

# DeSIRA LIFT



Authors: *Triomphe B., Lof B.,  
and A. Toillier*

## Actionable learning from a review of **DeSIRA projects’ contributions to agroecology transitions**



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## Acronyms

<b>AE</b>	Agroecology
<b>AET</b>	Agroecological Transition
<b>AETOC</b>	Agroecological Transition Theory of Change
<b>DeSIRA</b>	Development Smart Innovation through Research in Agriculture
<b>DeSIRA-LIFT</b>	Leveraging the DeSIRA Initiative for Agri-food Systems Transformation
<b>PIToC</b>	Policy Influence Theory of Change
<b>R&amp;D</b>	Research and Development
<b>R&amp;I</b>	Research and Innovation

## Executive Summary

This learning brief presents the findings from a review of 14 DeSIRA research and innovation (R&I) projects that have made significant contributions to agroecological transitions (AET). The projects were selected iteratively from the pool of the 70 EU-funded DeSIRA Pillar 1 projects. The review focuses on those with the explicit aim of fostering AET and those who volunteered for being included in the review. They cover the four DeSIRA target regions of West and Central Africa (WCA), East and Southern Africa (ESA), Latin America and Caribbean (LAC) and Asia-Pacific (AP).

The analysis was based on an analytical framework derived from the 13 agroecology (AE) principles defined by the High Level Panel of Experts on World Food Security. The main review questions were:

- (1) To what extent and how did DeSIRA AE projects explicitly address AE and AET, or specific dimensions thereof?*
- (2) What multistakeholder arrangements did projects devise, and to what extent were they specific to addressing AET?*
- (3) How successful have the projects been in contributing to AET?*
- (4) Which enabling factors and barriers to AET were encountered?*

While not all four review questions could be answered in depth, the review found that contributions to AET emerge from using comprehensive approaches addressing multiple dimensions - from farm-level practices to enabling policy environments. Furthermore, we identified seven strategic components commonly used to foster AET, adapting each of them to their respective contexts:

1. Deploying participatory innovation and co-design approaches.
2. Establishing/strengthening farmers' organisations, multi-stakeholder platforms, and networks.
3. Building capacities and developing knowledge products.
4. Developing agroecological technical innovations at farm level.
5. Implementing ecosystem and landscape approaches.
6. Developing markets, value chains, and labels for agroecological products.
4. Engaging in evidence-based policy processes to create enabling environments.

By implementing these components, DeSIRA projects were able to contribute to several key AET dimensions, even though most of the associated outcomes remain emergent:

- a. development and adaptation of agroecological practices at field and farm level, including external input reduction and use of bio-inputs, biodiversity and soil health conservation, and no-till cultivation,
- b. eco-system management, including climate adaptation,
- c. market-based development, including organisation of ecological fairs, AE product labelling, and farmers' inclusion in an array of existing or novel value chains,
- d. strengthening (local) institutions. including creation and strengthening of farmer organisations, support to extension, and curriculum development,
- e. creation of multi-stakeholder platforms, networks and other forms of stakeholder coordination, and
- f. contribution to the creation of more enabling environments through policy influencing. Many projects were able to build on existing initiatives and networks which often turned out to be conducive factors to substantive transition outcomes.

Based on these findings, we propose a generic Agroecological Transition Theory of Change (AEToC) to guide R&I projects seeking to foster AET. The AEToC can contribute to guide the design of approaches and actions for project stakeholders and donors to enhance approaches to support AET processes. For project staff, it highlights the importance of informed initiative design through stakeholder mapping and context analysis, the need for monitoring with specific indicators and for supporting capacity building, and proper documentation. For donors, the AEToC provides criteria for proposal evaluation, suggestions for flexible funding mechanisms, and the need for longer timeframes to achieve meaningful transitions.

# Background

DeSIRA-LIFT developed a Learning Review approach to understand what, why and how changes were generated by the DeSIRA Initiative.

The overall logic of intervention of the DeSIRA initiative is based on the promotion of international Research and Innovation (R&I) through project-based approaches within an Agricultural Innovation System (AIS) perspective as a major lever to transform agrifood systems towards more resilience and more sustainability and thus addressing the Sustainable Development Goals (SDGs). These DeSIRA R&I project partnerships are expected to deliver and scale innovations but also to contribute to deeper changes in the innovation capacities of their development partners and national agricultural innovation systems (AIS) of the countries. DeSIRA promotes new ways of innovating, more inclusive, open and responsible, to better place research and community-driven innovation at the heart of the response to sustainability challenges.

However, R&I projects work differently in different contexts and through different change mechanisms. Therefore, R&I projects cannot be simply replicated from one context to another and are expected to achieve the same outcomes automatically. Theory-based understanding about 'what works for whom, in what context, and how' is, however, transferable. In this perspective, the Learning Reviews conducted by DeSIRA-LIFT aim at reviewing with DeSIRA project teams 'What worked for whom, in what circumstances and how?' in six areas that we considered as key mechanisms of change:

- Projects' contributions to the formation of innovation portfolios for sustainability transitions
- Projects' contributions to the development of innovation scaling strategies
- Projects' contributions to multistakeholder innovation mechanisms
- Projects' contribution to policy changes
- Projects' contributions to systemic changes in the context of agroecological transitions
- Projects' contributions to transformative international R&I partnerships

The Learning Review consists of a process of exploring with DeSIRA project teams what they achieved and why, using guiding learning questions that interest them.

The Learning Review process encourages the development of a range of learning 'products' that are tailored to the needs of those involved: learning briefs including guiding tools such as reference Theory of Change, how-to-briefs providing practical guidance for DeSIRA managers and queryable datasets to improve decision-making.

The benefit of the Learning Review work is that it provides practical knowledge to project designers and managers, as well as donors.

# Agroecology as an approach to transform food systems

**Agroecology (AE)** is the application of ecological concepts and principles in farming and food systems. It offers a holistic approach to transforming food systems sustainably by capitalizing on local knowledge, enhancing social capital, and maintaining ecological integrity. **AE** refers simultaneously to a science, a practice or a social movement (Wezel et al., 2009).

