

# FROM MARGINS TO POWER? THE AGROECOLOGICAL INTENSIFICATION PATHWAY AS A FIGHT FOR NEW RIGHTS

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**Abstract:** Agroecology has become the goal and the guideline for sustainable agricultural production and food systems. Governments and (natural) scientists tend to frame agroecology mainly as a technological challenge. The paper presents agroecology as a social intensification pathway. While behavioral aspects of farmers' decisions have been largely investigated, the role social relationships and power relations play in the agroecological intensification pathway has received less attention. The paper argues that the agroecological intensification pathway is a means for its (marginalized) supporters to increase their socio-political capital and their control over their livelihoods and the food system. For this purpose, I examine the agroecology intensification pathway from a political ecology angle, at three levels, each embedded in the next: the farm level, the territorial level, and the global level. Actors engaging in agroecology derive social and political benefits from it: These are self-determination at the household, the territory or of the global food system level, redefining the farmer-nature relationship, and the use of agroecology as a discourse in resource conflicts. In essence, these benefits depend on the ability of farmers to organize their territories into agroecology-enabling spaces. The building and protection of such spaces requires agroecological actors to fight for their rights to existence. Social movements and farmer groups do precisely this by creating an enabling institutional environment and challenging the dominant morale and neo-classical values. The agroecological intensification pathway, if based on a grammar of egalitarian relations to nature and others in the food system, requires and has a potential for fundamental transformational changes. Thus, the agroecology intensification pathway appears inherently political.

**Key words:** room for maneuver, social capital, agroecology, rights, power relations

**JEL classification:** Q1 : agricultural economics

## 1. INTRODUCTION

Agroecology has become the goal and the guideline for sustainable agricultural production and food systems and how to make the transition happen is a burning issue. Governments and (natural) scientists tend to frame agroecology mainly as a technological challenge which can be addressed with economic incentives. Yet, agronomists and ecologists convinced of the benefits of agroecological cultivation methods noticed that economic arguments are not sufficient to convince farmers to adopt agroecological practices (pers. communications). So what, except from economic incentives, can drive farmers to farm agroecologically?

The underlying rationale is that economic incentives are sufficient for farmers to change their farming system. Indeed, for small changes such as the substitution between pesticide and pheromones for plant protection, the expectation and realization of an increase in marginal gains may be a sufficient incentive. However, the adoption of an innovation or the incorporation of a new practice into a system requires investments in labor, knowledge and personal motivation from the farmer. Engaging in the agroecological pathway requires farmers to process a shift in their worldview: from reductionist to holistic, which is far from trivial (e.g. Mann et al., 2019). They need to think of their farms as whole system, in which parts are connected, rather than in terms of separated activities (that can be certified independently) and to reconsider their objectives. Conceptually, but also physically, this implies the reorganization and intensification of the economic as well as the non-economic parts of the farming system. Among the many non-economic factors which may play a role in the practice of agroecology among farmers, the social ones are the focus of this contribution. It is true that research has looked at farmers' practices from a behavioral

perspective. Yet, Burton (2004) points out, behavioral studies decompose behavior in its cognitive components including attitude. Yet, what is the importance of knowing the attitude of someone to an innovation scheme when we don't know the meaning this scheme has to this someone? In an attempt to understand the language of farming better and to conceptualize what the real meaning (wording by Burton, 2004) of agroecology for farmers is, we take a closer look at the socio-political capital and power factors. It is currently vividly debated in the arena of agroecology actors whether the concept of agroecology inherently contains the political dimension that many social movements and NGOs attribute to it (Giraldo and Rosset, 2016). This is relevant especially in the (West) European context, where political struggles in agriculture are often perceived as specific to developing regions, especially South America. Is agroecology not only a way of farming? It is, indeed a way of farming. And farming is not only reduced to agronomy. Farming is an identity (Burton, 2004) and this identity varies with the different types of farmers. Farming is also a network of relationships which construct this identity. It is an activity based on the interaction and relationships with nature, with peers, with communities where he activity is taking place, with the landscape and territory and with the other actors of the food the system (firms, "consumers").

In this context, agroecology can be conceptualized as a form of land-use intensification, or using a wording from van der Ploeg (2012), as an intensification pathway. Agroecological intensification combines several dimensions described by Erb et al. (2013) in their analysis of land-use intensity: an increase in the inputs used in terms of knowledge and often also labor, the maintenance of, if not the increase in, yields, and most importantly, the strengthening of system properties, such as biodiversity, the complexity of ecosystems, soil health, among others. Agroecology practices are of course based on ecological principles (Nicholls et al., 2017); yet agroecology is more than environment-friendly practices or even regenerative agriculture. Following De Schutter (2017), a central characteristic of the agroecological intensification pathway is that agroecological farmers farm *with* nature rather than attempt to dominate it. In addition, the implementation of agroecological farming systems is rooted in its local territory. It is based on the use of inputs, genetic material, technologies and knowledge which are local or locally adapted, locally developed. Farms and the activity of farming are embedded in an agrarian

structure, a territory, including the inputs and output systems the farmers interact with.

Van der Ploeg (2012) proposes that farmers can (sustainably) intensify if: 1) farmers get some benefits out of the intensification, benefits that justify the additional effort and risk put into the system; and if 2) farmers have "room for maneuver", that is, means and opportunities to change their production process. The paper adopts a political ecology and a system's perspective to look at how actors as social and political agents benefit from and contribute to the existence of agroecology on a given territory, in a self-strengthening cycle. We will attempt to answer two operational questions: 1) How do agroecology farmers, individuals, groups and movements benefit from agroecology? 2) How does the agroecology practice and its expansion benefit from agroecological social groups and movements?

