



INITIATIVE ON
Agroecology

Co-design of the agroecological transition path for the Fatick department

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WP 1 and WP 5 IAE

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Table of contents

1. Introduction.....	4
Context.....	4
Workshop objectives and expected results	5
Participants.....	5
2. General methodology	7
Methodology guideline	7
Reminder of the ideotype of the Fatick agroecological territory	8
Conditions for sustaining and scaling up innovations.....	11
Presentation of the innovation analysis framework (<i>Dissem inn</i> project)	11
Methodological steps used to analyze the sustainability and scaling-up of innovations	12
Building the transition path.....	12
The backcasting method	13
Co-constructing the transition path.....	14
3. Conditions for sustaining and scaling up innovations.....	14
4. Co-constructing the transition path.....	28
Results for the transition path for each theme	28
Results for the Fatick department transition road	33
Discussion of the transition path	34
<u>5.</u> Appendices	36

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December 2024

The Agroecology Initiative (AEI) supports local agroecological transitions through a Living Landscape Agroecology (LLA) approach. In Senegal, this initiative is active in the department of Fatick through a local dynamic called DYTAEL (Dynamique pour une Transition AgroEcologique locale), which started in 2021. The report summarizes a workshop held by DyTAEL in collaboration with CIRAD and ISRA to co-construct an agroecological transition path in the Fatick department.

The work was based on an ideotype of the territory constructed with local stakeholders during a previous workshop. It led to the construction of this pathway, based on a reflection on the conditions for sustaining and scaling up the innovations characterized by the ideotype and grouped around several dimensions: technical, organizational, institutional and socio-cultural to guarantee the sustainability of actions.

The co-construction of this pathway relies on a collective commitment, the synergy of existing initiatives and the development of new institutions and values to anchor agroecology in the region in the long term.

1. Introduction

Context

One CJAIR's **Agroecological Initiative (AEI)** aims to provide evidence of the transformative nature of agroecology and its ability to bring about an overall reconfiguration of agri-food systems. Built up through a similar approach in eight fields across the Global South, in particular by setting up Living Landscapes, the knowledge acquired by the IAE will feed into the construction of reproducible models to support the agroecological transition. **Work Package 1 (WP 1)** focuses specifically on supporting the operation and planning of the LL, on co-design and innovation processes, and on the co-construction of a vision and adapted planning (vision-to-action process). IAE's **Work Package 5 (WP5)** aims to gain a better understanding of the mechanisms underpinning agroecological transitions, in order to guide the work of scientists, donors, policy-makers and other players involved in supporting change.

For its part, the **Mahdia** agroecology and water resilience for sustainable food systems in Africa project aims to design and implement a participatory approach to developing territorial platforms that bring together the various players in the food systems of the application territories: farmers, processors, distributors, restaurateurs, local authorities, right through to consumers. To this end, the project is based on the notion of a "product of territorial interest", linking agricultural, food, environmental, cultural and health issues.

In Senegal, IAE and the Mahdia project are deployed in **Fatick**, rural department where rain-fed agriculture (millet, groundnuts, cowpeas, bissap), sylvopastoral livestock farming, fishing, saliculture and small-scale market gardening are practiced. Due to its specific geographical features - Fatick is located at the intersection of the groundnut basin, the Sine Saloum delta and the coastline - the department concentrates many of the **agroecological transition challenges** typical of sub-Saharan Africa. Rural populations are faced with major problems of salinization of land and water tables, poor access to productive water, declining tree cover and soil fertility, decoupling of agriculture and livestock farming, and uncontrolled use of pesticides in market gardening areas. Climate change and strong population growth are exacerbating this situation, leading to the risk of irreversible disruption to the balance of the agroecosystem.

In 2022, a **Dynamique pour une Transition Agroécologique Locale (DyTAEL)** was set up in the department of Fatick, under the impetus of two NGOs (AgriSud International and Enda Pronat) with support from ISRA and CIRAD. The Fatick DyTAEL aims to promote agroecology for agri-environmental and socio-economic resilience of family farms in the department. The Fatick DyTAEL is built on the principles of synergy of action, pooling of resources, horizontal relations and respect for the autonomy of action and free expression of its members, whom the DyTAEL does not replace. The Fatick DyTAEL's action is based on several axes: (i) accompanying decision-makers towards agroecological transition policies (ii) supporting the emergence of territorial projects; (iii) carrying out awareness-raising actions and (iv) sharing experiences and strategic alliances at various levels; (v) integrating departmental, national, sub-regional and international dialogue frameworks.

ISRA and CIRAD teams from IAE and the MAHDIA project are working with the Fatick DyTAEL to implement its action plan. For the year 2024, the DyTAEL's Technical Committee and Steering Committee have asked the research teams for support in planning 10-year activities

ISRA, CIRAD and the Fatick DyTAEL co-organized a 5-day workshop in Palmarin, from September 02 to 06, 2024, with the aim of co-designing an **ideotype for a resilient and innovative agroecological territory** in response to the five priority issues facing the Fatick department. Part of the Fatick DyTAEL action plan, this **ideotyping workshop** will feed into the DyTAEL's strategic planning and thus contribute to strengthening local governance and advocacy capacities.

Ideotyping is a collaborative visioning method developed by CIRAD, which involves imagining the desired future of an agricultural or food system, or a territory, in response to global sustainability challenges. Ideotyping enables us to explore radical, systemic changes in the social, economic and material structures involved in agroecological transitions.

Workshop objectives and expected results

DyTAEL, ISRA and CIRAD co-organized a 3-day workshop in Palmarin, from October 28 to 31, 2024, with the aim of **co-designing an agroecological transition path for the Fatick department**. This workshop followed on from the ideotyping workshop carried out in early September (Belmin *et al*, 2024) fed into the strategic planning of the Fatick DyTAEL, contributing to the strengthening of local advocacy capacities.

At the end of the workshop, participants were expected to have co-designed :

- (i) Strategies for sustaining and scaling up innovations.
- (ii) An agroecological transition path for the department of Fatick,
- (iii) A 10-year action strategy for Dytael.

Participants

The workshop brought together some forty participants, mainly members of the Dytael technical committee but also participants in the ideotyping workshop. **Table 1** shows the members of the project team who will be leading the discussions or helping with logistics. Table 2 presents the participants.

Table 1: Composition of the animation team.

Animation team members	Structures
Modou Gueye	ISRA BAME
Banna Mbaye	ISRA LNRPV
Raphael	CIRAD / ISRA BAME
Marc Piraux	CIRAD / ISRA BAME
Oumar Lo	ISRA BAME
Cherif Mané	ISRA BAME
Mame Birame Sene	CT DyTAEL of Fatick
Coumba Ndoffène Ndour	CT DyTAEL of Fatick
Daouda Kane	CT DyTAEL of Fatick
Arame Diouf	CT DyTAEL of Fatick
Ibrahima Diallo	ISRA BAME
Moussa Ndour	IAE Consultant
Geneviève Dione	ISRA BAME/MAHDIA
Juliette Lairez	CIRAD
Patrice Kouakou	CIRAD
Bilal	ISRA BAME
Marième Ba	ISRA CNRF
Finda Bayo	ISRA BAME
Aby Barry	Kamiack

Table 3: List participants.

First name	Name	Structure
Ibrahima	DIOUF	CT DyTAEL of Fatick
Ngor	SENE	CAFIL TATTAGUINE
Bassirou	FALL	MDE
Babacar	DIOP	CASPAN
Bassirou	SARR	CPDT
Sheikh	DIOUF	Coop sorokh
Mame Penda	NDONG	COOP Tattaguine
Ndiendé	DIAW	Palmarin
Marie	DIOUF	Queen of salt
Fatou	SARR	Entrepreneurship
Djibril	GAYE	Kamiack
Aissatou	NDIAYE	UTC Fatick
Abdoulaye	FAYE	ER Mbéllacadio
Ablaye	NDIAYE	ER Diaoulé
Mame Coumba	DIOUF	ER PatarB
Oumy	SARR	ER Palmarin
Bineto	SENE	ER Fatick
Ibrahima	FAYE	ER Niakhar
Oumar	BA	ER Ndiob
Mamadou Ndicko	NDIAYE	ER Conseil Départemental
Alassane	NDIAYE	ENDA PRONAT
Louis Etienne	DIOUF	AGRISUD
Amadou	DIBA	ANPDI
Cheikh Sémou	DIOUF	ARD
Made	DIOUF	JAMM BUGUM

2. General methodology

Methodology guideline

An **agroecological transition path** refers to the process of transforming agricultural practices towards a model that is more respectful of the environment, while meeting the food and economic needs of farmers. This path involves a gradual reorientation of agricultural production systems, based on the principles of agroecology, which combines ecosystem-friendly farming methods with sustainable social and economic approaches, all accompanied by a favorable institutional environment.

The agroecological transition path is therefore a process by which farmers, communities and governments put in place strategies and actions to progressively modify agricultural practices and engage in this transition. This path is not uniform: it varies according to local contexts, farmers' needs and socio-economic, environmental or institutional and political conditions. It is intended to be a gradual, adaptable process, in which technical, financial and institutional support is crucial to success.

A vision of the desired agroecological territory facilitates the construction of a transition path, as it constitutes the target. To this end, an ideotype of the Fatick department was co-constructed in September 2024 by DyTAEL (see Box 1 Belmin et al, 2024¹). The exercise made it possible to imagine and define a desirable, sustainable and resilient future for the Fatick territory.

