuration as a key factor in multiple functions.<br>- In addition to ecological design based on scientific data, permaculture encourages practitioners to develop *emotional and subjective ties* to the land, and to develop their imagination and creativity as crucial elements in the design process[58]. | | |
| **Regenerative agriculture**<br>A holistic method of land management based on carbon sequestration and soil restoration, as well as increasing crop resilience and nutritional content[60]. | According to *Regenerative International*[61], regenerative agriculture:<br>- contributes to generating/building soils and soil fertility and health<br>- increases water percolation, water retention, and clean and safe water runoff<br>- increases biodiversity and ecosystem health and resilience<br>- inverts the carbon emissions of our current agriculture to one of significant carbon sequestration. | Numerous associated practices: SCV, crop rotations, contour ploughing, grassy strips, living hedgerows, windbreaks, embankments, small dams, use of compost/animal manure to restore the microbiome of plants and soils, direct seeding, *push-pull* models for biocontrol, best practices for pasture management (pasture planning, silvo-pastoralism). | The capacity of these practices for carbon sequestration has been called exaggerated or even contradicted by certain scientific articles[62][63].<br>The concept remains somewhat vague. The majority of producers claiming to subscribe to the system highlight the following practices:<br>- Non-tillage and the use of cover crops<br>- Mob grazing (rotational, high-density grazing system) |

[58] Morel, Leger, et Ferguson, « Permaculture ».
[60] « Qu'est Ce Que l'agriculture Régénératrice? »
[61] « Qu'est Ce Que l'agriculture Régénératrice? »
[62] Garnett et al., « Ruminating on Cattle, Grazing Systems, Methane, Nitrous Oxide, the Soil Carbon Sequestration Question – and What It All Means for Greenhouse Gas Emissions ».
[63] Nordborg et Röös, « Holistic Management – a Critical Review of Allan Savory's Grazing Method. »

| Agricultural development approach | Principles | Practices | Criticisms/points of dispute |
|---|---|---|---|
| **Conservation agriculture**<br><br>Agriculture that promotes minimum soil disturbance (i.e. no tillage), maintenance of a permanent soil cover, and diversification of plant species[64]. | Aims to enhance biodiversity and stimulate natural biological process occurring above and below the soil, which contributes to more efficient use of water and nutrients and enables sustainable improvement of plant production. | -Minimal mechanical disturbance of soil (no tillage) via direct seeding and/or fertilising.<br><br>-Permanent organic soil cover made up of plant residue and/or cover crops (Cover crop seeding, or CCS).<br><br>-Diversification of species cultivated, via varied crop sequences and combinations involving at least three different cultures. | - Risk of partial appropriation leading to high levels of chemical inputs (if the reduction of tillage is carried out without sufficiently extending the duration of rotations, weeds can be difficult to control)<br><br>- Associated with capitalist agriculture in several countries (US, Latin America).<br><br>- Certain forms of soil cover involve major consumption of non-selective herbicides[65].<br><br>- It is often understood in its simplest practices (non-tillage or simplified tillage) rather than in its full version (systems using plant cover=SCV: non-tillage + crop cover + rotations) |
| **Sustainable Intensification**<br><br>Increasing the added value generated per surface area unit via increasing yields obtained, while also protecting, or even regenerating, natural resources[66] | Goal of increasing production levels while maintaining the lowest possible land conversion rate (maximising yields)<br><br>- Increasing the efficiency of resource use and optimisation of the application of external inputs.<br><br>- Minimisation of direct negative impacts of food production on the environment.<br><br>- Fills the gaps left by insufficient yields produced by under-performing agricultural lands.<br><br>- Optimisation of the use of crop varieties and livestock breeds selected. | Numerous associated practices: microdosing of synthetic fertilisers, precision agriculture, soil analysis, soil conservation, seed spacing, water conservation practices, soil preservation efforts, improved crop rotation methods, use of living and residual mulch for soil cover, use of legumes, cover crops and intercropping rotations, alley cropping, agroforestry, integrated anti-parasite control, crop selection, hybridisation, biofortification, assisted selection using molecular markers, histological staining, Recombinant DNA, livestock hybridization, artificial insemination and embryo transfer, inclusive agro-industrial sectors, micro-insurance, agricultural financing, value chains, farming | - Difficulty in defining its application in a precise way, and criticisms linked to the fact that sustainable intensification can serve as a pretext to maintain the "status quo" [67] of conventional agriculture.<br><br>- Focuses on agricultural production to the detriment of other, "equally or more important variables that influence food security" (social, adaptation to climate change, etc.)[68]. |