I postulate that agroecology is rendered attractive and possible by inherently social, and especially political, enabling dynamics. More precisely, I argue first that until today, the spread of agroecology has been related to the gain of social capital by those who follow an agroecology intensification pathway. These actors originally acted at the margins and still have little power in the current global food system. Second, the practice of agroecology in the long term depends on the activity of social movements with a political agenda of structural change. Indeed, I argue that social movements and the political agendas they have are necessary to ensure a space in which smallholders can practice agroecology at the individual and territorial levels by creating appropriate institutions and awareness (Patel, 2009). This multidimensional space is presented here as a composite of alternative knowledge systems, markets and inputs. The article then illustrates how social organizations work towards establishing a protecting institutions and acting on current societal values.

In today's context, where agroecology is quickly becoming a paradigm for the redesign of fields into food systems (Holt-Giménez and Altieri, 2013; De Schutter, 2011, Gliessman, 2016), Val et al. (2019) propose the term of "agroecological peasantry" to refer to primary production within the agroecological food system. The use of the term does trigger the question whether an agroecological agro-industry is possible. We argue rather that the egalitarian socio-political character of agroecology practices, especially the relationship with nature, make the choice of sovereignty and autonomy possible and thereby inherently lead to a quest for a renegotiation of

power relations in the food systems. We conclude that the agroecological intensification pathway enables marginalized actors to regain control on the food system and their livelihoods.

## **2. THE RIGHT TO HAVE RIGHTS**

Text. Agroecology as an intensification pathway is based on a social intensification process. A social intensification pathway, according to van der Ploeg (2012) takes place by improving the quality of inputs and of the system properties (seeds, soil fertility), through investing more non-financial resources: knowledge, skills, time, and by improving the system's technical efficiency. In contrast, van der Ploeg defines technological intensification as the redesign of the farm around new technological models and the use of corresponding fixed packages of inputs. An example is the Green Revolution and the industrial agricultural intensification process. Within a social intensification pathway, the change of agricultural practices and the redesign of farms under agroecological principles would require, according to van der Ploeg (2012) both that farmers have and perceive "room for maneuver" in order to adjust or transform their practices and farming system, and that farmers benefit from the adoption of this pathway.

### **2.1 ROOM FOR MANEUVER AND ENABLING AGROECOLOGICAL TERRITORIES**

Farming landscapes are the response of their time to the economy of their time and the results of a negotiation between landowners, farmers, input firms, knowledge hubs and states, each holding their own interests (Widgren, 2012). Thus, current farming systems would be a logical land-use response to the current external and internal conditions of the landscape. If an agroecological transition is to be fostered, farmers need to have means and opportunities to redesign their farming and production system within this current global context.

Room for manoeuvre, for van der Ploeg (2009), is the existence of a space of „possibilit[ies] for farmers to develop their own strategies to reach their goals". From a political ecology perspective, one can conceive this space as multidimensional: a space where agroecological activities are made possible. I understand the concept of niche of Vanloqueren and Baret (2018) as a synonym, that is, a space where other (decolonized) economic, social and human-nature relations (Muraca, 2019) rather than current general capitalist exchanges are possible. From a practical perspective, this means that the territory in which agroecological farmers are embedded must

become an enabling environment for the agroecological transition.

Wezel et al. (2016) refer to this enabling character in their definition of agroecological territories as: "places engaging in a transition process toward sustainable agricultural and food systems". Fernandes (2008) suggests a typology of overlapping concepts of territory: Territories can be conceived as spaces of governance, as a mosaic of properties, as a marketing sphere and, in particular, as immaterial territories. It is useful to consider these overlapping dimensions of territory concomitantly to imagine the characteristics of an enabling space. One of the factors enabling a transition towards agroecology at the territorial level is the existence of, or possibility to create agroecological markets embedded in the territories (Wezel et al., 2016). Another one is the possibility to create networks of local agronomic and technical knowledge (Nicholls and Altieri 2018). A final one is access to land and to appropriate inputs; such as local varieties of seeds.

Wezel et al. (2016) define territories as "landscapes resulting from the interaction of a socio-technical network of actors with the ecological, agricultural objects of this landscape". For Fernandes (2008) the result of this interaction is rooted in a historical intention as territories are "a space of relationship created by actors and their intentions" (own translation). This spatial organization is the reflection of development models (Fernandes 2008). The idea of intention is reflected in the definition of immaterial territory as paradigms, theories and ideologies at the basis of the maintenance of the territory (ibid). Immaterial territories are associated with all forms of material territories. Importantly, they are collectively created. So the fight for the collective immaterial territory is an integral part of the fight for physical and market territory. It is indeed through the acknowledgement of the immaterial territory, here the paradigm for food systems, by a concerned public and the institutions in power that one may win a fight for access to land, for instance.

### **2.2. ENABLING CONDITIONS AND POWER RELATIONSHIPS**

At the societal scale, Patel (2009) argues that the agroecological transition relies on a change in the institutions governing the current agrarian and food systems towards rules and arrangements which favor the development of agroecological markets and the establishment of agroecological actors and practices in territories. Patel (2009) also brings forward the point that such changes in the institutions depend on general change in the morale governing the global food regime (see McMichael, 2009). We understand the morale as

the commonly accepted set of values upon which actions in the society are justified and accepted. Currently, according to Patel (2009) the rights to a healthy environment of other species and of future generations, to autonomy and to self-determination are not prioritized and therefore they are not protected. One could claim for instance the right to healthy foods or the right of small farmers to continue existing within capitalist exchanges, or the right for peasantry to maintain itself using alternative exchange forms. Yet, rights exist only if they are recognized and protected. If not, *de facto* they do not really exist (Patel, 2009). Rights do not exist *per se*. First, institutions need to be designed to protect given rights. Secondly, Public opinion has to recognize and value these rights. Thus, the morale or ethical code will define which rights shall exist in a given society and food system. As a result, Patel (2009) points to the necessary struggle of agroecologists for the right to have rights.