Box 1. Ideotyping the Fatick department (Belmin et al, 2024¹)

Salinization, land and mangrove degradation, loss of soil fertility, low value-added of local products... the players in the Fatick department are faced with challenges that are as complex as they are intertwined.

To prepare for the future and build a vibrant, prosperous department, Fatick's Dynamique pour une Transition Agroécologique Locale (DyTAEL) and its scientific partners organized an ideotyping workshop from September 02 to 06, 2024 in Palmarin. For five days, some fifty experts pooled their knowledge to analyze the root causes of the region's imbalance and co-design an agroecological future for the department by 2035.

The group's work began with an analysis of the causes and consequences of the region's central problems, namely the degradation of land, water and biomass, the low value of local produce and the lack of consideration for agroecology in public policy. The analysis of these problems then paved the way for the exploration of solutions, which were compiled and organized in an "innovation box". This box takes the form of an organized repertoire of 258 solutions, levers or innovations intended to be used as building blocks for the ideotypes. Finally, participants selected, assembled and organized elements from the innovation box to build an ideotype of an agroecological, resilient and innovative territory in the face of the existential threats facing the Fatick department.

¹ Belmin, R., Dione, G., Mbaye, B., Fall, M. G., Kebe, N. B., Ka, A., ... & Piraux, M. (2024). Conception d'un idéotype de territoire agroécologique pour le département de Fatick, Sénégal. Rapport d'atelier d'idéotypage Dakar, Sénégal 2-6 septembre 2024.

<https://agritrop.cirad.fr/610820/2/Rapport%20atelier%20ide%CC%81otypage%20VF%20Light.pdf>

Following this workshop, it was planned to work on identifying the actions needed to achieve this future. This workshop met that objective. The approach developed here provides a framework for guiding stakeholders' strategies and mobilizing decision-makers in favor of agroecological transition.

The methodological steps followed in this workshop were as follows:

- Reminder of the Fatick agroecological territory ideotype, systematizing the various innovations by major ideotype theme.
- Reflections on the current level of dissemination of innovations and their conditions for sustainability and scaling up, based on an analysis framework drawn from the *Dissem inn* project. This reflection was conducted in working groups structured around the main themes of the department's ideotype.
- The construction of the transition path was then based on a backcasting exercise by group and by theme.
- The co-construction of the overall transition path resulted from a transversal reading of all the different paths obtained.

The transition path thus appears as a simultaneous consolidation of all the innovations in the different dimensions worked on in the territorial ideotype.

The workshop proceeded as follows:

- **Tuesday** 29/10: "Scaling up and sustaining agricultural innovations" day
- **Wednesday** 30/10: "Transition path" day and medium-term strategy for DYTAEEL
- **Thursday** 31/10: Medium-term strategy for DYTAEEL. A technical committee followed the workshop.

The detailed procedure is shown in Appendix 1.

Reminder of the ideotype of the Fatick agroecological territory

The territorial ideotype narrative is shown in Appendix 2. Since the transition path exercise focuses on innovations, attention has been paid to synthesizing the innovation packages for the 6 major themes of the ideotype. These are presented below.

Access to water (quantity and quality) and sustainable management of water resources

- **Water infrastructure** (stormwater retention basins, marine water desalination units, and extension of water distribution and transfer networks)
- **Energy-saving practices** (drip irrigation, mulching and bowl cultivation)
- **Consultation framework** with the strengthening of associations of borehole users (ASUFOR) (negotiated water price) (collaboration with local authorities, technical and financial players)

Restoring degraded land and climate resilience

- Techniques to combat wind and water erosion: stone barriers, shrubs and herbaceous plants, conservation of crop residues.

- Salt control:
 - Network of state-built anti-salt dykes
 - Reforestation with local halophyte species and mangroves
 - Application of organic manure, peanut shell and phosphogypsum.
- Ban on marine sand mining and enforcement of environmental laws.

Sustainable management of forest and grazing resources

- **Reforestation** and installation of windbreaks (collaboration between government departments, local communities and NGOs).
- **Clearing** of certain areas to allow natural regeneration and groves for village fuelwood.
- Assisted Natural Regeneration (**ANR**) technique
 - Existence of RNA committees with producers, local authorities and forestry officials
- **Training** on RNA and good practices for exploiting woody and non-woody resources
- Creation of "green towns and villages" with tree planting.
- **Awareness campaigns** on sustainable forest management to implement the forestry code
- Bushfire **control** :
 - village committees and the NGO to install firewalls,
 - rules for triggering controlled early fires every year
 - awareness campaigns in high-risk areas.
- Use of biogas and improved stoves
- **POAS** and management committees to implement local agreements.

Agroecological transition and agriculture-livestock integration

- Techniques for **ecological intensification** of cropping systems: crop associations, fertilizer plants, composting, manure, mulching, zaï.
- Use of local seeds
- Use of **organic inputs** :
 - Organic fertilizer distribution policies
 - Collection and spreading of manure, household waste and compost
 - Use of biofertilizers, green manures and beneficial indigenous micro-organisms (MAB)
- **Training** provided by technical departments and other partners.
- Grazing **contracts** and organized rotations between grazing and crop-growing areas.
- Forage crops
- Locally produced **biopesticides** and service plants
 - BPA: Chemical pesticides used in a rational manner
 - Monitoring committees to ensure compliance with regulations on pesticide use
- Diversification of crops and activities (salt farming)
- Access to agricultural machinery (tractors, tillers, harvesters)
- Storage mechanisms to secure lean periods
- Deposit and pre-financing system supported by ORSRE and the Ministry of Commerce.

Promoting local products and economic development

- Existence of an inclusive, collaborative TIP development strategy (involving civil society, local authorities and NGOs).
- A network of processing companies
- **Training** policy at the Institut de Technologie Agro-alimentaire on hygiene and quality, processing techniques, and administrative and financial management (with NGOs and technical partners).
- Availability of international-standard **processing** equipment (grinders, baggers, dryers, etc.) thanks to the Fonds de Financement de la Formation professionnelle et technique (vocational and technical training financing fund).
- Existence of a "Union des transformateurs" **cooperative**, for training and technical and financial partnerships with credit unions, banks, consular chambers and NGOs.
- Diversified financing mechanisms mobilized (tontines, self-managed funds, pre-financing by customers, loans in kind), for the financial autonomy of processing units.
- Existence of an **inter-profession to coordinate marketing** (with support from municipalities and NGOs).
 - territorial product marketing, with culinary fairs, exhibitions and digital platforms
 - partnerships with hotels, restaurants, school canteens, hospitals and prisons
- Promoting local food (awareness campaigns, culinary tastings, promotion of local culinary arts).
- **Labeling** of processed products.

Territorial planning and integrating agroecology into public policies

- A shared **vision** for the agroecological transition.
- Existence of a "one family, one agroecological farm" slogan
- **Land policies** implemented for equitable access to land
- Specific **planning** tools and DRA monitoring systems
- Elaboration of Communal Development Plans (PDC) and Departmental Development Plans (PDD) with integration of EI
- Capacity-building for elected representatives.
- Partnership agreements with banks and NGOs for credit and social protection
- DyTAEL's **dialogue** and support work with local authorities and decentralized government departments.
- Strong relationship between DyTAEL and DYTAES
- Building a consultation framework: local agreements and POAS
- **Infrastructure** :
 - Transportation routes
 - Storage infrastructures (refrigerated chambers and storage areas).
 - Building farmers' seed banks
 - Existence of forage processing units
- Means of transport (tricycles, trucks, boats)
- AE **training** at local vocational training centers and universities
- Educational actions and awareness-raising on eco-responsible behavior in schools and communities (with annual agroecology awards).
- Tax exemptions and market development for agroecological products.
- Production of certified local seeds
- Creating green jobs.

Conditions for sustaining and scaling up innovations

Presentation of the innovation analysis framework (*Dissem-inn* project)

The first exercise carried out by each group was to place the various innovations in the tables in their respective dimensions: were they technical, organizational, institutional or socio-cultural innovations. The participants then considered the conditions for sustaining the project and scaling it up to the local level (the Fatick département). For this, we drew on the hypotheses of the *Dissem-inn* project (Bourgeois and Lesenfants, 2024). The proposed framework enables us to mobilize a holistic approach encompassing technical, organizational, institutional and socio-cultural dimensions, for innovations that guarantee sustainability and bring about change.

The 3 structuring hypotheses are as follows (Bourgeois and Lesenfants, 2024²)

1. **The sustainability of** innovations depends on their multi-dimensional nature (technical, organizational, *institutional* and socio-cultural). We have added the institutional dimension to the organizational dimension in Dissem-Inn.
2. These dimensions correspond to the three **scaling** modes (horizontal, vertical and depth).
3. Any innovation process that combines these four dimensions carries within it the seeds of a change of scale.

In this context, innovation is seen as a process which, in order to modify individual *or collective* practices and behaviors³, also acts on the organizations, *institutions (rules)* and values in place before the intervention. In this way, the change in practices is accompanied by the creation of new organizations, institutions and values, which in turn ratify this change in behavior, impacting on its sustainability.

It also makes it possible to analyze out scaling, up scaling and deep scaling, by studying how these changes in practices, rules, institutions and values spread to other individuals in other spaces.

