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# Blind spots in agri-environmental governance: some reflections and suggestions from Switzerland

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**Abstract** Attempts of making our food systems more sustainable have (partly) failed. Food production still contributes significantly to biodiversity losses, global warming and depletion of natural resources. Based on the postulation that this failure in the governance of environmental issues in agri-food systems relates notably to social and cultural aspects, this paper explores the literature in the social sciences looking for explanations. A first statement is that research around agri-environmental governance (AEG) issues remains globally split into two subgroups, one focusing on public policies and the other on the civil society or market aspects of environmental certification, with very little exchange or transversal analysis between the two. Drawing on the literature and on long-term fieldwork and research in Switzerland, I identify three dimensions of AEG that open new paths towards more sustainable food systems: an encompassing approach of the food system; the encouragement of collective knowledge creation and the promotion of autonomy. Joining other emerging scholarships, this paper calls for developments in the research on AEG that produce encompassing theoretical frameworks, which transcends pre-existing categories in order to allow new conceptualisation of governance practices in complex or hybrid systems. The integration of the food, knowledge and autonomy dimensions should help in creating innovative and transformative governance instruments.

**Keywords** Environmental governance · Food system · Autonomy · Knowledge · Social transformation

**JEL Classification** Q18 · Q50 · Z13

## Introduction

Despite a notable evolution in national policies towards environmentally friendly agricultural models and the burgeoning development of environmental labelling in the food chain, the consensus view is that improvements in the sustainability of food systems have been largely insufficient to meet deeper goals. Agriculture still contributes to losses in biodiversity (e.g. Billeter et al. 2008), to the depletion of natural resources (e.g. on water issues, OECD 2012) and to global warming (e.g. Vermeulen et al. 2012) in a dramatic way. While some relate this partial failure to a lack of technical knowledge on sustainable ways of farming, calling for a new techno-fix and a new green growth, agri-food studies set out to address these challenges in two diverging ways: the first focuses on agri-environmental policies, with specific attention given to farmers' participation; the second looks at the transformation of food networks and their potential evolution towards more sustainable outcomes.<sup>1</sup> This divide has already been identified by several scholars calling for a reconnection of the

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<sup>1</sup> While I choose to focus here on the literature linking agriculture and food networks (agri-food studies), I want to acknowledge the existence and the value of other social sciences fields addressing issues related to food. For example, the anthropology of food tends to focus more specifically on the cultural dimension of food (e.g. Mintz and Du Bois 2002). Furthermore, a wide range of scholarship has also developed around food consumption, often in relation to health issues (e.g. Germov and Williams 2008; Ward et al. 2010).

agriculture and food paradigms (e.g. Hinrichs 2010; Lamine 2015; Lang 2009; McMichael 2000).

This paper in a joinder to this call for reconnection, based on the statement that these two fields of research (agricultural policies and alternative food networks), too often, have developed separately while addressing similar issues. More specifically, it focuses on the issue of environment in the governance of agri-food systems in the so-called global North. Agri-environmental governance (AEG) works here as an encompassing concept to understand how environmental issues are addressed within the food system by a set of diverse actors of the public and/or private sectors. To do so, I draw on a large set of scholarships on food systems and environment, as well as on a long-term ethnographic work on the adaptation of the Swiss family farming to the recent dramatic political and economic changes. Rather than presenting precise results of my research, I use the Swiss case to illustrate shortly broader lines of reflections on the integration of environmental objectives in the governance of agricultural activities.

A first review of the literature details how scholars have tried to understand farmers' resistance to the ecologisation of agricultural policies. The most promising contributions, while applying diverse approaches, converge around the issue of knowledge in its collective, practical and social dimensions. The recent development of payment based schemes, such as payments for environmental services (PES), indicates the expansion of new market logics within AEG. This trend has been identified for many years by scholars working on food standards in the private or semi-private sector. Looking for new paths for AEG requires then to review also the often critical literature on this trend, which constitute a major change in the organisation of agri-food networks around the world. Finally, I turn to an emerging body of research exploring new "reflexive" models of governance.

This paper identifies three weaknesses in the current AEG panoply in Switzerland, as well as in a more global context: an enduring disconnection between the mains steps in the food production; the lack of new knowledge creation among the actors involved in the reality of agri-environmental practices; and the lack of autonomy in a very controlled food system. Building on these three gaps, I argue that an encompassing approach of the food system; the encouragement of collective knowledge creation and the promotion of autonomy open new paths towards a more sustainable governance of agri-environmental issues.

## Agri-environmental governance: a bifurcated field of research

### Agri-environmental policies: resistance and knowledge creation

The most obvious way of governing agri-food systems is through state policies. The reorientation of agricultural

policies towards more environmental friendly practices is an important element in the development of sustainable food systems. Many scholars have described the post-productivist and 'green' turn, above all in the European context (e.g. Deverre and de Sainte-Marie 2008; Evans et al. 2002; Mather et al. 2006; Wilson 2001). One of the core concepts, both at the political and analytical levels, has been the 'multifunctionality' of agriculture (Bazin 2003; Potter and Burney 2002; Wilson 2007). This concept legitimises state financial support to farmers by highlighting the public, non-marketable services they provide, above all environmental conservation.

