

Dynamics of policy networks. The case of organic farming policy in the Czech Republic

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Journal of Environmental Policy & Planning

DOI: 10.1080/1523908X.2015.1113866

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Published online: 19 Nov 2015:

<http://www.tandfonline.com/doi/full/10.1080/1523908X.2015.1113866>

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ABSTRACT

To better understand the potential for successful and long-term establishment of environmental policy, the aim of this paper is to explore the network dynamics of a policy field that has become well established in the EU: organic farming. We look at the dynamics of the organic farming policy network in the Czech Republic over a period of ten years by applying a comparative formal network analysis. We focused in particular on the distribution of power between actors and how capacities of policy actors have evolved between 2004 (its year of accession to the EU) and 2014. We conclude that the organic farming policy network in the Czech Republic has been highly dynamic and has changed from one that was decidedly influenced by organic sector organizations to a network centralized around the Ministry of Agriculture. However, the organic farming organization managed to maintain its good reputation for competence in organic farming policy, which creates opportunities for the organization to remain active in the policy debate.

Key words: organic farming policy; policy network; network analysis; network dynamics; long-term policy implementation; policy capacity

INTRODUCTION

In its attempt to green the economy, and more specifically, the agricultural sector, the European Union has long since implemented policies to support an alternative farming model: organic agriculture. This alternative form of agriculture emphasizes environmental protection, animal welfare, food quality and health. Multiple policy measures have been put in place to support organic farming development throughout Europe and the European Union (Stolze & Lampkin, 2009). The first organic farming regulation was Council Regulation (EEC) No. 2092/91, which was adopted by the European Council of Agricultural Ministers in 1991 and remained in effect until it was replaced in 2007 by Council Regulation (EC) No. 834/2007, which is itself currently under revision (European Commission, 2014). Financial support for organic farming practice until 2013 was provided through agri-environmental measures included in subsequent EU regulations (1698/2005 for 2007-2013,

1257/1999 for 2000-2006, 2078/1992 for 1994-1999) and from 2014 has been granted through a specific organic farming measure included in the new Rural Development Programme (Council Regulation (EU) No. 1305/2013). In addition, organic farmers can benefit from the “greening” component of the CAP pillar 1 direct payments without fulfilling any additional obligations (Regulation (EU) No 1307/2013 of the European Parliament and of the Council). The organic regulation is part of the ‘*acquis communautaire*’, so countries that wish to accede to the European Union need to transpose this regulation into national law. Such a transposition of European law and policies influences the institutional setting of those countries (Radaelli, 2003). In this paper we will look at the changes that a local (national) network on organic farming policy has undergone since accession to the EU by focussing on the case of organic farming policy in a country that accessed the EU in 2004: the Czech Republic.

Börzel & Buzogany (2010) explored the role of state and non-state actors in governing accession and transition, and concluded that the power relationship needs to be somewhat balanced if non-state actors are to be empowered through the accession process. For environmental policy in Poland, Hungary and Romania they observed both weak state and non-state actors, and argued that little room was given to non-state actors to engage meaningfully in the policy process. Similarly, O’Brien (2013) discussed the challenges of capacity building and societal participation in transition states that were developing environmental policies. A different picture is drawn by Ćetković (2014) who observed a strong associative capacity of the organic field during organic farming policy development in Serbia, although there is still some fragmentation in the fairly young sector. For organic farming policy development in the Czech Republic, which has been undergoing development for a longer period than in Serbia, Moschitz & Stolze (2010) found that a non-state actor; namely the organic movement organization PRO-BIO, became a central player in the policy network. The strong engagement, which was the push factor behind the development of the first Action Plan of Organic Food and Farming in 2005, is an illustration of the strong position of this non-state actor. Examination of whether and how this seemingly exceptional situation of an empowered non-state actor in a policy network has endured over a time period of ten years after accession could inform future development of policy fields in transition countries, such as organic farming in Serbia (Ćetković 2014). Moschitz and Stolze (2010) concluded that the young policy fields, such as organic farming policy in the new EU member states, are prone to change, with different actors taking a central position when a policy field develops. It is therefore relevant to study the development of policy networks and capacities of actors in such a network over a longer period of time.

Group capacity is conceptualized as a group’s potential to engage in a policy process by providing ideas, knowledge and expertise, which can also help acceptance of a certain policy outcome if the group represents a larger part of the target society (Halpin, Daugbjerg, & Schwartzman, 2011). Daugbjerg and Halpin (2010) suggest that policy capacity develops as a result of high levels of both state and associative capacity and the ability to create conditions favourable for corporatist deliberation. Fischer and Sciarini (2013) have shown that state actors and non-state actors are indeed relevant for transposition of European level policies; in particular as the non-state organizations provide legitimacy for the policy and ensure societal acceptance (Fischer & Sciarini, 2013). Halpin et al. (2011) concluded that interest-group capacity responds to policy evolution, so that the capacity can potentially grow with increasing establishment of the policy. Similarly, Sissenich (2010) showed in her study of the 27 EU member states that state capacity and organized interests go hand in hand, and concluded that countries that were rated as having good governance also have

citizens who are engaged in interest organizations and/or participate in various forms of protest. By contrast, in countries where governments struggle to deliver results, organized interests are insufficiently established and are rarely in a position to perform governance functions. Supportive public authorities are thus important for developing the capacity of interest organizations and for helping to broaden and intensify their interorganizational networks (Fraussen, 2014).

This interplay between state and non-state actors has also been addressed by policy network scholars. Policy networks develop because actors within a particular policy field depend upon each other's resources. The state offers influence in the policy process to the societal actors who, in turn, provide legitimization and information to the state actors and support policy implementation. The so-formed networks are then part of the context in which individual actors have to take their decisions; so network structures thus represent options and constraints for individual actions (Knoke, 1996). Network analysis is widely accepted as a descriptive tool to analyse policy-making processes as an outcome of interactions between interest group and the state (Marsh, 1998a; Marsh & Rhodes, 1992; Van Waarden, 1992). There have been criticisms, however, that many applications of policy network analysis have pictured policy networks as static, and failed to address the dynamic nature of policy making processes (Dowding, 2001; Klijn, 1996) although several case studies have analysed how networks change (see Nunan, 1999). Knoke (2003) argued that the interactive processes between officials from governments and representatives from social movements and interest groups are dynamic and can lead to reframing a policy issue in such a way that it requires new resources, participants and institutions to work on it. Windhoff-Héritier (1993) and Casey (2004) have pointed to the varying importance of network actors in the different phases of the policy cycle. Similarly, the 'dialectical model' of Marsh & Smith (2000) that illustrates the interactions between networks, actors, context and policy outcome, implies that policy networks develop dynamically over time. Pedersen (2010) suggests that "changes in the exogenous context of a policy network can result in network changes by altering central actors' perception of reality as well as their bargaining power" (p. 361). Yet, a comparison of the same policy networks at two points in time has rarely been undertaken (Fischer & Sciarini, 2013).