- The **technical dimension** contributes to practical implementation, *an* attribute mainly motivated by the performance of an innovation according to three criteria (quality, availability and adaptability), essential to encourage appropriation, but also requiring repetition processes, enabled by the involvement of players over time. Exchange dynamics are essential here.

- The **organizational and institutional dimension** enables the setting up of organizations in the form of networks or multi-stakeholder exchange spaces within which innovation emerges, and *institutions*, frameworks for action and behavior, backed by a set of collectively-defined rules that tend to become formalized. This leads to a strengthening of legitimacy, particularly at the political level.

- The **socio-cultural dimension** underpins the dissemination of new values, changes in perceptions of relationships between players, and the learning that this requires. Often overlooked, it plays a crucial role in the acceptance and appropriation of innovation. It manifests itself, under the combined effect of the preceding attributes, in a change in the relationships maintained between players and in their ways of thinking.

² Bourgeois and Lesenfants: Avenues for the sustainability and of agricultural innovations in the Sahel. Proposals from the inter-DeSIRA regional workshop, held from 05 to 07 March 2024 in Saly (Senegal) POLICYBRIEF N° 3 - August 2024 DISSEM-INN project. <https://www.dissem-inn.org/>

³ In italics are additions to the initial framework proposed by Bourgeois and Lesenfants (2024).

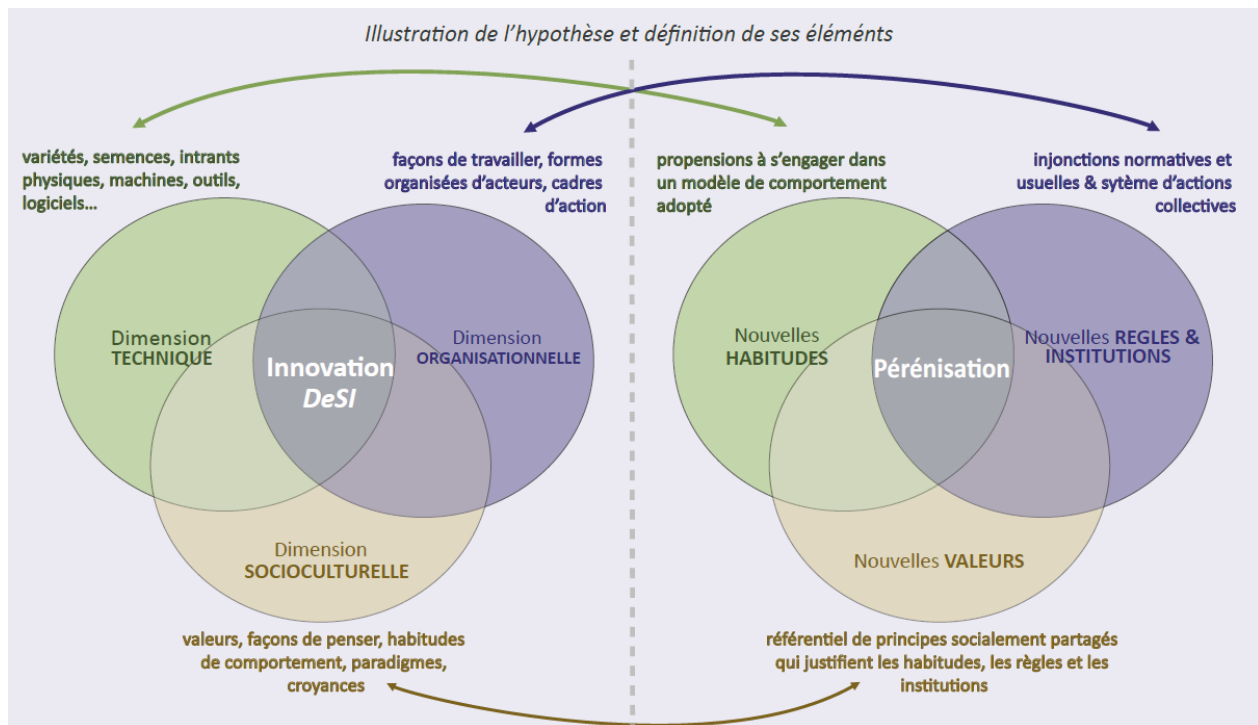


Figure 1: Illustration of the hypothesis and definition of its elements (Bourgeois and Lesenfants, 2024)

Methodological steps used to analyze the sustainability and scaling-up of innovations

Participants were divided into working groups based on the 6 themes of the ideotype built by the team and the same actors in September 2024:

- **Group 1**: “Access to water and sustainable management of water resources” and “Restoration of degraded land and climate resilience” (overlap of 2 ideotype themes).
- **Group 2**: “Sustainable management of forest and pastoral resources”.
- **Group 3**: “Enhancing the value of local products and economic development”.
- **Group 4**: “Agro-ecological transition of farms and integration of agriculture and livestock”.

The theme of “Territorial planning and integration of agroecology into public policies” was treated transversally, with the aim of reflecting on overall coherence.

Based on the Dissem-Inn analysis framework, the first stage of group work consisted in taking the innovation paths that make up the agro-ecological territory ideotype and addressing the following 2 themes for each of them: i) the conditions for sustaining innovations, then ii) scaling them up to the territory level. Each thematic group followed the same 5 methodological steps:

- Reorganize the innovation paths derived from the ideotype according to their dimension (technical, organizational and/or institutional, socio-cultural) and, if possible, add new innovation

paths to address sustainability issues. The main focus was on socio-cultural innovations (as these were the ones most often missing), followed by organizational and institutional innovations, as technical innovations were already well represented.

- Assess the current degree of diffusion/dissemination of innovations. To do this, stakeholders are asked to place colored dots next to each innovation (4 in all to reflect these progressive levels: non-existent innovations, low, medium or high dissemination, with criteria given to assess these levels).
- Characterize what exists in the region (even a weak signal), and what encourages or encourages the implementation of innovations with regard to each major innovation theme.
- Formalize what hinders or could hinder the scaling-up of innovations in the region.
- Imagine synthetic solutions to consolidate innovations, support what drives them and/or limit what hinders them in the region.

Building the transition path

The backcasting method

Backcasting makes it possible to "generate a desirable future, and look back from that future to the present in order to define a strategy and plan how it can be achieved". It's a method of connecting the starting point to the end point, with the aim of identifying one or more actionable paths. This approach requires the prior identification of two distinct states in time: a future state, which will be the starting point (the ideotype), and a present state, which will be the arrival point (Holpa diagnosis).

In simple terms, backcasting consists in making a history of the future, in other words, establishing a historical fresco populated by events, actions and players that are logically connected and make the link between a given future and the present. What makes backcasting different from traditional strategic planning is that it takes the question of the path backwards.

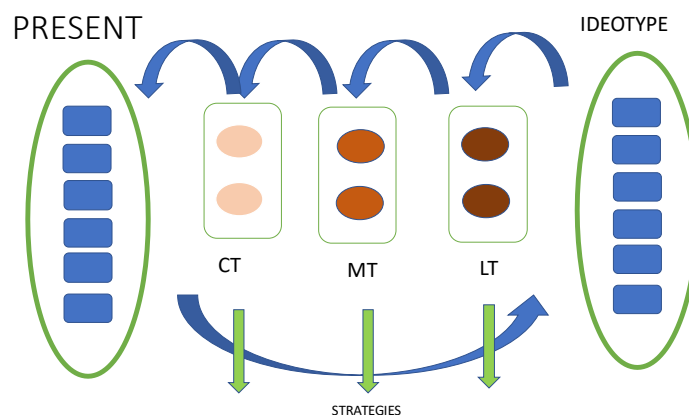


Figure 2. Diagram of backcasting.

Co-constructing the transition path

In concrete terms, a second group work enabled the participants to proceed as follows:

- Placing all innovations by major theme on a chronological line (long, medium and short term) results in a temporal sequencing of innovations (from vision, ideotype to current situation).
- Innovations may be added to ensure a logical transition path. These contributions are placed on the fresco timeline, logically articulated (anteriority, causality, consequence, simultaneity). We proceed in several iterations to fill in the temporal and causal "gaps" between the various elements.

In the plenary session, a cross-analysis of all the themes was carried out to form the transition path. Unfortunately, there wasn't enough time to revisit the Fatick DyTAEL strategy, a task that will have to be completed by 2025.

3. Conditions for sustaining and scaling up innovations

The results of the group's work are summarized in the following tables according to the main themes mentioned above:

- Group 1. Access to water and land restoration and climate resilience
- Group 2. Sustainable management of forest and grazing resources
- Group 3. AE intensification and farm/livestock integration
- Group 4. Promoting local products and economic development

As a reminder, the theme of territorial planning and the integration of agroecology into public policy was dealt with transversally in each of the groups.

Innovations shown in red have been added to the list during the reflection about sustainability of these innovations.