Recently, as a way to encompass the various streams along which AE developed, both FAO (2018) and the High Level Panel of Experts on World Food Security (HLPE, 2019) have proposed a synthesis organized around a number of key principles: 10 for FAO, 13 for HLPE (Figure 1, right hand side).

Many, including international, national and local research and development organisations, donors and increasingly governments, consider AE to be a key approach to addressing the interrelated critical challenges that agricultural and food systems are facing around the globe, thus contributing to sustainable healthy and resilient agricultural and food systems.

**Agroecological Transition (AET)** aims at transforming food systems through AE. It requires gradual or even radical component and system shifts to take place over time and at various scales to eventually reach full implementation of the 13 AE principles in a given context (Figure 1, left-hand side). These shifts happen through developing and scaling a host of technologies and innovations and taking measures to protect or restore the natural environment, thereby reducing greenhouse gas emissions, strengthening capacities, developing markets, market access and support services, and contributing to enabling policy environments, all of which necessitates partnerships and multistakeholder collaboration.

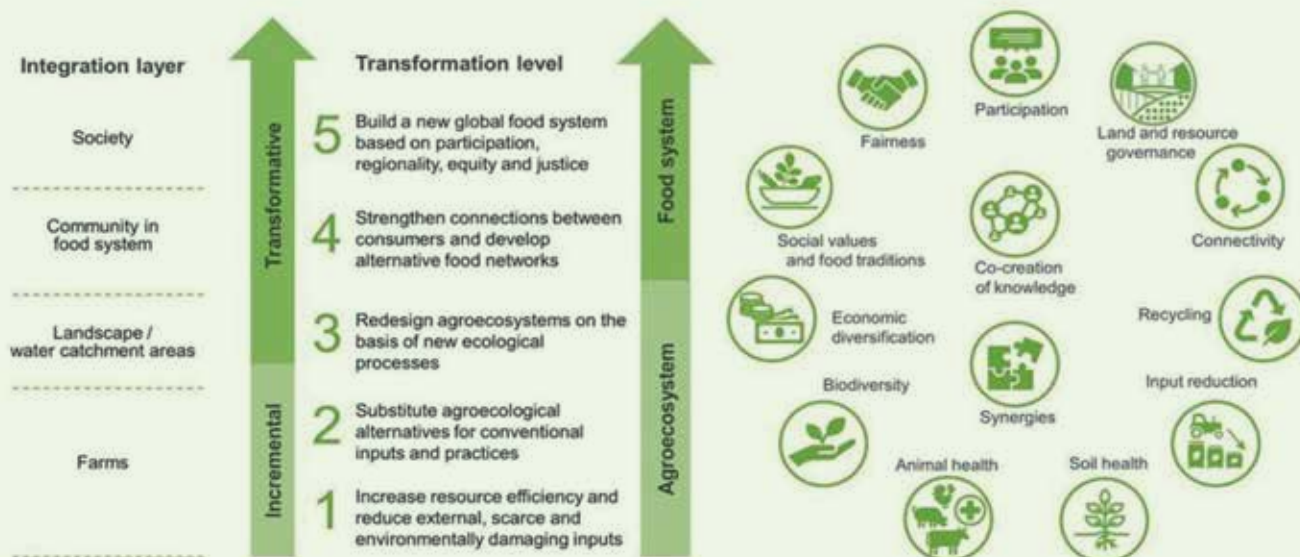


Figure 1: The 13 Agroecology principles and the 5 levels of transition.  
Source: HLPE, 2019 and Gliessman, 2009

# Approach to Learning about projects' contributions to agroecological transition

The main overarching question for the AET learning review was the following:

Within the context of the DeSIRA-LIFT Initiative, how did DeSIRA projects contribute to AET in diverse contexts, and what were the drivers that contributed to generating or developing agroecological innovations and transitions?

Based on this overarching question, the AET learning review aimed to answer **four main groups of learning questions:**

1. To what extent and how did DESIRA AE projects explicitly address agroecology and agroecological transitions, or specific dimensions thereof?
2. What multistakeholder arrangements did projects devise and to what extent were they specific to addressing AET?
3. How successful have the projects been in contributing to AET?
4. Which enabling factors and barriers to AET were encountered?

## Analytical framework

A simplified analytical framework was derived from the thirteen AE principles (HLPE, 2019) by focusing on five interlinked key dimensions expected to contribute to AET:

- AE Innovations and practices at field/farm level
- Ecological/resilience strengthening at ecosystem level
- Economic strengthening through AE
- Policy change towards AE through lobbying/advocacy
- Stakeholder arrangements to foster AET

## The AET Learning Review process

### Document review and interviews

Each project was assessed as follows. Firstly, we conducted a documentation review including project proposals submitted to DeSIRA, project reports, project web pages, and key products developed and shared by the projects. Secondly, from mid-April till the end of May 2024, we conducted semi-structured interviews with each of the 14 project teams, guided by a set of open questions and systematically recorded (after participants gave consent). The interviews were conducted in the preferred language of the project team: English, French, Spanish or Portuguese.

### Project summaries

Based on the recordings, we used Claude Artificial Intelligence (ClaudeAI) software to develop a project summary in line with the main guiding questions used during the interviews. After a thorough check, all project summaries were then shared with the interviewees for review, together with a request for additional information. All 14 projects returned their comments and provided additional information which was used to modify the project summaries and correct any errors. Overall, the project summaries were appreciated, and relatively few changes had to be made.

### Cross-project Analysis

The project summaries served as the basis for the cross-project analysis. With the assistance of ClaudeAI, a first attempt was made to answer the specific Learning Questions. However, many answers provided by ClaudeAI appeared to be shallow. Therefore we had to dig deeper and get more examples of the diversity of DeSIRA project and their specific strategies to promote AE. To enrich the analysis, an iterative process of reviewing the ClaudeAI answers and further questioning and detailing followed. A similar iterative process was used to help identify conclusions and recommendations.

