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► To cite this version:

Jean-François Le Coq, Eric Sabourin, Eve Fouilleux. How can we think scaling up agro ecology transition with public policy support. The experience of PP-AL network in LAC. Workshop: Stepping Up to the Challenge of Agroecological Transition Through Agricultural Research for Development, Jun 2019, Montpellier, France. hal-02776233

HAL Id: hal-02776233

<https://hal.science/hal-02776233>

Submitted on 4 Jun 2020

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Workshop: Stepping Up to the Challenge of Agroecological Transition Through Agricultural Research for Development

Montpellier June 19th and 20th

How can we think scaling up agro ecology transition with public policy support. The experience of PP-AL network in LAC

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Introduction

The scaling up of practices, devices, or a type of agriculture (in this case agroecology) and its relationship with public policies mainly raises the question of institutional or public support for the dissemination / expansion of successful experiences, technological or organizational innovations.

The theoretical and methodological references on scaling up and dissemination use two separated fields, on the one hand, that of policy diffusion (policy transfer studies) and, on the other, that of development strategies, more focused on the dissemination of technologies and good practices.

A first concept is the diffusion of public policy instruments. This diffusion has been studied mainly at the international level to analyze the transfer of public policy components from one country of origin to another (Dolowitz and Marsh, 2000, Stone, 2001 & 2004, Faria et al, 2016). But this type of analysis is also applied to the diffusion of policies within the same country, for example, horizontal dissemination processes of instruments through councils and participatory spaces (Abrucio et al., 2016, Palotti et al., 2016) or multi-level policies implemented in Brazil (Sabourin, 2017). It is also important to take into account the role of specific guidelines in specific international agreements or internationally agreed goals in the transnational dissemination of public development policies in particular (Milhorance de Castro, 2016; Lopes and Sabourin, 2017)

Researches on policy diffusion corresponds to the fields of political science, sociology of public action and international relations. They mobilize concepts such as the internationalization of public policies, the transfer of policies (policy transfer cf. Dolowitz and Marsh, 2012), the adaptation or translation of public policies (Stone, 2012, Hassenteufel et al 2013, 2017).

A second concept corresponds to the scaling up of successful experiences of rural or sustainable development of rural territories, as well as technological or organizational innovations, particularly mobilized in the field of family and peasant agriculture.

This modality has been applied in recent years, particularly by NGOs and agricultural development financing agencies such as IFAD or IDRC.

This notion is more particularly interested in the diffusion by expansion / diffusion or by change of scale of technological innovations or good practices.

In Latin America, most programs to monitor or study scale-up processes relate to the diffusion of technologies for production, product processing or natural resource management. Successful exchanges of experiences between experimental farmers, such as the Campesino a Campesino program and other related programs (Hocdé, 1997, Hocdé and Miranda, 2000) are examples. In recent years, exchanges have also been promoted between territorial management organizations within a country or between countries (sustainable rural development forums and international courses in Brazil since 2005; Central American territorial rural development management courses from 2011). Exchanges between Brazil, Spain and Central America, among others).

In this document, we first review the concept and analyze experiences of scaling up of innovations in Latin America, then analyze of policy diffusion in Latin America. In a second part, we identified instruments to promote agroecology and policies in Latin America. Finally we propose some current issues, research questions, and some return on research posture to tackle scaling up of agro ecological transition. The scaling up of practices, devices, or a type of agriculture (in this case agroecology) and its relationship with public policies mainly raises the question of institutional or public support for the dissemination / expansion of successful experiences, technological or organizational innovations.

1. How do public policies can help to scale up/out agroecology experience

Public policies role and issue in the scaling up/out of agroecology can be address in two manners. First, it can be seen as a solution way to create conducive institutional environment for larger adoption of agroecological practices (scaling up). It raise then question about policy process that enable creation of TAE conducive policies. Second, it can be seen as the process to scale out the conducive policies, which lead to policy diffusion and transfer issues (scaling out).

1.1. Scaling up /scaling out of positive initiatives and local experiences

Since the 1980s and 1990s, non-governmental development organizations have been concerned with expanding or scaling up their successful experiences at the local micro level or have been encouraged to do so by financial agencies, such as the World Bank (World Bank, 2003).