Group 1. Access to water and land restoration and climate resilience						
Dimension	Criteria	Ideotype-based innovation pathways	Degree of scaling	What exists or favors	What's holding you back	What to do?
		<i>By package, place the innovations</i>	<i>Place tablets</i>	<i>On the territory today</i>	<i>On the territory today</i>	<i>Synthesis of all elements</i>
Technical	Performance	- Water infrastructure: stormwater retention basins, water desalination units, extension of distribution networks e	Widespread	-State support (70% G to G), NGOs (digging wells), Projects (drilling) e.g. PROVAL)	-Lack of training in water management	Scaling infrastructure to match demographics
		- Water-saving practices: drip irrigation, mulching and trough cultivation	Not very common	-Extension of drilling networks by TCs	-Lack of resources and support	-Connecting the network to Lac de Guiers
		- Erosion control techniques: stone barriers, shrubs and herbaceous plants, conservation of crop residues.	Not very common	-State support for the creation of retention basins	-Few functional infrastructures	
		- Network of state-built anti-salt dykes	Widespread	-NGO support (dyke installation, network extension)	-Strong upwelling of the saline tongue (drilling abandoned)	
		- Reforestation with local halophyte species and mangroves	Widespread	-State water desalination		-Setting up desegregation plants
		- Application of organic manure, peanut shell and phosphogypsum.	Widespread			

Organizational	Nature of organizations and support	Drilling Users Associations	Widespread	ASUFOR promotes better water management		-Raising awareness of good water management practices -Updating local agreements
		-Water consultation framework	Widespread			
	Nature of rules (framework for action or behavior)	- Water pricing rules	Widespread	-Stabilization of water prices by	-Weak scaling of government policies on water infrastructure	-Subsidizing water
		- Ban on marine sand mining	Widespread	Stabilization of water prices by ASUFOR	-Politicization of water infrastructure development	-Transferring hydraulic powers to local authorities
		- Environmental law enforcement	Widespread			-Integrate water issues into PDDs and PDCs
Sociocultural (Values)	Change of perception	Water price adjustment mechanisms: information and awareness-raising activities (radio, hygiene relays)	Widespread	-ASUFOR takes better account of local concerns		
	Change in relationships between players	-Change of perception	Not very common	-Strengthening solidarity between populations	-The waste	Giving ourselves the means to apply sanctions/ASPs
		- Change in relationships between players	Widespread	-ASUFOR conflict management	-Sanctions poorly enforced/ social pressure	

	Appropriation of practices and rules	-Appropriation of practices and rules	Not very common			
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Group 2. Sustainable management of forest and pastoral resources						
Dimension		Ideotype-based innovation pathways	Degree of scaling	What exists or favors	What's holding you back	What to do?
		<i>By package, place the innovations</i>	<i>Place tablets</i>	<i>On the territory today</i>	<i>On the territory today</i>	<i>Synthesis of all elements</i>
Technical	Performance	- Reforestation and installation of windbreaks	Widespread	PRODER 17 forests at regional level	Painful installation of hedges,	training awareness and support, training scaling securing
		- RNA technique	Widespread	Strong involvement of projects in RNA, Experience of players in the practice of RNA,	Animal straying, poor weeding and ploughing practices	reforestation with fences and defensive hedges, reclaiming salty soil,
		- Creation of "green towns and villages" with tree planting.	Not very common	Creation of protected areas, proliferation of farms	salinization of land, livestock straying, low availability of cow's mouth,	Cow stabilization, subsidies for improved stoves
		- Use of biogas and improved stoves	Widespread	dissemination of improved stoves by TFPs,	high household costs, lack of awareness of forage-growing	Training and awareness-raising on forage crops for

		-Forage crops	Not very common	-Intensive breeding practices,	practices, cultural isolation Lack of manpower and	producers and agro-pastoralists, increased natural and artificial firewalls,
		-Bushfire control	Not very common	market gardening and arboriculture,		training scaling
		-Training on destructive harvesting practices	Widespread			
Organizational	Nature of organizations and support	- Collaboration between state services, local communities and NGOs)	Widespread	TC commitment + stakeholder involvement	lack of commitment on the part of the TCs +	set up consultation frameworks
		- Existence of committees (RNA, POAS) with producers, communities and forestry officials	Widespread	Creation of protected areas and local agreements,	+ lack of commitment on the part of the TCs Downgrading protected areas	Elaboration of PAG (5 years),
		- Village committees and the NGO to install firewalls,	Not very common	Defense contract	poor access to suitable seeds lack of material resources,	increased natural and artificial firewalls,
		-Parking contract	Not very common	Creation of protected areas	Animals running at large,	Installation of a trust contract
		-Green village	Not very common	Proliferation of farms	-Poor water quality, land salinization	Rainwater harvesting Combating salinization

	Nature of rules (framework for action or behavior)	- Natural regeneration set-asides and copses for village fuelwood.	Not very common	Involvement of local communities, inclusion in development plans		Application of penalties
		- POAS	Not very common	Supporting TFPs	Lack of financial resources	Raising the awareness of local elected representatives and pop
		- Local agreements	Widespread	-Player awareness	-Non-application of penalties	
		- Rules for triggering controlled early fires every year				
Sociocultural (Values)	Change of perception	- Awareness campaigns on bushfires and sustainable forest management to enforce the forestry code	Widespread	raising bushfire awareness among water and forestry officers Consultation framework		Improving public awareness
	Change in relationships between stakeholders					
	Appropriation of practices and rules	- Training on RNA and good practices for exploiting woody and non-woody resources	Not very common	Existence of equipment for products,		training scaling
		- Forage crops	Not very common	Producer champions		Raising awareness Facilitating access to inputs

Group 3. AE Intensification and Farm/Livestock Integration						
Dimension		Ideotype-based innovation pathways	Degree of scaling	What exists or favors	What's holding you back	What to do?
		<i>By package, place the innovations</i>	<i>Place tablets</i>	<i>On the territory today</i>	<i>On the territory today</i>	<i>Synthesis of all elements</i>
Technical	Performance	- TK IAE cropping system practices: crop associations, fertilizer plants, composting, manure, mulching, zaï.	Not very common	-Availability of data sheets (organic)	-Lack of consideration for arduous work and working hours	
		- Local seeds	Widespread	-Endogenous knowledge of local seeds	-Local authorities set up farmers' seed banks and promote their certification -Unavailability of biofertilizer raw materials	Endogenous knowledge of local seeds
		- Green manure biofertilizers and MAB	Not very common		-Animals running at large	
		- Forage crops	Not very common	-Existence of forage varieties (cowpea, panicum)-.		Seeking funding for awareness-raising and AE support
		- Biopesticides	Not very common			
		- Diversification of crops and activities	Very widespread	-Existence of training farms on agricultural practices	Farm equipment unsuited to agro-ecological practices	

		-Good agricultural practices (use of pesticides)	Widespread			
		- Improved breeds	Not very common	-Improved breed introductions through programs and projects		
		-Agricultural machinery	Not very common	-State and project subsidies for agricultural equipment	Farm equipment unsuited to agro-ecological practices	
		-Use of communication and information technologies	None			
		-Attracting young people with agricultural machinery	Not very common	Local authorities facilitate access to land (young people, women)	Young people losing interest in farming	Set up low-interest financing programs for young farmers
		-Building a farmers' seed bank	None			
		-Converting and transport infrastructures	Widespread	Construction of production tracks by the state (Provale - CV, PNIR, PNDL etc.)		

Organizational	Nature of organizations and support	- Organization for the collection of organic inputs (garbage, compost, etc.)	Not very common			
		- Regulatory Monitoring and Oversight Committee (PAOS)	Not very common			
	Nature of rules (framework for action or behavior)	- Parking contracts	Not very common			-Rigorous support of local convention
		- Product storage mechanism	Not very common	Existence of Secco (warehouse)		
		- Subsidy policy for organic inputs	Not very common	Projects distribute organic fertilizers, -10% of state-subsidized fertilizers are organic.		
		- Credit policy	Widespread	-Existence of campaign credit and fattening credit (bank, microfinance, etc.)	-High bank interest rates	Develop and subsidize adaptive equipment and bio-inputs
		-Existence of partnership agreements with banks and NGOs	Not very common			

		- Agricultural machinery credit	Not very common			
		-Land policies for equitable access to land	None			
Sociocultural (Values)	Change of perception	Capacity-building for elected representatives	Not very common	Projects organize capacity-building training for elected representatives (Procasaf, Agrisud)	-Lack of organizational leadership -Lack of resources at community level to support players	Finding ways to support agro-ecology players
		-Communal development plan integrating agroecology (PAOS, local agreement)	Not very common			
	Change in relationships between players	-Reinforcing Dytael -A shared vision	Widespread Widespread	-The existence of Dytael	-No shared vision for the future	Strengthening agroecological dynamics ex Dytael

Group 4. Local products and economic development						
Dimension		Ideotype-based innovation pathways	Degree of scaling	What exists or favors	What's holding you back	What to do?
		<i>By package, place the innovations</i>	<i>Place tablets</i>	<i>On the territory today</i>	<i>On the territory today</i>	<i>Synthesis of all elements</i>
Technical	Performance	A network of processing companies	Not very common	Experience and expertise in transformation,	Lack of investment funds,	Advocacy for the creation of investment funds,
		International-standard processing equipment available	Not very common	national and international recognition,	Lack of formalization,	Advocacy for women's access to land transformation
		-Labeling processed products -Territorial marketing for products, with culinary fairs, exhibitions and digital platforms	Not very common	Existence of financing mechanisms,	Lack of access to land for production/processing facilities	Training in marketing and land management