<b>STEP 1:</b>	Summarize the findings for each of the eight sub Learning Questions
<b>STEP 2:</b>	Review and adjust the findings summarized by Claude
<b>STEP 3:</b>	Formulate detailed questions to clarify each of the findings
<b>STEP 4:</b>	Formulate detailed questions to give examples for the detailed findings
<b>STEP 5:</b>	Review the clarification, adjust and complement the findings
<b>STEP 6:</b>	Formulate conclusions and recommendations iteratively

Figure 2: Steps in the Cross-project Analysis in which ClaudeAI was used



## Selection and presentation of the 14 DeSIRA projects

Of the 70 **EU-funded** DeSIRA Pillar 1 projects across sub-Saharan Africa, Latin America, and Asia-Pacific, we analysed 14 for the Learning Review, explicitly stating the promotion of Agroecological Transition (AET) as a core objective (Table 1).

The first selection step included 45 projects that in some way were linked to AE. After a first review of the documentation available through DeSIRA-LIFT, 22 projects were selected, including two sub-projects being part of the same overall FO-RI project (which contains 13 sub-projects), as they had an explicit focus on AET, either in the formulation of their scope and goal/objectives or in the approach applied during implementation.

All projects had started in 2022 at the latest: this criterion was used to be able to assess some results.

The review team contacted these 22 projects by email to explain the learning review focus and ask whether they would participate.

Of these, 14 projects covering the four DeSIRA target regions of West and Central Africa (WCA), East and Southern Africa (ESA), Latin America and Caribbean (LAC) and Asia-Pacific (AP) accepted the invitation to participate in the review.

Table 1: The fourteen DeSIRA projects included in the AET Learning review

DeSIRA projects	Main AET orientation	Countries
<b>FAIR Sahel</b>	Create conditions for small producers in the Sahel to set up innovative agroecological intensification systems for more efficient resource management and improved incomes/resilience to climate change. Redefine the role of research to provide knowledge to stakeholders to support producers and enable AET.	<b>Burkina Faso, Mali and Senegal</b>
<b>MARIGO</b>	Promote AET in the market vegetables value chain around Yamoussoukro, Korhogo, Abidjan and Bouaké through comprehensive value chain diagnosis, training on agroecological practices, establishing and supporting local multi-stakeholder platforms. Conduct research on AET drivers and constraints, and organize knowledge sharing.	<b>Ivory Coast</b>
<b>TEARA</b>	Strengthen family agriculture's capacity to contribute to food and nutritional security and sustainable development, particularly through identifying and experimenting with conditions for AET for rice farmers and vegetable growers in southern Benin.	<b>Benin</b>
<b>PRISMA Sahel</b>	Contribute to the agroecological transformation of agropastoral systems in West Africa adapted to climate change, leading to more productive, resilient and healthier animals, humans, and the environment.	<b>Niger, Mali and Burkina Faso</b>
<b>Santé et Territoires</b>	Promote AET using a One Health framework that integrates human, animal, plant, and environmental health by applying a participatory approach using Living Labs for co-construction of AE practices with local communities.	<b>Senegal, Cambodia</b>
<b>ProSilience-Benin</b>	Promote the transition towards agroecological intensification principles and practices through direct work with farmers, policy influence, education integration, knowledge sharing, and multi-stakeholder collaboration.	<b>Benin</b>
<b>ProSilience-Ethiopia</b>	Promote the transition towards sustainable agri-food systems by extending and building on previous Integrated Soil Fertility Management (ISFM) efforts. Main thematic areas: biomass shortages through agroforestry, fodder production, cut-and-carry systems, integrated resource use efficiency, and synergies across crops, livestock, forestry and energy dimensions. ProSilience works at the community level through watershed user associations/cooperatives through community-level planning and demonstration farms.	<b>Ethiopia</b>
<b>Yayu-coffee</b>	Support sustainable coffee production and conservation of forest ecosystems through climate-relevant and integrated landscape management of the Yayu Coffee Forest Biosphere Reserve (YCFBR). Contribute to improved environmental resilience and food security in the YCFBR through application of research-oriented and climate-relevant landscape management systems.	<b>Ethiopia</b>
<b>FO-RI/ RAITRA</b>	Promote AET for market garden crops in three regions of Madagascar's highlands by deploying inclusive and participatory action research on AE practices led by the farming communities through their producer organisations, and improving market access.	<b>Madagascar</b>
<b>IDEAS</b>	Contain deforestation and forest degradation by promoting holistic AET in two regions of Colombia - the Amazon and the Choco biogeographic region - through a multi-pronged approach including participatory research, capacity building, multi-stakeholder platforms, and governance strengthening.	<b>Colombia</b>
<b>ABRIGUE</b>	Strengthen territorial capacities to support AE innovations, responsible artisanal fishing, and promote circular bioeconomy for adaptation and mitigation to climate change.	<b>Colombia</b>
<b>FO-RI/ ConversAgroEco</b>	Promote AET through farmer-led research and innovation by applying a decentralized, participatory research model organized around the Rede EcoVida AE network.	<b>Brazil, Uruguay</b>
<b>ASSET</b>	Support AET in Southeast Asia by building on existing networks and initiatives and strengthening multi-stakeholder networks and initiatives at local, national and regional level. ASSET established flagship provincial sites to test and demonstrate agroecological innovations and generate and share knowledge on AET while engaging in policy dialogue at provincial, national and regional levels.	<b>Laos, Vietnam, Cambodia</b>
<b>STREAM</b>	Promote the transition towards agroecological principles and practices by: contributing to the development of territorial development plans; supporting agroecology-based value chains (beef, lamb and milk); conducting research and innovation; building capacity for local organisations; linking forestry and agricultural sectors through agroforestry; and raising awareness of policy makers through the policy development.	<b>Mongolia</b>



# What are the outcomes of the DeSIRA projects in support to AET?

While the project results are promising, the success of their contributions to AET should be viewed as part of an ongoing process, with many outcomes and impacts yet to materialize over a longer timeframe than the projects' duration. This underscores the importance of designing interventions with a view to long-term sustainability and scalability beyond the immediate project context.