Many works of a methodological, evaluative or analytical nature are available on the scaling up of good practices or innovative experiences (Uvin, 1999; Kohl and Cooley, 2005, 2006; Hartmann and Linn, 2007, etc.).

However, the literature on scaling up is growing rapidly but continues to be characterized by relatively little agreement on definitions or models, and relatively few well-documented case studies.

For Kohl & Cooley (2005) further complicating matters is the fact that the term “scaling up” is applied to include several distinct strategies including:

- the dissemination of a new technique, prototype product, or process innovation;
- “growing” an organization to a new level; and translating a small scale initiative into a government policy.

In an effort to contribute to the creation of what Blackburn, Chambers and Gaventa refer to as a “strategic consensus” and to avoid confusion, a typology can be applied to create or characterize any scaling up strategy in terms of four distinct choices or aspects:

- the model, innovation or project to be scaled up – what is being scaled up
- the methods of going to scale – the how of scaling up
- the organizational roles involved in scaling up – the who of scaling up
- the dimension and places of the process of scaling up – the where of scaling up.

Kohl and Cooley (2005) proposed a simple framework for scaling based on four elements:

- What to scale? the innovation model or project to be expanded
- How? The methods of scaling
- Who's do that? Organizational roles
- Where? the dimension(s) and locations of the scaling process

The proposed methodological framework presupposes the application and coordination of a series of internal (local actors) or external (context) factors throughout a process of expansion of experiences and analysis, the monitoring of their effectiveness or efficiency and the institutionalization of their replication or dissemination (see Figure 1).

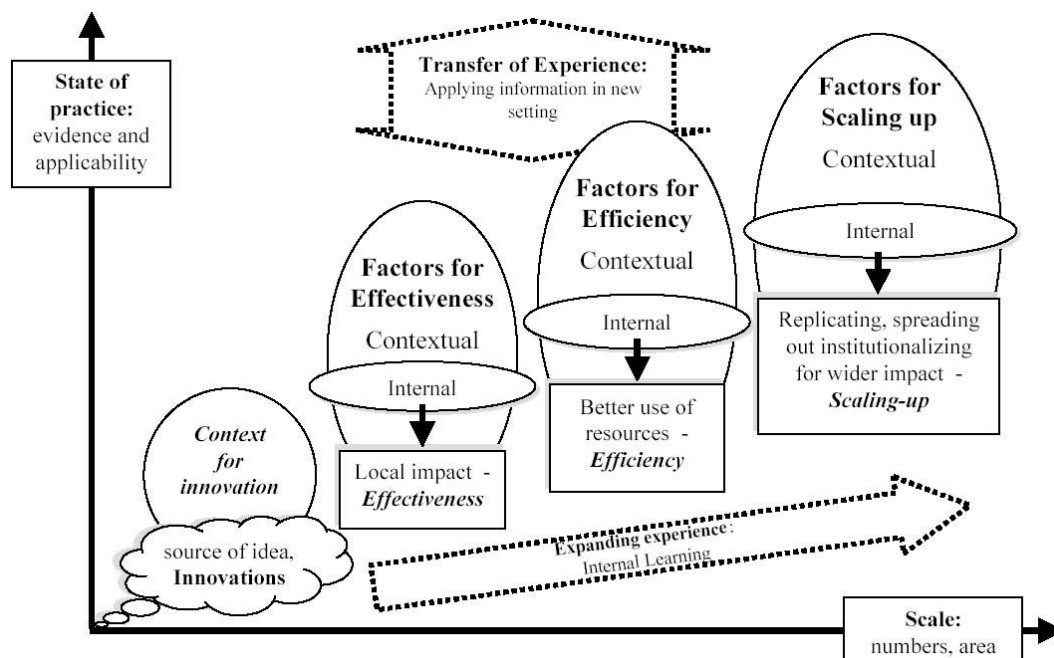


Figure 1: process of scaling up and related issues to be analyzed (cf Kohl y Cooley, 2005:8)

For each major type of scaling (by expansion, replication or collaboration), these authors propose various methods that refer to cross classic methods of diffusion of innovations (grafting, dissemination,

spillover, derivation) or of diffusion of public policy instruments (decentralization, restructuring, adoption, grafting, alliances, networks and coalitions) (see table 1).