This paper will make use of an exceptional data set and apply a formal network analysis approach to compare the organic farming policy network in the Czech Republic at two points in time (2004 and 2014); thereby particularly focussing on the changing roles of interest groups and the government. The year 2004 is just about the time of accession of the Czech Republic to the EU; in 2014, ten years later, its membership has been fully established. In comparing the two points in time, we focus in particular on the distribution of power between actors and how capacities of policy actors have evolved over the period. In particular, we will see the extent to which the organic farming organization could maintain its initial central position in the network, and how the relationship between state and non-state actors has developed. With view to the argument that both strong state and non-state actors are needed for good policy performance (Fischer and Sciarini 2013; Sissenich 2010), this paper will help to understand the dynamic of roles of actors in the policy network, as well as the potential for political capacity building and for successful long-lasting establishment of a policy field.

ORGANIC FARMING IN THE CZECH REPUBLIC AND HYPOTHESIS ABOUT THE POLICY NETWORK DEVELOPMENT

In 2004, the organic sector in the Czech Republic was considered to be a forerunner among the Central and Eastern European Countries; in terms of political recognition, level of payments, and overall size (Hrabalova, Handlova, Koutna, & Zdrahal, 2005; Moschitz, Stolze, & Michelsen, 2004). In terms of organic sector size, it has maintained its position since, while other CEE countries have caught up, both in size and in the political anchoring of organic food and farming (e.g. by means of an Organic Action Plan). In the Czech Republic, in 2012, 11.5% of all agricultural land was managed organically compared to an average of 4.6% of the EU-13 countries that have acceded to the European Union since 2004 (Research Institute of Organic Agriculture FiBL, 2014). In addition, the number of organic processors has increased almost fourfold (Research Institute of Organic Agriculture FiBL & International Federation of Organic Agriculture Movements IFOAM, 2014), there are interested traders of Czech organic materials, and the domestic organic food market has developed further.

Organic farming in the Czech Republic was first brought onto the political agenda in the early 1990s, with the organic movement successfully lobbying for the financial support to organic farmers that was granted from 1990-1992. With the accession process starting in 1997, the Czech Republic had to take over the *acquis communautaire* and accordingly implemented the respective EU organic farming policies and harmonised existing national policies. With full EU accession in 2004, financial support for organic farmers was provided through the Rural Development Programs (RDP) 2004-2006; 2007-2013; 2014-2020. Until 2013 this was done through agri-environmental measures (measure 214 in the RDP), whereby from 2014 organic farming support has been provided through a specially targeted measure. Area payment rates for organic farming are comparable to the EU average (about 105 Euro/ha), with rates slightly decreasing in the new funding period¹ (Sanders, Stolze, & Padel, 2011). The overall budget for organic farming support in the RDP was around €280 million for 2007-2013, and is €330 million for 2014-2020 (Ministry of Agriculture of the Czech Republic, 2007, 2014).

In addition to support payments, there are two “National Action Plans for the Development of Organic Farming” (2004-2010; 2011-2015), with the third Action Plan (2016-2020) currently being developed (Ministry of Agriculture of the Czech Republic, 2004, 2010). The organic farming organization: PRO-BIO, was decisive in developing the first Action Plan, and is one of ten state and non-state partners in the group that is developing the third Action Plan. While there is no budget attached to the actions outlined in the Action Plans, they are generally appreciated as an important strategic policy document, and set out a vision for organic agriculture. In this context, it is interesting to observe that the target figure for organically farmed area of 15% of the total agricultural land, or 630.000ha, in the Action Plans 2011-2015 and the new Action Plan by 2015 is clearly higher than the target area of 500.000ha mentioned in the RDP 2014-2020. This calls the power of the Action Plans as a strategic policy document into question; a point that will be revisited in the discussion section.

Hrabalova & Moschitz (2013) note that, while the main driving force for the development of the organic sector in the Czech Republic is the EU subsidies paid for the agri-environmental measures, organic farming organizations are recognized as counterparts in agricultural policy development. They increased in number and have developed their expertise to design, implement and evaluate organic farming policy, which has led to them strengthening their position in the agricultural policy

¹ An exception is the support for organic arable land, which slightly increased in the new funding period. In addition to direct support, organic farmers are eligible to higher rates within several other RDP measures, such as young farmers support and farm modernisation; this additional support has however decreased significantly in the RDP 2014-2020 (Sanders, Stolze & Padel 2011).

debates. Among others, organic sector organizations participated in the working groups to develop the details of all three Action Plans on organic food and farming (see above; Hrabalova & Moschitz, 2013).

Against the background of the general recognition of organic farming by official policy, we are interested in understanding the dynamics of this developing policy field and changes in the policy network in which both governmental institutions (the Ministry of Agriculture) and private organizations (the organic farming representatives) are relevant players (Moschitz & Stolze, 2010). Based on literature and earlier studies, we developed three hypotheses about how this network has developed since it was first analysed in winter 2003/2004. These three hypotheses are:

- (1) The organic farming policy network in the Czech Republic has grown in the past ten years, and in 2014 includes more diverse actors than in 2004; mainstream agriculture organizations have entered the policy network.
- (2) The organic farming organization PRO-BIO was able to maintain the central position in the network that it had gained in 2004.
- (3) The Agricultural Ministry and actors from state administration play an increasing role in the Czech network of organic farming policy.

The first hypothesis about growth and differentiation of the Czech organic farming policy network is derived from the observation that policy networks tend to be larger in countries with a longer tradition in organic farming and organic farming policies than in countries where this sector is only emerging. The more established the organic sector, the more differentiated it becomes (Moschitz & Stolze, 2007, 2009). This is in line with Van der Heijden (2002) who observed an increasing differentiation of environmental movements in The Netherlands. While in an emerging policy field there are only a few organizations fulfilling many functions at the same time, there will be a higher number of organizations in more established policy fields, with each specializing on one, or only few, functions. Similarly, literature on social movements argues that social movement organizations change over time and that social movements develop in different ways, which usually leads to a number of specialized and diversified organizations (Diani & Donati, 1999). Della Porta & Diani (2006) argue that institutional factors have an impact on the development of social movement organizations. Availability of public or semi-public resources may facilitate the creation of lobby organizations. In evolving policy sectors, such resources are low in the beginning, but potentially increase over time, when a sector becomes more widely accepted in society.

