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ARTICLES

Transformative Participation in Agrobiodiversity Governance: Making the Case for an Environmental Justice Approach

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Abstract This paper makes the case for an environmental justice approach to the practice and study of participation and effectiveness in agrobiodiversity governance. It is argued that, in order to understand the conditions under which participation leads to improved outcomes, the concept has to be rethought, both from a political and a methodological perspective. This can be done by applying an *ex-ante* environmental justice approach to participation, including notions of distribution, recognition and representation. By exploring the approach through empirical examples of participation in biodiversity and environmental governance, a research framework is outlined, attempting to bridge normative and practical approaches to environmental justice, and tested on two cases of agrobiodiversity governance in Western Europe.

Keywords Environmental justice · Agrobiodiversity · Participation · Effectiveness · Environmental governance

Introduction

Most environmental governance processes today include some form of participation.[1] Stakeholders are not confined anymore to a lobbying or implementation role but increasingly become agents of socio-ecological innovation in environmental governance (Biermann et al. 2009). Participation in environmental governance is

[1] In this article, participation is understood as the involvement of non-state actors in environmental governance processes, whether state-led or community-based.

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broadly advocated for by both researchers and practitioners, as it is generally assumed to lead to greater compliance and adherence to the norm (Schenk et al. 2007), to favor institutional fit (Galaz et al. 2008; Fung and Wright 2003), to improve legitimacy (Engelen, Keulartz and Leistra 2007), or to spur direct bottom-up action for the environment, all of which can potentially improve environmental outcomes. But while the case for increased participation is based on its potential for more environmental effectiveness, a decade of empirical research on participation in environmental governance has produced mixed results and failed to establish causal links between participation and higher environmental quality (among many others see Young et al. 2013; Carr et al. 2012; Newig and Fritsch 2009; Richards et al. 2004; Beierlee and Konisky 2001).

Two major shortcomings can be identified in the current approach to participation and effectiveness. The first shortcoming is a methodological one: the research question is too imprecise and/or too broad to produce useful results. Some participatory processes will yield higher environmental quality, while others will not. This can be explained by the fact that the inclusion of stakeholders in the decision-making process is only one of the many aspects affecting the effectiveness of environmental regimes (Young et al. 2008). It is necessary to ask additional questions about the conditions through which improved outcomes may occur. The second shortcoming is a political one: participation is viewed as a depoliticized technical tool. In both research and practice, the failure to theorize the concept of participation leads to an insufficient understanding of the role of popular agency and institutional structures conditioning (the effectiveness of the outcome of) participatory governance.

Considering these two points, if we are to strengthen participation as a policy goal, an objective that seems to be firmly embedded in today's environmental policy-making, the question to address therefore is not *if* participation in environmental governance produces effective results, but *under which conditions* it does. Borrowing from contemporary thinking on transformative participation in the development literature (see for instance, Hickey and Mohan 2004), I argue that these conditions can be found by adopting a coherent normative stance (Reed 2008), one that refocuses participation on issues of justice, empowerment and democracy. The working hypothesis of this paper is that, through its recent developments, environmental justice presents an excellent candidate for such a coherent normative stance. Through the comparison of two effective agrobiodiversity initiatives (i.e. of which the outcome improves agrobiodiversity), this paper analyzes the justice-relevant governance conditions underlying the success, using environmental justice as an analytical framework. The goal here is to approach participation from a rights-based perspective, exploring the possible relations between normative claims for the empowerment of participants and the environmental effectiveness of the outcome, understood in this paper as the improvement of agrobiodiversity.

Agrobiodiversity is interesting in this context, as it is not only an environmental issue, but a tool for political, cultural and economic autonomy. Indeed, the diversification of agrobiodiversity is a condition to break with a farming system in which plant and animal varieties, agricultural knowledge and practices, as well as commercialization and distribution are controlled by a small group of dominant

actors. In other words, using traditional varieties and local landraces is seen as a political statement (Demeulenaere and Bonneuil 2011).