Type	How
Expansion	Derivation Decentralization restructuring
Replication	- Adoption of policies - Graft - Dissemination - Transshipment (Spillover)
Collaboration	- Formal cooperation and strategic alliances - Networks and coalitions

Table 1. Types and methods of scaling (Source: Kohl and Cooley , 2007)

Hartmann and Linn (2007) consider five conditions for scaling: 1.) Leadership and values (linked to the presence of institutions); 2.) Construction of a socio-political base; 3.) Incentives and definition of responsibilities; 4.) Constant process of monitoring and assessment; 5.) A gradual and ordained process.

We see that this corresponds to what can or should be demanded by any rural development project or public policy...

In the main documents analyzed, the demand for institutional and technical-academic support is such that the conception of scaling which it corresponds has nothing spontaneous or "natural" diffusion.

More recently, IFAD and IRDC have supported a process of scaling up rural technologies and innovations in Latin America through *the Program for Scaling up Rural Innovations* -PEIR (Paz et al., 2013; Benedetto, 2013). This is, once again, an analysis of a field program supported by significant resources from international cooperation in Andean countries. In other words, the escalation process is treated with consistent and competent technical-institutional, financial and human support. However, Benedetto (2013) mentions that there is no controlled environment, that it is not a question of laboratory experiences but of social processes subject to the complexity inherent in them. It distinguishes two types of scaling: spontaneous scaling (horizontal) and induced scaling (vertical).

The spontaneous type is "that which happens spontaneously, without this being a planned objective and where there are no directed interventions. It is the actors and forces of the innovative process that come together in such a way that scaling up happens "naturally".

The induced scaling corresponds to "an intention to scale, replicating, adapting, perfecting, and an innovative process that has been visibly positive. We consciously work to find ways to scale; we intervene by inducing and promoting actions that invigorate a dynamic of escalation" (Benedetto, 2013). It is an escalation supported by decisions and interventions on a set of factors that have been identified as key, vital, for the innovative process.

1.2. Role of institutional environment (public policies and private actors)

Some lessons from experience can be learned in ALC (Sabourin et al, 2018) from experiences of successful scaling up. The review of some experiences regarding experimentation and extension of rural alternative¹ highlights that successful experiences depends on :

- Specific process built in a steady manner and long-term : eg. *Campesino a Campesino* in Nicaragua (1982 – 2007)
- The role of interconnected local organization (network, forum)
- Collective dynamic of learning process (from sharing practices and common experience)
- The link with social movement at larger scales (countries, region, international)

While successful regarding the extension of the experience, these experiences were not scaled up through public policies. The necessity of highly trained human resources are higher than in the traditional extension system and the national funding are always insufficient to support the skill improvement.

Successful local experiences often correspond to a high concentration of financial and human resources through international cooperation, NGOs and international institutions. Thus, they cannot be reproduced on a large scale by government of southern countries in context of limited national public resources.

Regarding scaling up and promotion of innovations or good experiences of agroecology, Altieri et al (2011), Altieri and Nicholls (2012) as well as the study of PP-AL Network (Sabourin et al., 2017) and the FAO (2018) note the central role of social movements and farmers' organizations and the urgent need for support from public policies (Sabourin et al., 2018).

However, these documents insist on the need to start from the reality of agro-eco-social-systems and to think about the dynamics of broadening experiences such as public policies to support them on the scale of the territory. In fact, the territory is the scale of specific ecosystems or micro-climates of agro-ecological knowledge management networks, of natural resource management, of local solidarity networks, of proximity markets and short circuits, but, above all, it is the scale of local socio-political and cultural life.