While we morally, increasingly accept the need to protect our environment, there is no moral consensus on the need to modify the societal hierarchy in the current economic and food system. Yet, scaling-up agroecology would require a power shift. Indeed, agroecology gives power to actors - peasants, local consumers, indigenous peoples- who until now have had little power and are operating at the margins at the global level. In addition, due to the fact that it relies on more direct relationships between input providers, technology providers, knowledge providers, food providers and eaters at a regional level, agroecology points towards a more egalitarian system, different from hierarchies inherent to the capitalist system. Egalitarian values are not prioritized in the current food system (Patel, 2009).

### **2.3. BENEFITS FROM AGROECOLOGY**

Let's now turn to the second condition for agroecological intensification. Farmers have to perceive some sort of benefit from the change in their allocation of resources. This improvement must justify the additional resources invested in the agricultural system. However, they need not necessarily be financial. Farmers willing to embrace agroecology need to build up a network to shape their environment, but also to have the capacity to shape their environment, that is, to gain social capital. Our main assumption is that social capital plays a fundamental role at the three levels of the AET described above: individual, territorial and global. Transitioning towards agroecology can be viewed as entering a club of thought sharing a specific worldview and values, be it simply a group of people identifying to this worldview or in the form of associations or social movements.

Simply making a stance for agroecology as a means of producing is a step which shows opposition (resistance) to global, industrial and conventional agriculture. We borrow the definition of social capital elaborated by Bourdieu as described and analyzed by Siisiainen (2000) as having two dimensions. First, social capital is a resource that is connected with group membership and social networks. Belonging to a group and establishing relationships can be utilized to improve the social position of the actors in associations, political parties, etc.... Second, social capital is related to the fact that membership is "based on mutual cognition and recognition" (Siisiainen, 2000). This is how social positioning "acquires a symbolic character, and is transformed into symbolic capital (Bourdieu, 1986 cited in Siisiainen, 2000)." These two aspects will be highlighted in the next sections.

It thus seems that agroecology develops through its club identity via networks. It is within this network that agroecology farmers develop technologies, knowledge, practices and seeds which can support them and their farming system and increase their autonomy with regard to the current corporate food system (after McMichael, 2009). Belonging to the group sharing this paradigm also provides social capital in which it gives political leverage to members and supports them in questioning current power relationships. Further, the agroecology paradigm for the use of the land and for the organization of food systems (e.g. Holt-Gimenez and Altieri, 2013) is in itself an "immaterial territory" which, together with the production system and the food system, can be used in resource access struggles.

### **3. HOW AGROECOLOGY BENEFITS THE FARMERS WHO ADOPT IT**

This section describes how adopting and taking position for agroecological practices can benefit agroecology actors in terms of empowerment in general and in particular of social capital.

#### **3.1. AGROECOLOGY AS A PRACTICAL CONTEXT TO RE-NEGOTIATE THE RELATIONSHIP WITH NATURE**

According to De Schutter (2017), agroecology stems from a renewed understanding and relationship to Nature". I perceive two ways in which the farmer's relationship to nature changes under the practice of agroecological farming: in its vision of the farm as an ecological system and as a result in his/her power relation to the ecosystem.

Agroecological practices can be seen as tailored to support the production basis so that practitioners co-produce with nature. They consist in a series of techniques such as composting, the use of cover

crops of mulching, living fences, agroforestry, etc... which operationalize main agro-ecological principles (Nicholls et al. 2017). The enhancement of biological interactions and synergies, of soil, field and landscape biodiversity and of fundamental ecological functions stem from a system thinking perspective. This perspective opposes linear thinking where land is seen as a substrate on which inputs are added to supplement it so that the crop of choice can be cultivated. Linear thinking leads to searching for fixes to enhance your output while solutions in system thinking aim to improve the functioning of the overall system. In an agroecological setting, the farm is an ecosystem that needs to be managed first. It is through this change in focus that agroecology is able to regenerate degraded lands. Thus it empowers users of agroecological measures to turn marginal land resources into productive resources which can support livelihoods.

In addition, the focus on the farm as an ecosystem seems to provide a particular relationship to land. Gaarde (2017) reports on the peasant, and today largely agroecological, movement La Via Campesina: from the very beginning in Mons, Belgium, in 1993, the movement adopted the identity of “the people of the land” (Desmarais, 2008 in Gaarde, 2017). This statement of La Via Campesina runs counter the current extractive, exploitative and colonial (Plumewood, 2003) relationship to nature characterizing the industrial agriculture and food system. This exploitative perspective is based on a “Western” worldview, conceiving Man separately from Nature. This dichotomist perspective is brought into question by the statement “the people of the land”.

One possible interpretation of this statement is the concept of land stewardship or of environmental stewardship in general. Stewardship refers to the “sound and ethical use and management of natural resources on behalf of an agent, often the greater society, future generations or God” (Worrel and Appleby, 2000). It recognizes the value of nature for itself but portrays humans as keepers of nature (ibid). I have encountered this attitude for instance among ranchers in Namibia (Domptail, 2011), where farmers express the need to care of the “*feld*” (rangeland), while those who fail are put under much pressure by peer farmers and even their family. Müller (2019) reports that farmers in Hessen express great attachment to land, as a life center for their family since 5 generations in some cases. Yet, the caring worldview they share still depicts the farmers as users of the land. This land is subordinate to their action and has no agency, nor logic of functioning. Thus, steward farmers decide, in the context of the knowledge system

they are embedded in and of the ruling ethical code, what a sound and ethical use of the land consists in (Worrel and Appleby, 2000; Bennett et al., 2018). Burton (2004) shows that farmers associate a symbolic value to the “productionist” exploitative way of farming, which contributes to their identity as farmers. This symbolic is a central point at least in Western Europe blocking the interest for alternative farming practices.