The first part of the paper introduces the theoretical background, finding common ground between discussions in the domains of participation and environmental justice. In an attempt to operationalize Nancy Fraser's three-dimensional parity of participation concept, one of the theoretical foundations of contemporary environmental justice, a framework for the analysis of justice-relevant governance conditions is presented in part two. Part three of the paper briefly describes the research methods and the studied cases and part four then analyses how justice-relevant conditions to participation may explain the environmental effectiveness of the cases. The last part concludes.

Linking Participation, Justice and Effectiveness in Environmental Governance

Since the institutionalization of public participation for sustainable development by the Rio Declaration and the Aarhus Convention, a triple shift has been observed in dealing with participatory approaches in biodiversity and environmental governance (Rauschmayer et al. 2009; Rowe and Frewer 2004). The first one is a gradual shift from state-organised consultation and/or top-down inclusion of relevant stakeholders, towards the emergence of stand-alone bottom-up initiatives, mostly community-based, but sometimes taken over or supported by the state. In parallel, and partially as a consequence of the first shift, there has been a shift towards the use of post-normal science to deal with uncertainty and complexity. The use of post-normal science can be understood as the extension of the peer community producing evidence serving to inform the decision-making in circumstances where traditional science falls short or is deemed inadequate. Finally, in the biodiversity regime, the focus has shifted from a protection-only perspective towards a multi-dimensional human-centered approach, such as the idea of 'sustainable use' and the ecosystem services narrative (Rauschmayer et al. 2009; Engelen et al. 2007).

Together, these three shifts can be understood as a democratization of environmental governance. Not only is there an increasing opportunity for citizens to shape environmental solutions, the quality and sustainability of their communities become centerpiece of environmental endeavors, and their knowledge is recognized as potentially useful. In other words, in light of this triple shift, it can be said that biodiversity governance is increasingly concerned with 'people' in their relation to natural environments, extending beyond ecological problems alone to fully encompass economic and social issues. If people are at the core of contemporary biodiversity policy then it must be more broadly linked to issues of justice, empowerment and democracy, or, in other words, to environmental justice (Walker 2012; Schlosberg 2007; Agyeman and Evans 2006). Environmental justice then can provide a framework to analyze participation in environmental governance (Newell 2007, 238 cited in Sikor 2013).

Politically, the notion of environmental justice finds its origin in the late 1970s and 1980s, through the struggles of low-income and color communities against unequal spatial distribution of toxic contamination in the US. Through a distributive

focus, and in line with late-twentieth-century Anglo-American liberalism, these movements were concerned primarily with "the manner in which benefits and burdens should be allocated when there is a scarcity of benefits (relative to people's wants or needs) and a surfeit of burdens" (Wenz 1988). Up to this day, fair distribution of benefits and burdens remains an important dimension for communities seeking environmental justice around the world (as illustrated, for instance, by the EJOLT project's 'Environmental Justice Atlas'[2]).

However, with the evolution of normative claim-making in post-modern societies, environmental justice has evolved beyond a distributive focus alone, to encompass a more plural understanding. In a now authoritative attempt to merge the claims of the environmental justice movement and the different existing theoretical frameworks, Schlosberg (2007) depicts a tri-dimensional view of environmental justice. Alongside the substantive approach of the distribution of environmental goods and bads, Schlosberg adds the dimension of recognition and representation to his framework. Among several other authors, Schlosberg explicitly draws upon Nancy Fraser's 'post-Westphalian theory of democratic justice', according to which the first meaning of justice is 'parity of participation' in social interaction. Participating in society can be impeded by a combination of economic exploitation, cultural subordination, and political inequality. Overcoming this "requires social arrangements that permit all (adult) members of society to interact with one another as peers" (Fraser 2001, 6, 2009).

