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Editors

Coexistence and Confrontation of Agricultural and Food Models

A New Paradigm of Territorial Development?

Foreword by Jan Douwe van der Ploeg
With the Editorial Support of Sylvie Zasser

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Éditions Cirad, Ifremer, INRAE
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ISBN 978-94-024-2177-4 ISBN 978-94-024-2178-1 (eBook)
https://doi.org/10.1007/978-94-024-2178-1

Jointly published with Éditions Quæ
Éditions Quæ, RD10, 78026 Versailles cedex, France

Translation from the French language edition: "Coexistence et confrontation des modèles agricoles et alimentaires" by Pierre Gasselin, Sylvie Lardon, Claire Cerdan, Salma Loudiyi, and Denis Sautier,

This Springer imprint is published by the registered company Springer Nature B.V.
The registered company address is: Van Godewijckstraat 30, 3311 GX Dordrecht, The Netherlands

Chapter 6
Emergence and Compartmentalisation of Advisory Subsystems for the Ecological Intensification of Agriculture in Burkina Faso

Aurélie Toillier, Saydou Bancé, and Guy Faure

In sub-Saharan Africa, the political and development aid spheres are looking for new models of agricultural production that are capable of feeding the population and addressing environmental challenges at the same time (HLPE, 2019). Civil society is also engaged in this search through the voices of producer organisations and NGOs (Coordination Sud, 2019). A new paradigm, adopted by several international research and policy organisations, has gained prominence in their discourses. It calls for the increased mobilisation of natural processes, reflected in the notion of ecological intensification (Caron et al., 2014; Tittonell, 2014). This new paradigm is backed by a large body of scientific literature on new agricultural practices, new ways of organising production and agri-chains, and new consumption habits that are all necessary to produce as much or even more, while reducing the use of synthetic inputs and being eco-efficient (Garnett et al., 2013). In contrast, there is far less research on the implications for the evolution of the agricultural advisory systems that will have to accompany these changes on farms and in territories. The trajectories of change of ecological intensification will necessarily differ depending on country, region or locality (Meynard, 2017; Lucas et al., 2018). An advisory system is understood as a social system that encompasses all the actors involved in the provision of advice and their interrelationships. Today, all actors in their broad diversity, including governments, the private sector and civil society, are considered stakeholders in the agricultural advisory system since these actors 'support and facilitate people engaged in

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P. Gasselin et al. (eds.), *Coexistence and Confrontation of Agricultural and Food Models*,
https://doi.org/10.1007/978-94-024-2178-1_6

agricultural production to solve problems and obtain information, skills, and technologies to improve their livelihoods and well-being' (Birner et al., 2009). Jayne et al. (2019) emphasise the need to develop adaptive local research and advisory systems, since such changes require incremental and collective learning based on local knowledge.

In practice, an advisory system is the result of agricultural development policy choices and complex social constructions (Faure & Compagnone, 2011). It is both a means of making farms evolve according to orientations defined by policies, markets or certain sectors of society (Davis, 2008), and a means of supporting the complex processes that take place within a broader innovation system involving different categories of actors (Hermans et al., 2015).

Our aim in this chapter is to explore the evolution of relationships between advisory actors with regards to incentives for ecological intensification of agriculture in Burkina Faso. The context is marked by a strong political period of promotion of agroecology, followed by commitments to sustainable intensification of agricultural production by a plurality of private and public actors (Côte et al., 2019). We are interested in particular in the possible emergence of advisory subsystems (Klerkx et al., 2017), i.e. of the multiple advisory systems which can coexist and are aimed at supporting the transformation needs of agriculture in different ways, from the farm to the value chain and the territory. In this perspective, we address the following questions: Who are the different advisory actors promoting ecological intensification in Burkina Faso today? What are their intervention methodologies? What roles do they play within the advisory system?

We first present the context of Burkina Faso, followed by the analytical framework we have developed, which combines structural analyses of networks of advisory actors and analyses of these actors' registers of action. We then present the three advisory subsystems we have identified, before concluding with the political and theoretical implications of these subsystems' existence.