Organizational	Nature of rules (framework for action or behavior)	- Relationship between NGOs and technical partners for training	Not very common	PIT diversity	Little collaboration between ITA and other organizations	Advocacy with the ITA and the authorities,
	Existence in abundance	- Existence of a "Union des transformateurs" cooperative, for training and technical and financial partnerships with credit unions and banks, consular chambers, and NGOs	None	Existence of a Dytael, Existence of a personal peasant seed reserve,	Few accredited seed operators, Low PIT distribution nationwide, Weak structuring of organizations and groups	Empowering Opa by strengthening human capital, setting up a PMA around PITs,
	Lack of technical support for the use of funds, misuse of funds	- Existence of an interprofession	None			
		Existence of Vocational and Technical Training Financing Funds	None	The existence of Dytael		A plea to set up storage units for PITs
		-Production/Transport Track	Widespread	Existence of a production track Existence of credit facilities	Production levels to meet demand Late availability of credit	
		- Diversified financing mechanisms mobilized (tontines, self-managed funds, etc.), for the autonomy of processing units.	Not very common	Partnership between GIE and school canteens, fair organization,		Raising awareness to ensure proper use of funds
		-Existence of an inclusive, collaborative development strategy for TIPs (between the company, NGOs and the community)	Not very common		Little direct collaboration	

		-Training policy by ITA	Not very common	Participation in fairs at national and international level	between ITA and organizations Weak structuring of organizations	State guarantee fund set up
		-Certified local seed production	Not very common	Certified seed production by POs	and groups	Increasing MSEs' raw materials supply capacity
		- Partnerships with hotels, restaurants, school canteens, hospitals and prisons - Labeling of processed products.	Not very common	-Occasional training with ITA facilitated by NGOs,	Little direct collaboration between ITA and organizations	Facilitates access to land and timber for POs
		-Building a farmers' seed bank	Not very common	Existence of a departmental and national strategy		A plea to set up storage plants for PITs
		-Storage infrastructure (cold storage)	None			
		-Means of transport tricycle car boat	Not very common			
		-PDC and PDD with the integration of agroecology	Widespread			
		-Tax exemptions and market arrangements for	Widespread			-Move on to elaboration of PDC and PDD integrating AE
			None			-Advocacy (agroecological market taxes)

Sociocultural (Values)	Change of perception	- Promoting local food (awareness campaigns, culinary tastings, promotion of local culinary arts).	Widespread	Diversification of PIT products,	Changing eating habits among young people,	promote PIT.
		-Value of a sense of cultural belonging	Not very common	Improved product quality,		
		A shared vision for the agro-ecological transition	Widespread			
	Change in relationships between players					
	Appropriation of practices and rules	- Training policy by the Institut de Technologie Agro-alimentaire (with NGOs and technical partners).	Not very common		young people's lack of expertise in preparing PIT-based dishes,	training in culinary arts around PIT,

4. Co-constructing the transition path

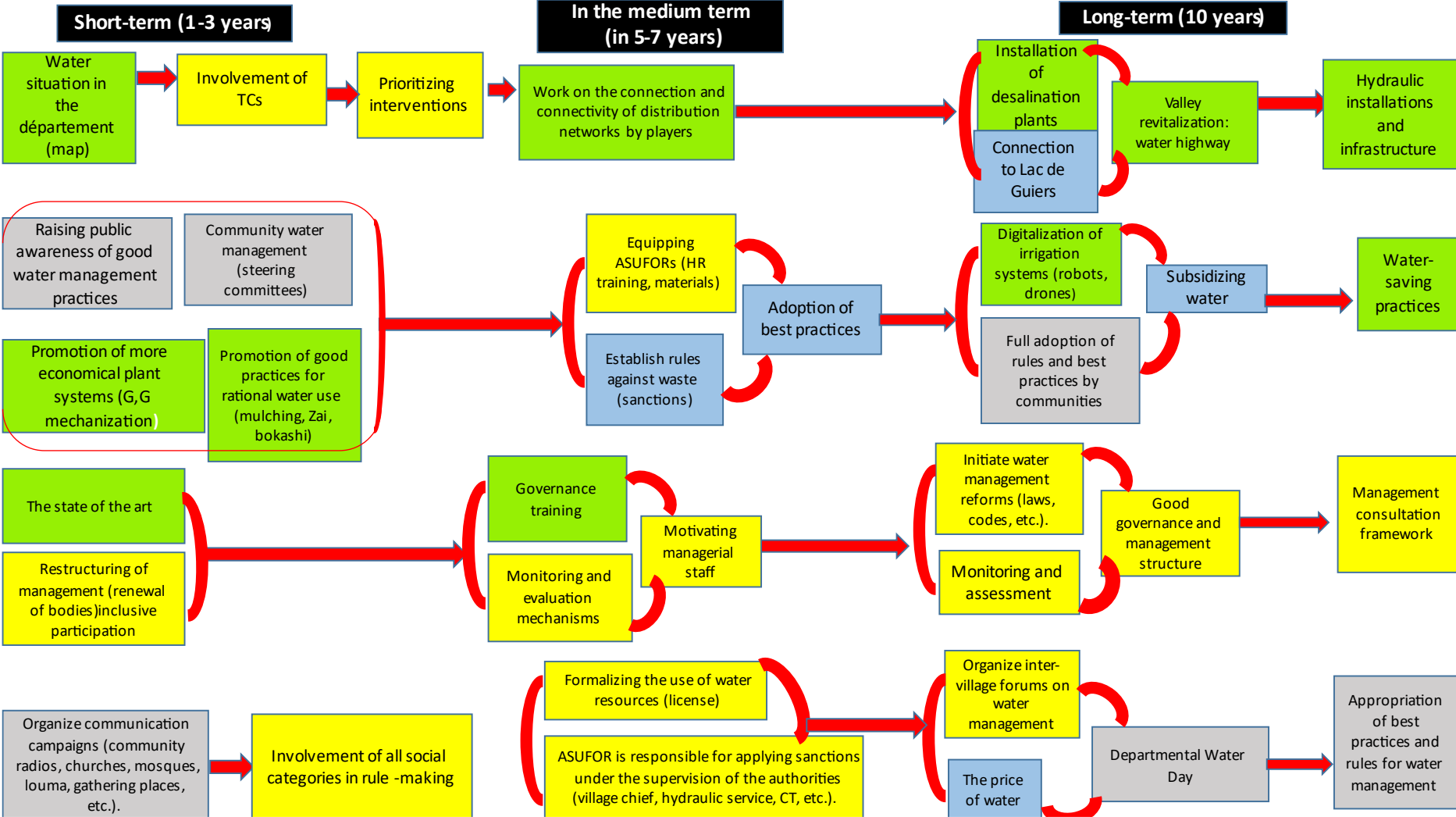
Following on from this exercise, local stakeholders have been working to co-design an agroecological transition path, using the backcasting method presented above.

Results for the transition path for each theme

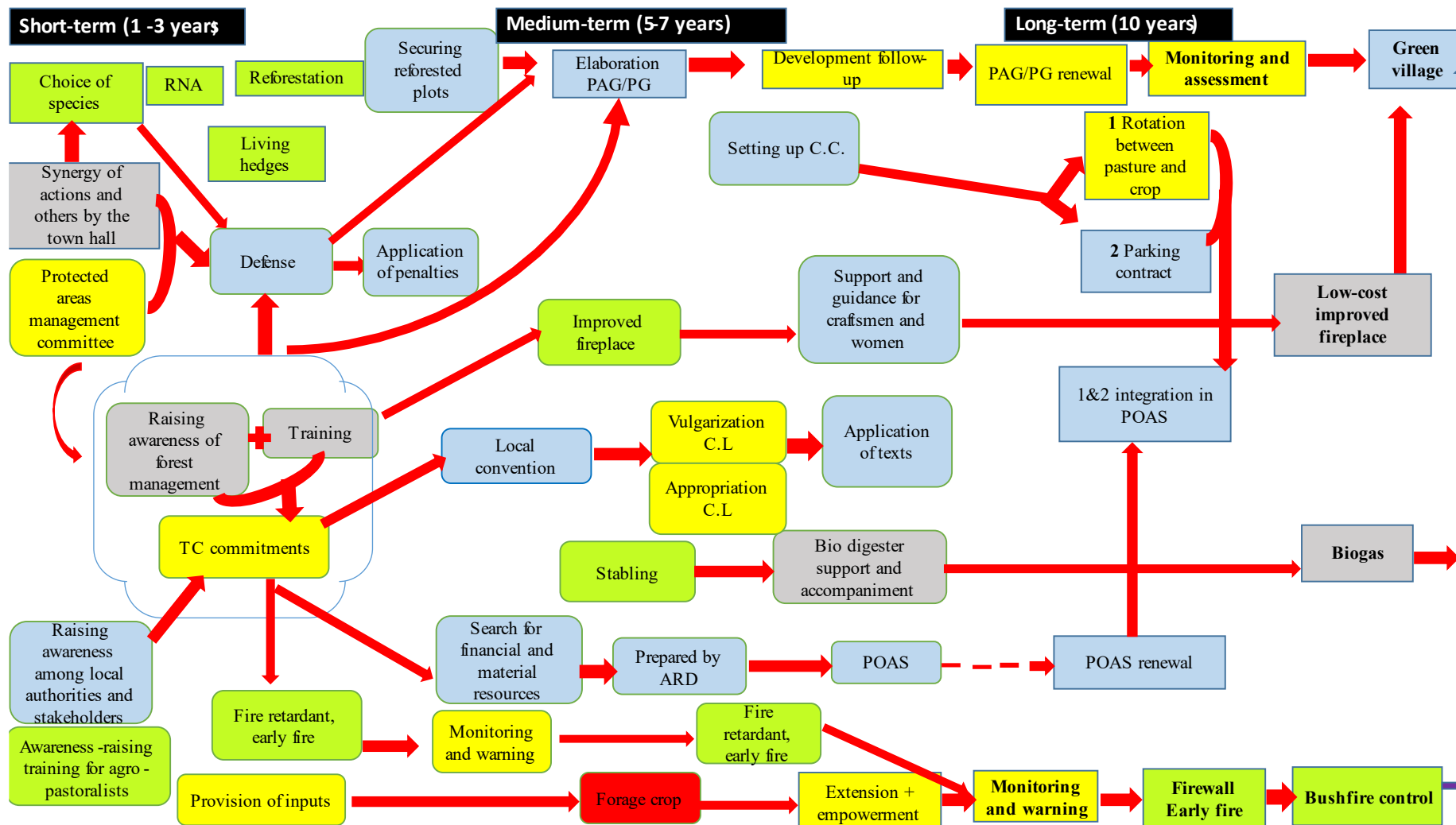
The results of the analyses are presented in the following figures. The color code used to qualify the nature of the innovations is as follows:

Technical	
Organisational	
Institutional	
Sociocultural	

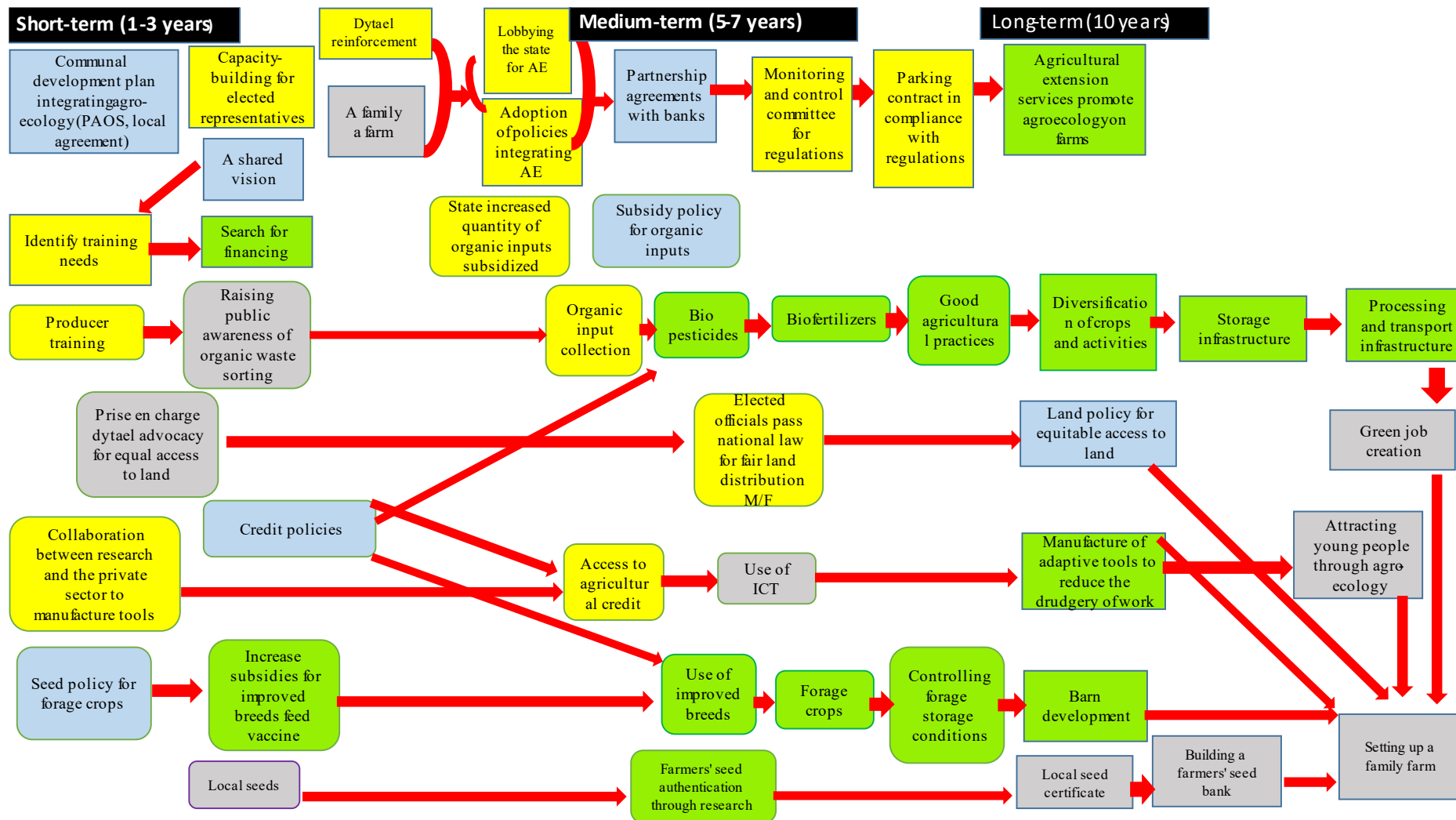
Group 1. Access to water and land restoration and climate resilience



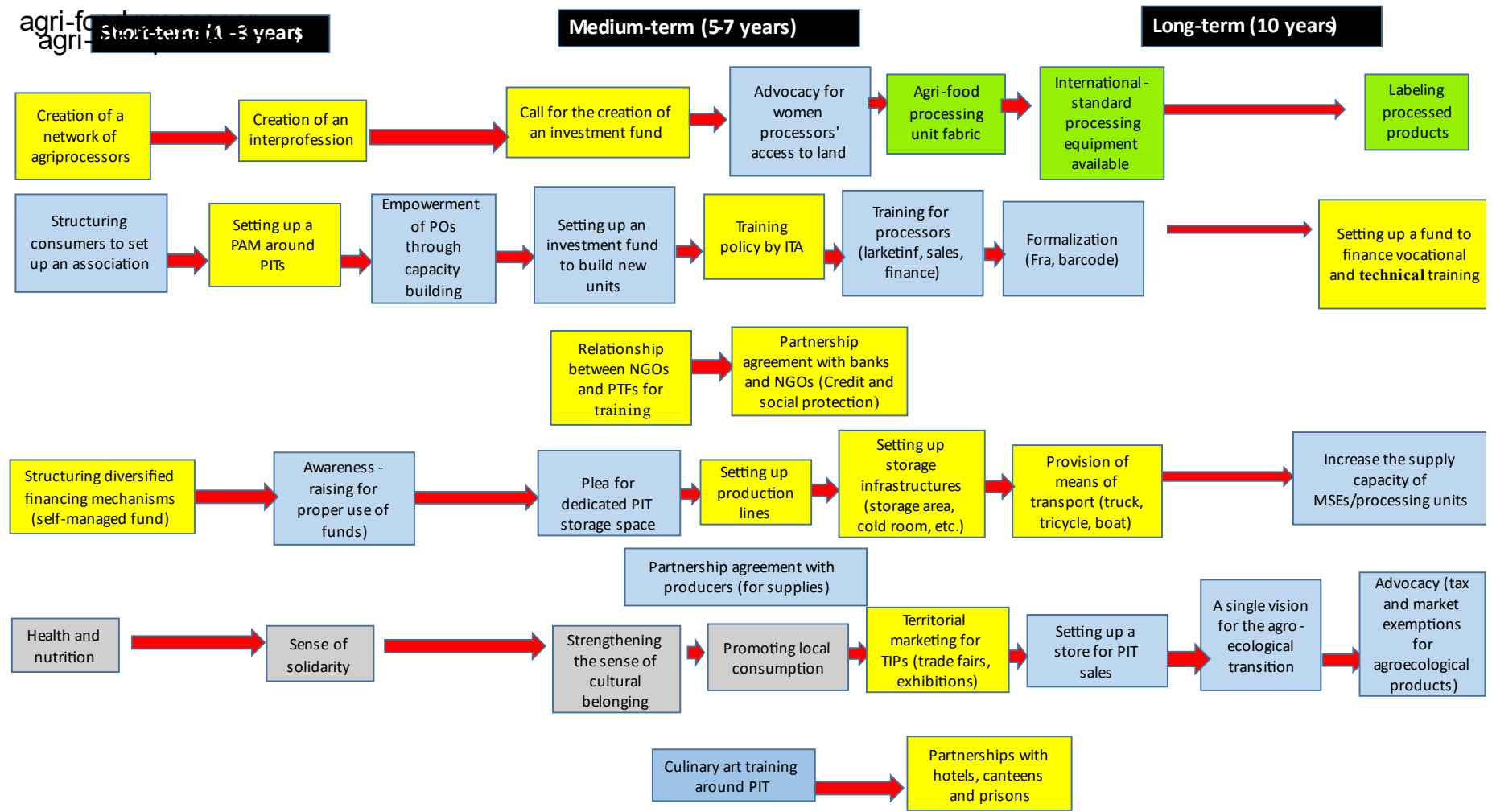
Group 2. Sustainable management of forest and grazing resources