On the other hand, “People of the land” may also refer to a bond transcending the dichotomy between man and nature and in which people and nature are not separated. This worldview is shared by several indigenous groups worldwide. For instance, older inhabitants of the Western Kavango, who live from farming, gathering and fishing, claimed themselves to *be* the river, and the land in which they inhabit (Mutota, unpublished data, 2016). In Australia, Rose (1996; cited in Langton, 2003) explains that “aboriginal management links people to their environment, rather than giving them dominion over it”. In the farmers’ movement La Via Campesina, the need to bond with nature, to care for mother earth and spirituality was also brought into the debate by indigenous people (Rosset and Martinez-Torres, 2013). Quinn (1992) attempted to document this worldview in his book *Ishmael* in which he calls for a more humble vision of men in the ecosystem and to more egalitarian relationships, here first and foremost with nature. Importantly, in this worldview, nature plays an active role in the production of food: van der Ploeg (2012) stresses that peasants and nature “coproduce”. In agroecology, how nature functions is taken into account, understood and amplified by humans in order to produce food (Nicholls and Altieri, 2018). Agents other than humans are recognized in the farming system. Famous examples include permaculture systems. Punctual ones are efforts by agroecological farmers to maintain the integrity of their animals. For instance, farmers keep horned cows (as opposed to the wide-spread dehorning practice). In Germany, a network of about 100 farms, keeps calves with their mothers. This shows an attempt to decolonize the farmers’ relationships with nature (Escobar, 2008). The worldview in which relations to nature are decolonized provides the context for farmers to develop their practices and agroecological way of farming.

Thus, when farmers redesign their relationship with nature, they also question their own role and position towards nature and their power hierarchy towards nature. And because agroecology practitioners act in nested systems - a farm, in a territory, in the global economy -, nurturing this new relationship with nature may require that power relations with the other spheres of the food

system are also re-negotiated. In addition, worldviews guide actions in all domains of life, and not only in one. The relationship one builds with nature mirrors therefore the other relationships one depends on. This would suggest that through the adoption of a more egalitarian relation with nature, agroecology practitioners will logically strive to apply egalitarian relationships in their other social and economic relations.

### **3.2. AGROECOLOGY AS A PRACTICAL MEANS TOWARDS SELF-DETERMINATION IN THE CONTEXT OF THE CORPORATE FOOD SYSTEM**

Operating an agroecological farming system frees farmers from several relationships with the current corporate food system and strengthens their autonomy and their capacity to self-determine their farming system.

In the corporate food system, inputs, technologies and knowledge are mostly accessible through cash, and not in kind. This can be a heavy financial burden for many small farmers, in developing countries. In addition, farmers paid higher prices in absolute terms for inputs in 2012 than in 1990 (Fuglie et al., 2012), while prices for many agricultural commodities have gone down. Agroecological farming systems have proven financially more accessible than conventional agricultural systems in contexts where cash and inputs are limited. A famous example at the national scale is the agroecological conversion of Cuban agriculture, following the break-down of the soviet block and as a response to the penury of inputs and technologies (Fernandez et al., 2018). At the scale of individual farmers, the implementation of an agroecological farming system has built an escape route from a vicious circle of debt following the necessary purchase of inputs in the conventional system (Rosset and Martinez-Torres, 2013; pers. comm. farmers Brazil 2017, Uganda, 2019).

In addition, the implementation of an agroecological farming system creates autonomy for farmers from large corporate firms and their (one-size-fits-all) innovations. The corporations are very powerful in the current food regime. The concentration in several global agricultural input industries has risen significantly. By 2009, the largest four firms in the crop- seed, agricultural chemical, animal health, animal genetics/breeding, and farm machinery sectors accounted for more than 50 percent of global market sales in each sector (Fuglie et al., 2012). In addition, the largest agricultural input firms are responsible for a large and growing share of global agricultural research and development. In doing so, they strongly influence the technologies being developed and

implemented on the ground. Agroecological practices enable farmers to emancipate themselves from large input firms and to a certain extent from the current food regime. Indeed, they are based on the regeneration of the ecosystem, on local seed exchange, on the use of locally developed knowledge (Nicholls et al., 2018). Recently in Hessen, Germany, seed producer farmers, farmer unions and universities have collaborated to produce and make accessible local organic cereal seeds which are resilient to climate change.

This is also the case for technologies. For instance, the Atelier Paysan, a non-profit cooperative started in 2009 in southern France with an association of organic farmers set up in the face of the recent global appropriation of farm technology. Through the cooperative, farmers reclaim farming and technology skills to lower their dependence on external firms and ready-made solutions. In the cooperative, innovations are specifically designed for organic production methods. Knowledge development and sharing is prioritized and no patents are issued on the produced technologies.

Farmers also seek to increase their autonomy from global markets and international market regulations through agroecological markets. For instance, in Germany, farmers taking part in a Community Supported Agriculture scheme justify their choice of organization by the desire to give value to non-standardized products (e.g. too- curvy cucumbers) and reduce wastes and losses (Schilling et al., 2023) on the one hand. On the other, they try to escape (global) market pressure and the grow or perish dilemma “*We kept on thinking: do we really want this, always more, always faster*”(Frankfurter Farmer cited in Schilling et al., 2023).