This evolution of European-style public policy implied a significant redefinition of the mission given by society to farmers and consequently has had a major impact on their professional identity. Taking farmers as the traditional focus of rural and agricultural studies, scholars have highlighted the tensions between post-productivist policies and farmers' identities (e.g. Burton et al. 2008; Burton and Wilson 2006; Droz 2001; Droz and Forney 2007; Forney 2012; Lemery 2003). Research has shown notably that financial motivators were sometimes useful but not sufficient to promote long-term change in behaviour and attitudes (Schneider et al. 2010; Wilson and Hart 2001). In western industrialised countries, farmers' productivist values, often seen as an obstacle to sustainability, are deeply rooted in their self-definition (Burton and Wilson 2006; de Snoo et al. 2013; Walford 2003). The most useful developments focus on the social, interactive and collective dimensions of this resistance. For instance, scholars have drawn on the Bourdieusian sociology of capitals to identify farmers' definitions of 'good farming', and the social costs of adopting alternative practices that are seen as a negation of the productive role of the 'good farmer' (e.g. Burton 2004; Burton et al. 2008). While the timid mainstreaming of alternative views on agriculture, namely organic farming, may allow for some redefinition of 'good farming' at a broader level (Sutherland 2013), farmers have proved resistant to models in which they are viewed merely as the 'country's gardeners', as in the Swiss context (Droz 2001; Droz and Miéville-Ott 2001).

Indirectly echoing these analyses, other studies explore how alternative modes of farming have nevertheless been invented or renewed at a local scale, through farmers' participation in new networks of knowledge-sharing (e.g. McGuire et al. 2013; Schneider et al. 2009). Sustainable agriculture is said to be knowledge intensive, and accordingly requires specific forms of knowledge that farmers might not possess (Ingram 2008b; Siebert et al. 2008). This deficit is evident both in relation to scientific understanding of natural processes such as soil health and erosion (Curry and Winter 2000) and in relation to environmental management (Siebert et al. 2008). Therefore, farmer re-skilling and the importance of knowledge acquisition in the implementation of AEG schemes

becomes a key issue for the success of public policies (Curry and Winter 2000; Ingram 2008a; Juntti and Potter 2002). The evolution of the kind of knowledge farmers are expected to master, implies broader change in the knowledge system in agriculture, notably in the extension activities (e.g. Lemery 2006). Many scholars insist on the importance of a diversity of knowledge and learning processes and the difficulties of translating expert knowledge into the localised forms of know-how (e.g. Bruckmeier and Tovey 2008; Siebert et al. 2008). More particularly, the circulation of knowledge in farmers' networks has been studied as an important factor in the diffusion of environmental friendly practices (Compagnone 2014; Compagnone and Hellec 2015). More radically, some authors called for a reorientation of the agricultural sciences by drawing on the local knowledge produced by farmers (e.g. Kloppenburg 1991). As I will discuss it later, most of these contributions tend to adopt a rather narrow and technical understanding of knowledge and they forget its social dimension. Still, they lead to an important preliminary conclusion: while most environmental schemes target individual farmers, the collective dimension is essential in processes of appropriation (or refusal) of environmental objectives, because it facilitates the creation and sharing of knowledge and values. In this sense, the development of collective initiatives such as environmental co-operatives opens up interesting questions about more participative forms of AEG or 'self-governance' practices (e.g. Franks and Mc Glinn 2007; Glasbergen 2000). As highlighted by these studies, one of the positive effects of farmers' collaboration over environmental actions is related to scale, as many environmental issues are better addressed at the scale of an entire landscape rather than at the level of individual farms. However, it is also acknowledged that individual concerns about autonomy sometimes prevent farmers from participating in collective environmental schemes (Franks and Emery 2013). More generally, the 'regulatory treadmill' of agri-environmental policies (Horlings and Marsden 2011) has been identified as a key factor in discouraging alternative farming practices, and calls have been made for the design and implementation of more flexible schemes (Emery and Franks 2012; Home et al. 2014).