[64] FAO, « Agriculture de conservation ».
[65] Rebulard, *Le défi alimentaire*.
[66] Pretty et Bharucha, « Sustainable intensification in agricultural systems ».
[67] Struik et Kuyper, « Sustainable intensification in agriculture ».
[68] Loos et al., « Putting meaning back into "sustainable intensification" ».

| Agricultural development approach | Principles | Practices | Criticisms/points of dispute |
|---|---|---|---|
| | - Emphasis on economic gains or productivity.<br>- Market solutions as a pathway to widespread adoption of innovations. | cooperatives, awareness and popularisation. | |
| **Climate-Smart Agriculture (CSA)**<br>Refers to technologies, practices and approaches that sustainably increase agricultural production, while maintaining or improving basic natural resources [69] | - Sustainable increase in farm productivity levels.<br>- Boosting farmers' capacity for adaptation by strengthening their resilience (reduction in short-term risks).<br>- Reduction in greenhouse gas emissions linked to agriculture wherever possible | Does not outline precise implementation methods, but instead (like sustainable intensification) emphasises technologies, policies and financing[70]. | - Accused of remaining within the conventional and industrialised agricultural model, in which farmers are dependent on agro-chemical companies to provide external inputs and global markets for the sale of their produce[71].<br>- Does not take into account the subject of biodiversity as a key aspect of resilience<br>- Focuses on agricultural production to the detriment of other variables (social, adaptation to climate change, etc.), proposes linear production systems (as opposed to circular systems) with specialised and centralised production models. |

[69] FAO, « L'agriculture intelligente face au climat ».
[70] Saj et Torquebiau, « Climate-Smart Agriculture, Agroecology and Soil Carbon ».
[71] Pimbert, « Agroecology as an Alternative Vision to Conventional Development and Climate-Smart Agriculture ».

| Agricultural development approach | Principles | Practices | Criticisms/points of dispute |
|---|---|---|---|
| **Sustainable food value chains**<br><br>Comprises the full range of stakeholders who participate in the coordinated production and value creation activities necessary to produce food commodities. Seeks positive effects for society without exhausting natural resources[72] | Approach implemented via various small farmer initiatives and the private sector, generally covering the entire national sub-sector for the product in question.<br><br>Aims to enhance the value of agricultural food products via transformation, storage and transport, or by removing their seasonal nature over time.<br><br>- According to the FAO[73], a sustainable food value chain:<br>• Is profitable throughout all of its stages (economic sustainability);<br>• Has broad-based benefits for society (social sustainability);<br>• Has a positive or neutral impact on the natural environment (environmental sustainability) | - Supporting farming organisations and cooperatives to improve their negotiating capacity<br><br>- Improvement of structures of governance (horizontal links) within the value chain<br><br>- Participatory guarantee systems | - This approach is based on the principle that value chains are dynamic systems kept in movement by markets, whose central dimension is governance, and for which added value and durability are explicit and multi-dimensional measures of performance which may be evaluated at the global level. This may be considered unsatisfactory in terms of demonstrating a real contribution to sustainability issues. |

[72] FAO, « Plateforme de Connaissances sur les Chaînes de Valeur Alimentaires Durables ».
[73] FAO.