Rethinking participation through this three-dimensional environmental justice framework, with its focus on socio-material empowerment and democracy, allows shifting the focus from participation as a technical tool to participation as a justice-relevant political process (Carr et al. 2012; Suiseeya and Caplow 2013), thereby developing what has been termed a "post-participation approach" (Reed 2008, 2418). It also allows borrowing from contemporary thinking on transformative participation in the development literature, in particular from the concept of 'participatory citizenship'. A radicalized notion of citizenship, it is invoked as 'rights-based' approach to participation (Hickey and Mohan 2004).

Doing this also posits the "right to participate [as] a prior right, necessary for making other rights real" (Gaventa 2004, 29). This is important with regard to existing approaches to environmental justice. Traditionally conceived as the consequence of a decision-making process (i.e. *ex-post*), environmental justice here is used as an *ex-ante* framework: the justice-relevant governance arrangements described below are seen as enabling conditions to (parity of) participation, rather than a result of it (Young 1990).

Operationalizing Parity of Participation in a Farming Context

According to Fraser, parity of participation is conditioned by three interacting dimensions: an economic dimension, a cultural dimension and a political dimension. Each of these dimensions is discussed below in the context of food and agriculture.

[2] For more information see http://ejatlas.org/.

The economic dimension is straightforward: participation does not just happen, it requires financial and human resources. These resources may not be equally accessible to participants, especially in times of exacerbating economic inequality (Piketty 2014), conditioning their ability for social interaction. In other words, parity of participation is inhibited when certain actors do not possess the necessary material resources to play their role in society (Fraser 2000, 1992). The level of access to resources thus conditions social interaction: "subordinated social groups usually lack equal access to the material means of equal participation" (Fraser 1992, 120). Fraser's economic dimension links up with the concept of distributive justice: overcoming disparities in the access of participants to the resources for participation (money, people, land, …) requires a (re)distribution of available resources. However, as stated above, the distribution of resources is not analyzed as a consequence of a decision-making process, but as a condition to the effectiveness of its outcome. Examples of economic injustices can include exploitation ("having the fruits of one's labor appropriated for the benefit of others"); marginalization ("being confined to undesirable or poorly paid work or being denied access to income-generating labor altogether") and deprivation ("being denied an adequate material standard of living") (Fraser and Honneth 2003, 13).

The economic dimension is important in an agricultural context. In Europe, farms are disappearing at an alarming rate (Eurostat 2015), mostly for economic reasons, opportunities for prospective farmers to start their own activity are rare if land and property is not inherited, and price wars in the retail sector happen at the expense of the farmers' share of the profit, as illustrated by yet another 'milk crisis' in 2015. These issues keep farmers from participating on equal footing with one-another. In this context, Fraser's economic redistribution is operationalized as the material conditions facilitating participation of farmers, including measures fighting economic exploitation, marginalization and deprivation such as, for instance, fair(er) pricing, financial support, human resources, and access to land.

Closely related to the economic dimension is the cultural dimension. According to Fraser, an equitable participation requires the recognition of social and cultural differences of the participants. Indeed, participation can be inhibited by the institutionalization, in law or in practice, of socio-cultural hierarchy. Representatives of the institutionalized cultural norm then have much more possibilities to participate in society. In an agricultural context, misrecognition is characterized by the subordination of alternative forms of agriculture to conventional high-input solutions, which represent the agricultural norm in Western societies. As Altieri and Nicholls (2012) note, no matter how much evidence of the effectiveness of agroecology is produced, it is still considered a *marginal* form of agriculture, and thus replaced by conventional solutions via political decision-making.

While this could be explained by the economic power the agro-industry has over democratic decision-making, looking at agriculture through a justice-as-recognition lens sheds another light. The sustained importance of high-input agriculture, despite overwhelming evidence of disastrous social and environmental impact, may also be explained by the fact that the industry, the world vision it represents, and the knowledge it uses are recognized as the Western agricultural narrative. Misrecognition, hence, translates in policies and law which disadvantage alternative farmers

from participating, such as seed policy outlawing the use of traditional and farmer varieties (Bocci and Chable 2009), unequal access to research opportunities (Vanloqueren and Baret 2009), certification systems favoring business-as-usual approaches, etc.