## AE practice development, adaptation and adoption

Many projects report significant achievements in terms of engaging farmers and promoting the adoption of agroecological practices at farm level. This is evidenced by the number of farmers trained, the establishment of experimental and demonstration sites, adoption of these AE practices, and the area of land brought under agroecological management. Box 1 gives an overview of examples of achievements recorded (June 2024)

### Box 1. Examples of AE practice development at field/farm level

- **FAIR Sahel:** Experimental plots with 363 farmers resulting in the successful testing of crop associations (for instance groundnut-cowpea and millet-cowpeas) and reduced use of chemical inputs;
- **TAERA Benin:** as part of 56 rice and vegetable Farmer Field schools established with hundreds of male and female producers. Field-level experiments were conducted on crop varieties and practices resulting in successful crop associations (tomato-onion) for nematode management, mung bean for soil improvement, compost to combat bacterial wilt, introduction of a short-cycle rice variety to adapt to flooding risks.
- **RAITRA Madagascar:** 657 local producers adopted new technologies on the basis of field trials on soil fertility enhancement (e.g. biochar), biopesticide plants to control onion mildew, vermicompost production, etc.
- **ConversAgroEcol Brazil:** As part of the 30 reference units for innovation established: Innovative no-till vegetable cultivation implementation; green manure, and testing of bio-inputs
- **ProSilience Benin:** beneficiary farmers experimenting on Soil Fertility Management to restore degraded soils; 3,000 hectares of land is now under agroecological management.

- **ProSilience Ethiopia** established model farms implementing agroforestry with grafted fruit trees, contributing to the protection/rehabilitation of 514 hectares of on-farm land.

## Strengthening (local) institutions

DeSIRA projects make significant contributions to strengthening AE-related human capacity in different organisations. They support the integration of AE into university curricula and technical school programmes, helping to build long-term capacity for agroecological knowledge generation and dissemination. In addition, some projects have reinforced farmer organisations and community-based groups by enhancing their technical, organisational, and advocacy abilities.

### Box 3. Examples of the strengthening of (local) institutions

- TAERA, STREAM and ProSilience have contributed to the integration of AE concepts into the curricula of technical schools and/or universities.
- RAITRA and ConversAgroEcol are closely supporting producer organisations to experiment with AE practices and scaling-out through farmers' organisations.
- IDEAS and ProSilience have trained extension agents and private service providers in AE approaches.

## Market-based development

Relatively few projects have directly applied an economic approach to transforming food systems. Overall, these projects focused on a reduction of dependency on external / chemical inputs (fertilizers/ pesticides). Other projects have used AE principles to focus on a market-based development by linking producers to consumers. Only a small number of projects have concentrated on the diversification of marketing opportunities.

### Box 4. Some examples of the market-based approaches

- ConversAgroEcol in Southern Brazil developed a significant market-oriented component as part of its AET strategy. The project established over 120 ecological fairs throughout EcoVida's network area across three Brazilian states, spanning 352 municipalities and including 2,848 farming families, thereby creating direct marketing channels between producers and consumers.
- MARIGO in Côte d'Ivoire focused on quality standards, certification, and developing AE vegetable value chains. They created a network of certified farmers committed to local agroecological/organic best practices through the "SPG Bio Label Ivoire" system.

- By enhancing the quality and sustainability of coffee production, Yaya Coffee in Ethiopia contributes to creating added value for farmers and improves their market positioning with linkages to consumers.
- ASSET in Southeast Asia worked on developing value chains for agroecological products to improve economic viability, but some challenges in marketing remain.
- STREAM in Mongolia supported development of AE-based livestock value chains, including sustainable grazing and feeding strategies with no use of external inputs. Key achievements include developing 15 new products across these value chains: 5 dairy products, beef and processed livestock by-products, and lamb meat products.

### Multi-stakeholder platforms for innovation

DeSIRA projects have significant experience with multi-actor innovation platforms as part of their stakeholder arrangements. The examples below demonstrate how these platforms can serve as key mechanisms for participatory planning, knowledge co-creation, and coordinated action in support of AET. They highlight the potential of innovation platforms to bridge diverse stakeholder perspectives and catalyse collective innovation processes at territorial levels. Detailed examples include:

**1. ASSET** serves as an example of how the ALISEA (Agroecology Learning alliance in South East Asia) multi-stakeholder network has been utilized to promote AET. ALISEA is a regional network that brings together AE stakeholders in Southeast Asia. The ASSET project builds on and strengthens this existing network, recognizing the value of established relationships and structures in advancing AET.

**2. ABRIGUE** in Colombia has established 10 multi-stakeholder innovation platforms across its intervention areas. These platforms serve as spaces for dialogue, coordination, and collective action between diverse local actors to advance AET. They bring together farmers, farmer associations, researchers, government representatives, and private sector actors to collectively analyse, plan, and implement AET strategies.

**3. IDEAS** in Colombia uses spaces like the FORLAND platform to bring together actors including communities, government institutions, and researchers to share information, model future scenarios, and jointly plan territorial management actions.

**4. FAIR Sahel** in West Africa supported the establishment of multiple innovation platforms at national (DyTAES - Dynamique pour une Transition Agroécologique au Sénégal) and department (DyTAEL - Dynamique pour une Transition Agroécologique Locale) levels to promote AE through coordination, collective action, and capacity building between

stakeholders. The DyTAELs and DYTAES link field-level technical innovation at the local level with institutional and policy change at a territorial, departmental and national level.

The multistakeholder arrangements devised by the various projects and the efforts undertaken to render them sustainable beyond the project timeframe demonstrate a thorough understanding of the complexity of AET processes as they address multiple AET dimensions, promote collaboration between different stakeholders, and share knowledge. They reflect efforts to create inclusive, participatory processes that can address the multiple dimensions of AET - from farm-level practices to policy environments and market systems.

### Creation of enabling environments for AET through policy influencing

Many projects actively engage with government stakeholders at various levels to create enabling policy environments for AET (see details in the Policy learning review: Douthwaite et al., 2024). Some projects have contributed to integrating AE into national agricultural strategies.