1.3. Policy diffusion

Another way to address the issue of the policy regarding the scaling process is the policy diffusion and transfer issue. Different form of policy diffusion can occur:

- At international or regional level : from a emitting country to a receiving country (Policy transfer cf Dolowitz & Marsh, Evans, Stone)
- Within a country: including the horizontal diffusion of instrument (Abruccio et al 2016) or the process of multilevel policies (Sabourin 2018) - eg. PNAPO at federal level and PEAPOS in the state of Brazil (Queneau et al 2019)

¹ The experiences considered are the: *Campesino a Campesino* (Nicaragua, Centro America, then Brazil and Andean countries), the Network of Experimental farmer networks in Peru and Brazil, the MIP (CATIE) and PRIAG in Central America.

Regarding policy diffusion, the public policy and rural development network (PP-AL) developed studies on different type of instruments and policies that may support TAE, such as analysis of:

- The dissemination of ideas and models of PES instruments (Serena, Pesmix, Invaluable, SAFSE projects), where actors interplays and interest groups and coalition has been highlighted (Pesche & le Coq, 2016, Le Coq et al, 2015) as the role of individual brokers or mediators (experts, multi-positioned policy entrepreneurs (Hrabanski et al, 2013, 2016).
- The diffusion of the Brazilian public policies of family agriculture and rural development in Africa and Latin America (South-South Coop Projects, Transbrasil, Bicas) (see Castro 2016) , which confirm an hybridization of the modalities of dissemination of public policies between policy transfer (South-South coop), circulation of standards via international organization s and the role of regional integration (Mercosur, SICA etc) including regionalization from bottom up process (REAF, Via Campesina and Coprofam, Cf. Sabourin and Grisa, 2018, Sabourin et al, 2018)

These studies highlight that 1) policy transfer are occuring more from countries to international organizations (case of brazil for family agriculture and rural development policies) than directly countries to country; 2) policy diffusion results from actors networks including multi-positioned / interface actors of different kinds (including experts, activists, researchers, politicians, NGOs,...)

2. Public policy instruments mobilized for TAE in Latin America²

For upscaling agroecology, conducive policies are often considered as necessary. A study of the policy realized in 2017 on 8 Latin American countries (Argentina, Brazil, Chile, Costa Rica, Mexico, Nicaragua, El Salvador) enables to identified 1) the circumstances that drove policies toward promotion of agroecology, 2) the current instruments conducive to agroecology and 3) some lessons learned for upscaling through policy support.

2.1. Circumstances that drive policies towards the promotion of agroecology

In contexts that vary according to the country, the governments have progressively established policies to support agroecology in Latin America. Three elements underpin these policies, either independently or simultaneously:

- Pressure exerted by the social movements (including consumers). These movements mobilize and join forces, sometimes at the regional level, leading to the formulation of policies. This is the case of the coalitions that enabled the development of policies on promoting at the same time agroecology and organic agriculture (Brazil, Nicaragua);
- The search for solutions to crises: economic and environmental crises caused by a the specialized agro-industrial model (cotton production in Nicaragua), geopolitical and financial crises (the collapse of chemical input import capacity in Cuba and Nicaragua, the financial crisis in Argentina), or climate events (Hurricane Mitch in Nicaragua);
- The search of partial responses by the public authorities to regional and international challenges: the sustainable rural development act in Mexico (2001); the recognition of

² This section is derived from Sabourin et al, 2017 and Le coq et al, 2019

environmental benefits (a type of payment for environmental services) applied to agriculture in Costa Rica (2007); the sustainable agriculture plan in Chile (2015).

So far, dissemination and training efforts have been made by social movements, producers' organizations, technical colleges, universities, non-governmental organizations and, sometimes, public agricultural extension services. However, links with consumers need to be strengthened in order to develop broader coalitions to ensure healthy, environmentally friendly food.

2.2. A typology of policy instruments to support agroecology

The revision of current policy in place in LAC enable to identify a wide range of policy instruments used to promote agroecology in Latin American. Four types of instruments can be identified, which are related to innovation and knowledge, access to resources, access to markets, and regulation.

Innovation and knowledge management instruments have three objectives: fostering horizontal knowledge sharing and experimentation (such as Campesino a Campesino program in Nicaragua, Costa Rica and Cuba), developing certain traditional techniques (Mexico, Chile), and promoting territorial agro-ecological knowledge networks (Ecoforte program in Brazil).