Payments for ecosystem services (PES) arguably offer a new kind of answer to these issues. These instruments are based on the assumption that deficits in the provision of environmental goods result from a lack of appropriate markets, which they intended to create. Inspired by Coasean economic theory (Van Hecken and Bastiaensen 2010), they apply (quasi-)market logics to environmental management. While labels market the environment through the food it produces, PES are designed to 'sell' environmental practices in their own right. Thus for example, one might ask users of a river promenade to subsidise or 'pay' farmers for activities that help to conserve the river's ecosystem. In this perspective farmers

(or land owners) are not seen as potential polluters that should be controlled and governed, but as service providers for external users (Castree 2003). By switching from a polluter-pays to a beneficiary-pays principle (Muradian et al. 2010), PES has the potential to impact citizens' understanding of environmental responsibilities in new ways. At the same time, it participates in the 'commodification' of the environment and of nature (Boisvert et al. 2013; Maris 2014), and has been criticised from many corners (e.g. Bakker 2010; Wolf and Bonanno 2014) as part of the on-going debate around the 'neoliberalisation' of nature and of agri-food systems. Focusing specifically on farmers' motivations for engaging in PES, Wynne-Jones (2013) argues that because of their market orientation and related financial incentives, these payments may be better suited to farmers' identities as entrepreneurs. However, her research indicates that farmers tend to prioritise food production and long-term farm preservation over market strategies and short term benefit. In addition to this, a range of other critiques has been directed at PES. For example, Norgaard (2010) doubts that such a tool can integrate the complexity of present environmental challenges. Van Hecken and Bastiaensen (2010) point to the risk that PES reproduce and deepen social injustice and inequalities, as poor communities would face difficulties in paying for ecosystem services that they were previously enjoying for free.

### Cross-sectorial approaches: alternative food networks and private standards

The literature above, while providing useful insights, suffers from its virtually exclusive focus on production, thereby failing to engage with the complexity of the wider food system (Goodman and DuPuis 2002). The same can be said about the policies that are discussed. In answer to this 'lost in production' syndrome, more systemic approaches have been developed, notably through the study of small-scale alternative food systems that have emerged from the civil society (for a review see Goodman et al. 2014; Tregear 2011) such as local food networks or farmers' markets that promote environmentally friendly modes of agriculture (e.g. Bowen and Mutersbaugh 2014; Wittman et al. 2012). These approaches point to the systemic and structural character of the (un-)sustainability of food systems (e.g. Lamine 2012).

At a larger scale, the integration of sustainable farm practices (e.g. organic farming) within conventional food networks has been criticised as a process of 'conventionalisation' that would reduce most of the benefit of such practices (Buck et al. 1997; Guthman 2004). Other authors adopt a more nuanced perspective, exploring the interconnections between alternative and conventional networks (Rosin and Campbell 2009; Sonnino and Marsden 2006). Beyond these debates, food network (or system) approaches help us overcome sectorial limitations by identifying AEG developments in other

arenas than those of state policy. Interestingly, such approaches have developed in parallel with the awareness of a dramatic globalisation of food networks. Food and agriculture problems are articulated more and more beyond the national level, as illustrated by the global dimension of the food crisis in 2008 (Lang 2010; Rosin et al. 2011). This evolution of food networks has had a crucial impact on governance issues. Nation-state policies appear increasingly limited, while transnational corporations gain growing economic and political power (Clapp and Fuchs 2009), first in the processing industry (Friedmann and McMichael 1989) and more recently in retailing (Burch and Lawrence 2005; Dixon 2007).

The crisis of 2008 also highlighted the growing importance of actors from the finance sector, which has been consistently underestimated. Hedge funds and private equity firms invest massively in agricultural produces (wheat, sugar, corn, soy...), inputs and logistics, as well as in farmland. This evolution had a dramatic impact on the agri-food system at a global scale, as the example of the development of biofuel clearly illustrates (McMichael 2012). As suggested by Burch and Lawrence (2009), the growing importance of financial actors influenced the rules of the whole agri-food system, provoking other corporate actors to develop 'rent-seeking' strategies. This 'financialisation' of agri-food systems has obvious relations with the issue of neoliberalisation (Lawrence and Campbell 2014).

NGOs, certifiers and a variety of non-state organisations complete the complex picture of the actors involved in the governance of 'global value chains' (Gibbon et al. 2008) in the food sector. Consequently, the regulatory space is occupied by a mixture of state and non-state players mobilising a wide diversity of AEG tools (e.g. Gereffi et al. 2005; Gorton et al. 2011).

Private standards and labels have become central tools of governance and are of particular interest for my purpose. Private standards have a long history. They emerged in different context, notably in the 1930s within the French wine industry. However, they expanded largely in response to the food crises of the 1990s, targeting the security of consumers in northern industrialised countries by imposing quality standards on farmers and manufacturers (Fuchs et al. 2011). From the beginning, however, they also engaged in the regulation of environmental and social issues. While a few of these standards emerged from civil society (e.g. Slow Food), most were initiated by supermarkets in attempts to secure their positions in new niche markets (Friedmann and McNair 2008). Through these processes, third-party environmental and social certification initiatives have grown and become identified as key agents in the regulation of food production (Raynolds et al. 2007). The collaboration between big retailers and certifiers has resulted in a plethora of labels within an expanding 'audit culture' (Campbell 2009; Campbell et al. 2012). These practices play a crucial role as 'standards makers' (Bain et al.