1 Exploring Ways of Supporting Ecological Intensification

In Burkina Faso, as in many other African countries, the partial withdrawal of the State from the domains of agricultural advice and orientation has opened up a space for a multiplicity of actors (producer organisations, NGOs and associations, consultants, international agencies). They are using new methods to provide advisory services, and proposing and advocating alternative, more ecological models of agricultural production, at the fringe of the conventional intensification advocated by the Green Revolution (increased use of synthetic fertilisers, improved seeds and agricultural equipment). What results is a large number of actors and of interventions in support of farmers.

1.1 A Pluralistic and Poorly Coordinated Agricultural Advisory System

From the time of Burkina Faso's independence in 1960 to the early 1990s, agricultural extension followed a top-down, dirigiste approach, mainly focused on cash crops, primarily cotton, in which the producer was a 'supervised' actor who was asked to apply recommendations made to him. The State had a large network of supervisory agents for disseminating technological packages through 'training and visits' and relay farmers.

As in many African countries, the freeze on the recruitment of supervisory staff and the lack of funding for technical services, arising from the structural adjustment programme of the 1990s, weakened and contributed to the dismantling of the Burkina Faso extension and advisory system. Producer organisations, NGOs and other private sector actors reacted by building up their capacities to take over the functions that were earlier the State's prerogative and responsibility. They undertook initiatives and put the producer at the centre of their agricultural advisory mechanisms. Diversified advisory approaches were developed, such as field schools, farm management advice, model farms, as also more collaborative and open approaches such as discussion forums and peer-to-peer exchanges.

At the international level, during the African Union Summit in 2003 in Maputo, Mozambique, the adoption of the Comprehensive Africa Agriculture Development Programme (CAADP), the agricultural component of NEPAD,[1] marked a turning point. Indeed, it was decided to focus on agricultural advisory services, considered as a tool to achieve food security while better addressing farmer needs.

This encouraged Burkina Faso to set up, in 2010, the National Agricultural Extension and Advisory System (SNVACA[2]), whose guiding principle is the empowerment of the various actors (producer organisations, NGOs and associations, consultants, technical and financial partners) involved in the design and implementation of advisory support approaches that meet producer needs. Under SNVACA, producer organisations are seen as the pillars that should guide these approaches, with the State retaining the prerogative of regulating, orienting, steering and monitoring-evaluating extension and advisory services. However, given its limited resources, the State simply encourages the various actors in the agricultural sector to clarify their roles and responsibilities, leaving them relatively wide margins for taking initiatives.

1.2 A Diversity of Alternative Agricultural Models

Despite the Green Revolution, West African agriculture, and Burkina Faso's in particular, remains less productive than those in other regions of the world, with yields

[1] New Partnership for Africa's Development agency.

[2] French: *Système national de vulgarisation et d'appui-conseil agricole (SNVACA).*

increasing more slowly than elsewhere (Ouedraogo et al., 2016). On the margins of the conventional agricultural development model planned by politicians and implemented by the major economic actors in the rural world (public advisory services, agribusiness firms, producer organisations), alternative agricultural models based on ecological principles have developed over the past 30 years: organic farming (Toillier & de Lapeyre de Bellaire, 2017; de Bon et al., 2018), conservation agriculture (Dugué et al., 2015) and agroecological farming (Temple & Compaoré Sawadogo, 2018). These more ecological production models are anchored in different institutional processes, through markets, through the governance of resources and territories, or even through policies as was the case with agroecology during Thomas Sankara's presidency of the country in the 1980s. These models are not necessarily geared towards intensification, but cross-fertilisation between them in pursuit of sustainable intensification has been observed in various Burkinabe regions. Sustainable intensification is characterised by conventional intensification, combined with agroecological intensification strategies based on agricultural techniques borrowed from production models, such as the combination of cultivation and livestock husbandry, and the maintenance of trees in fields, as described by Vall et al. (2017) in mixed crop-livestock systems in western Burkina Faso.