Instruments to ensure access to resources are, following the example of Cuba and Brazil, actions related to agrarian reform and land tenure, access to water, access to credit and agricultural extension for family farmers. These actions form solid foundations enabling negotiations on more specific programs to promote agroecology.

Instruments to ensure access to markets and food security include a broad range of actions. First, are the organic certification standards set and enforced by national laws, and which has been developed in most of the countries to meet the demands of importing countries. Aside three tier certification, regulation also encompass, participatory organic certification systems which exists in Costa Rica, Chile and Brazil. These certification schemes are monitored by producers' associations for direct selling in the national markets. Second, are the support instruments for short supply chains which incentive and support the social construction of local markets such as producers' fairs, farmer products delivery boxes, consumer cooperatives, and community farming groups in cities. Another type of short supply chains support, which has been disseminated across Latin America, is the preferential public procurement programs from family farmers such as the food acquisition program in Brazil and the school food program in Nicaragua. These programs encourage the purchase of public administration of family produced and/or agro-ecological or organic products. Finally, a third category are the integrated program such urban and peri-urban agriculture programs (Cuba, ProHuerta program in Argentina), food security and nutrition programs (Brazil, Mexico), and the Buen Vivir program (or Live Well: in Costa Rica, El Salvador, Nicaragua) all foster strong linkages with agroecology, including promotion of local production and fostering access to market for agroecological products.

Environmental regulation and subsidy instruments while they do not concern only agroecology, incentive the adoption of more ecological agricultural practices. They include the regulation of agricultural biodiversity, genetically modified varieties and land use, the programs to reduce pesticide use (e.g. Cuba and Costa Rica), and subsidies for agricultural practices that protect the environment such as the recognition of environmental benefits program in Costa Rica, the protection of water and biodiversity in Mexico, and energy efficiency in Chile.

2.3. Issue of policies regarding TAE in Latin America

Despite this progress, agro-ecological production is still fragmented and limited. It is marginal, except in Cuba – around 2% of agri-food products in Brazil, but 65% in Cuba. Yet it is increasingly acknowledged as a potential way to address the crises affecting conventional agricultural systems.

In order to develop agroecology, public policy support is essential on at two levels:

- Support to training and knowledge management systems as the complexity of productive systems and the diversity of local conditions require specific technical references locally created and disseminated locally.
- Support product food processing and marketing. In order to offset lower yields and extra production costs, especially for labor, policies must support product food processing and marketing³.

However while many instruments to foster agroecology exists, they are often fragmented between different public sectors, and coordination among actors and instruments is still an issue for effective and efficient implementation. Coordination issues occur in two dimensions:

- *Intersectorial coordination issue*: as in the case of PNAPO in Brazil which involves 10 ministries.
- *Multilevel coordination issue*. Regarding multilevel coordination issue, some feature can be highlighted such as the key role of civil society (farmers' organizations) and research and training institutions articulations and networks.

It worth to notice the key role of participation spaces and project negotiation, that enable at local scale to facilitate both multilevel and intersectorial coordination such as the development councils of territories (PDSTR/PRONAZT and Citizenship territories in Brazil).

It should be highlight that the territory corresponds to the level of management of natural resources, landscapes, knowledge networks, and the organisation of local trade. The shift from this local level to the national level requires a coordinated set of specific policies with flexible implementation, which have social and territorial roots that are fed by participatory approaches. As exemplified by the examples in Brazil and Cuba, production and knowledge sharing networks and short supply chains are central to this development.

To convince not only producers but also policymakers, policy instruments to support agroecology need to be flexible and designed at several levels. The territorial level is essential to enable producers, consumers and their organisations to adapt these instruments to their specific context.

³ Some products could also be certified through standards or agreements directly negotiated between producers and consumers (participatory certification).

3. Role of science to support TAE scaling up (key issues and research questions)

Complementary to agricultural practice research agenda, a specific research agenda on policy process conducive to an institutional environment conducive to agro ecological transition upscaling is necessary.

After recalling some background information on policy research and guidance linked to agro ecological issue, we propose some research questions and orientation regarding research approach to support TAE upscaling.