2005), both in highly regulated European countries and in more neoliberalised economies where state policies have been "rolled back" through deregulation (e.g. New Zealand and Australia, see Higgins et al. 2008; Rosin 2008).

Scholars have often been quite critical of these new forms of governance, identifying them as a key component of the extension of retailer power, particularly over manufacturers and farmers (Clapp and Fuchs 2009; Hattersley et al. 2013; Richards et al. 2013) with unintended impact of processes of standardisation on people and things (Davey and Richards 2013). The growing legitimacy of the market principles on which such standards are based also allow retailers to dominate the terms of debates on food (Dixon 2007), and to devise, as with other powerful enterprises, their own standards for 'corporate social responsibility' (Crouch 2011).

More generally, some scholars relate these new tools to a neoliberal mode of governance of food and natural resource management (Le Heron 2003) that relies on market logics and consumer choice rather than democratic regulation and state intervention (Guthman 2008; Moberg 2014). According to Guthman (2007), while they express ecological and social values, food labels actually reproduce dominant aspects of the neoliberalisation of environmental governance and nature (Castree 2008a; Heynen and Robbins 2005). Other authors, such as Bacon (Bacon 2010), present a more nuanced picture, showing how labels result in highly contested fields that are subject to an array of constraints and contingencies, and where neoliberalisation is just one force among many. The emphasis on the hybridity and complexity of governance in the so-called neoliberal food regime (Wolf and Bonanno 2014) echoes other research on neoliberalism 'as exception' rather than hegemony (Ong 2006). Similarly, the idea of 'neoliberalisation of nature' has been largely criticised on two other points: for presenting neoliberalisation as a unified trend, and for its narrow definition of 'nature' (Bakker 2010; Castree 2008b). Still others have contested the common idea that neoliberalisation automatically entails a 'roll-back' of the state, as neoliberal governance often implies specific processes of re-regulation (Castree 2008b) producing not less state but rather a new conjuncture of the state and the private sector (Mansfield 2004).

Corporate power in AEG has also been addressed in terms of legitimacy, raising the question of the democratic dimension of private standards as compared to governance tools developed by democratic procedures. The questions of legitimacy extend to the whole process and have consequences at different loci of the value chain (Henson 2011). As an example, scholars have worked on the consequences of European quality standards (GlobalGAP) for southern producers and consumers, questioning the claimed positive outcomes regarding social sustainability (Fuchs et al. 2011; Dolan and Humphrey 2000). In the global South, as well, standards seem to reinforce the structural power of transnational corporation

over local actors (Scott et al. 2009), resulting in a form of food governance with striking similarities to other forms of imperial governance (Freidberg 2007). The recent development of southern-based quality standards (ChileGAP, KenyaGAP) challenges, however, the North–south dimension of this debate (Tallontire et al. 2011).

To regroup both alternative food systems resulting from action of the civil society and the strategies of big corporate groups might be a surprising choice. However, my point here is to underline the lack of discussion and exchange in the literature between two sets of scholarships. The first deals with agri-environmental policies and too often forget to look at the interaction with economic practices. The second addresses changes at the level of agri-food networks, where the borders between civil society and private economy are often blurred and overlapping, but do not focus on the mechanism of state interventions. The result is a generally bifurcated representation of the governance of agri-food systems.

### Un(-sufficiently)explored paths towards environmental sustainability

As I will develop later, this review of the literature allows me to identify paths to be explored. First, as described above, research on AEG remains globally split into subgroups, some focusing on public policies, others on the civil society or market aspects of environmental certification, with very little exchange or transversal analysis between them. As the multiplication and diversification of AEG instruments makes clear, traditional oppositions such as public (state) versus private (market) hinder our understanding of what has become a hybrid and polycentric governance system that combines markets and hierarchies, national regulation and local implementation, voluntary certification and globalised standardisation (Lockie and Higgins 2007; Ménard 2004; Ostrom 2010). New insights have been generated around the governance of value chains, but most of the research reproduces the pre-existing delineation between private and public, even while claiming that public and private dimensions are mixing. In our view, more recent scholarships on ‘eco-economies’ (Kitchen and Marsden 2011; Marsden 2010) and ‘biological economies’, undertaken in a cross-sectorial “assemblage” perspective (Campbell et al. 2009; Lewis et al. 2013), offer new insights that transcend these limitations and strengthen our ability to observe and analyse emerging trends. In particular, these developments are helpful in comprehending new local-based food governance practices regrouping a diversity of actors and participants, such as the concept of ‘urban foodscapes’ (Morgan and Sonnino 2010) or an emerging ‘integrated and territorial mode of food governance’ that reunifies the three levels of government, civil society and market (Wiskerke 2009). Stressing that global pressures are affecting the “stable regulatory period of post-productionism and retailer-led,

private-interest governance”, Marsden calls for place-based strategies and reflexive governance practices adapted to the specific needs of local communities (Marsden 2013). Such reflexive governance is characterised by the inclusion and participation of a wide range of actors and important processes of social learning and social innovation (McKee et al. 2014; Sonnino et al. 2014).