These different dynamics of the parallel evolution of advisory systems and agricultural production systems have resulted in a great diversity of actors involved in supporting different models of the ecologisation of agriculture, mobilising various advisory support mechanisms that are not necessarily known and recorded by the State.

1.3 An Approach Based on the Networks of Actors Involved in Advisory Support and Their Registers of Action

To be able to characterise advisory systems supporting ecological intensification, we sought to identify the various types of actors who offer advisory services for agricultural models other than those of conventional intensification, their roles within the advisory system and their registers of action.

1.3.1 Registers of Action

The widening of the ambit of agricultural advisory services from guidance and supervision to accompaniment is reflected in a diversity of advisory approaches (Faure et al., 2018): decision-making support, problem solving, capacity building aimed at empowering farmers, or accompanying an individual or collective project. On the basis of the professional practices identified in the accompaniment sector (Paul, 2004), we propose to group these actions under three main registers: guidance, intervention, and incentive. Guidance refers to the co-construction of a project with and

for the person or entity concerned. Intervention is initiated in response to a problem in order to solve it, usually with a solution found by people other than those affected. Incentive leaves the choice to those concerned of whether or not to apply the suggested changes.

1.3.2 Networks of Actors

In a context of pluralism and liberalisation, the provision of agricultural advisory services mobilises a range of actors who play different roles (Birner et al., 2009): funding of advisory services (Compagnone et al., 2015), governance of the system as a whole, identification of advisory support needs of final beneficiaries, design of innovative advisory approaches, creation of content suitable for illiterate populations, networking of advisory actors, intermediation between providers and clients (Klerkx et al., 2012), advisory service delivery in villages, training of agricultural advisors, etc. An analysis based on actor networks helps to understand how this collective action is organised by visualising the position of the different organisations within the network (Borgatti et al., 2009) as well as the nature of their roles (funding, governance, training, transfer of techniques and knowledge, co-production of solutions).

1.3.3 Data Sampling and Collection

Using a documentary search (websites, grey literature, brochures, activity reports), we built a sample of about 30 advisory service providers that seemed to play an important role (heads of networks, size of the structure and of intervention areas, reputation) in new models of agricultural production possibly linked to various forms of ecological intensification (sustainable intensification, agroecology, conservation agriculture or organic farming).

Interviews with operations managers allowed us to establish how these service providers justify their actions, design their offers, take the needs of producers into account, and interact with other organisations in the advisory system. The areas of intervention were also identified for each type of advisory service recorded. Specific interviews with beneficiaries of advisory services (producer organisations and farmers) made it possible to clarify the way in which the changes proposed by advisory actors are understood and interpreted.

2 Three Advisory Subsystems with Distinct Registers and Areas of Action

We have identified three types of advisory subsystems (ASSs) that differ in their registers of action: the first aims to solve the problems of sustainable intensification

of conventional farming (ASS-CF); the second aims to encourage conversion to organic farming (ASS-OF); and the third aims to raise awareness of and provide training in agroecology (ASS-AE).

2.1 Registers of Action

The advisory services implemented within the different ASSs pertain to different registers of action: transferring techniques, solving problems in a participatory manner, educating to build up overall capacities.

The ASS-CF mainly mobilises approaches that enable technology transfers and/or problem solving (integrated soil fertility management, rational management of inputs), but does not really look at the issues causing the problems and generally does not undertake an evaluation at the end of the projects or recommend reorientation of actions. The ASS-OF and ASS-AE both rely on training and the use of model farms for teaching agroecological practices and integrated management of an overall farming system (management of spatial and temporal interrelations between cropping systems, livestock systems and fallow land, which cannot be taught via field schools). However, field schools are used extensively for teaching certain plot-level agroecological techniques (soil preparation, management of crop associations, fertiliser distribution). The ASS-AE tends to mobilise approaches based on exchanges of experience, peer-to-peer learning and action-research platforms. The intention here is to take advantage of the capacity of individuals and of local knowledge. The actors did not really identify contributions in terms of production of new useful knowledge, but it does not mean that this new knowledge is not produced.