# APPENDIX 2: AGGREGATED INDICATORS FOR AGROECOLOGY

| Specific objective II.2. Reduce the environmental footprint of agricultural production methods and boost their resilience | |
|---|---|
| ***Aggregated indicator title*** | **Number of family-run farms converting to agroecological farming systems** |
| ***Units*** | Family farms |
| ***Description*** | Given the range and diversity of agroecological practices, describing the change of practice to be supported should be done by defining the initial agroecological performance (or the conventional farming situation) and the final performance level targeted in simple, jargon-free terms (for example "developing agroecology"). Monitoring indicators for these changes in agricultural practices can be defined on a case-by-case basis but by combining **at least two of the following criteria**:<br>- Support for fertility transfers (livestock - cropping),<br>- Biomass renewal,<br>- Organic matter, biotic, physical/chemical activity, and soil structure management,<br>- Greater soil cover,<br>- Crop rotation,<br>- Diversification of production systems,<br>- Genetic diversification,<br>- Rationalised use of chemical inputs. |
| ***Measurements and data gathering*** | The number of family farms that have adopted, or demonstrated signs of adopting, more sustainable farming practices must be calculated and compared to the baseline situation, as defined by the project. Calculating the number of family farms that sign up at the end of the project to more or less advanced agroecological practices is clearly a complex task. It will necessarily require a comprehensive survey campaign or statistics based on the number of beneficiaries.<br>This is an input indicator, to account for all initiatives that shift farming to more sustainable and environmentally-friendly methods.<br>It is only to be used for projects that deliver activities directly involving family farms (guidance, outreach and training). |
| ***Data sources*** | The data gathered can also include participatory contributions and qualitative research on farming opinions and practices, as well as a survey of crop rotations before and after the project. |
| ***Precautions for use*** | Using this indicator presents the obvious pitfall of reverting to an authoritative stance with outreach. The indicator could be informed if, and only if, farmers 'fall in line' with the project's vision for agroecology and adopt the recommended practices. This nevertheless does not discount the advantages of studying changes in practices and agricultural transformations but the main aim is to co-construct these transformations with the farmers concerned and jointly identify adoption criteria. |
| ***Further reading*** | • LEVARD L., BERTRAND M., MASSE P. (Coordination), 2019, Mémento pour l'évaluation de l'agroécologie, Méthodes pour évaluer ses effets et les conditions de son développement, GTAE-AgroParisTech-CIRAD-IRD<br>• FERRAND P., LE JEUNE S., 2018, Agroecology Futures: Inspiring and innovating stories from the Agroecology Learning Alliance in South East Asia, ALISEA & GRET, Vientiane, Lao PDR |

| Specific objective II.2. Reduce the environmental footprint of agricultural production methods and boost their resilience | |
|---|---|
| **Aggregated indicator title** | **Areas being converted to agroecological systems** |
| **Units** | Ha |
| **Description** | This indicator should account for family farms and expresses the previous indicator in physical terms. By contrast, it is more stringent as it must demonstrate tangible, visible changes in field plots. Agroecological field plots are areas combining **at least two of the following criteria:**<br>- Support for fertility transfers (livestock - cropping),<br>- Biomass renewal,<br>- Organic matter, biotic, physical/chemical activity, and soil structure management,<br>- Greater soil cover,<br>- Crop rotation,<br>- Diversification of production systems,<br>- Genetic diversification,<br>- Rationalised use of chemical inputs. |
| **Measurements and data gathering** | This involves calculating the total area of family farms having adopted agroecological practices during the project. |
| **Data sources** | Surveys of family farms on their crop rotations and farming practices that can be checked on the farm (proxy defined for number of family farms converted) or estimated from remote sensing.<br>For satellite monitoring:<br>• *https://wapor.apps.fao.org/home/1:* /Change in water productivity per metre cube. For proxy data:<br>• *https://croplands.org/app/map?lat=0&lng=0&zoom=2*. /Change in cropped areas.<br>• *https://earthengine.google.com/*<br>• *https://www.copernicus.eu/fr*<br>• *https://global-surface-water.appspot.com/map*<br>• *https://www.globalforestwatch.org/* |
| **Precautions for use** | The indicator should be combined with a carbon footprint and must also be analysed for land-sparing issues. Agroecological practices can be intensive to varying degrees and, as such, affect balances with natural ecosystems. Generally speaking, the projects concerned will make a **moderate contribution to the carbon footprint, related to carbon capture on each farm** (mitigating GHG emissions by sequestering carbon in the soil). |

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September 2024