Through this autonomy from exchanges in cash with corporations in the formal economy, farmers also have the opportunity to reorganize their relationships among themselves and redefine their role within the informal economy. For instance the youth group of La Via Campesina sees the opportunity to change the relations towards their peers through the adoption of the agroecology pathway (Fenton et al, 2017). In Germany, members of the agroecological Alliance for Young Farmers (*Bündnis für Junge Landwirte*) point to the importance of maintaining farmers in the countryside for the ecological and social life the countryside itself. We also found that a CSA farmer in Frankfurt values and invests much time in building a knowledge and work link between his consumer members and the farming activity and the land (Schilling, 2019).

Thus, implementing agroecology at the farm and group level is a way to act against the power

distribution in the current corporate food regime (McMichael, 2009) and also to put farmers' aspirations and needs at the heart of their farming system, "rather than the demands of markets and corporations" (Nyéléni, 2007).

### **3.3. AGROECOLOGY AS AN IMMATERIAL TERRITORY ASSOCIATED WITH AND USED IN RESOURCE CONFLICTS**

Beyond the practical and organizational aspects of agroecology, an important domain is the use of agroecology as a paradigm for the use of the land. The corresponding agroecology discourse is centered around the activity and maintenance of smallholders, who have a close relationship to the land, and produce the majority of the food consumed on earth with an agriculture that nurtures soils and ecosystems and supports rural life, landscapes and traditions (Rosset and Martinez-Torres, 2013). In contrast, agroecological actors portray industrial agricultural methods as exploitative, energy consuming, mass producing and destructive. This paradigm competes with the currently dominating one, the productionist paradigm, based on a discourse of efficiency in which the necessity to produce massively is the central argument for industrial agriculture (Lang and Barling, 2012). Agroecological actors use and build agroecology as a form of resistance towards the current power structures, the productionist paradigm and the creation of new alternative food systems (Oehen et al., 2015). More precisely, Rosset and Martinez-Torres (2013 and 2012) demonstrate that the agroecology paradigm and the associated discourse and logic which justify the practices and actions of the agroecological actors can be seen as an immaterial territory (definition of Fernandes, 2008). The agroecology immaterial territory is used to take up position against the dominating system, often the corporate food regime.

The immaterial territory associated with agroecological intensification pathway, the agroecology paradigm, is an important weapon in disputes over the physical territory of land itself. All around the world, agroecological farmers feel marginalized in their access to land and use agroecology to maintain or gain access to land. Agroecology as an immaterial territory enables smallholders to differentiate themselves from other land use actors and in this way to put a claim on land (Rosset and Martinez-Torres, 2013). The agroecological paradigm as immaterial territory is thus an essential part of the fight for land in a given territory (Martinez-Torres and Rosset, 2012). The farmers' movement La Via Campesina is struggling to maintain smallholders in the productive landscape to perpetuate their lifestyle

and ensure their livelihood. They reject the neo-liberal model of rural development and agricultural policy development from which they are excluded (Gaarde, 2017) as these policies marginalize smallholders and favor corporate actors in the access to land. This phenomenon is not only relevant in South America. In the Eastern Cape Province, Republic of South Africa, agroecology was used by groups of colored farmers to claim land and resist against commercial agriculture and land grabbing through buildings (Tamlit, 2014). In Brandenburg, Germany, young agroecological farmers created an Alliance (*the Bündnis für Junge Landwirte*) in order to change the auction rules in large scale land sales of former state farms, as they could not compete with investors invading the land market (Domptail et al., 2018; Brunner, 2019).

The agroecological immaterial territory is also used to take position against another dominant system: patriarchy. Patriarchy also determines land access in the customary rights in numerous countries. That explains that women's organizations have adopted agroecology to claim more power and land at the household level (Patel, 2009). In Brazil, female farmers have built a network of innovators in agroecology which has taken them out of isolation to positions of leadership (Galvao Freire, 2018). In Mals, South Tyrol, Italy, rural women have expressed their support to agroecology in a poster campaign in order to fight for pesticide-free air and playgrounds for their children. Sometimes, they have done so against the opinion of their husbands in a context where this is highly unusual. The women reported that the seemingly simple step of taking a stance had strongly empowered some women of the community (Schiebel, 2017).

### **3.4. DEFENDING AGROECOLOGY AS AN IMMATERIAL TERRITORY**

Agroecology as an immaterial territory has enabled weaker actors to increase their control over key resources in their livelihoods, and therefore change existing power relations in the territories where they operate. The reduction of agroecology to a suite of simple basic agricultural practices such as mulching or no-tillage, applicable in multiple farming contexts, will reduce the power of these actors to transform power relations and food production in the food system. Thus, a considerable battle is being fought around this immaterial territory. In the public and policy sphere, NGOs lobby for an understanding of agroecology as a transformative approach, which "must be clearly differentiated from climate-smart agriculture", the later relying on the same inputs as conventional agriculture and therefore only perpetuating the current main agricultural model

(*Positionspapier*, 2019). Scientific communications such as the report of Oehen and colleagues from the organic agriculture research institute in Germany and Switzerland (2015) or Giraldo and Rosset's paper (2016) also point to the risks of co-optation of the agroecology paradigm by concepts of e.g. climate smart agriculture.