This policy engagement reflects the understanding that AET requires supportive institutional and policy frameworks to scale and sustain changes.

It is important for projects to “align with and respond to government/regional/global priorities and policy windows”, but also to liaise at local and provincial levels by “developing local capacity and ownership for policy implementation” (Douthwaite et al., 2024).

#### Box 5. Examples of creation of enabling environments through policy development

- ASSET contributed to the development of ASEAN AE guidelines.
- ABRIGUE contributed to Colombia's national agroecological policy.
- STREAM had 82 resolutions issued by local Khurals (councils).
- TAERA in Benin supported the integration of AE in national strategies and investment plans.
- FAIR Sahel contributed to the integration of AE in key national agricultural policies.
- ProSilience Benin successfully contributed to the integration of AE into three key national agricultural strategies, as well to the revision of Communal Development Plans to incorporate AE in the implementation strategy.

*(See Douthwaite et al. 2025, for further details and examples of policy development in DeSIRA projects)*

# Common strategic components used by the projects

Overall, the 14 DeSIRA projects reviewed took a comprehensive, multi-level approach to AET, addressing both practical implementation at a local level and at the broader enabling environment. They emphasized agroecological principles, participatory methods, and systems thinking, in most cases closely aligning cases of export-oriented value chains with core agroecological principles. Seven strategic components were shared by many projects, as described in Box 6.

## Box 6. Strategic Components employed to enhance Agroecological Transition

1. Use **Participatory Innovation and codesign** approaches
2. Establish and/or strengthen **farmers' organisations, multi-stakeholder platforms and networks**, and foster sharing and joint learning among stakeholders
3. Build capacities, develop and share a wide range of **knowledge products** and **document** results
4. Develop a range of **agroecological technical innovations** at farm/ field level, with a particular emphasis on reducing external chemical inputs
5. Develop and implement **ecosystem and landscape approaches** to create synergies between agriculture and natural ecosystems, and conserve natural resources
6. Develop **markets, value chains, and labels** for selling and valorising agroecological products
7. Engage in **evidence-based policy processes and advocacy** to create more **enabling environments**

## Use Participatory Innovation and codesign approaches

All 14 projects placed farmers and local communities at the centre of their AE innovation processes. They emphasized participatory approaches where farmers actively contribute to designing and testing agroecological solutions rather than being passive recipients of external knowledge. This included participatory action-research, codesigning and monitoring on-farm trials and demonstration plots where researchers and farmers work together to develop and validate innovations. This approach ensures that AE innovations are relevant to local contexts and conditions, and respond to farmers' needs and priorities. It also builds on existing farmer knowledge and bridges scientific and traditional knowledge systems. For example, RAITRA Madagascar had 39 local producers conducting field trials, while ConversAgroEcol Brazil organized its entire approach around farmer-led experimentation through 34 regional nuclei.

## Establish and/or strengthen farmers' organisations, multi-stakeholder platforms and networks, and foster sharing and joint learning among stakeholders

A key strategy across all projects was establishing or strengthening (formal) farmers' organisations, as well as platforms for dialogue, coordination and collective action. Platforms brought together actors including farmers, researchers, government officials, and private sector representatives. For example, ASSET built on the ALISEA network in Southeast Asia, while IDEAS Colombia developed the FORLAND platform. Platforms serve multiple functions, facilitating dialogue between stakeholders, coordinating activities, sharing knowledge, and influencing policy. They help create the collaborative and trust-based relationships needed for systemic change while providing spaces for joint learning and collective action.

## Build capacities, develop and share a wide range of knowledge products, and document results

All projects invested significantly in building the capacities of different stakeholders to understand and implement agroecological approaches. This included farmer field schools, training workshops, and demonstration sites. However, the balance between building technical capacities and functional (soft) capacities was not always clear. Several projects like ProSilience worked to integrate AE into agricultural education curricula at technical schools and universities. Several projects supported MSc and PhD research aligned with local priorities. Projects also developed a range of knowledge products like technical manuals, training guides, and educational videos aimed at farmers and other stakeholders. Digital platforms were created to facilitate knowledge sharing across stakeholder networks. Documentation and assessment of results helped build evidence on agroecological approaches while feeding back into innovation processes.

## Develop a range of agroecological technical innovations at farm and field levels

All 14 projects focused on developing a wide range of technical innovations. Many of these aimed at reducing dependence on external (chemical) inputs while maintaining or improving productivity at field/ farm level. This included developing bio-fertilizers and bio-pesticides (MARIGO in Côte d'Ivoire), improving soil fertility through composting and cover crops (ProSilience), no-till systems and biological control (ConversAgroEcol), community-based grazing management systems (PRISMA) or promoting crop diversification and integration with livestock.

## Develop and implement ecosystem and landscape approaches

Eleven projects worked beyond the farm level to address ecosystem health and landscape management. They

promoted practices like agroforestry, watershed protection, and sustainable land management that create synergies between agriculture and natural ecosystems. Climate change mitigation through carbon sequestration was also addressed. For instance, Yayu Coffee in Ethiopia integrated coffee production with forest conservation, while STREAM Mongolia developed territorial plans for sustainable resource management. PRISMA Sahel uses remote sensing to monitor biomass evolution.

### **Develop markets, value chains and labels for selling and valorising agroecological products**

Nine projects recognized the need to develop markets and value chains for agroecological products, though this was generally less emphasized than were production aspects. Results included establishing organic certification standards, strengthening farmer cooperatives (to facilitate collective sales), improving post-harvest handling, and creating direct marketing channels between farmers and consumers. MARIGO worked on organic vegetable value chains and supports farmers in their attempt to reach out to urban consumers through the development or labelling and a participatory guarantee system (work in progress). STREAM contributed to the development of three specific livestock value chains: beef, lamb and dairy. ConversAgroEcol organized more than 120 ecological fairs and a participatory guarantee system for organic certification. Yayu Coffee focused on sustainable coffee marketing. However, local market development for AE products remains a challenge for many projects outside export-oriented value chains, although some argue that these fall outside the strict application of AE principles.