Second, while issues of knowledge creation and ‘good farming’ relate both to the cultural dimension of farming, they have generally been studied separately. Very few connections have been explicitly made between the creation of new knowledge and the transformation of collective farmer identities. Bell (2004) insists on the relationship between new knowledge and new values in the emergence of individual farmer subjectivities, and Burton and Paragahawewa’s (2011) use of the concept of cultural capital has similar potential. However, little is known about how and under which conditions new knowledge and practices receive collective symbolic valuation and start to change wider definitions of good farming. This gap is even more obvious among other actors (non-farmers) along the food chain. Yet this social process is arguably central to the emergence of agri-environmentally friendly farming systems and food networks. The interconnections between knowledge creation and collective identity require closer attention, particularly in relation to AEG issues, as proposed in this project.

Third, while farmers’ resistance to agri-environmental policies has been analysed, social scientists have thus far made few actual recommendations for improving the situation. Burton and Schwarz’s (2013) or de Sainte-Marie’s (2014) works on the potential of payment by results is an exception, along with the research of McGuire et al. (2013) on the impact of performance-based environmental management on farmers’ identities through feedback loop effects. There is a serious need for further applied research on the design of AEG instruments capable of fostering more sustainable agricultural systems. I argue that a theory of farmer autonomy as a tool for identification and adaptation (Stock and Forney 2014) both opens up understandings of potential farmer actions and can fruitfully be extended to other groups of actors along the food chain, as an example in addressing the complex question of consumers’ choices, or in analysing the side-effects of diverse dependencies and interdependencies within agri-food networks.

### AEG in Switzerland

The insights on the Swiss agri-food system that I use in this paper result from a long-term ethnographical work in the Swiss agricultural sector. I draw from a several research projects developing different aspects of the adaptation of the farming population to the political and economic changes that

started in the 1990s. Altogether, the data that have inspired the ideas developed here have been collected between 2002 and 2014, in several parts of French-speaking Switzerland (mainly Canton of Vaud, Fribourg and Neuchâtel). They include a large number of semi-structured interviews with farmers and other actors of the industry (138), direct or participant observations, and document analyses.

Switzerland presents interesting particularities for the purpose of a reflexion on AEG. Notably, the combination of strong agri-environmental policy and numerous private and market-oriented environmental labels have put to the forefront of everyday and public debates the complex relation between food and environment. The diversity of state-based instruments includes both federal policy and regional, localised actions. Swiss agri-environmental regulation has been intensely developed from the 1990s onward with a radical reorientation towards multifunctionality (Droz 2001; Wilson 2007). Farmers' compliance with agri-environmental regulations is a condition for accessing state support, which has become essential for farm survival because of decreasing prices for farm products in a context of progressive liberalisation of agricultural production and markets. The federal state's expenses for agriculture equals something like 3.5 billion Swiss francs (roughly the same in euros) a year. This is quite a lot for a country of 7 million of inhabitants. State money represent a significant part of the farm income (around 70 % of the total income), with an average around 64,000 Swiss francs a year per farm (FOAG 2015). Consequently, most of the attention and debates related to the integration of environmental consideration in agriculture revolve around the official agricultural policy.

However, beside this strong and overshadowing set of public based instruments, there is a profusion of retailer-based instruments of AEG as well, above all certified labels. The Swiss food retailing sector is clearly dominated by two mains actors: Migros and Coop. These two companies share a de facto duopoly, as well as many similarities, in particular their structure and identity as large scale co-operatives (Réviron and Chappuis 2005). The competition for market share and the importance of securing safe and reliable provisioning has led them to develop strategies for differentiation. While Migros attempts to demarcate itself through regional products in accordance with its regional structures, Coop has positioned itself as a promoter of environmentally sustainable food production for many years. In 1993, Coop launched its 'Coop Naturaplan' brand, taking a leading role in the commercialisation of organic products in supermarkets, in collaboration with Bio Suisse (the federation of Swiss organic farmers). Arguably, this alliance participated in the 'conventionalisation' of organic agriculture. Recently arrived competitors (the German hard discounters Aldi and Lidl) have developed communication on the environmental aspects of food as well. Environmental sustainability is now, along with

local provenance and, of course, low prices, part of the dominant language of food marketing in Switzerland.<sup>2</sup>

Paralleling these large-scale sets of governance practices, many small-scale initiatives have emerged within the civil society. They relate generally to processes of re-localisation of the food procurement. Box schemes, organic or conventional, have multiplied in all the country following a few precursors that have been active since the 1970s in big towns, notably Geneva. More recently urban food strategies have developed in several places, creating new space of reflection and discussion about the relations between the town and the provision of food (Salomon Cavin 2013; Wallimann 2015). More generally, process of food re-localisation have developed throughout all the Swiss food systems, with the development of several types of strategies ranging from institutionalised certifications of origin (Boisseaux and Leresche 2002) to more unformal revaluation of the product's provenance (Forney and Häberli 2016).