2.2 Areas of Intervention

The geographical location of activities within each ASS is strongly correlated to different agroecological regions in the country and to the registers of action, yet this is rarely reflected in the actors' discourses.

The discourses on agroecology mainly concern the Sahelian context. Thus, activities of ASS-AE concern only the country's north-central region, where commercial agriculture is not very developed and access to production factors is limited, and the area around Ouagadougou, where most of the ASS-AE actors are based. This geographical localisation is also a legacy of the activities of Pierre Rabhi, who set up the first agroecological centre in the Sahel, at Gorom-Gorom, and thus laid the foundations of technical, social, cultural and economic references around agroecology for the Burkinabe context. It is on this basis that associations such as the Association for the Extension and Support of Agroecological Producers in the Sahel

(AVAPAS[3]) and the Association for Sustainable Resource Management (AGED[4]) have continued to promote agroecology. Their ambit of activities does not encompass the country's southern region, where they would no doubt have an important role to play. However, although there is no mention of agroecology in the cotton basin, other agricultural models such as organic farming or conservation agriculture, which promote the same practices (with the exception being the use of GMOs), are being tested. In this cotton zone, there is a lower overall presence of development aid associations. Pockets of development of organic farming mainly correspond to areas in which the production chains are well organised (cotton, fruit and vegetables) around large cities (Ouagadougou, Bobo-Dioulasso, Fada N'Gourma).

3 Interconnected Actor Networks

3.1 The Advisory System for Solving Problems of Sustainability in Conventional Agriculture

Support for the sustainable intensification of conventional agriculture follows the State's directions and vision, which are essentially to 'produce more, diversify, improve access to inputs and sell the products' (Government of Burkina Faso, 2011[5]). Environmental concerns are subordinate to these objectives. Achieving these objectives involves the application of research results and technical developments to find solutions to the problems of soil fertility and access to water that the majority of production systems in Burkina Faso face, solutions that have been validated by the State through its Ministry of Agriculture. Advisory services are built around the following aims: reducing the risks of pests and pesticides, adopting good agricultural practices, practising integrated pest management, encouraging the use of personal protective equipment, and producing transgenic cotton (*Bacillus thuringiensis*, or Bt), as also organic and fair-trade cotton meeting international standards to obtain better market value for Burkinabe cotton.

Organic farming therefore finds a place in this advisory system, as it is seen as a form of diversification and intensification, and provides access to international markets. Indeed, in cotton-based systems, organic farming allows 'cotton cultivation by those who do not have the capital to adopt the conventional system' (National Union of Cotton Producers of Burkina Faso, UNPCB[6]). It is mainly women who undertake organic farming of cotton, with a very low productivity since they were left the most degraded lands. But organic cotton cultivation enables the adoption of

[3] French: *Association pour la vulgarisation et l'appui aux producteurs agroécologistes du Sahel (AVAPAS).*

[4] French: *Association pour la gestion durable des ressources (AGED).*

[5] National Rural Sector Programme (PNSR) 2011–2015.

[6] French: *Union nationale des producteurs de coton du Burkina Faso (UNPCB).*

rotation systems based on sesame, soya and shea production, which become organic products from the organic cotton fields and for which there already exists a market. Organic cotton thus meets both the challenges of ecological intensification and the State's objectives (diversify, intensify, sell).

The actors guiding this advisory subsystem are the State, along with the processing and inputs industries, some producer organisations (such as UNPCB) and public research organisations, mainly the National Institute for Agricultural Research (INERA[7]) and the Institute for Research in Applied Sciences and Technologies (IRSAT[8]). Both the latter are public entities; private research entities do not exist in Burkina Faso. All these actors have been collaborating for many years (Fig. 1).

Producer organisations are technical partners in the provision of advisory services through their agricultural advisors. In this ASS, actors who promote AE or OF (such as AVAPAS or *Centre Écologique Albert Schweitzer*, CEAS) are the ones primarily involved, but only as trainers in more ecological practices. It is interesting to note that the entities that are promoting OF are expressing a growing interest in the results of agroecological experiments, but no formal links exist at this time. Playing a secondary role are a dozen development NGOs such as SOS Sahel, Ocades Caritas Burkina, *Office de développement des églises évangéliques* (ODE) and *Terre Verte*, which provide ad hoc support in the case of multi-donor programmes and which also intervene in the other advisory subsystems as agricultural advisors.