### **Engage in evidence-based policy processes and advocacy to create more enabling environments**

Eleven projects engaged with policy processes at multiple levels to create more enabling AET environments (see also the policy learning review: Douthwaite et al., 2024). ProSilience Benin contributed to the formulation of three national agricultural policies integrating AE and to make district development plans more AE-sensitive, while ASSET engaged with ASEAN on regional AE guidelines and engaged in Policy Dialogue and Advocacy at provincial and national levels. Several projects also supported local territorial planning processes incorporating AE, and worked to strengthen institutional frameworks for AE implementation (e.g. ABRIGUE). Evidence generation and documentation of successful cases supported policy advocacy efforts. See Faure et al. (2024) for a global review of available AE-related evidence which may be useful for policy advocacy.

## Lessons Learned

Based on the review of the 14 selected DeSIRA projects, the following 13 lessons (Box 7) synthesize the key approaches, achievements and results obtained across projects, notwithstanding the fact that some lessons are more generic than others. Importantly, these lessons directly address ways of overcoming significant interconnected challenges projects faced in fostering AET. These range from a limited understanding of AE / AET concepts and their implications, a lack of bio-inputs, to weak and fragmented economic, institutional or service environments and diverse operational constraints. Other challenges include macro-constraints such as security issues and political instability, demographic challenges, and youth migration in rural areas, or the effects of climate change. The latter may, however, open windows of opportunity for convincing key stakeholders that change in agrifood systems is urgently needed.

### Box 7. DeSIRA projects contributions to AET: 13 key lessons

1. Provided adequate approaches are used, projects can contribute to achieving, if only partially, five types of outcomes within their life span: 1) AE practice development, adaptation and early adoption, 2) Strengthening of (local) institutions, 3) Market access and value chain development, 4) Multistakeholder collaboration, and 5) Improving the enabling environment for AET through policy influencing.
2. Fostering AET through project-based approaches requires contributing **to systemic transformation across multiple scales**, from farm-level practices to policy environments; piecemeal or isolated interventions are insufficient for meaningful change.
3. Successful project-based approaches target **multiple AE dimensions simultaneously**, particularly biodiversity and soil health conservation and enhancement, external input reduction, and establishing effective market linkages through better organisation. Only focusing on few, mostly technical, dimensions is insufficient.
4. **Creating and/or strengthening multi-stakeholder platforms and coordination** is essential for fostering AET. Such spaces serve as hubs for knowledge exchange, capacity-building, experimenting and learning, coordination, policy-influencing, and collective action among diverse actors in the food system.
5. **Research** plays a key role in AET when it embraces a **supporting/facilitating** role in multistakeholder spaces rather than just a leading or technical role, and when **it effectively partners with farmers and other stakeholders to co-create knowledge and codesign innovations**, as is actually supposed to happen in effective innovation systems.
6. Projects need to **document and assess** the AE **experiences, processes and outcomes** they obtain in a timely, participatory and comprehensive manner. This is critical to provide deep learning opportunities and facilitate knowledge sharing between projects and stakeholders. It will also allow them to **demonstrate the (expected) impacts** of AE-based food systems and **convince policymakers** to support AET.
7. In environments globally unfavourable to the adoption and scaling of AE as they are still dominated by conventional agricultural paradigms, models, policies and interventions, projects can contribute greatly to change by **enhancing the understanding of, and developing capacities on, the very concept of AE and the pathways for AET across stakeholders**.
8. Projects need **to focus more on economic incentives and market development** in support of AET in order to achieve significant transformation and impacts.
9. Projects require **longer timeframes and support from donors** than the current 3-4 years in DESIRA for

achieving the types of multidimensional changes implied by meaningful AET.

10. **Embedding or articulating projects and intervention strategies with existing initiatives, and networks and innovation trajectories** is more effective than creating brand new strategies, structures, and partnerships from scratch.
11. **Engaging in participatory R&I approaches and actively mobilising stakeholders from farmers to private sector and policy actors** are fundamental elements to the success of AET projects. To be truly transformative, this requires **careful and skilled facilitation** and **long-term commitments** from key stakeholders.
12. Projects need **to invest in developing better / more adapted methodologies and tools** for supporting AET, going beyond typical participatory ones. This includes developing methods to create or strengthen articulated multi-level multi-stakeholder mechanisms, and formalizing codesign approaches adapted to a host of systemic innovations.
13. To improve the probability of project success, **they need to invest in developing a thorough, periodically updated understanding of actual or potential constraining factors** specific to their intervention context, and design tailor-made strategies to explicitly address them.

These key lessons are partly interdependent and apply broadly to all dimensions of an AET intervention or project. They can however be grouped thematically, as shown in Table 7.

Area of interest	1	2	3	4	5	6	7	8	9	10	11	12	13
Project interventions & strategies													
Multistakeholder work													
Role of Research											*		
Policy influencing													
Donor Funding							*						

Table 7: Areas of interest of the formulated Key Lessons Learned

NB: Colors only serve to visually differentiate among the various lines

\* Partial relation



# Suggestions to incorporate lessons learned into future action

## Towards a Theory of Change on R&I project contribution to AET (AEToC)

Figure 3 presents a generic, if only partial, “Agroecological Transition Theory of change”, or **AEToC**, reflecting the key results of the AE learning review on the 14 selected DeSIRA projects, especially those related to the strategic components, the lessons, and our recommendations. It relies on a number of basic assumptions which are set out below. Depending on their own goals, resources, expected outcomes, and context, each intervention will address the themes it finds most relevant to its own situation.

This generic **AET Theory of Change (ToC)** comprises **three main pillars**, each one subdivided in a number of strategic themes or activities:

- On the left, **initial steps** an intervention may take include four strategic themes: understanding, learning from, and adapting to the existing context and change trajectory; establishing (or strengthening) diverse partnerships and multistakeholder spaces; designing a participatory systemic and multiscale approach allowing to tackle field,

farm, landscape and superior scales; and collectively agreeing a way forward that responds to the main stakeholders’ needs and priorities.