## Food, knowledge and autonomy

My claim here is that reconnecting research to the following three aspects of food governance opens new paths towards more sustainable governance practices: taking food as an encompassing analytic and policy framework; encouraging the collective construction of new agri-environmental knowledge and cultures; and recognising farmer autonomy as a tool for adaptation. If systemic perspectives on food and a focus on knowledge have already been largely explored, my point is that possible paths were forgotten, notably in connecting the three dimensions of food, knowledge and autonomy in the emergence of new agricultural and food cultures/identities.

Such an approach requires a particular approach to AEG, grounded in the description and analysis of its instrumentation (Lascoumes and Le Galès 2005, 2007). Governance 'instruments' are organised sets of rules, good practices, metrologies and procedures, articulated and developed in order to exercise social control over a targeted population and to influence practices. An instrument develops within a network of actors, creating new ties and reformulating older ones, enacting specific logics and norms and referring to specific forms of authority (Olivier de Sardan 2010). The application of a governance instrument results in varying outcomes as actors make use of them in new and reinvented ways. Beyond instruments and their design and materiality, localised practices, specific networks and practical norms emerge in a process of interaction, translation and reinterpretation that we can call "everyday

<sup>2</sup> This is a very condensed and general presentation of the Swiss context, as my objective is only to give to the reader a broad idea of AEG in Switzerland. For further descriptions of the Swiss agricultural policy, see Mann (2003)

governance" (Agrawal and Gibson 1999 ; Blundo 2002) or AEG practices. Consequently, this paper advocates a "meso point of view" (Blundo and Le Meur 2009) on governance, which would look at how AEG is produced through repeated interaction between diverse actors constituting an AEG network. Among the key actors of such networks, some are human, from policy makers to private certifiers, from supermarket boards to farmers' associations. Others, however, are not: indeed, legal documents, metrological tools, soil, animals and many non-human actors also play a central role and are not passive recipients of human action.

In the following, I illustrate some of the issues related to each of these three dimensions, using short examples from the Swiss context, in order to open on a few conceptual developments.

### Food as framing and symbol

Almost every Swiss farmer I met during more than 10 years of research told something that can be summarised as: "Environment, it's Ok, but my job is food production." What is striking in this assertion is the structural opposition between two functions: environment and food production. This opposition is translated in identity terms, assimilating food production to what a farmer really is and, consequently, environment, to what he is not, at least not essentially. The study by Home et al. (2014) confirms this oppositional conception, which, obviously, is not a good starting point to get farmers buying in more environmentally friendly farming practices. This opposition reflects as well in the design of the Swiss Agricultural Policy. Direct payments are attributed to farmers for specific practices promoting biodiversity or animal welfare, independently from the food production resulting (or not) from the farming activity. More generally, beside the general aim of the national food security or a fuzzy productivist and quantitative narrative of 'feeding the world' there is no real integration of a broader food dimension into the agricultural policy. As an example, and as others have observed for the CAP in the UE (Birt 2007; Lang 2009; Schäfer Elinder et al. 2003), despite the dramatic role that nutrition plays in public health issues today, the Swiss federal agricultural and health policies remain completely separated. As underlined by Bricas et al. (2013) for the French context, there is a real need of re-addressing and reformulating the relations between agriculture and food.

This separation of agricultural policies and broader food-related issues manifests as well in the framing of agri-environmental governance as an agricultural concern exclusively. As an illustration, a comparative review of the development of organic policy networks in European countries, including Switzerland, (Moschitz and Stolze 2009) does not mention at all the obviously important role played by retailers in the development of organic markets. Here we find again the splitting of the research on AEG between public policy and

private governance, which illustrates a broader societal separation between agriculture and food, as recently pointed by Lamine (2015).

Systemic approaches to agri-food issues have long been advocated as a way to counter this compartment thinking and reunify agriculture, food and the environment (e.g. Hinrichs 2010; Lamine 2015). Indeed, there is more than 'just' systemic thinking in a food approach. Kloppenborg et al. (1996: 41) refer emphatically to the "centrality of food in our lives and its capacity to connect us materially and spiritually to each other and to the earth". More materialistically, adopting a 'food framework' requires a broad understanding of AEG as an 'assemblage' (Le Heron et al. 2013). Food as a guiding concept reassembles activities and networks of human and non-human actors that have too often been separated, specifically throughout agricultural production, environmental conservation and sustainable consumption. The food framework allows us to reconsider current challenges facing agriculture, and to make connections with broader issues such as health, resources management and demography (e.g. Goodman and DuPuis 2002; Levkoe 2011; Marsden 2000). The impressive development of organic food offers a good example of the power of new connections between specific agricultural practices (e.g. chemical free) and new criteria for food quality, associated with both health and sustainability. This assemblage is, arguably, a key element—though not the only one—in the success of the organic food chain. Furthermore, reconnecting AEG with the food dimension of agricultural practices is also necessary at the symbolic level. Food is an essential element of human life and this makes it a strong vector for values and identities, both in consumption and production. As formulated by McMichael (2000), food "embodies the links between nature, human survival and health, culture and livelihood". Acknowledging this symbolic force is crucial in providing actors along the food chain with the conceptual tools to collectively recreate meaning and consistency in new and more sustainable production and consumption habits.