A characteristic of the organic sector is that mainstream farming organizations have become active in the policy network in countries with a more developed sector and thus contribute to shaping the sector; while in countries with an emerging organic sector, this policy field is mostly left to organic farming organizations (Moschitz & Stolze, 2007). In the Czech Republic, 11.5% of all agricultural land was farmed organically in 2012, which is almost double the proportion in 2004, when it was 6% (Research Institute of Organic Agriculture, 2013). Organic farming is thus now established as a relevant form of agriculture in the country.

The second hypothesis on the central position of the main organic farming organization in the Czech Republic: PRO-BIO, is backed by network theory that tells us that central actors are able to control (to some extent) resources and information that flows through networks. These actors have some influence on the ideas that travel in the network, and their central position gives them some power

to influence the further development of the network (Jansen, 2003; Wasserman & Faust, 1999). In 2004, PRO-BIO occupied the central position in the network added to the recognition of organic farming by influencing policy and shaping the preferences that were formulated and discussed in the network (Moschitz, 2009; Moschitz & Stolze, 2009, 2010). The representatives of the organic sector had a strong interest in placing organic farming on the political agenda and were successful in doing so. This lets us assume that the favourable output of the organic farming policy network in the Czech Republic of 2004 strengthened the organic sector, and in particular the representative organization: PRO-BIO, which could maintain its position and keep control on the policy processes related to organic farming development in the Czech Republic.

Our third hypothesis suggests an increasing importance of state actors in the network in relation to non-state actors, which relates to the varying relevance of actors in different phases of the policy cycle. Casey (2004) suggests that non-state interest groups are particularly active and influential in problem identification and agenda-setting, and less so when it comes to policy implementation. With regard to agricultural policy in Europe, Greer (2005) concludes that, although state actors are particularly influential, “[a]gricultural policy networks [...] may be composed of different actors [...] at different points in the policy process, and policy formulation networks may differ from implementation structures” (Greer, 2005, p. 27). As outlined above, organic farming in the Czech Republic was initially brought onto the political agenda by the organic movement; in particular, the organic farming organization PRO-BIO. Yet, with accession to the EU, organic farming policy shifted from being a new policy topic on the agenda to an established policy (at EU level) that required implementation at the national level. Subsequently, changes in organic farming policy at the EU level needed further adaptation at the national level. The main responsibility for implementation, such as detailing the RDP measures and the mechanisms for organic farming support, lies with the administration, although non-state actors will play a role (European Commission, 2013, 2014). This leads us to hypothesize that the state actors (in particular the administration) play an increasing role in the Czech organic farming policy network.

METHODS

To compare the characteristics of the network in 2004 and 2014, we focus on network structure and network actors. In particular we consider: i) the size and density of the network, ii) the distribution of capacities between actors and their structural organization, iii) the cohesion of policy preferences (manifest in subgroups and/or conflicting views on organic farming within the network), iv) the relationship between interest groups and the government, including the centrality of the private actors and state bodies, and v) the dominance of one or more policy networks in a policy field, i.e. in our case, the relationship between the organic and the general agriculture policy networks (Greer, 2002; Montpetit, 2005; Moschitz & Stolze, 2010).

For the identification of the network in 2004, a combination of the reputational and positional approaches (Sciari, 1996) was applied. First, invitation lists for parliamentary hearings (or any comparable event) on issues related to organic farming were consulted and a list of politically active organizations was produced. Researchers then discussed the list with key persons and identified the most important actors in the domain of organic farming policy. Actors were added where necessary and the final list also included those institutions that were important in the policy process from an

institutional point of view. In this way, 13 relevant policy actors were identified and interviewed. The interviewees were drawn from state institutions representing the relevant ministries and/or their departments; from the private sector including general and organic farming organizations, environmental interest groups, and market organizations; and from other politically important actors.

To replicate the study in 2014, the list of interviewees from 2004 was reconsidered on the basis of a study of the institutional analysis of the organic sector between 2004 and 2012 (Hrabalova & Moschitz, 2013). In addition, as in 2004, the list was discussed with key persons from the organic sector. Actors who had become inactive or had significantly reduced their activity in the organic sector were deleted from the list, whereas representatives of newly formed organizations were added when they were identified as relevant through being nominated by the key experts or through their activities in the organic sector. In this way, 16 actors were interviewed in winter 2013/2014; 10 of whom were included in both samples of 2004 and 2014. The Ministry of Environment participated in the study in 2004 and was approached several times for the 2014 study, but no interview could be conducted.

For both years, the interviews were conducted in the native language by the same researcher using the same questionnaire. The question to determine the reputational power of an actor was *“Which of the designated actors would you claim the 1st, 2nd, 3rd, 4th and 5th most important for general /organic farming policy in your country?”* The reputational score was calculated as the percentage of interviewees who named the specific actor as one of the five most important actors for organic / general farming policy. The question on which the network analysis is based was *“With whom are you working together or with whom do you stay in regular contact in order to exchange your views on organic farming policy?”*. The network analysis was carried out with UCINET software (Borgatti, Everett, & Freeman, 1999). Visualization of the policy networks was done with Visone software (Brandes & Wagner, 2003), which includes the functionality for graphical representation of actor and network characteristics.

RESULTS

The presentation of the results of the comparative analysis of the organic farming policy networks in the Czech Republic in 2004 and 2014 is structured according to the different themes mentioned in the methods section. Figure 1 presents a general picture of the policy network in 2004 and 2014, showing the actor with the highest betweenness centrality score in the centre of the network. The height of an actor illustrates how many actors named it as target of collaboration (in-degree). The width of an actor node indicates how many actors were nominated by this actor to be close collaborators (out-degree).

Figure 1 about here

Network composition, size and density

As Figure 1 and Table 1 show, the Czech organic farming policy network consisted of 13 actors in 2004, whereas it has grown to 16 actors in 2014. In both years, we found that a high proportion of the network actors were private organizations, with many of them oriented towards organic, while state and other actors form the minority. Overall, both networks seem to have a balanced representation between actors oriented towards organic agriculture and those with either a balanced/undefined view or with a mainstream orientation, which is the smallest group.