Moreover, the analysis of the role of cultural recognition must also take into account the different ontological and epistemological perspectives of the participants. In today's knowledge society, hierarchization of socio-cultural value is largely influenced by our knowledge systems. Not only can it be considered unjust, it also creates dependence on one dominant knowledge system (e.g. industrial farming). Ontological and epistemological recognition would allow for alternative practices to grow their cultural status and become viable solutions. This is why recognition should also be approached through a form of cross-cultural cognitive justice. Cognitive justice encompasses not only the right of different knowledge forms to co-exist, but entails an active engagement across them (Visvanathan 2005).

Recognition in the farming world hence should be achieved through measures promoting both status equality between different forms of *doing* farming and a 'critical plurality' of knowledges (Schlosberg 1999), valorizing and engaging with different ways of *knowing* farming. In practice this equates to governance processes aiming for an "affirmative recognition of difference" (Fraser 2000) through the legal recognition of alternative farming practices, the strengthening of farmers' identities, and the pluralization of knowledge systems.

Finally, the third dimension of participation is political, in the sense of membership and decision-making procedures. What Fraser calls 'representation' tells us "who is included, and who excluded, from the circle of those entitled to a just distribution and reciprocal recognition" (Fraser 2005, 6). First, it deals with decision-making rules and its consequences for the ability of actors to participate: inadequate decision-making rules might *misrepresent* certain people. Second, participation depends on the way in which the boundaries of participation are established (i.e. 'the politics of framing'; Fraser 2005, 11): who's authorized to deliberate and negotiate in the decision-making? The 'who' of participation is based on a 'subjected principle' which requires "all those who are subject to a given governance structure have moral standing as subjects of justice in relation to it" (Fraser 2009, 65). Third, just representation is contingent upon the level of democratization of the decision-making process. Not only must participants be allowed to participate though the setting of inclusive boundaries, they must also be empowered to help set those boundaries themselves (Fraser 2009).

Methodology and Cases

While this sets the normative framework of participation, it does not itself say much about the practical benefits of such a rights-based approach. The next section hence analyses how justice-relevant conditions of participation in two different cases have contributed to the improvement of agrobiodiversity. To do so, this paper compares the cases using Mill's method of agreement. Although the two cases are very different—the first one is a pig-breeders association in southwestern Germany,

while the second one is seed exchange network in southwestern France; they thus have different production systems, different farming practices, and produce different agricultural goods—they share the same outcome, i.e. an improvement of their agrobiodiversity. Through a least-similar case comparison, justice-relevant conditions shared by both cases are identified, which explain why, despite a contrasting configuration, these cases both have an effective outcome. However, as noted before, many different conditions may lead to the effectiveness of environmental governance processes; a situation of "plurality of causes" as Mill puts it (cited in Bennett 2004, 32). Making use of the literature on effectiveness and environmental governance, the case comparison is combined with process tracing, allowing controlling "whether the intervening variables between a hypothesized cause and observed effect move as predicted by the theories under investigation" (Bennett 2004, 22).

It is important to stress that this does not equate to a strictly defined normative positioning on participation: I do not define what justice is, claim that there is or could be a specific form of just participation, nor that it will automatically yield instrumental benefits. As Sikor (2013, 14) notes, governance conditions, referring to economic, cultural and political dimensions, "are not simply either just or unjust" (even though they can influence the "the emergence of justices and injustices in the practice of environmental management"). Instead, I assume that "the way rights are claimed in different contexts is a key determinant of a positive outcome" (Gaventa and Barrett 2010, 16–17) and try to echo a process of 'framemaking' social movement undertake to legitimate collective action or participatory processes. Framemaking is a notion that acknowledges the inherent plural and reflexive nature of justice-relevant claim-making (Walker 2012) and generally involves both normative and instrumental aspects (Benford and Snow 2000). Here, I am using a normative rationale as an analytical framework to identify justice-relevant conditions which have contributed to environmental effectiveness. In doing so, I deliberately avoid the debate on whether normative and instrumental rationales to participation are indeed commensurable or not (Wesselink et al. 2011).