### Building on collective knowledge

This focus on new meaning is related to a second dimension in AEG: the creation of collective knowledge and learning processes as key elements for socio-environmental change. In Switzerland, existing AEG tools generally relate to a list of very precise top-down requirements that the farmers have to follow in order to get some state money or a private based label, e.g. grass that cannot be mowed before the 1st of July, limitations of nutrient and chemicals. For farmers, there are no objectives to reach, no challenge despite the one of coping with the ever evolving set of rules and the increasing volume of paperwork. Such AEG instruments might produce new skills among farmers, but mostly in administration and

management work. Farmers are not expected to develop new environmental knowledge or skills. As a consequence, the Swiss farmers I interviewed, when talking about environmental schemes, often mentioned their unease to be paid for doing ‘nothing’. Environment friendly practices are seen as ‘doing less’. Similarly, the criteria for being integrated in retailers-led environmental or animal welfare labels are defined in a very top-down way, e.g. square meters per capita in the stable, numbers of trees in the walking area... Again, farmers just have to comply with a ticking-box style list. Nobody seems to care if they understand and agree with the requirements, or if some specificity of their particular situation influence the results of the scheme in an unexpected way. There is some sort of alienation in this process and this statement fits very well with Burton et al. (2008) interpretation of farmers’ resistance to environmental schemes in terms of social and cultural capitals: no knowledge, no sense of work, no pride, no transformation.

In the literature, issues of knowledge are generally understood in cognitive terms: the ability to apply new techniques and to understand the complexity of ecological issues in their interaction with farming practices. While technical knowledge and know-how play a central role in the practice of sustainable farming, Carolan (2006) points to the deeper implications of processes of knowledge creation and mastery and their impact on people’s evaluation of the benefit of farming practices. Knowledge influences how we ‘see’ the world and developing sustainable agriculture is a matter of facilitating new ways not only of knowing but also of seeing. Thus, knowledge has to be understood in a broader sociological sense. Following the works of Foucault and Bourdieu, knowledge relates to power and hierarchies on the one hand, and, more modestly, to self-esteem and recognition on the other, the two aspects being interconnected. In other words and following Foucault’s distinction between ‘savoir’ and ‘connaissance’ (Foucault 1994), the creation of collective forms of knowledge is more than individual ‘know-how’. Collective knowledge gives birth to new socio-cultural resources. In Bourdieuian terms, it produces cultural, symbolic and social capital, which contributes to re-define social positions and open up new ways to prove one’s value in a given social field (see e.g. Bourdieu 1979). In the farming context, this means that new practices and knowledge result in transformation of the definition of ‘good farming’. More fundamentally, new knowledge allows for reinterpreting one’s situation and finding new possibilities for sense-making. This is of particular importance for the Swiss farmers, who express a growing sense of disconnection between their aspirations and the evolution of the political and economic context they find themselves in (Forney 2007, 2012). Bell’s (2004) work on “practical farming” in Iowa provides an excellent example of how the development of new farming practices articulates with new networks of knowledge and value sharing, allowing individuals to regain

control over what they do and why they do it. In short, knowledge building is associated with empowerment and autonomy. These considerations on the importance of collective knowledge parallel other approaches in development studies, such as ‘social learning’ (e.g. Davidson-Hunt 2006; Rist et al. 2007). For instance, Schneider et al. (2009), apply a social learning perspective in their study of a farmer to farmer learning process in agricultural soil management in Switzerland, which allows them to address the “transformation of the values, norms, rules and power relationships that govern the use of agricultural soils” (Schneider et al. 2009: 476). Their work illustrates nicely the potential of non-hierarchical collective process of knowledge-sharing and building.

Collective knowledge creation is not limited to farmers, however, and the same attention to knowledge should be given to other groups of actors (horizontally, e.g. among retailers, among manufacturers) and across networks (vertically), between actors with different functions and activities along the food chain. This attention would operationalise a definition of governance practices as dynamic phenomena that include learning processes (Henson 2011). Thus, what I call ‘collective knowledge’ presents strong similarities with ‘second-order learning’ processes in reflexive governance practices, described by Marsden (2013: 131) in relation to “awareness of and change to interpretive frameworks”.