#### 4. CREATING ROOM FOR MANEUVER

##### 4.1. A MULTI-DIMENSIONAL SPACE IN WHICH AGROECOLOGY IS OPERATIONALIZED

According to McMichael (2009), the current food regime is determined by corporations, supported by states, think tanks and universities and organized so as to benefit these actors. The corporations include large input firms (seeds, fertilizers, phytosanitary products), retailers and food processors. They dictate standards for products, prices, and especially, farming techniques (the Green Revolution). Indeed, the food regime is associated with a technological regime which controls and drives the direction of innovation further in one direction, characterized by high-tech innovations, rather than agroecological techniques (Vanloqueren and Baret, 2018). According to Vanloqueren and Baret (2018), this is because bio-engineering and agroecological techniques rely on a different technological paradigm, where the agroecological ones aim to make improvements in a system where relationships work better and the whole system is advanced rather than maximize one aspect. As a result, science and technologies in agroecology have been supported far less than bio-technologies: the first stagnated while the latter flourished. Corporations or investors also increasingly control land (e.g. Rosset, 2011), a major input.

This context provides very little room for maneuver for farmers to change practices and perpetuate an agroecological intensification pathway. Vanloqueren and Baret (2018) envision the creation of local niches in which agroecology can develop, rather than trying to upscale agroecological practices at once. This concept of niche resonates on the one hand with that of room for maneuver suggested by van der Ploeg (2009) giving farmers the possibility to act differently, and on the other with the agroecological territories described by Wezel et al. (2016) as *enabling* environment for agroecology. I see the room for maneuver as a multi-dimensional space, nested in a geographical territory, in which knowledge, inputs and power relations favoring and enabling agroecology are produced and reproduced.

Evidence shows that the creation of this enabling space is a result of collective action. In Cuba, the

existing large social capital played a key role in enabling the agroecological transition of the country (Fernandez et al., 2018). Farmers and proponents supporting the agroecological intensification pathway need to organize into networks such as farmer groups, alliances or associations in order to be able to construct exchanges which do not follow the corporate market logic, as we shall see.

First, agroecology is a knowledge-intense pathway. Agroecological knowledge incorporates traditional farming practices, novel scientific knowledge and is often developed in a cooperative process involving farmers in a group or farmers together with scientists. Hubs for local agroecological knowledge where transdisciplinary research prevails and peer-transmission through farmer-to-farmer exchanges are crucial for technically successful agroecological farming (Nicholls and Altieri, 2018, among many others). While in the beginning of the 1980's agroecological farmers were rather isolated, several agroecological knowledge and practice hubs have developed now, mostly around alternative agricultural institutions. In Germany, groups of practitioners have developed around the faculty for organic farming in Witzenhausen or around the school for organic farming of Eberswalde which build agroecological clusters at the territorial level. These groups play an important role in knowledge dissemination and sharing among the farmer members and between the education institution and the farmers (unpubl. data, Müller, 2017). The cooperations have succeeded in applying system thinking at the heart of their innovations, which are tailored to the needs of the local farmers, as the innovation of the seed population varieties developed in Dottenfelder farm in Germany shows (Spieß and Vollenweider, 2017). Such agroecology clusters around universities with an agroecological program exist also in India and in Uganda (Isgren and Ness, 2017) for instance. These knowledge hubs are not only agronomic but also technical. Since technologies for organic or agroecological agriculture are hardly accessible, some cooperatives of farmers have strived to develop appropriate technologies fitting their specific needs, as we can see in the example of L'atelier paysan, in France.

Farmers also organize the access to appropriate inputs in their territory. These efforts include seed exchange fairs (e.g. own observation Cangucu, Brazil, 2018) and semi-legal local and organic seed multiplication associations (e.g. Kokopelli in France, <https://kokopelli-semences.fr/fr/>). These seeds are reproducible and free of patents. Farmers also create groups and alliances in order to access

land. Access to land is increasingly problematic for farmers given the growing importance of land as an investment good, bringing small farmers and peasants to compete with investors for land on an increasingly capitalist land market (Brunner, 2019). The actions farmers undertake are diverse. For instance, semi-legal land occupation campaigns are the main tool of the *Movimiento de los Trabajadores Sin Tierra*, MST, in South America (Rosset, 2011). In Germany, the alliance for young farmers (*Bündnis für Junge Landwirte*) plays an important role in helping its members gain access to land. The coordinator of the alliance has come to act as a land broker between young farmers with an agroecological project and land owners interested in giving their land, rather than renting it at a hefty profit, to projects enacting values of solidarity, rural life, environmentalism and animal welfare (unpublished data, Müller, 2017). These exchanges create a parallel land market.

Farmers also create ties among themselves or with consumers in order to market their produce without following the rules (prices, quality standards) of the global market. This is necessary because the agroecology intensification pathway uses higher inputs in labor and it requires people's work to pay off. In the current food regime, it is known that most of the value associated with agricultural products is concentrated at the higher levels of the value chain, in most cases by processing and mostly distributing firms. This pattern follows the one of the concentration of power along value chains (Menard and Valscheschini, 2005). That is why Loconto et al. (2014) underline that "agroecology market networks are embedded in communities, so that benefits reach producers, consumers and intermediaries alike. In some cases, this was the result of an active "re-embedding" of market exchanges into living communities". These initiatives function differently than formal market dynamics as they redefine an "efficient exchange" as one that can address the needs of certain groups of the community and address ecological, social and economic goals concomitantly (ibid). for instance, rural-urban exchanges around a town in Ecuador were strengthened by an initiative of food baskets delivered by farmers to a group of urban dwellers at a price beneficial to both parties (Heinisch 2018): the set price for the exchange was higher than the farm-gate prices farmers were receiving through other markets and was lower than city dwellers were paying at their local supermarket. Community Supported Agriculture (CSA) schemes all around the world also develop farm-specific networks and organizations which lead to a win-win situation in terms of income

security, work satisfaction and healthy food access (e.g. Schilling et al., 2023).