- In the middle, the **key iterative activities** interventions listed are: codesigning diverse types of innovations; building capacities; fostering market access and articulation with value chains; documenting, building and sharing knowledge and evidence; and engaging in policy influence. For this last theme, refer to the Policy Influence ToC (PIToC) proposed by Douthwaite et al. (2025).
- The right of the Figure lists **the various types of (expected) outcomes**: innovations of various kinds; improved capacities; market access and value chains; improved coordination among stakeholders; sustainable collective learning and action spaces; and an improved enabling environment allowing scaling of results and a sustainable AET process beyond the intervention time frame.
- A **key cross-activity** consists of engaging in iterative participatory monitoring & evaluation and participatory governance to foster reflexive learning and periodic adjustments in visions, objectives and implementation.

*Note: To become a formal complete ToC, a fourth pillar, Impact, could be added, even though the formulation of impacts would not necessarily directly reflect an AE focus. Aspects such as environment conservation or restoration, better livelihoods for farmers, stronger institutions, etc. would be part of this fourth pillar.*

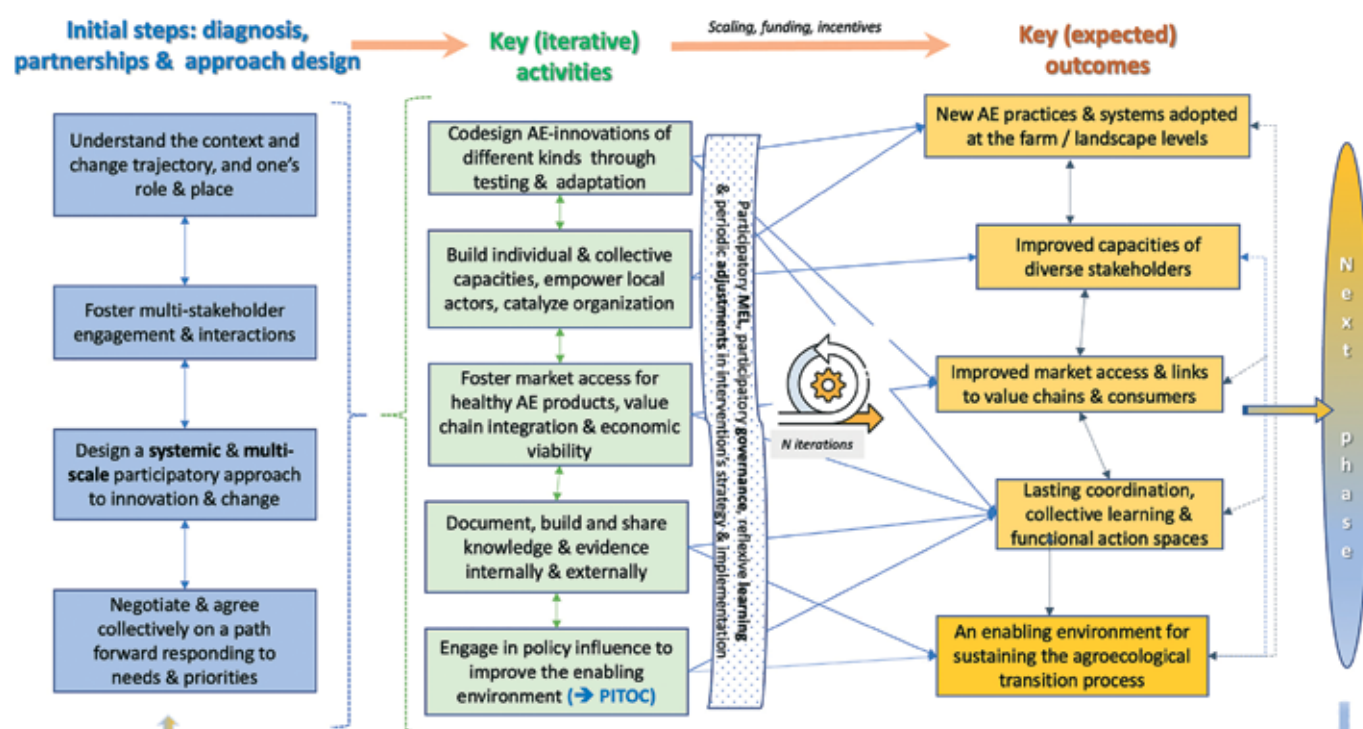


Figure 3: Generic Theory of Change for interventions aiming at fostering AET (AEToC)



Explanatory notes:

- The **arrows** linking activities with outcomes indicate **key causal relationships**, but many more exist.
- Similarly, themes within a given pillar interact with each other and are inter-dependent to a certain extent (for example, codesign can benefit from capacity building of the involved stakeholders, while capacity building can be built on experimentation of Agroecology).
- The initial steps (pillar 1) and key activities (pillar 2) are not meant to be implemented in a rigid or fixed linear sequence, even though key interdependencies exist. Conversely, many activities can and should be implemented in parallel while ensuring cross-fertilizations.
- Many activities are of an iterative nature (see icon), in the sense that they may take place over various cycles, each cycle building on the preceding one to incorporate progress and lessons which the participatory Monitoring, Evaluation and Learning (MEL) and reflexive learning will make explicit.

**Key assumptions underlying the generic AEToC**

- Interventions provide continuity to past efforts at developing AT innovations and
- Intervention teams are multidisciplinary and have the sufficient skills to engage in the various types of activities, by themselves or through partnerships
- Change process is iterative and may require interventions over the long-term (possibly through successive projects) (this possibility is represented by the bottom arrow linking next phase to the initial steps)
- There is strong motivation among key for engaging "sustainably" in AET and overcoming challenges and constraints that will inevitably pop up along the transition pathway.

*Note: Key assumptions need to be validated / enriched for each specific intervention*

**Future action guided by AEToC**

In addition to the themes identified in the AETOC, and complementary to it, the review identified several key areas of focus for future interventions and projects aimed at fostering AET.