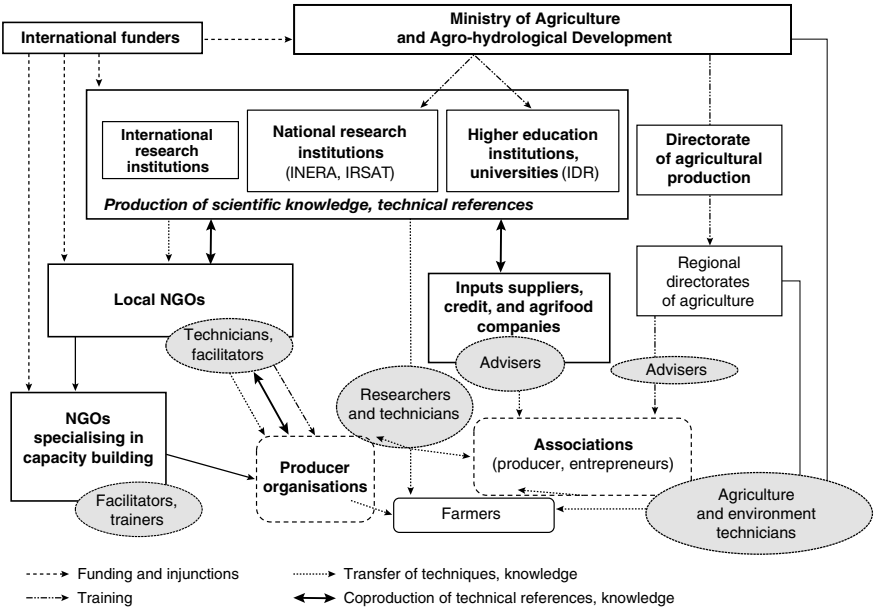

Fig. 1 Actors and interactions within ASS-CF. IDR: Institut de développement rural

[7] French: *Institut national de recherche agronomique (INERA).*

[8] French: *Institut de recherche en sciences appliquées et technologies (IRSAT).*