The level of interaction (i.e. the density) has increased between 2004 and 2014 from 17.3% to 20.4%, or, by an average of one relationship per actor (shown by the average degree). The size and the density of interaction have thus increased in the past ten years, while the types of actors and their political orientation did not change substantially.

Table 1 about here

The composition of the network is a result of the selection process for the interviews. This process is an integral part of the network analysis and in particular the reputational and positional approach we have chosen (Sciarini, 1996). Therefore, identifying changes in the network composition has analytical relevance.

Looking into the composition of the network in detail, some interesting changes occurred between 2004 and 2014. In 2004, only one of the three organizations that are oriented predominantly towards mainstream farming (the Czech Agrarian Chamber AKCZR) was connected to the network, whereas the farmers' union (ZSCZR) and the association of the food industries (PKCZR) were not closely collaborating with any of the other network members – they were 'isolates' (see Figure 1). By 2014, those three actors had entered the organic farming policy network, although they do not interact directly with any of the actors that are oriented towards organic. They all indicate a direct and close contact to the Ministry of Agriculture: a relationship that is not reciprocated. On the other hand, there is a new isolate in the network in 2014 (GREMA), which is a marketing company for organic products. While it was closely connected to several actors in 2004, it has become less active in the organic farming policy network in 2014.

There are some other changes in the network composition between the two years of observation. Two organic sector organizations that were relevant in 2004 no longer play a role in 2014. An organic farming organization (LIBERA) had always been fairly small and seems to have become inactive in 2014 and a large organic wholesaler (COLIFE) was estimated as being no longer influential in policy making by the experts interviewed in 2014. The third actor that was missing in 2014, and which was part of the network in 2004, is the Ministry of Environment (MZPCZR). Although approached for an interview, no response from the Ministry was received due to capacity restrictions and apparently limited interest in the topic.

In the 2014 network, one can observe a number of new actors: two new control bodies (ABCERT and BLOKONT), as well as the supervising body (UKZUZ). Other new organizations include an organic wine growers association (EKOVIN) and a new organization that lobbies to secure subsidies for farmers in less favoured areas (SMO), which are often organic. In addition, a Technology Platform for Organic Agriculture (CTPEZ) was founded and is a member of the organic farming policy network.

Distribution of capacities between actors

Organic farming organizations have poor financial and personnel resources at their disposal for engaging in policy making (Moschitz et al., 2004). They are confronted with state actors whose role in the political process is institutionalized, so the distribution of capacities is clearly skewed towards these institutions. All the same, interest groups may build their political engagement upon the considerable level of commitment of their members. If they are able to organize and concentrate the interests of a sector, they can build up power and reach a position to bargain with the state.

In the Czech Republic in 2004, organic farmers were unified to a large extent under one organic farming organization (PRO-BIO) in which about 50% of all organic farmers were members. In 2014, however, this share has fallen to 12-13%. A number of organic farmers are members of the newly formed SMO, for which a self-estimation by the organization indicates a membership of 17-18% of all organic farmers², but many farmers are not a member of either organization.

From a network perspective, capacities of actors not only stem from the individual actor's resources, but also from its structural position within the network, which empowers them to act strategically and influence (policy) decisions. As mentioned in the methods section, we here concentrate on two measures of power: reputation and centrality.

Reputation is the perceived power of an actor to have influence in the network. Table 2 shows the change in reputational power of actors between 2004 and 2014. In the left part of the table we show the reputational power for organic farming policy, while the right part gives the figures for general farming policy. The latter will be described and discussed further below, in the section about the relationship between the organic and the general farming policy.

Table 2 about here

From Table 2 we can see that the reputational power for organic farming policy changed importantly in the ten-year period observed: Only MZECZR and PRO-BIO have retained their power, while the control body KEZ and even more the Ministry of Environment MZPCZR have substantially lost their power. While a general weakening of the political relevance of the latter has been reported, the responsibility for organic farming has completely shifted from the ministry of environment to the ministry of agriculture. On the other hand, we see that AKCZR (the agricultural chamber) was not perceived as powerful at all in 2004, but is so in 2014. Similarly, UZEI has gained power for organic farming policy while losing power for general farming policy. In addition, the Association of Marginal Areas, (SMO; founded in 2002) has grown rapidly from 950 members in 2008 to more than 1400 members in 2014, and quickly gained in reputation.

Centrality is another concept of power in a policy network. We apply the betweenness centrality measure to analyse the potential of one actor to influence others; thus its exerted power³. Table 3

² It should be noted that SMO is not an interest group, but a lobby organization with the aim to secure subsidies for farmers in marginal areas. It is closely linked to a larger company so has a strong orientation towards the market.

³ There are other concepts in network analysis to measure centrality in networks. E.g. degree centrality and closeness centrality. We have not used the latter, as this measure is only meaningful for a connected graph (i.e. in which all actors are connected to each other), which is not the case in our study, as not all links are

indicates the betweenness centrality scores for the organic farming policy actors in the Czech Republic in 2004 and 2014.

Table 3 about here

The most striking difference between the network in 2004 and 2014 (which is also seen in Figure 1) is the change of the most central actor from the organic farming organization PRO-BIO (2004) to the Ministry of Agriculture (2014). In 2014, PRO-BIO is only in the fourth position in terms of betweenness centrality, together with SMO. Two organizations that are active in control and certification; the recently founded control body (BIOKONT) and the central body for supervision (UKZUZ) occupy more central positions. The control body (KEZ) that had been the second most central actor in 2004 had lost influence by 2014, while the mainstream agricultural chamber (AKCZR) had gained power to the same extent.

In summary, we can say that the organic farming policy network changed from one that was highly influenced by organic sector organizations to a network that is strongly centralized around the Ministry of Agriculture. This observation is supported by the clearly higher centralization of the network of 40.5% in 2014, compared to 13.7% in 2004. Although more actors have entered the network and become powerful, the most power is exerted by only one actor.

Cohesion of policy preferences

Reciprocity describes the share of mutual links between two actors, i.e. one actor professes to collaborate with a second actor, which in turn professes to collaborate with the first. This measure gives an idea about the strength of ties between two actors. Such a mutual tie between two actors can also be interpreted as a sign for cohesion. In our network, reciprocity has clearly decreased between 2004 and 2014. While in 2004, 42% of all dyads were mutual; this share is only 26% in 2014. Looking at selected actors, the share of reciprocated ties to other actors of PRO-BIO has decreased from 50% to 20%, while the share of mutual ties of MZECZR has remained fairly constant at around 40%. Remarkably, the tie between PRO-BIO and the Ministry of Agriculture is not reciprocated by the latter.