## Autonomy

Independence and autonomy are key factors in professional identification and in decision-making for farmers (e.g. Niska et al. 2012; Stock and Forney 2014). Discussions on farmers’ autonomy has generally been oriented towards a criticism of the industrialisation, and more recently financialisation, of agriculture, resulting in their subsumption and domination (e.g. Mooney 1988; van der Ploeg 2008). Current challenges to farmers’ autonomy are complex and multiples. In Switzerland, the association of market deregulation and multifunctional agricultural policies result in a double pressure. The first is classically related to processes of industrial integration. As an example, the removal of the milk quota system clearly disempowered dairy farmers in their relation to the industry (Forney and Häberli 2016). The second ensue from the public and private environmental regulations that increasingly constrain farmers’ room of manoeuvre. Furthermore, the obvious contradiction between self-representations as autonomous and independent farmers on the one hand and the clear dependency to state subsidies are clearly stated by every interviewed farmer and regularly pointed out by farmers’ unions’ representatives in professional newspapers. The loss of confidence resulting from this situation produce clear psychological suffering in the farming population (Droz et al. 2014), but do not restrain farmers’ search for autonomy.

Farmers value their independence and autonomy even in very constrained situations caused by political and economic relations of dependency (Stock and Forney 2014). Thus, ‘autonomy’ must be conceived not only as a moral value but as a positive ‘project of self-constitution’ (Böhm et al. 2010: 20) and, as such, is a valuable ‘social tool’ for adaptation. Farmers refer to autonomy to create a sense of identity (“this is what I am”); to navigate constraints (“this is what I can do”); and to buffer change in the playing field (“this is how I can react”) (Stock and Forney 2014). Autonomy as part of a *farming self* involves the formation and evolution of an identity as a farmer in changing social, economic and ecological contexts. This preliminary theory of autonomy helps us understand the role autonomy plays in actors’ enrolment in AEG practices and the invention of new environmental subjectivities. In networks where interdependencies are strong, as in most food networks, individuals are limited and constrained in their ability to implement changes by themselves. However autonomy can be understood also at a collective level, as a collective effort rather than individualistic freedom (Stock et al. 2014), in this sense, autonomy refers to the ability to engage individually and collectively for common goals, as a way of gaining some room for manoeuvre at a collective level and as a way to create paths for action that impact the system. The persistence of cooperative structures in increasingly liberal contexts offers a good illustration of the importance of collective strategies among farmers, for example in Switzerland (Forney and Häberli 2016). All these developments indicate that leaving room for autonomy would be a key element for transformative AEG practices.

## Conclusion

This paper reviewed a large, but never exhaustive, set of writings related to the governance of agri-food systems and environment. I used short ethnographical insights from the Swiss context as illustrations. This process allowed me to identify three socio-cultural dimensions of AEG that, I argue, constitute together a promising path to follow, with the aim of developing new approaches that looks transversally at AEG and contribute to produce more sustainable food futures: reconnection with (and through) *food* production, collective creation and recognition of *knowledge*, and emerging possibilities for farmer *autonomy*. I argue that at the most general level, these three dimensions can serve both as a guide for assessing existing AEG instruments in different national contexts as well as at the transnational level, and as concepts that can help us rethink current policies and propose new orientations for private and public regulations and policy-making.

To follow this path equals to be looking at the transformative potential of AEG instruments. What are the changes they (could) provoke in the concrete everyday life of the food

system actors? How does this modification of the actors’ experience induce a transformation of the ‘spirit of food’—I am expanding here the idea of the emergence of a “new spirit of farming” offered by Rosin (2008)—with a progressive integration of environmental values and practices? This paper calls for more research on these essential questions that have too often been overshadowed by an obsessive attention given to direct and quantitative outputs of AEG in terms of economic or ecological efficiency. The difficulties that classical approaches have met in order to produce effective answers to the many food challenges facing our globalised societies (e.g. Lang 2010; Marsden 2012; Rosin et al. 2011) confirms the need for developing renewed orientations in the research on the governance of the agri-food system.

To do so, we should start with looking carefully at what place and role take—more or less willingly—diverse actors (human and non-human) in the food system and its evolutions. This includes ourselves, as academics and researchers. As an open conclusion, I suggest that a self-reflexive posture plays a central role in the development of an ‘enactive research’ in rural and food issues, called on by Philip Lowe (2010). Looking for new solutions in AEG would mean then to rethink our research practices at every level: methods, theories and epistemologies (Forney 2016). A few research groups have already started to work in such promising directions. I have already mentioned the research done on ‘reflexive governance’ (Marsden 2013) and ‘biological economies’ (Campbell et al. 2009; Le Heron et al. 2016; Lewis et al. 2013). I should probably add others, for instance the work of Michael Carolan on embodied food politics and co-experimentation (Carolan 2011, 2013) and the thought provoking collective developments around food utopias (Stock et al. 2015). These examples of explorative and emerging scholarships give illuminating insights on what could be a renovated agri-food research that looks at contributing to the development of better food system, in a particular and original way that is neither activism, nor distant and cold expertise.

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