Data was collected through a combination of interviews and direct observation (for the case comparison), primary and secondary sources (for process tracing). Six in-depth open-ended interviews with key members of both associations and direct observation took place in December 2013, January 2014 and September 2015. Questions were organized around the three justice-relevant dimensions of the above research framework. In other words, questionnaires focused on how justice-relevant governance conditions to participation such as resource availability, power relations, knowledge plurality or decision-making methods impacted ecological conditions. Primary sources were mainly organizational documents such as annual reports, members' magazines and internal communications, and policy documents.

The first case is a pig-breeders association in Schwäbisch Hall, a small town, capital of the eponymous district, in the state of Baden-Württemberg, southwestern Germany. The location is home to the Swabian-Hall swine (*Schwäbisch-Hällische Landschwein*), a local pig breed stemming from a crossbreed between the Chinese Meishan pig, imported by King William I of Württemberg in 1821, and a German landrace. The locally adapted landrace gained enormous popularity in the 19th and

first half of the twentieth century, with a market-share of over 90 % by 1959. Despite its popularity, the swine almost disappeared 25 years later, with the introduction of fast-growing Dutch 'high-performance' breeds, suitable for mass production and with low fat content. Livestock declined sharply, and by 1984 the Swabian-Hall swine was considered to be extinct Thaller and Bühler (2010).

The critical condition of the race led a small group of farmers to launch a conservation campaign to save the Swabian-Hall swine. In the 1980s, they created the Schwäbisch Hall Producers' Community (*Bäuerlichen Erzeugergemeinschaft Schwäbisch Hall*, or BESH) and a Breeders' Community (*Züchtervereinigung Schwäbisch Hällisches Schwein*), defending a "holistic approach to rural development".[3] In such an approach, the environmental goal (i.e. rebuilding the genetic population of local pig-breeds) goes hand in hand with the socio-cultural, economic and political objectives (raising farmers' status, living conditions and representation by making them independent from conventional breeds and industrial circuits).

The second case is a seed exchange network hosted by AgroBio Perigord (ABP), an association for the development of organic farming in the French region of Aquitaine. In 2001, following contamination of their crops by GM seeds, and worried about the disappearance of local plant varieties, the association launched a program called 'Aquitaine grows biodiversity' (*l'Aquitaine cultive la Biodiversité)*. It aims to experiment with and reintroduce community-owned peasant varieties of a diverse set of crops such as corn, sunflower, soybean and grape vine. In 2003, following increasingly restrictive seed policies, ABP joined the national Peasant Seed Network (*Réseau Semences Paysanne*), which now counts over 60 members nation-wide.

Both cases are examples of environmental effectiveness in terms of agrobiodiversity. BESH's main achievement, of course, is re-building the local landrace population from what was once considered an extinct breed. Although the swine is still considered to be in danger, the community counts over 1400 farmers breeding the Swabian-Hall swine and the network was broadened with local cattle and poultry breeders. In the same vein, and while initially experimenting with only a few peasant varieties, AgroBio Perigord successfully re-introduced or re-created over a 100 local crop varieties, which are being grown by 300 farmers.

Findings: Linking Justice-Relevant Conditions and Effectiveness

Economic Distribution

The distribution of material means conditions the effectiveness of a decision-making process: participatory governance is unlikely to produce effective results when some participants are able to dominate others in terms of resources, be they human, financial or structural (Fung and Wright 2003), or when farmers are being exploited or economically marginalized. Despite its importance for empowering

[3] Author's interview with a staff member of the BESH, 28 February 2014.

participants, the availability of these material resources is often overlooked when studying stakeholder participation in environmental governance.