3.1. Some background

So far, few works has been done on the role of public policies in scaling up processes for rural development and agriculture, other than water management (Dupuits and Bernal, 2005, Massardier et al, 2016). There are more references to this in sectors such as health and education (Kohl and Cooley, 2005, 2006; Snetro-Plewman et al, 2007; Hardee et al, 2012).

There are also some studies on the role of public policies in scaling up processes of adaptation to climate change and variability (World Agroforestry Centre, 2015), strengthening the resilience of agro/ecosystems and mitigating climate change; recovering degraded landscapes or forest cover; conserving agro-biodiversity; and promoting agroforestry and agroecological systems of sustainable production.

Based on the principles of the Ecosystem Approach developed by UNESCO, in its relationship with Ecosystem-Based Adaptation and its contributions to public policy development, Andrade and Vides (2010, pp 10-11) propose a set of guiding ideas for such policies. They include: the determination of long-term social objectives and the construction of participatory mechanisms; the adoption of planned adaptation actions to reduce the vulnerability of ecosystems and communities to climate change; and the articulation and coordination of processes at multiple scales of management, both bottom-up and top-down and associated with decentralization in decision-making.

For its part, the international network Ecoagriculture Partners (Scherr, 2017) has summarized in eight policy guidelines the results of a set of processes for scaling up sustainable landscapes. They insist on: i) Incorporate a vision of sustainable landscapes in strategies and policies; ii) harmonize sectoral plans to incorporate multiple goals regarding sustainable landscapes; iii) empower civil society in alliances for this purpose; iv) recognize rights and responsibilities over land and resources negotiated at the landscape scale; v) develop a regulatory framework that facilitates collaborative action in this regard; vi) participate in or convene alliances to improve the sustainability of landscapes; vii) encourage integrated investments in sustainable landscapes through public policies and financing; viii) strengthen knowledge and technical capacities to implement integrated landscape management.

3.2. Research questions

To support scaling up of TAE the following research questions should be addressed:

- What are the policy and policy instruments, which facilitate agro ecological transition?
- Which combination of instruments are the more effective and efficient to facilitate TAE? in which agro ecological, socio-economic contexts ? At which scale?

- How to build institutional environment conducive to TAE, which take into account the context specificity of agroecology?
- Which approach (market based approach and value chain vs territorial regulatory approach) are more efficient to facilitate upscaling of TAE? How can they be combined for further efficiency?
- What are the bottleneck of implementation of agro ecological transition conducive instruments? What are the condition of success of such policies / instrument?
- What are the coordination bottlenecks for TAE conducive policies? How to overcome them?
- Which are the impact of current policies and instruments mix on adoption of practices, agroecology performance (economic, technical, social performance, provision of environmental services) ?
- How to monitor and evaluate the effect of the policies on the TAE? its magnitude? Its pace?

These questions can be specify according to specific entry points such as agro-ecological zone (arid, semi arid, highlands,...) and/or farmers types (small holders, large holders,...). They also can be focused according to instruments types described in previous section and/or according production stage:

- Production: Different ways of TAE and to promote agroecology : permaculture, organic agriculture, biodynamic, organic corporate agriculture, CSA and sustainable agriculture. What are the performance (economic, environmental and social dimension) of these different types of alternative agriculture (in comparison with so called “conventional” one)? what are the condition for shifting or combining these types of alternative agriculture? What is the capacity of agroecological system to provide food security (quantity, accessibility) to a large number poor urban dwellers?
- Marketing: How to promote direct linkages between consumers and producers, producers and markets: direct sale and public purchase? Which certification scheme are to be developed (three tier, participatory) ?
- Rural extension: How to reform / reactivate rural extension to take into account local specificity and valorize local knowledge? What are the perspective offered by TIC and big data information for Agro ecological transition?
- ...

3.2. Research posture / approach

To address the TAE upscaling issues and these research questions, research on TAE should mobilized and combine different approach and methods.