Group 3. AE intensification and agriculture/livestock integration

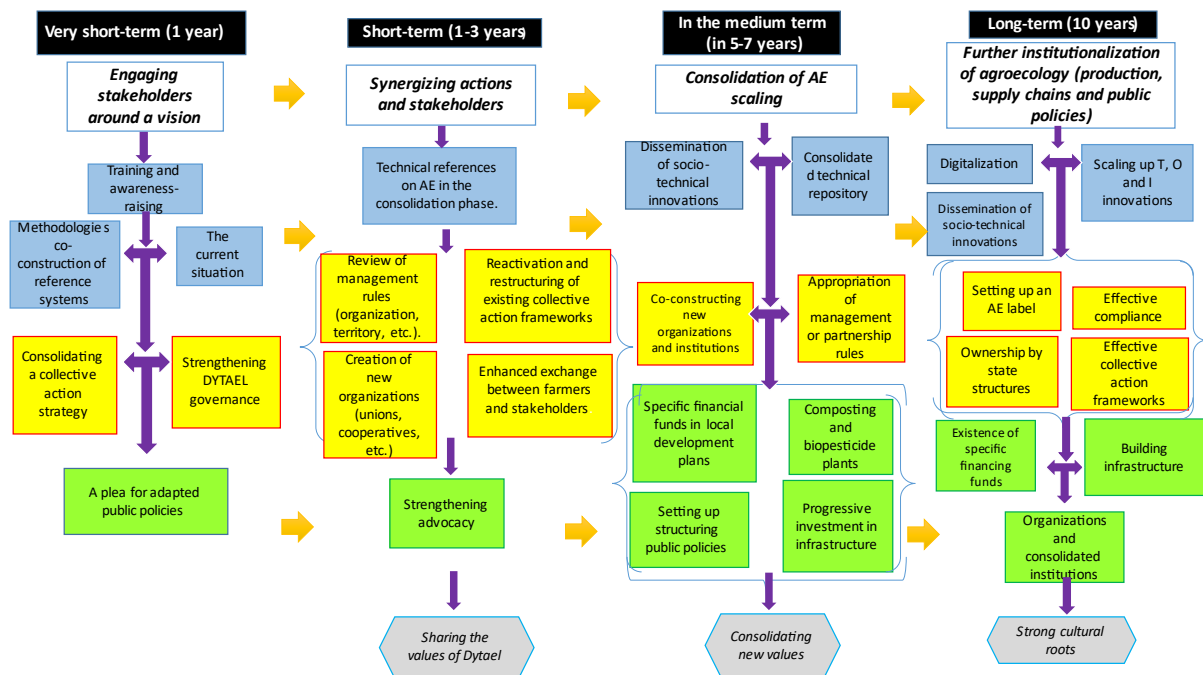


Group 4. Promoting local products and economic development



Results for the Fatick department transition road

Cross-analysis of all the specific paths has enabled us to identify a transversal logic for the transition path. A very short-term deadline (1 year) was introduced. Here it is presented.



The logic of the transition path is as follows:

- Stage 0 = Current situation

- Stage 1: Stakeholder commitment to a vision of a desirable future - 1 years

- o Commitment of the Fatick DyTAEL, elected officials and local civil society players to the 10-year agro-ecological transition plan.
- o Establishment of monitoring and evaluation mechanisms for the agro-ecological transition plan
- o Production of knowledge: diagnosis, mapping, inventory and study of existing frameworks and initiatives
- o Training and awareness-raising on good governance and agroecological best practices
- o Capacity-building for elected representatives and decision-makers
- o Directory of existing and emerging agroecological practices

- Stage 2: Synergizing stakeholders' actions for the agroecological transition - 3 years

- o Consolidation and synergy of existing initiatives and reactivation of existing management frameworks
- o Popularization and appropriation of existing laws and regulations

- o Establishment of new collective action frameworks (committees, bodies, interprofessions, unions) dedicated to sector governance and resource management (forests, water, land).
- o Collective action frameworks decide on the direction of future tools and instruments (labels, local conventions, protected areas, forest management committees, POAS, collective collection systems).
- o Mobilization of financial and material resources to operationalize management frameworks and support public and private investment.
- o Advocacy leading to the integration of AE into local development plans (PDD and PDC).

- Stage 3: Co-construction of new institutions and massive investment for agro-ecological transition - 5 years

- o Collective action frameworks gradually co-construct new tools and instruments (labels, local conventions, protected areas, forest management committees, POAS, collective collection systems, ASUFOR).
- o Training and coaching to support collective action frameworks
- o Increasing investment in public infrastructure and production systems (equipment, machinery, infrastructure)
- o Start of generalization/scaling-up of agroecological and consumer practices
- o Institutionalization: increasingly appropriate rules, enforced by monitoring and evaluation systems (accountability and sanctions)
- o Beginning of appropriation of values linked to solidarity and the cultural and natural dimensions of food.

- Stage 4: Full adoption and institutionalization of agroecology in public policy, production and value chains - 10 years

- o Functional infrastructures deployed on a large scale
- o Collective action frameworks effective and operational
- o Digitization, increased technicity and adoption of cutting-edge technologies
- o Stabilization and institutionalization of frameworks, laws and techniques
- o Functioning of market segmentation/construction tools
- o In-depth cultural changes and widespread appropriation of values linked to solidarity and the cultural and natural dimensions of food.
- o Structuring of state services and government policies, plans and programs around agroecology
- o Full scaling-up of agroecological practices
- o Synergy between the development of activities (agriculture, livestock farming, salt production) and land-use planning.

- Step 5 = Ideotype

Discussion of the transition path

The transition path co-constructed with the Fatick DyTAEL shows the gradual institutionalization of agroecology based on an articulation between technical changes (consolidated frames of reference, appropriate and scaled-up AE practices), organizational changes (enabling the creation of new collective organizations and federations of local stakeholders), institutional changes (public policies, rules for managing organizations,

territorial resources and governance) and the socio-cultural aspects of transition (above all via the emergence of shared common values).

The transition path is therefore a simultaneous consolidation of all the innovations in these different dimensions. Above all, it is a process that is based on the commitment of players to a vision, and on the synergy of these players and their actions. DyTAEL has a crucial role to play here.

DyTAEL's exchange dynamics (through the strengthening of networks) and governance are essential to consolidate in order to achieve its legitimacy, which can only be the result of a process. The creation of new institutions, frameworks for action and behavior, backed by a set of collectively-defined rules that are gradually being formalized, is an essential element of the transition. Learning, particularly that which leads to a change in perceptions and relationships between players, plays an important role.

Work on refining the action strategy will be carried out early next year, in particular to define concrete courses of action to consolidate this transition path in the Fatick department.

5. Appendix

Appendix 1. Detailed agenda

Opening hours	Activities	Managers
Tuesday 29/10		
09:00 - 10:00	Presentation of the agroecological territory ideotype	Animation team
10:00 - 10:30	Presentation of the innovation analysis framework (<i>Dissem inn</i>) Choice of innovation systems to be studied and group allocation	Animation team
10:30 - 11:00	<i>work</i> Sustaining and scaling up innovations	Animation team
11:30 - 12:00	<i>Coffee break</i>	
12:00 - 14:00	<i>Group work</i> (continued) Sustaining and scaling up innovations	Animation team
14:00 - 15:00	<i>Lunch break</i>	
15:00 - 16:00	Restitution and discussion	Group rapporteurs
16:00 - 17:00	Debriefing of the team	Animation team
Wednesday 30/10		
09:00 - 10:00	Introducing backcasting	
10:00 - 11:30	<i>work</i> Backcasting from the Innovation Box (LT, MT, CT)	Animation team
11:30 - 12:00	<i>Coffee break</i>	
12:00 - 14:00	<i>Group work</i> (Continued)	Animation team
14:00 - 15:00	<i>Lunch break</i>	
15:00 - 16:00	<i>Group work</i> (Finalization)	Group rapporteurs
16:00 - 17:00	Debriefing of the animation team	Animation team
Thursday 31/10		
08:30 - 10:00	Backcasting feedback Discussions on tipping points and planning of DYTAEL activities for the next 10	Animation team
10:00 - 10:30	Workshop evaluation	Animation team
10:30 - 11:00	<i>Coffee break</i>	
11:00 - 14:00	DYTAEL Technical Committee	Mame Birame Sene
14:00 - 15:00	<i>Lunch break</i>	

Appendix 2. Narrative of the agro-ecological territory ideotype for Fatick (Belmin *et al*, 2024)

In 2035, the Fatick department will have an integrated strategy for the sustainable management of natural resources, the agroecological transition of farms and the development of local products. This strategy is based on close collaboration between local authorities, government departments, DyTAEL, local communities, NGOs and technical and financial partners.

Access to water and sustainable management of water resources

Fatick has become a model of sustainable and equitable water resource management. Thanks to a series of ambitious initiatives launched by local authorities in partnership with technical and financial players, the department has succeeded in ensuring physical and economic access to productive water in sufficient quantity and quality for all.

To guarantee equitable and sufficient access to productive water, the department has set up **hydraulic infrastructures** such as rainwater retention basins, marine water desalination units, and the extension of water distribution and transfer networks. These initiatives, led by local authorities in partnership with technical and financial partners, ensure the availability of quality water throughout the region, including the most remote and arid areas.

To optimize water use while maintaining high agricultural yields, farmers in Fatick have adopted **water-saving practices** such as drip irrigation, mulching and trough cultivation. Local authorities and associations of borehole users (ASUFOR) have set up a **framework for** inclusive and sustainable water management. This framework has led to a consensus to reduce the price of water, thus easing the economic burden on local communities.