In Swabish Hall, a community-based pricing system is being used: both meat prices and production amounts are fixed communally in advance, and the association guarantees buying of the production amounts set communally in advance. But production costs of the Swabian-Hall swine are approximately 12 % higher than for 'high performance' breeds (Leipprand et al. 2006). While this could have been a genuine economic burden for the breeders, or a disincentive for prospective breeders, farmers redistribute part of the network's profits as financial support: BESH breeders get a 0.33 euro supplement per kg of carcass on top of the market price, if the quality of the meat meets the community's quality standards. These measures guarantee a stable income and a fair share of the profits, while allowing for stability in the production process, which permits greater attention to environmental issues, to animal welfare and to the quality of the meat.

Moreover, the French case shows that the economic dimension goes beyond these rather obvious financial and human aspects. The distribution of other, more structural, types of resources, such as land, can also prove crucial for the effectiveness of the outcome of the processes. ABP set-up a 'regional experimentation platform' (*plateforme régionale d'expérimentation*), a unique communally-owned test-field on which crops and breeding techniques can be observed, tested, and multiplied before being used in members' fields. Moreover, through the association, each farmer makes available a plot of land for open-field and environment-specific testing. Once tested, farmers multiply and return two-thirds of the initial amounts of seed to the community seed bank. This form of land redistribution is a core characteristic of the participatory governance project which directly contributes to the improvement of agrobiodiversity. In participatory plant breeding approaches, such as in the French case, the participation of land-owning farmers is a necessary condition to allow for the development of environment-specific breeding techniques (Sperling et al. 2001). Landownership provides for representative sites for on-farm testing, with the objective of attaining higher environmental quality (Pautasso et al. 2013) or for the reintroduction of threatened varieties. The regional experimentation platform of ABP, for instance, makes possible the multiplication of varieties which would not be grown in open fields due to low yield potential, but possess other interesting characteristics (gustatory, nutritional, precocity, etc.). In other cases, access to land may also be a matter of scope: if certain landowners are excluded, the area of activities to which biodiversity measures apply may be incomplete, and therefore, in- or less effective (Brody 2008).

Finally, both associations employ permanent staff which supports the farmers in tasks as diverse as commercialization, product marketing, logistics support, internal communication, research subsidies, and recreation. Such immaterial support, by a leading organization or agency, has also been found to relate to success (Beierle and Konisky 2000).

Cultural Recognition

Economic dimensions alone cannot fully explain why farmers participate in initiatives for environmental conservation (Popa 2015). The socio-cultural dimension too is key to understanding the improvement of agrobiodiversity from a justice-perspective. Both the cases include different measures aiming to improve the recognition of their members. This is also reflected in the interviews: when asked about the main motivations for farmers to join the associations, all interviewees mentioned improved recognition (of their identity and/or their knowledge) as a key incentive.

A first obvious necessary condition to participation is legal recognition. Their is a need to create a legal space in which alternative farming practices, often based on improved agrobiodiversity, can exist. Both cases faced a similar challenge following their establishment: the monopoly of the state for organizing breeding. While the BESH is now an official breeding organization, it took the association 13 years to obtain legal recognition for its breeding activities. The situation for ABP is more complicated, as the activities of the association have gradually been restricted over time. Moreover, since 2011, a new plant breeders' right was adopted by French parliament, strongly limiting the possibility for farmers to re-grow their seeds. However, as the use of peasant seed varieties is currently unregulated under French law, they are considered 'phytogenetic resources', which can be grown for experimental purposes, a situation used by ABP to support the activities of its farmers.

Legal recognition, however, may not be enough in a context characterized by strong vested interests. The farmers' role in shaping farming practices and systems, and their specific identities may also require proper recognition. Recognition translates in the belief that the (re-)integration of diverse and decentralized knowledge systems (particularly farmer-driven knowledge) is a necessary pre-condition to depart from high-input breeding. Indeed, the dependence on external input can be explained by a process of deskilling of the rural workforce (Timmermann and Felix 2015; Stone 2007; van der Ploeg 1993), and of centralization of knowledge.