Another way to identify cohesion within a network is to look for cohesive subgroups by identifying cliques, which are defined as a set of minimum three actors that are mutually connected to each other (Wasserman & Faust 1999). In 2004, there were two such cliques in the network: PRO-BIO, KEZ, MZECZR; and PRO-BIO, KEZ, EPOS. This illustrated the well-established contact between important organic sector organizations and the institution in charge of organic farming. In 2014, we could not observe any cohesive subgroup working on organic farming policy. Moreover, there is no longer a direct link between KEZ and PRO-BIO.

In the light of an overall increased network density, which is indicated by more relationships established between the actors, the low number of cliques and reciprocated ties means that, overall,

reciprocated. The degree centrality measure is not indicated by figures in table 3, but it is reflected in figure 1 by the size of the nodes. It considers only the direct links between actors. By contrast, betweenness centrality is a global measure including indirect ties. This measure tells us most about the potential influence of an actor on others in the network (Jansen, 2003; Wasserman & Faust, 1999).

the actors have diversified their relationships and do not tend to closely collaborate only with the (same) few. Overall, cohesion of policy preferences seems lower, as there are no strongly interconnected subgroups in the network that include more than two actors.

Relationship between interest groups and the government

In this section we will concentrate on the relationship between the main organic farming organization, PRO-BIO, and the Ministry of Agriculture (MZEZCR) as the relevant representative of the government. Therefore, we will partly build on the same results that have already been presented in earlier sections, but we will present them under the specific light of state – non-state interaction, because this is a particularly relevant theme in comparing policy networks.

In 2004, PRO-BIO found itself in the central position of the network (see Figure 1 and Table 3), with the power to influence strategies and decisions. Membership in two cliques (see section about cohesion of preferences) supported its strong position and close collaboration with key policy actors. Moschitz & Stolze (2010) thus concluded that organic farming policy in 2004 was mainly discussed between the representative of the organic sector (PRO-BIO) and the Ministry of Agriculture, which had accepted PRO-BIO as a strong partner. PRO-BIO has since assisted in policy implementation, providing state agencies with information, and has been a driving force behind the development and renewal of the Czech Organic Action Plan (Hrabalova, et al., 2005).

In 2014, the picture has changed completely (see Figure 1 and Table 3). PRO-BIO has lost its central position in the network, and shows much less direct connections to other actors than in 2004. In contrast to 2004, it does not closely collaborate with KEZ, or with any other control body. It seems that PRO-BIO is focussing on collaborating with national-level organizations, such as the Technology Platform (CTPEZ), the supervising body (UKZUZ), SMO, the Ministry of Agriculture and the advisors' organization (EPOS). However, it has retained a high level of reputational power, i.e. perceived power, with 94% of all actors naming it as one of the five most important for organic farming policy.

The Ministry of Agriculture (MZEZCR) has become the most central actor in the network, with a betweenness centrality score increasing from 4% in 2004 to 45% in 2014 (Table 3). This figure corresponds to the high perceived power of the Ministry (Table 2), which is similarly high as for PRO-BIO. Furthermore, 80% of all actors state that they closely collaborate with MZEZCR. In contrast to the situation in 2004, however, MZEZCR no longer states that they closely collaborate with PRO-BIO, although the latter does indicate such a collaboration with MZEZCR.

The relationship between the organic and the general agriculture policy networks

Looking at the relationship between the organic and the general agriculture policy networks helps to understand how distinct the policy field of organic farming is, and whether the general farming policy network has a strong influence on organic farming policy.

In 2004, we could distinguish clearly between the two policy networks: on the basis of the reputational power that the actors were assigned for the respective policy fields. In Table 4 we can see that, apart from the Agricultural Ministry with its institutional role, no actor is seen as influential on both organic farming policy and general agricultural policy. The organic farming policy field is dominated by organic sector organizations, whereas mainstream farming organizations influence

general farming policy. Organic farming in 2004 is thus a policy field that is clearly distinct from general farming.

Table 4 about here

In 2014, we observe a somewhat different situation. Apart from the change in actors that are perceived as powerful for organic farming policy (see also Table 2), we can see slightly more overlap in actors which are influential in both organic and general farming policy. In addition to the institutional actor (MZECZR), the Agricultural Chamber (AKCZR) has a reasonable reputation for organic farming policy *and* general farming policy. Although SMO is an actor that is mainly oriented towards mainstream agriculture, it did not reach a relevant score for reputation for general farming policy, yet it is perceived as influential for organic farming policy. The distinction between the organic farming policy and general farming policy field has thus become slightly less clear. Furthermore, both reputational networks have become larger with the number of important actors having increased in both networks by one. Although the two dominant actors in each of the networks have remained the same, MZECZR and the organic farming organization still have the strongest reputational power for organic farming policy. For general farming policy, the most important actors are the Ministry of Agriculture and the Agricultural Chamber, which represents mainstream farming.

DISCUSSION

In this chapter, we will discuss the results in light of our initial hypothesis outlined in the introduction.

Hypothesis 1 The organic farming policy network in the Czech Republic has grown in the past ten years, and in 2014 includes more diverse actors than in 2004; mainstream agriculture organizations have entered the policy network.

The results of our study clearly confirm the first hypothesis. The organic farming policy network in the Czech Republic has become larger, containing a wider variety of actors; mainly in terms of political orientation (organic and mainstream farming). Compared to other organic farming policy networks in Europe, and in particular in countries that had established organic sectors in 2004, with networks of 19-26 actors, the Czech network in 2014 is still rather small (16 actors). Yet, the density of interactions has increased considerably and resembles the density of policy networks in countries with an established organic sector (Moschitz & Stolze, 2009). In particular we can mention the considerable number of mainstream farming organizations that are not only a member of the network, but have gained reputation for organic farming policy (AKCZR). The policy fields of organic farming and general mainstream farming are no longer strictly separate, but show some overlap. This is a sign that organic farming is now acknowledged as a significant policy field and practice in the Czech agricultural sector. Mainstream farming organizations consider it as a type of agriculture worth dealing with and relevant in the agricultural policy debate.