Restoring degraded land and climate resilience

Fatick is also a leader in restoring degraded land and combating the effects of climate change. Local stakeholders have achieved this by focusing their efforts on three major threats: erosion, salinization and retreating coastlines.

To **prevent** wind and water **erosion** and improve soil fertility, communities have installed stone barriers, planted shrubs and herbaceous plants, and conserved crop residues. A network of anti-salt dykes has been built by the State, NGOs and various partners to **halt the advance of salt** in the salt valleys and along the coastal strip. In affected areas, reforestation campaigns, including local halophyte species and mangroves, have been carried out to restore terrestrial and marine ecosystems. To **recover saline soils**, farmers have also mobilized, using techniques such as spreading organic manure, groundnut hulls and phosphogypsum on their plots.

To **protect the coastline**, local authorities have banned the exploitation of marine sands and rigorously enforce environmental laws with the participation of coastal municipalities and Marine Protected Areas. These combined efforts have contributed to the regeneration of the land, the return of biodiversity and the enhanced resilience of Fatick's agro-ecosystems to climate change.

Sustainable management of forest and grazing resources

In 2035, the Fatick department will be distinguished by exemplary management of its forest and pastoral resources, the fruit of collective mobilization and rigorous planning.

The department's land has been extensively reforested thanks to collaboration between state services, local communities and NGOs. These players worked together to install windbreaks in fields and public spaces, and to set aside certain areas for natural regeneration. The trees planted have taken root well, thanks to a careful selection of species adapted to local soils and conditions, such as melifera, niawli, eucalyptus and various fruit trees.

Assisted Natural Regeneration (ANR) has become a common practice, where young trees are identified, marked and maintained by communities. An RNA committee made up of producers, local authorities and water and forestry agents oversees these efforts, guaranteeing ongoing support and monitoring of the populations. RNA training courses, provided by technical services and NGOs, have enabled farmers to acquire the skills needed to effectively maintain the trees.

Public awareness campaigns on sustainable forest management have resulted in strict application of the forestry code by communities. Training courses on **good practice in the use of** timber and non-timber resources are provided on a regular basis, covering respectful, non-destructive cutting and gathering techniques. In the **fight against bush fires**, the Water and Forestry Department relies on village committees and NGOs to install firebreaks, set controlled early fires every year, and organize awareness campaigns in high-risk areas.

To reforest urban areas, local authorities and their partners have created "**green towns and villages**". In the areas affected by this policy, awareness was raised through conferences, meetings and ceremonies, and local urban planning departments incorporated this requirement into building permits, obliging owners to plant trees or compensate for any destruction by reforestation.

To reduce dependence on forest resources, the Fatick department has widely adopted **renewable energies and energy efficiency**, in particular with the development of biogas and the adoption of improved stoves. Local communities now produce their own village-grown wood fuel, in particular by fencing off groves.

These various achievements are the result of **multi-level governance** of forest and pastoral resources. At commune level, local conventions define and control forestry practices, while Land Use and Development Plans (PAOS) define grazing, cultivation and set-aside areas. At communal and departmental level, management committees oversee sustainable forest management and ensure that local conventions are applied.

Agro-ecological transition and agricultural-livestock integration

By 2035, farmers and livestock breeders in the Fatick département had successfully completed their agro-ecological transition, thanks to ongoing support from government technical services, NGOs and research institutes.

Farmers have adopted a wide range of techniques aimed at ecologically intensifying cropping systems, such as crop associations, fertilizing plants, composting, manuring, mulching, zai and organic fertilizers. These practices improve soil fertility while reducing dependence on chemical inputs. The use of organic inputs has become widespread in the department, thanks to agriculture-livestock coupling and organic fertilizer distribution policies. Manure, household waste and compost are collected and spread to improve degraded soils. The use of liquid biofertilizers, green manures and beneficial indigenous micro-organisms (BAM) has spread, supported by training provided by technical services and other partners. These various agronomic levers have improved soil fertility while reducing dependence on chemical products.

The integration of agriculture and livestock farming has been facilitated by grazing contracts and organized rotations between pastoral and crop-growing areas, introduced following workshops bringing together farmers and livestock breeders. It has also been facilitated by the use of fodder crops and improved animal breeds. This collaboration and innovation have strengthened the relationship between these two groups, enabling more efficient and sustainable land use.

Chemical pesticides are used in a rational way, and are gradually being replaced by locally manufactured biopesticides and service plants capable of combating bio-aggressors. Local authorities, in collaboration with health workers and technical services, have set up control committees to ensure compliance with regulations on pesticide use, thus guaranteeing a healthy environment for crops and communities.

Crop diversification is also a driving force behind the agro-ecological transition for the department's farms. Family farms in Fatick now combine arboriculture, market gardening, livestock farming and field crops such as groundnuts, cowpeas and bissap. At the same time, salt farming is opening up new opportunities for the department's rural population. Farming has become an attractive activity for young people, thanks to the provision of agricultural machinery (tractors, power tillers, harvesters) to alleviate the drudgery of work.

Faced with the challenges of food security, producers have set up storage mechanisms to secure the lean periods, keeping surplus production in storage warehouses and cereal banks. A deposit and pre-financing system has been integrated to avoid selling off harvests, supported by ORSRE and the Ministry of Commerce.

Promoting local products and economic development

By 2035, Fatick had become a center for adding value to products of territorial interest, thanks to an inclusive and collaborative development strategy involving civil society, local authorities and NGOs. The region has succeeded in transforming its agricultural and agri-food potential into wealth, creating economic opportunities and showcasing its cultural and culinary riches.

At the heart of this transformation lies a dynamic fabric of agri-food processing companies, which have managed to professionalize thanks to an ambitious government training policy. Processors have been trained in hygiene and quality, processing and preservation techniques, and administrative and financial management by the Institut de Technologie Agro-alimentaire in collaboration with NGOs and technical partners. Professionalization is also supported by the State, NGOs and the Fonds de Financement de la Formation Professionnelle et Technique (3FPT), which provide processing equipment that meets international standards (grinders, baggers, dryers, etc.).

Processors have organized themselves into a cooperative called Union des transformateurs, which plays a key role in organizing and structuring the sector. It provides training for its members and develops technical and financial partnerships with credit unions, banks, consular chambers and NGOs to facilitate access to financing and improve the competitiveness of local products on the market. In addition, other financing mechanisms are mobilized (tontines, self-managed funds, pre-financing by customers, loans in kind), contributing to the financial autonomy of processing units.

An interprofession has been set up to coordinate the marketing of local products. It brings together producers, processors and buyers, and operates with the support of municipalities and NGOs. The interprofession has set up a territorial marketing program for Fatick products, based on events, culinary fairs, exhibitions and digital platforms. The interprofession is also establishing partnerships with hotels, restaurants, school canteens, hospitals and prisons to encourage consumption of local

products. To conquer new markets, the interprofession is focusing on segmentation strategies and the creation of domestic and export market niches. Quality control and labeling of processed products such as local cereals, market garden produce and fish products, enhances their added value and recognition on national and international markets. Finally, the department promotes local consumption through awareness-raising campaigns, culinary tastings and the promotion of local culinary art.

Territorial planning and integration of agroecology into public policies

In 2035, the Fatick département will be a model of territorial planning that fully integrates agroecology. This status is the result of the joint work of local authorities and the DyTAEL, ensuring that each initiative is built in relation to a single vision for the agroecological transition.

Fatick's DyTAEL has engaged in dialogue with and supported local authorities and decentralized government departments, leading to the integration of agroecology into local public policies. The DyTAEL was deployed in all the department's communes, building the capacities of elected representatives and supporting the preparation of Communal Development Plans (PDC) and Departmental Development Plans (PDD). Fatick's DyTAEL interacts closely with DyTAES, which carries out similar work at national level. Specific planning tools and monitoring mechanisms are put in place by the Regional Development Agency, ensuring that sectoral policies are aligned with agro-ecological objectives. DyTAEL is also building a framework for concerted action to identify, coordinate and harmonize the efforts of all those involved in agroecology.

To open up areas that are difficult to access, municipalities, NGOs and interprofessions have worked together to build transport tracks and provide means of transport (tricycles, trucks, boats) for players in the agricultural and salt production sectors. Storage infrastructures, such as cold stores and storage areas, have also been delivered to strengthen value chains.

To guarantee equitable access to land, land policies have been implemented, with leases and land titles granted by deliberation. In the same vein, local land use agreements have been put in place to establish clear zoning between saliculture, forestry, livestock and agricultural activities.

The department is demonstrating its support for family farming through the slogan "one family, one agro-ecological farm". To strengthen the skills of young farmers, it offers training in agroecology at vocational training centers and local universities, with financial support from organizations such as 3FPT, ONFP and PF2E. To make agricultural jobs less risky and more attractive, the department signs partnership agreements with banks and NGOs, guaranteeing attractive remuneration and social protection for workers. This policy encourages each family to maintain its own agriculture and adopt agro-ecological practices.

Building a farmers' seed industry has also been a key aspect of this policy. Local authorities, in collaboration with research institutions, have developed seed banks while supporting the production of certified local seeds. They have also set up fodder processing units to boost local availability of this key resource and create new green jobs.

Finally, the department supports the consumption of agroecological products through tax exemptions and the development of dedicated markets. Educational and awareness-raising initiatives on eco-responsible behavior are carried out in schools and communities, with annual agroecology awards.

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