This enabling space is thus characterized by exchanges that escape market logic. As Patel (2009) notes, this space is not only an attempt to shift, at the territorial level, the power from leading actors in the current global food system to farmers who perceive themselves as in a marginal position. Actors of the enabling space are collectively striving to establish more inclusive and egalitarian relationships among actors of the food system. Thereby, such spaces can be the cornerstone for building a theory based on more egalitarian food systems. As Monnin et al. (2019) wrote, the recognition of this reality as valid knowledge "never comes without a fight".

#### **4.2. INSTITUTIONS TO PROTECT AND PERMIT ENABLING SPACES**

Currently, there is no societal consensus that smaller and less rent-oriented farms have a right to exist and maintain themselves in the countryside. Economists are still discussing whether it is a good idea to maintain "inefficient" farms. There is also no consensus on the role corporations should play in the global food system. Patel (2009) suggests that the right to exist for marginal small scale agroecological farmers is not explicit. In order to exist, these rights and their enacted forms: the enabling spaces, have to be protected by institutions.

For example, in Finland, institutions of the welfare state have sometimes originated as critical social movements, which presented the political system with demands (Siisiainen, 2000). In the case of agroecology too, researchers, NGOs and farmers' unions lobby in order to influence existing institutions or fill an institutional vacuum. All demands have a common aim : to increase the power of marginalized actors (small or subsistence farmers, but also civil society as "eaters" and inhabitants of the agricultural territories) in the food system.

With regard to agricultural and food policies in Europe, NGOs and researchers demand radical changes both in their focus and in the policy instruments. The focus of all policies, demands for instance the *Positionspapier* (2019) written by a consortium of 40 German NGOs, should be on marginalized actors who currently encounter difficulties entering the farming sector in Europe: youth and agroecological actors. In addition, policies shall support exchange forms and patterns which are undermined by the increasing power of global market dynamics at the territorial level, such as such as local knowledge creation, local and direct markets. The third demanded focus is

support to local collective initiatives, a recognized key element in the construction of an enabling space for agroecology. Indeed, laws and regulations affect the way agriculture is developed and organized, and legal regimes affect contracts that connect parties in the food chain linking producers to consumers (Ménard and Valceschini, 2005). For instance, quality standards play an important role in shaping markets. Yet, these are increasingly set by corporations. Farmers' freedom to organize their farming system and marketing strategies shrinks as a result. For instance, Carrefour, the second largest retailer, developed its own meat quality label (Mazé, 2002, cited in Ménard and Valceschini, 2005): it selected its own participating farmers and operates a very strict quality control at purchase. Of course, ensuring quality in the food system is important. Yet, as Guthman (2004) pointed out about the organic sector in California at the beginning of the millennium, defining quality and the means of regulating it will affect the operationalization of an agroecological territory. Participatory quality guaranty schemes can be seen as an institutional innovation to address this topic from the bottom-up: they consist of a network of stakeholders including buyers who define quality criteria for the whole production process and not only the product but including social, ecological and security aspects, and control the production process themselves. These locally focused quality insurance systems are built on a foundation of trust, social networks and knowledge exchange (IFOAM, 2019).

This change in focus should be enacted by the adoption of other policy instruments or a shift in the allocation of funds for agricultural and food projects. Changes in existing institutions are requested by actors supporting agroecology, especially in the common agricultural policy. Activist researcher groups have published reports on the allocation of subsidies, showing for instance that in Germany a meager 1,2% of the farms snatched up up to 28,4% of the CAP subsidies in 2013 (Kay, 2016). The consortium of agroecology NGOs in Germany demands subsidies to be distributed entirely on the basis of social and environmental services and focused on young and agroecological farmers (*Positionspapier*, 2019). The British government has been put under pressure to increase the funds attributed to agroecology projects by a scientific publication (Pimbert and Möller, 2018) revealing the low current state spending on agroecology (5% of agricultural aid), despite a supportive discourse. The German ministry of development and cooperation was requested by NGOs to fund

agroecological projects exclusively (*Positionspapier*, 2019).

Further, new institutions enabling agroecology actors and civil society to have more control on the attribution of state funds to development projects are proposed. In their common position paper, the German NGOs demand that the civil society of countries receiving agricultural research projects be represented in the funding committees. Similarly, the creation of an agroecological council, having a say in the distribution of funds for agricultural projects, was suggested (*Positionspapier*, 2019).

Farmer organizations also have played a crucial role in the amendment of institutions and their regulations to shape an enabling space where farming agroecologically becomes possible or even legal. That is one reason why La Via Campesina trains agroecology farmers to act politically and pressure governments (Rosset and Martinez-Torres, 2013). In Germany, the alliance for young farmers (Bündnis für Junge Landwirte) came together to lobby against the auction-based land sale procedure in states in former Eastern Germany. All land was being sold to the highest bidder. But the Alliance managed to impose a quota of 20% of land to be offered to environmentally-friendly or young farmers. Another example is the great effort in lobbying German and Swiss organic seed breeders have invested to obtain the legal approval of "population varieties" as valid and marketable seed material by their governments (Spieß and Vollenweider, 2017). Population varieties are composite cross populations of seeds, which makes them more adaptable and resilient to climate change, whereas currently approved commercial seeds have uniform genetic material. In 2015, the first German seed legislation (approved by the German Federal Plant Variety Office) to introduce oat, barley, wheat and maize populations on the market was implemented. The current conventional breeding tradition focusses on uniformity to guaranty the appearance of a few selected traits in an effort to maximize of yields under perfect circumstances (ensured with artificial water, fertilizers and plant protection). The established breeding system is not meant to support variable seed populations. It is not meant to support farming systems based on the natural territorial characteristics. Seen in this light, the legal move of the German government is a breakthrough. At the same time, it makes explicit the extent of the challenge in changing the current institutional system into one that wants and can support an agroecological intensification pathway.