In addition to the new actors entering the network from general farming policy, the number of organic sector organizations has also increased. Two new control bodies were established and are active in policy making, while the original control body (KEZ) has lost influence. There is some collaboration between the three control bodies, but none of them collaborates closely with the

organic farming organization (PRO-BIO). The strong link between the farmers' organization and the control body that was observed in 2004 has thus become weaker, which is a sign of increasing functional differentiation within the organic sector. The entry of the new organic wine maker organization (EKOVIN) and the Technology Platform (CTPEZ) in which organic farming organizations participate, is another illustration of the increasing complexity of the sector. Overall, we can conclude that the Czech organic sector has developed into a truly established part of Czech agricultural policy.

Hypothesis 2 The organic farming organization PRO-BIO was able to maintain its central position in the network that it had gained in 2004.

Concerning the second hypothesis, the network as pictured in Figure 1 does not support our assumption. The exerted influence of PRO-BIO has decreased considerably and it has lost its central position. Furthermore, there are no more direct links between PRO-BIO and mainstream farming organizations (except for SMO), although these have become more and more important in the policy network. The favourable policy environment for organic farming that was established as an outcome of activities in the network in 2004 apparently did not lead to a lasting central position of the organic farmers' representative organization. At the same time, the small share of organic farmers who are a member of this organization (less than 15%) calls into question how far PRO-BIO can still be considered to be *the* organic farming representation in the Czech Republic. As mentioned earlier, a strong constituency is an important resource for social movement organizations that often have only limited financial funds. If this resource is weakened, the potential of an organization to engage in the policy process is also weakened. While the enlarged network would need more engagement to maintain relationships with all relevant actors, the weak constituency hinders such activity.

All the same, PRO-BIO is still perceived to be very influential in organic farming policy in the Czech Republic and has the highest reputation score of all organizations. This might be due to the fact that it is still the only organic farming organization in the Czech Republic, but also indicates that the interviewees acknowledge its political competencies. This means that once it gains resources to increase its activities, it could be able to make use of this potential power.

Hypothesis 3 The Agricultural Ministry and actors from state administration play an increasing role in the Czech network of organic farming policy

Turning to the third hypothesis, Figure 1 shows at first glance that the role of the Ministry of Agriculture for organic farming policy in the Czech Republic changed completely between 2004 and 2014. While it had some institutional role and perceived power in 2004, it now also actively exerts power in the policy network. A high level of power of the agricultural ministries was observed in 2004 in countries with a longer history of organic farming, such as Austria and England (Moschitz & Stolze, 2009), and now we find a similar situation in the Czech Republic. This confirms our earlier conclusion that organic farming policy can be seen as an established policy field today. Another state actor that played a role in 2004 but is no longer present in the policy network of 2014 is the Ministry of Environment. While it could not be interviewed for the 2014 network analysis, the low reputational score as shown in Table 4 supports this observation of not playing a role in the organic farming policy network. This is explained in that formally, competences and responsibilities of the Ministry of Environment have been shifted completely to the organic department within the Ministry of Agriculture. Apart from the increase in power of the agricultural ministry, the newly founded para-

state body in charge of supervision of organic controls (UKZUZ) exerts a considerable amount of power in the network. This can be explained by its institutionalized role that was required when implementing the EU regulations on production, import, control, distribution and labelling of organic products. So, the entry of this actor into the network is a direct consequence of European organic farming policies. At the same time, debates about the future of organic farming (policy) are taking place at the European rather than the national level (European Commission, 2013, 2014). From an interest group perspective, this means that lobbying and agenda setting activities have become more relevant at the EU level than at the national level and their role in policy implementation at the national level is less clear. Overall, state actors play an increasingly important role in the organic farming policy network in the Czech Republic; in particular the Agricultural Ministry, so our third hypothesis is thus confirmed.

CONCLUSION

To better understand the potential for successful and long-lasting establishment of policy and political capacity building, the aim of this paper was to explore the changes in the organic farming policy network in the Czech Republic between 2004 and 2014. To this end, we conducted a formal analysis of the network at both points in time, which allowed valuable insights in its dynamics. We particularly studied the development of the role and the policy capacity of the organic farming organization (PRO-BIO), and the relationship between state and non-state actors. We conclude that, overall, the organic farming policy network in the Czech Republic was highly dynamic in the past ten years and that it changed from one that was highly influenced by organic sector organizations to a network with many different actors; strongly centralized around the Ministry of Agriculture.

In 2004, there was an intensive policy process going on with the development of the first Action Plan for Organic Food and Farming. PRO-BIO represented half of the organic farmers in the Czech Republic, which is as high as, for example, the current share of organic farmers in Germany who are members of an organic farming organization (BÖLW, 2014), and was the main driving force behind agenda setting for organic farming policy. By 2014, organic farming had developed into an established policy field, and implementation of RDP measures supporting organic farming now dominates the policy process.

Our study confirms observations of Windhoff-Héritier (1993) and Casey (2004) that policy networks change with changing phases in the policy cycle. Following Pedersen (2010), we conclude that the change in the context of organic farming policy in the Czech Republic from being a completely new policy field to being an established part of agricultural policy, has changed the power and capacity of the organic farming organization. Organic farming is a measure implemented within the framework of the RDP and is therefore centred around the state and administration, which is in charge of policy implementation. Furthermore, we see an increasing importance of those organizations that are involved in policy implementation: namely the control bodies and the supervising competent authority.

Although state support for organic farming is still available, and the increasing influence of the Agricultural Ministry has not resulted in a drop in subsidies, the organic farming organizations have lost power. The organic farming organizations strongly influenced the Organic Action Plan, and in this

Action Plan a target area for organic farming is set. Yet in the RDP, which is the policy tool by which organic farming policy is actually implemented, a much lower target area for organic farming is mentioned. Furthermore, it is currently unclear whether the total budget for organic farming in the RDP will be enough to provide sufficient subsidies; even for the smaller target figure. Financial constraints may be responsible for this. On the other hand, while still influential, the organic farming organizations do not appear to have the power to assert both consistency between the Action Plan and the new RDP, and to secure sufficient resource allocation for organic farming support to achieve the objectives of the Action Plan.

Halpin et al. (2011) have discussed different strategies of organic farming interest groups (in Australia, UK, Sweden, and Denmark) to overcome the challenges of political power in changing stages and roles throughout a policy cycle. They showed that the interest groups developed new capacities (e.g. in market shaping and development) and that those helped them to maintain their overall strong position in organic farming policy.