Both cases show an increasing willingness to establish collaborative learning spaces across disciplines and borders. The BESH, for instance, teamed up with German universities to launch a joint project under the EU Horizon 2020 research program, studying connections between traditional feed (e.g. grass) and improved meat quality. It also invited local environmental NGOs to co-define internal breeding guidelines and production standards. In France, ABP has been organizing participatory research programs, focusing on environment-specific in situ breeding, led by farmers but supported by external experts. Moreover, there is an increasing tendency to "learn from the South" (Stringer et al. 2008). In both our cases, experience with Brazilian and Mexican farmers' associations, respectively, explicitly inspired their governance systems, and collaborative international networks have been established with farmers' associations of the Global South.

The confrontation between different worldviews can lead to a form of collective or social learning process, which Kendrick (2003) called the "emerging dialectic of

conceptual diversity". This "negotiated knowledge", based on the constant input of formal and non-formal knowledge, allows for the generation of a "common view regarding problems, solutions, and ecological status" (Sandström 2011, 296). Not only does this allow for different knowledge systems to co-exist, it also has shown to improve the outcome of environmental governance projects in the past. Corburn's (2003) example shows how the inclusion of local knowledge through community participation has pushed the US Environmental Protection Agency (EPA) to rethink the epistemological foundations for its assessment of the community's air toxic exposures in New York. This has led to an important increase of the amount of data sources being used for the assessment, a solution which may be more environment-specific and thus provide a better outcome (Witcombe et al. 1996).

Measures aiming to improve legal recognition, and the valorization of their knowledge and identity, hence cover a dual reality of participation and effectiveness. On the one hand, the *de jure* or *de facto* subordination of alternative forms of agriculture to conventional approaches marginalizes alternative farmers, inhibiting their capacity to use alternatives practices based on a broader diversity of crops and lifestock. On the other, misrecognition of certain worldviews and knowledge systems may lead to an over-simplification of potential solutions and, hence, an ineffective outcome. In other words, "what counts as legitimate knowledge, and how it is generated, influences its practical effectiveness" (Turnhout et al. 2012, 454).

Political Representation

In both our cases, decision-making is strongly decentralized. Although bound by shared production standards, farmers retain full autonomy on their farms, not only in terms of practices, but also in the choice of varieties/landraces and in terms of production amounts. This relational autonomy finds its roots in a vision of the farm as "autonomous organism", where external input must be restricted to a minimum (Demeulenaere and Bonneuil 2011) and replaced by the "endogenous potential of agriculture" (Guzmán and Martinez-Alier 2006) based on a rich agrobiodiversity. This also extends to the commercialization: at the BESH, farmers can sell their meat through the network or directly on their farms. In both the cases, beyond minimal amounts needed for multiplication, farmers are not imposed production amounts by their respective associations.

While decision-making is decentralized, the boundaries of participation are more tightly organized. Farmers in both France and Germany function within an deliberately limited geographical space. In Germany, for instance, joining the association is only possible for breeders located in the traditional breeding area of the Swabian-Hall swine. Moreover, only the BESH can sell and market the meat: no other distributors are allowed in the supply chain. In France, where due to its novelty ABP initially expanded nation-wide, the association is now refocusing on local farmers, as "working with farmers all over the country makes follow-up very difficult".[4] These geographical boundaries do not preclude close collaboration with

[4] Author's interview with a staff member of ABP, 11 December 2013.

other similar initiatives throughout the country, on the contrary. What this geographic proximity does, however, is improve the associations' level of closure. Borrowing from network analysis and social capital theory, closure represents the level of cohesiveness, which strengthens the social relationship between participants and allows for the development of a shared identity and common narrative. For Sandström (2011), well-connected governance structures are likely to facilitate internal communication and deliberation, which have been identified as defining conditions to the success of a participatory process (Beierle and Konisky 2000). Moreover, the explicit framing of the political community in our cases, empowers participants to see themselves as agents of change, recognized by the community as key stakeholders of rural development, increasingly aware of "the rights to have rights" (Gaventa and Barrett 2010) and part of a greater goal of redefining farming practices.