### 4.3. SHAPING THE RULING MORALE

In parallel, general views of what is desirable and legitimate for a society to strive for also conditions the existence of rights for agroecological farmers to develop egalitarian market, nature and social relations. It is apparent that environmental values or at least awareness can be considered common at least in Western societies, especially through their conservation efforts. Yet, the new relationship with nature that agroecology seeks to establish is based on what Martinez-Alier calls a different language of valuation (2009) of nature. Agroecologist practitioners, groups and NGOs attempt to change the terms of reference for environmental actions, as well as for actors' relations in the food system – they demand livelihood sovereignty (Muraca, 2019). Changing this language of valuation, changing the perceived position of humans towards nature, of development towards the environment and towards people is, as Muraca (2016) claims, a political act.

Actions aiming towards a new valuation language are taken among all agroecologist supporters. Farmers, and the civil society are organizing to influence this ruling **morale** (Patel, 2009) and raise awareness for egalitarian values and an alternative possible future.

NGOs attempt to change the reference for action in agricultural intensification strategies. To stick with the German example, the 40 NGOs demand in their position paper (2019) that all cooperation projects are based on agroecology and that all agricultural education incorporates agroecological principles and knowledge. These two aspects are related because the people trained in agricultural education institutions including universities are the ones who will soon work in cooperation projects in the developing world and in the chambers of agriculture in their countries. Today for instance, the GIZ (German Society for Cooperation) invests efforts and funds in training African farmer-trainers with best farming practices based on the Green Revolution methods, knowledge and inputs. These farmer-trainers will then have the duty to form 140 000 other farmers in Ethiopia based on a worldview that is counter to agroecology. The ruling morale in these very powerful institutions is a detriment to change.

Examples of actions carried out by farmers abound. Here are only a few. A major milestone was reached when La Via Campesina was invited to and decided to take part in the UN committee on food security in 2011. On this occasion, they were able to demand radical reform in the land policy (<https://www.farmlandgrab.org/post/view/18944-la-via-campesina-opposes-land-grabbing-at-the-un-committee-on-food-security>). More

importantly, they highlight throughout the declaration that the current priorities on development should be questioned and that other ones, more ethical, such as “feeding the people” and the “well-being of humanity” should replace them. At the smaller scale, and with examples from Germany, several agroecological farmers' groups attempt to communicate their values to the public. Near Frankfurt, *Die Kooperative* (the cooperative) organizes tours on agroecological farms for the public. Near Berlin, the Alliance for young farmers communicates via its coordinator with local authorities, land owners, market outlets. It also has a website in which the different projects it supports are documented and activist actions are organized. On an individual basis some farms go completely transparent about their work. Finally, the Farm Proud Cow (*Hof Stolze Kuh*) communicates via newsletters and its website with the public. It claims to farm “differently” and stimulates the reader to think of what values are important (<https://stolzekuh.wordpress.com/>).

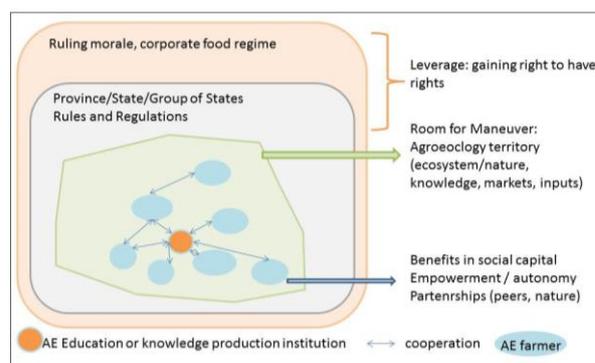
### CONCLUSIONS

The adoption of agroecology or engaging in the agroecological intensification pathway for farmers is more than a technical choice where economic advantages can make the difference in an adoption decision. More than that, it is a choice to seek the political and social benefits associated with engaging in agroecology at the individual scale and with the ability of agroecological actors to create maneuvering room at the territorial scale.

Agroecology as an intensification pathway where farmers and nature co-produce food is largely a redefinition of relationships within the food system. Benefits farmers can gain from intensifying within agroecology notably include social capital and empowerment. Because agroecology is based on alternative relations, it requires a space in which exchanges based on other than profit-related values are enacted. The protection of this space is in essence a protection of the rights of agroecology farmers to exist and increase their control of their livelihoods and of the food system. This protection requires further political actions at multiple levels, both institutional and ethical, for which agroecology actors organize at a growing pace. Thus, as stated by Anderson et al. (2019), the practical aspects of agroecology are ultimately combined with the political ones. Agroecology supposes an egalitarian structure (Patel, 2009). Upscaling agroecology would mean that exchanges in the food system are based on values which are not solely profit; that seeds are regulated and land is attributed differently; that fundamental trade and agricultural policies are amended. It would mean

profound change in the patriarchal and capitalist systems. If adopting the agroecological pathways is part of a struggle farmers and supporters must conduct for their very existence in the countryside, this struggle only seems possible through a nurtured agroecology peasant identity. Val et al. (2019) introduce in science the notion used by LVC of “agroecological peasantry”. In this construct, the word peasantry can represent the more egalitarian nature of the interwoven relationships characterizing agroecology, as much as the peasant actors themselves. The agroecological intensification pathway, if based on a grammar of more egalitarian relations to nature and others in the food system, requires and has a potential for fundamental transformational changes. Thus, the agroecology intensification pathway seems inherently political.

### GRAPHICAL ABSTRACT:



Graphical Abstract: Redefining power relations through and for the agroecological intensification strategy

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