Comparing the data on the organic farming policy network in the Czech Republic of 2004 and 2014 allowed us to carefully compare this network at the time of agenda setting (2004), and of policy implementation (2014). Our analysis showed clearly that the main organic farming organization (PRO-BIO) has not yet found its role in the changed policy context. They had a clear role in agenda setting, but find it difficult to maintain their role when policies are in a stage of implementation or further incremental development. The central position in a policy network at one point in time, even if it created a favourable policy outcome in the first place, is not a guarantee of long-lasting centrality in the policy network. At the same time, the organic farming organization, as the only interest group that lobbies exclusively for organic farming, has managed to maintain its high reputation for organic farming policy in the Czech Republic, which creates opportunities for the organization to remain active in the policy debate.

We believe that such a longitudinal study as we have undertaken is helpful for addressing the challenges of new policy fields, and in particular the role of state and non-state actors for their development. In this sense, our study is particularly meaningful for transition countries with emerging organic sectors: for example countries that have recently acceded to the EU, such as Bulgaria, Romania or Croatia. A continued, sustainable policy change requires both active and powerful state and non-state actors (Daugbjerg & Halpin, 2010; Fischer & Sciarini, 2013; Knoke, 1996; Sissenich, 2010), so understanding the dynamics of interest groups' capacities in policy networks is of high importance. Our study has shown that capacities and roles of actors change, and that this influences policy outputs. It would be interesting to again analyse the Czech organic farming policy network in a few years' time, and to look at the long-term consequences of the changes in the network for the (state and non-state) actors.

Our exceptional data that allowed us to compare a policy network at two points in time constitutes a valuable contribution to the literature on network dynamics (Fischer & Sciarini, 2013; Pedersen 2010). While many comparative studies (e.g. Greer 2005; Halpin et al. 2011) focused on the comparison of policy networks in different countries, our study is one of the few to undertake a longitudinal analysis of the same network in one country. Our study provided empirical material that allowed us to carefully analyse the (changing) roles and capacities of actors in the network; it thereby illustrates the dialectical nature of policy networks as conceptualized by Marsh & Smith (2000). The

study thus adds to the theoretical debate on how to conceive of policy development, and how interactions between networks, actors, context and outcome can be better understood.

ACKNOWLEDGEMENTS

This work was supported by the Enlargement Contribution of the Swiss National Science Foundation through the Bulgarian-Swiss Research Programme (contract No. IZEBZO_142974 / 1).