However, mere inclusion of a range of participants may not by itself lead to higher outcome quality. The presence of specific representative profiles within the group of participants may also influence the quality of the outcome (Sperling et al. 2001). As such, Brody (2008) found that the participation of specific participants (in his case, resource-based industry groups) had a strong positive effect on the quality of ecosystem planning in Florida. The same is true for our two cases, where specific participants have been included in the process in order to improve farming practices or to redefine supply and demand. In both cases, facilitators, agricultural engineers, environmental NGOs, seed bank managers, and academic researchers are participating in the associations' activities. While farmers keep their autonomy and define their own farming practices, the inclusion of external participant is based on the awareness that "the lack of skilled practitioners able to facilitate participatory processes is a major limiting factor to sustainable development" (Tippet et al. 2007, 24). This facilitation can take the form of 'knowledge brokering' to allow for scientifically valid decision-making, thereby avoiding was has been called "negotiated nonsense" (Koppenjan and Klijn 2004). It helps prevent ineffective spatial or temporal trade-offs and avoid a race to the bottom created by the pluralization of epistemological perspectives discussed above.

The inclusion of end-user and transformers moreover allows to directly promote and encourage the use of non-conventional varieties. In France, local cooks are encouraged to introduce local varieties on their menus, a cookbook is being written using local varieties, and partnership with local livestock farmers allows getting nutritionally richer local varieties on the market as animal feed. In Germany, the BESH teamed up with surrounding communities and local authorities to collectively run a local slaughterhouse and a network of butcher-shops, which exclusively supply BESH's meat. It allowed the broader community to gain control over the whole value-chain, from farm to fork, and redefine the conditions of market access. In doing so, it not only has created a direct relationship between producers and consumers, it has empowered both these groups to jointly reshape breeding activities throughout the region, based on sustainable traditional breeding techniques, and to shift the regional agri-food system from an industrial farm-level only approach to a broad transformative rural development process.

Conclusion

This paper has argued that, in order to promote participation in environmental governance, the concept has to be rethought. Not only methodologically, by focusing on the conditions through which improved outcomes occur, but also politically, by adopting a post-participation approach that repoliticizes the study and practice of participation. It is argued that environmental justice, consisting of both political theories and empirical realities, can serve as an analytical framework, which, when put in relation with empirical data on participation and outcome-effectiveness in environmental governance, can be used to identify the determinants of a positive outcome. This practical approach to environmental justice allows studying participation from a rights-based perspective, searching for common ground between the empowerment of participants and environmental effectiveness.

The empirical usefulness of this approach was illustrated through the comparison of two successful agrobiodiversity initiatives, in France and in Germany. Both cases use a participatory governance approach to conserve agrobiodiversity. While being very different, similar types of justice-relevant conditions to participation are observed in both initiatives, which help explain their success. Providing economic and material support for participation, improving the socio-cultural recognition of farmers and their knowledge, and establishing very inclusive representation systems seem to directly affect the achievement of the stated objectives, i.e. conserving agrobiodiversity.

Combining these three dimensions reinvents the role and the position of farmers, and their relation with consumers, beyond the sole production of commodities. Producers (and consumers) are made direct stakeholder of a much larger rural development process, which denounces both the specialistic and technicist conceptions of conventional agriculture and its impact on agrobiodiversity. The governance processes in our cases depart from the common approaches of participation in which farmers are given agency and/or voice within existing structures, and involve a genuine engagement with power and politics to bring about socio-ecological transition. The justice-relevant conditions for participation generate "institutional and structural transformation required to create this form of political space" (Hickey and Mohan 2004).

What our cases show is a shift from farming as a production-only activity to farming as a holistic rural development process focusing on justice and citizenship. Organized collectively, farmers communities redistribute available resources such as income and land, reclaim control over the production-chain, regain autonomy from externally produced inputs, recreate a shared identity, reacquire local and traditional knowledge, rebuild bargaining power and social capital, and empower autonomous farmers; all of which have allowed reintroducing and regrowing local land-races and traditional varieties which where once considered to be extinct.

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