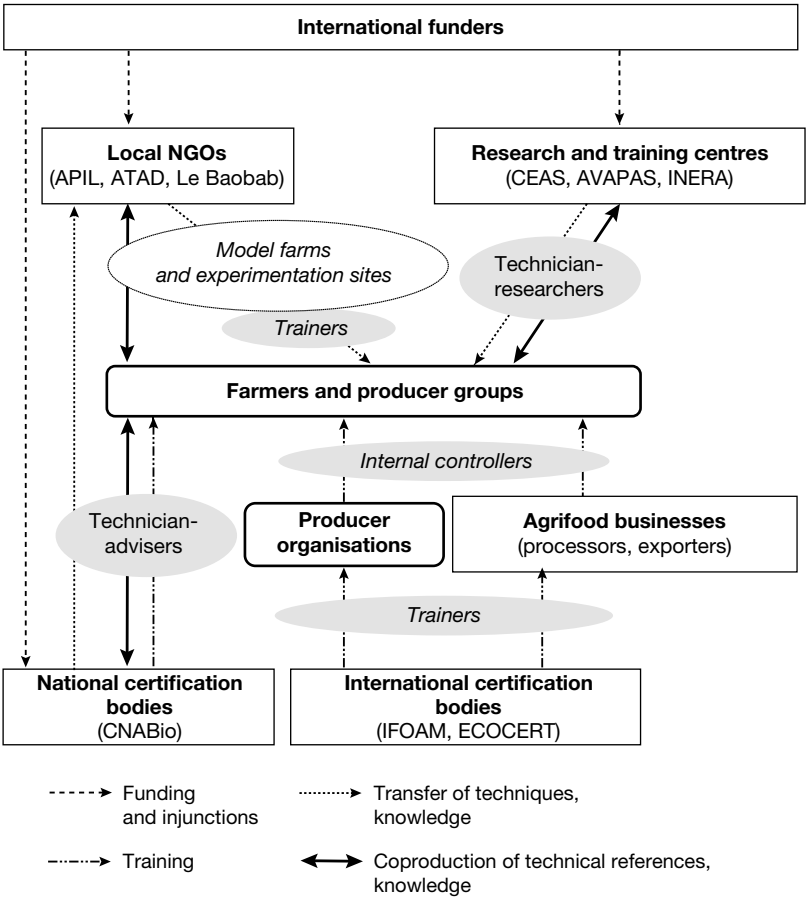

Fig. 2 Actors and interactions within ASS-OF. *APIL* Action pour la Promotion des Initiatives Locales; *ATAD* Alliance Technique d'Assistance au Développement; *CEAS* Centre Écologique Albert Schweitzer; *IFOAM* International Federation of Organic Agriculture Movements

3.2 The Advisory System for the Development of Organic Farming

This advisory subsystem (Fig. 2) aims on the one hand to develop organic farming for local markets, eschewing the export sector, in order to market 'healthy and quality products at a reasonable cost', according to CNABio,[9] address 'the uncontrolled use of chemicals that endanger consumer health', according to AVAPAS, and meet the needs of urban populations. On the other hand, it aims to respond to market incentives for organic products in countries of the Global North, as encouraged by international

[9] French: *Conseil National de l'Agriculture Biologique (CNABio).*

development organisations such as Helvetas or the International Development and Research Centre (IDRC), which mainly support producer organisations. The latter are then responsible for the entire process themselves (production training, collection, sales, internal controls).

The challenges for these actors are to develop a legislative and regulatory framework (monitoring, certification, specifications) through the adaptation of national specifications to the constraints and practices of local production, which will however still meet international export standards (Europe or sub-region), in order to ensure that certified products are available at a reasonable cost to the people of Burkina Faso. The main actors of this ASS, i.e. local NGOs and associations, pushed for the creation of CNABio in association with all the agroecology actors and by involving the Ministry of Agriculture. These actions are being supported by foreign donors (the *Agronomes et Vétérinaires Sans Frontières* association, the European Union, the *Action Solidarité Tiers-Monde* NGO). Knowledge and technical references are produced in conjunction with the ASS-AE.

Private companies involved in collection, processing and export occupy a minor place in this subsystem. They work mainly with ad hoc producer groups, which they train and certify collectively. They maintain few links with other advisory services (public or private) and national agricultural research entities. As a result, the technical support they provide is not always adapted to the production context. There is a lack of effective alternatives to chemical plant protection products. Producers are still not convinced of the effectiveness of biopesticides, especially for fruit and vegetable crops, which are prone to attack by a very high number of pests. Furthermore, the advisory actors of this subsystem are unable to respond to the constraints linked to the emergence and development of several GMO crops (Bt cotton, Bt cowpeas and Biofort sorghum) which limit the deployment of OF in these territories. They do not have the flexibility to offer advisory services geared towards consultation between production agri-chains, which would allow GMO and organic crops to coexist in the same territory.

3.3 The Advisory System for Awareness Raising of and Training in Agroecology

Although President Sankara introduced agroecology in a revolutionary way, it was the subsequent intervention of donors that led to the experimentation and development of more ecological production models. For a long time, however, these initiatives remained on the fringes of the dominant model of the Green Revolution. NGOs, associations and small producer organisations have nevertheless been able to create networks to accompany these changes. While these actors consider agroecology in all its three dimensions—technical, socio-economic and cultural, and socio-political—, their main activities consist of participatory design of new production systems based on agroecological principles, and the production and dissemination of technical references. The limited access to production factors (biomass, equipment)

makes it necessary to define a set of practices that are similar to the already known 'good agricultural practices' (composting, water and soil conservation, rotations, agroforestry), with which indeed there exists consensus with the other ASSs. The emphasis is thus on empowerment and capacity building of farmers and on the fight against GMOs with the promotion of local seeds.