- *Participatory research and companioning research*, are prone to be mobilized at different stage to facilitate co construction of context specific research, legitimate and accessible for farmers and farmers movement
- *Pluridisciplinary approach* are an imperious necessity for TAE to generate dialogue and epistemic exchange between genetic sciences, agronomic sciences, environmental sciences and social sciences
- *Transdisciplinarity approach*: necessity of dialog between scientific and technical knowledge and local, native knowledge

This approach should be mobilized for different type of research:

- *Comparative in depth case studies on specific devices* (eg. Farmers experimentation networks (Campesino a Campesino and others) are necessary to evaluate implementation bottlenecks, evaluate results, and set up sound monitoring systems
- *Large scale analysis* (national regional), are necessary to develop large scale evidence of potential of agroecology to feed the planet (and especially address food security problem of urban poor)

Whatever approach and type of research, researcher have to take into account that agroecology is very sensitive concept and raise many debates between both civil society and scholar's arena. So, research on TAE should be aware that research strategy, framing and products are not neutral for policy agendas and actual coalition debates regarding models of agriculture to face global issues (eg. debates on agroecology - see Agroecological manifesto , or CSA discussion). Hence, a clear standpoint, positioning and clarification of the scope of TAE concept has to be clearly set when building TAE research program.

Conclusion

Based on the review of scaling up experiences and analysis of policy for TAE in Latin America, we identify some issues for Scaling up agro ecology transition with public policy support and research agenda proposal.

The review of experiences such as the Community driven development approach in Latin America (Binswanger and Swaminathan, 2003; Gillespie, 2004), the Campesino a Campesino experience in Central America (Hocdé, 1997; Hocdé and Miranda, 2000), the technical assistance for beneficiaries of agrarian reform in Brazil (Sabourin et al, 2014), the technologies adapted in Andean countries (Paz et al, 2013, Benedetto, 2013) all show a series of conditions or difficulties in carrying out scaling up :

- Successful experiences depend on specific pathways or long term processes, local organizations (with functioning and effective leadership), collective learning, connections with social movements of greater scale, which, many times, are not replicable in the time horizons of today's policies (programs of 3 or 4 years or even of 5 to 10 years), since the terms of the processes do not correspond with the prevailing political-institutional times.
- Successful experiences at the local level often correspond to a concentration of financial and human resources through international cooperation, NGOs or international organizations that cannot be reproduced on a large scale with the resources available for the execution of national public policies (and their allocated public budgets).
- Initiatives of experimentation and extension with or by farmers, such as Campesino a Campesino or the Networks of Experimentation with Farmers in Brazil, MIP-CATIE or PRIAG in Central America, did not manage to be scaled up through public policies because in reality the demand for human resources trained in terms of time and skills (farmers, technicians and researchers) is very high (perhaps higher than for conventional programmes) and there is not enough funding today.

The historical analysis of Latin American policies (sabourin et al 2017, Le Coq et al 2019) shows the important role played by crises in the emergence of agroecology – economic, geopolitical, environmental and climate crises. The capacity of agroecology has demonstrated to face these crises has been demonstrated, and made it a real alternative in terms of ecological sustainability and resilience in the face of the challenges that will affect humankind and the planet.

However, these policies must overcome some major obstacles. They face competition with policies to supporting agribusiness. One key challenge is to demonstrate that agro-ecological production can provide low-cost food for the poorest, an argument also used by agribusiness and organic agriculture. Moreover, it is essential to stress the contributions of agroecology to public health and to social and economic equity, rather than just its technical or economic dimensions. Efforts are still needed to better coordinate proposals by the social agro-ecological movements that drive agroecology. Indeed, these proposals are undermined by the dominant model, which claims to be the only one capable able to feed of feeding the planet.

The implementation and monitoring of policies to support agroecology are largely dependent on coordination that is currently difficult to establish between different actors and levels: between social movements driving alternative food systems / models and agricultural institutions or public organizations, between ministries and departments, between standards institutions, and finally, between national and territorial governments.

A research agenda for supporting TAE upscaling should then tackle those issues, identifying at large and local scale the performance of agroecology, the obstacle of agroecology development, the bottleneck of policy and instruments implementation, and evaluate the impact/effect of policy and instruments. This policy oriented research agenda should rely on analytical and engagement strategy on/in policy process, and mobilized participatory, pluridisciplinary and transdisciplinary approaches, while clarifying its conceptual standpoint.

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