The achievements of the reviewed DeSIRA AE projects demonstrate the effectiveness of comprehensive approaches to supporting AET. By simultaneously addressing technical, institutional, and market dimensions, while engaging multiple stakeholders and supporting policy development, the projects have contributed to more enabling environments for sustainable transformation towards AE across diverse contexts. Many projects report significant achievements like engaging large numbers of farmers and promoting widespread adoption of agroecological practices, as evidenced by training reach, number of demonstration sites

established, and, when data is available, the area under agroecological management. Several projects relied on establishing multi-stakeholder platforms, enhancing learning and exchanges on AE, influencing policies, and strengthening local institutions' capacities to support AET.

We present several key opportunities for advancing AET grouped in two main categories: opportunities for project designers and opportunities for donor support. We describe several thematic headings for each category, recognizing that some items listed under one heading may be relevant under another.

**Key Suggestions for project designers****1. Market development and economic incentives**

- Rising costs of chemical inputs make agroecological alternatives more economically attractive, and projects should take advantage of this.
- Growing consumer awareness and the demand for healthy food by a fraction - the higher income bracket - creates opportunities for market development, strengthening short supply chains and direct producer-consumer linkages.
- Related to the previous point, there is potential for developing differentiated markets and labels that recognize the value of agroecological products. However which consumers can afford such AE products remains an issue, especially in countries with large social and wealth inequalities and a large low-income population.

**2. Evidence Generation and Communication**

Projects should:

- Strengthen quantitative performance and impact measurement of agroecological practices allowing the production and the use of convincing evidence on productivity, profitability, soil health, product quality, and conservation of natural resources, among others. See investments made in TAPE under the leadership of FAO and more recently in HOLPA through the CGIAR.
- Engage in developing and applying improved tools to assess multidimensional AET impacts.
- Better document – preferably as a collective learning effort - landscape-level (and beyond) and long-term ecological impacts.
- Improve communication of results through policyrelevant messages and adapted communication strategies to take advantage of policy windows on a timely basis (see Douthwaite et al., 2025).
- Find more systematic ways of combining scientific evidence about AE with real-world knowledge and experiences of farmers and other food system actors.

### 3. Knowledge Systems and Education

- Projects should contribute to integrating AE into agricultural education and training curricula for professionals and for younger generations (e.g. primary and secondary school children) as well as creating awareness for the general public.
- There is a need to develop and refine methodologies for participatory innovation development / codesign, and impact assessment (see Theme 2).
- Despite ongoing efforts, local (agro)ecological and social knowledge needs to be better integrated, documented and shared.

### 4. Policy Integration and Support

- Projects should take advantage of the growing government interest in AE in several countries and at subnational levels.
- AE should be better integrated with climate change mitigation through soil carbon sequestration, reduced emissions, and enhanced resilience. However, quantitative evidence to support the claim of CC mitigation needs to be developed.
- Similarly, AE should be better integrated into national food security policies and investment plans.
- Projects should contribute to the lobbying for and development of more coherent policies across agriculture, environment and health sectors, relying on the increasingly used OneHealth concept.
- Whenever possible, projects should look for opportunities for regional coordination of policies across countries (e.g. ASEAN AE guidelines).

### 5. Institutional Innovation

- Projects should strive to develop more effective multi-stakeholder platforms and governance mechanisms at all levels (local, national and regional), aiming at participatory governance and a less direct control of such spaces by research.
- As in many other endeavours, projects need to invest in strengthening farmer organisations and collective approaches.
- Research, advisory services and farmers need to better coordinate their efforts around innovation development.
- Projects should concretise and take advantage of the opportunities for South-South learning and exchange around AET.

### Key suggestions for donors:

#### 6. Funding arrangements

Donors should:

- Consider granting **longer timeframes and support** than the current 3-4 years (DESIRA) to achieve and consolidate the types of multidimensional and multiscale changes implied by meaningful AET, especially in contexts in which the innovation trajectory around AE is in its infancy. A funding horizon of 10 years would seem a reasonable timeframe.
- Prioritize supporting projects that build on existing initiatives and networks and aim at connecting to and strengthening existing platforms rather than creating new structures. Such projects show greater effectiveness when leveraging established networks because of the value of prior relationships, trust and institutional memory.

#### 7. Promote cross-project learning and regional coordination

Donors should:

- Support the creation and strengthening of effective mechanisms for exchange between projects involved in fostering AET in order to overcome the classical and detrimental silo effect.
- Support existing or emerging regional and international networks and platforms on AE/ AET.
- Invest in developing a synthesis of experiences and lessons learned from successful projects and avoid focusing on less successful cases.
- Enable joint policy engagement at national and regional levels.

#### 8. Support robust evidence-building through knowledge and learning systems on AET

Donors should:

- Support the development of appropriate quantitative and qualitative metrics and methods for assessing AET benefits and impacts.
- Encourage the documentation and sharing of experiences across projects.
- Ensure projects develop participatory MEL approaches that engage farmers and other local stakeholders in assessing success.

## Conclusion

Based on this analysis of 14 projects across various continents, this AE learning review demonstrates that DeSIRA projects can effectively contribute to AET through comprehensive, multi-level approaches that simultaneously address technical innovation, institutional strengthening, market development, and policy engagement.

Successful AET interventions made use of seven strategic components: participatory innovation and co-design; strengthening farmer organisations and multi-stakeholder platforms; building diverse capacities; developing technical innovations at farm level; implementing ecosystem approaches; developing markets for agroecological products; and creating enabling policy environments.

By understanding themselves as catalysts within longer-term AE transition processes and using the Agroecological Transition Theory of Change (AEToC), future projects can more effectively contribute to transformative changes in food systems. However, achieving meaningful AET and the associated desired impacts requires longer timeframes and flexible support from donors, together with a greater emphasis on economic incentives and market development, all in interaction with wider societal change.

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## Address:

Wageningen Centre  
for Development Innovation  
P.O. Box 88  
6700 AB Wageningen  
The Netherlands



## Website:

<https://www.desiralift.org/>

## LinkedIn:

<https://www.linkedin.com/company/desira-lift>

## Email:

[info@desiralift.org](mailto:info@desiralift.org)



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