The actors managing this system (Fig. 3) are international and national NGOs often with ties to religious groups (*Terre et Humanisme*, Global Neighbours, Groundswell, Christian Aid), as well as international research organisations for the production of technical references and, to a lesser extent, local research entities. Some NGOs with ties to international research networks specialise in the production of technical references, such as ACT (African Conservation Tillage) for conservation agriculture. Consumer networks and public services are conspicuous by their absence, even though the objectives of the leading NGOs are to 'prepare a new model of society' according to AVAPAS. Close ties have been established with applied research entities through development programmes. Most often, the aim is to make technologies available that are adapted to agroecological practices, as is the case with CEAS, whose objective is to 'develop appropriate technologies for agroecology and environmental protection' (kassines, beehives, natural insecticides). Local producer organisations are essentially intermediaries in facilitating communication with and training of farmers, and support them in conducting experiments. There are no links with farmer unions or federations at the national level.

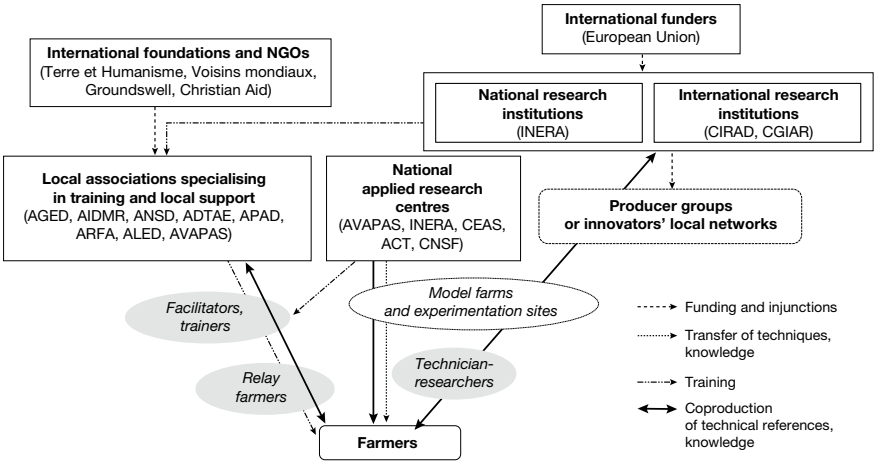

Fig. 3 Actors and interactions within ASS-AE. *CGIAR* Consultative Group on International Agricultural Research; *CIRAD* French agricultural research and international cooperation organisation; *AIDMR* Association Interzone pour le Développement en Milieu Rural; *ANSD* Association Nourrir Sans Détruire; *ADTAE* Association pour le Développement des Techniques Agroécologiques; *APAD* Association pour la Promotion d'une Agriculture Durable; *ARFA* Association pour la Recherche et la Formation en Agroécologie; *ALED* Association Les Enfants de Demain; *CNSF* Centre National de Semences Forestières

4 Political and Theoretical Implications

The different ways identified in which ASSs can support ecological intensification has both political and theoretical implications.

4.1 The Compartmentalisation of Advisory Subsystems: Obstacles to Ecological Intensification

Our results show that the ASSs are relatively compartmentalised due to the type of the actors they involve and by their geographical areas of operations within Burkina Faso. These compartmentalised configurations may be the root cause of hold-ups in innovation in the domain of ecological intensification.

The extension service providers of the ASSs are mainly from the public sector in the case of ASS-CF, and from the private and associative sectors in the case of ASS-AE and ASS-OF. The different actions of the ASSs are, moreover, subordinated to both ecological contexts and spatial logics of intervention that stem from historical, logistical, political or economic reasons, specific to the various networks of actors, and which are disconnected from the farmers' actual advisory and support needs. The regions concerned have already been the subject of numerous diagnoses which have ascertained the problems to be addressed and the actions to be taken (combating desertification, famine, soil degradation, adaptation to climate change) in the context of arguments that have been accepted for decades (lack of soil conservation techniques, overgrazing, overpopulation, lack of means of production).

The absence of spaces and time for re-examining and debating these old consensuses imparts a kind of rigidity to the different ASSs, whose actors are often caught up in the urgency of project implementations and in dealing with the lack of means. It is difficult for them to initiate and justify actions that are very different from those they have conducted up to now. For example, several projects to improve soil fertility have been undertaken in the past three decades, all promoting the same practices (animal manure and manure pits) even though there is no consensus on the origins of the problem and how to address it (Vall et al., 2017). The compartmentalisation of actor networks is not conducive to the sharing of knowledge and experiences, which is nevertheless an important factor in assigning a common sense to the actions undertaken and in supporting change in a given territory.

In this divided landscape, there are no links between unsolved problems, innovators, advisory, research and training systems, and political will. In this sense, both the rigidity of advisory systems and their propensity to embrace turnkey technical packages act as a brake on innovation in the search for original and territorialised forms of ecological intensification.

In the French context, Labarthe (2010) also shows how an advisory system can be subject to 'lock in' by its inclusion in institutionalised power relations, which prevent the construction of shared knowledge bases. As a result, certain agricultural

production practices persist, even if they are not the most effective in preserving the environment.

It is therefore incumbent upon political actors to monitor the emergence and functioning of these subsystems and to become active participants in some of them, in accordance with the government's role as regulator of SNVACA, in order not only to mitigate the shortcomings of the subsystems, but also to take advantage of their complementarities. This observation about the State's essential role in such configurations has also been made in the context of the privatisation of advisory services in Europe (Klerkx et al., 2006).

4.2 Reconsidering the Boundaries of Advisory Systems

This analysis of actor networks shows that the governance, knowledge and financing structures of the different ASSs are rooted outside the territories in which they operate and even outside Burkina Faso's borders. The notion of subsystems, which, as defined by Klerkx et al. (2017), suggests a subnational level, should instead refer to extra-national advisory systems that operate in Burkina Faso.

Various authors have begun to highlight the importance of international linkages between regional and national advisory and innovation systems (Carlsson, 2006; Grillitsch & Trippl, 2013). They show, among other aspects, that a system's performance in the development and dissemination of innovations depends not only on the existence of coherent subsystems, but also on the possibility of structural coupling between them. This structural coupling takes place if specific actors, actor networks or institutions transverse or overlap various subsystems in a specific region or country, for example in a global NGO or a multinational corporation (Binz & Truffer, 2017).

These advances lead us to propose a deeper exploration of how the various paths to ecological intensification coexist even within the organisations that promote them. This will help us better understand the origin of the divides between ASSs. While we have emphasised geographical, technical and institutional divides, they can also be political or financial. Goulet (2019) shows how support for family farming in Argentina by the research and development system has become an alternative to the extension entities of public institutions promoting the Green Revolution.

5 Conclusion

There is little research being conducted on determining the specific configurations of an advisory system at the country scale, potentially involving the coexistence of advisory subsystems, each of which supports a different path to ecological intensification. The system of actors involved in the provision of advisory services for the ecological intensification of agriculture in Burkina Faso is complex and diversified. It is complex because the historical perspective of interventions and the political

and economic issues play an important role in defining the objectives and modalities of action. Diversified because, in addition to the public system, there is a large number of national and international NGOs, producer organisations with widely varying capacities, and private companies, which are also expanding their activities rapidly as a result of the State's investment promotion programmes. Moreover, the term 'ecological intensification' does not have a common meaning and encompasses a diversity of agricultural development methods that differ based on geographical location and which are followed and advocated by different, relatively compartmentalised subsystems of actors. To support ecological intensification, we can, most importantly, position ourselves to help the various actors already involved in these subsystems in order not only to strengthen their capacities to guide, advise and support, but also to facilitate the production and exchange of knowledge between them. Forms of coordination at the national level involving political actors must also be pursued. It is necessary to overcome certain historical and geographical divides between the organisations involved, which, due to these organisations' limited room for manoeuvre to change production contexts, ultimately contribute to holding back innovation on farms.

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