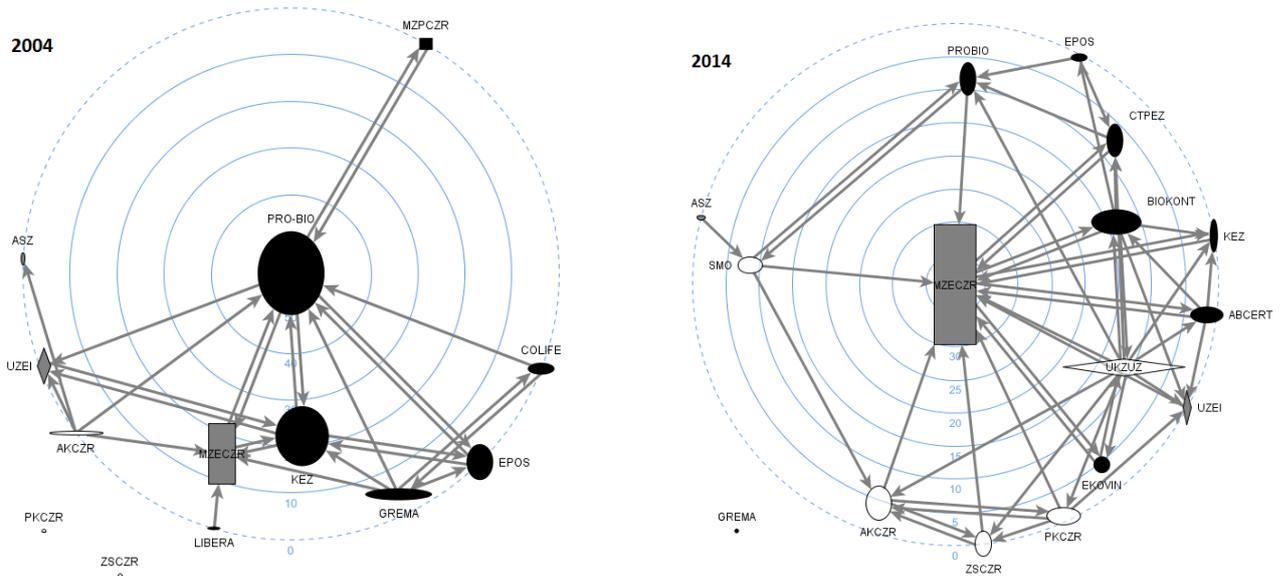
REFERENCES

- BÖLW. (2014) Zahlen, Daten, Fakten. Die Bio-Branche 2014. Berlin.
- Borgatti, S. P., Everett, M. G., & Freeman, L. C. (1999). UCINET 6.0 Version 1.00. Natick: Analytic Technologies.
- Börzel, T. A., & Buzogány, A. (2010). Governing EU accession in transition countries: The role of non-state actors. *Acta Politica*, 45(1-2), 158-182. doi: 10.1057/ap.2009.26
- Brandes, U., & Wagner, D. (2003). visone - Analysis and Visualization of Social Networks. In M. Jünger & P. Mutzel (Eds.), *Graph Drawing Software* (pp. 321-340). Berlin: Springer-Verlag.
- Casey, J. (2004). Third sector participation in the policy process: a framework for comparative analysis. *Policy & Politics*, 32(2), 241-257.
- Ćetković, S. (2014). Policy Capacity for Promoting Green Sectors Reconsidered: Lessons from the Renewable Electricity and Organic Farming Sectors in Serbia. *Journal of Environmental Policy & Planning*, 17(1), 65-83. doi: 10.1080/1523908x.2014.886505
- Daugbjerg, C., & Halpin, D. (2010). Generating Policy Capacity in Emerging Green Industries: The Development of Organic Farming in Denmark and Australia. *Journal of Environmental Policy & Planning*, 12(2), 141-157. doi: 10.1080/15239081003719201
- Della Porta, D., & Diani, M. (2006). *Social Movements. An Introduction* (2 ed.). Oxford: Blackwell Publishing.
- Diani, M., & Donati, P. R. (1999). Organisational change in Western European Environmental Groups: A framework for analysis. *Environmental Politics*, 8(1), 13-34. doi: 10.1080/09644019908414436
- Dowding, K. (2001). There Must Be End to Confusion: Policy Networks, Intellectual Fatigue, and the Need for Political Science Methods Courses in British Universities. *Political Studies*, 49, 89-105.
- European Commission. (2013). Report on the results of the public consultation on the review of the EU policy on Organic Agriculture conducted by the Directorate General for Agriculture and Rural Development (15 January -10 April 2013). Brussels.
- European Commission. (2014). Proposal for a Regulation of the European Parliament and of the Council on organic production and labelling of organic products, amending Regulation (EU) No XXX/XXX of the European Parliament and of the Council [Official controls Regulation] and repealing Council Regulation (EC) No 834/2007, COM(2014) 180 final. Brussels.
- Fischer, M., & Sciarini, P. (2013). Europeanization and the inclusive strategies of executive actors. *Journal of European Public Policy*, 20(10), 1482-1498. doi: 10.1080/13501763.2013.781800
- Fraussen, B. (2014). The visible hand of the state: on the organizational development of interest groups. *Public Administration*, 92(2), 406-421. doi: 10.1111/padm.12056
- Greer, A. (2002). Policy Networks and Policy Change in Organic Agriculture: A comparative analysis of the UK and Ireland. *Public Administration*, 80(3), 453-473.
- Greer, A. (2005). *Agricultural Policy in Europe*. Manchester: Manchester University.
- Halpin, D., Daugbjerg, C., & Schwartzman, Y. (2011). Interest-group capacities and infant industry development: State-sponsored growth in organic farming. *International Political Science Review*, 32(2), 147-166. doi: 10.1177/0192512110372435
- Hrabalova, A., Handlova, J., Koutna, K., & Zdrahal, I. (2005). Final report on the development of organic farming in ten selected CEE countries with national report cards *EU-CEE-OFP. Further Development of Organic Farming Policy in Europe with Particular Emphasis on EU Enlargement*. Prague.
- Hrabalova, A., & Moschitz, H. (2013). Institutional development of the organic sector in the Czech Republic 2004-2012. Summary report *Internal report of the project: "Bulgaria Organic. Addressing socio-economic regional disparities: the potential of organic farming for strengthening rural areas in Bulgaria"*.
- Jansen, D. (2003). *Einführung in die Netzwerkanalyse* (2 ed.). Opladen: Leske + Budrich.

- Klijin, E.-H. (1996). Analyzing and Managing policy processes in complex networks: A Theoretical Examination on the Concept of Policy Network and Its Problems. *Administration & Society*, 28(1), 90-119.
- Knoke, D. (1996). *Comparing Policy Networks. Labor politics in the U.S., Germany and Japan*. New York: Cambridge University Press.
- Knoke, D. (2003). The Sociopolitical Construction of National Policy Domains. In C. H. C. A. Henning & C. Melbeck (Eds.), *Interdisziplinäre Sozialforschung: Theorie und empirische Anwendungen*.
- Marsh, D. (1998a). The development of the policy network approach. In D. Marsh (Ed.), *Comparing Policy Networks* (pp. 3-17). Buckingham: Open University Press.
- Marsh, D., & Smith, M. (2000). Understanding policy networks: towards a dialectical approach. *Political Studies*, 48(1), 4-21.
- Marsh, D., & Rhodes, R. A. W. (1992). Policy Communities and Issue Networks: Beyond Typology. In D. Marsh & R. A. W. Rhodes (Eds.), *Policy Networks in British Government* (pp. 249-268). Oxford: Clarendon Press.
- Ministry of Agriculture of the Czech Republic. (2004). CZ Action plan for the development of organic farming to the year 2010.
- Ministry of Agriculture of the Czech Republic. (2007). Program rozvoje venkova České Republiky na období 2007-2013. Last update December 2013.
- Ministry of Agriculture of the Czech Republic. (2010). Action Plan for Organic Farming 2011–2015. Adopted by the Government of the Czech Republic on 14th December under No. 1227/10.
- Ministry of Agriculture of the Czech Republic. (2014). Program rozvoje venkova na období 2014-2020. Last update May 2015.
- Montpetit, E. (2005). A Policy Network Explanation of Biotechnology Policy Differences between the United States and Canada. *Journal of Public Policy*, 25(3), 339-366.
- Moschitz, H. (2009). Moving on – European organic farming movements between political action and self-reflection. *International Journal of Agricultural Resources, Governance and Ecology*, 8(5/6), 371 - 387.
- Moschitz, H., & Stolze, M. (2007). *Policy networks of organic farming in Europe* (Vol. 12). Stuttgart: University of Hohenheim.
- Moschitz, H., & Stolze, M. (2009). Organic farming policy networks in Europe: Context, actors and variation. *Food Policy*, 34(3), 258-264.
- Moschitz, H., & Stolze, M. (2010). The influence of policy networks on policy output. A comparison of organic farming policy in the Czech Republic and Poland. *Food Policy*, 35(3), 247-255.
- Moschitz, H., Stolze, M., & Michelsen, J. (2004). Report on the development of political institutions involved in policy elaborations in organic farming for selected European states *EU-CEE-OPF. Further Development of Organic Farming Policy in Europe with Particular Emphasis on EU Enlargement*. Frick.
- Nunan, F. (1999). Policy Network Transformation: The Implementation Of The Ec Directive On Packaging And Packaging Waste. *Public Administration*, 77(3), 621-638. doi: 10.1111/1467-9299.00171
- O'Brien, T. (2013). Growing Green Democracy? Barriers to Ecological Modernization in Democratizing States. *Environmental Policy and Governance*, 23(4), 247-258. doi: 10.1002/eet.1617
- Pedersen, A. B. (2010). The Fight over Danish Nature: Explaining Policy Network Change and Policy Change. *Public Administration*, 88(2), 346-363. doi: 10.1111/j.1467-9299.2009.01790.x
- Radaelli, C. M. (2003). The Europeanization of public policy. In K. Featherstone & C. M. Radaelli (Eds.), *The politics of Europeanization* (pp. 27-56). Oxford: Oxford University Press.
- Research Institute of Organic Agriculture. (2013, 15.11.2013). Organic Europe, from <http://www.organic-europe.net/europe-data-tables.html>
- Research Institute of Organic Agriculture FiBL. (2014, August 28, 2014). Organic (including in-conversion) area in the European Union 2000-2012, from <http://www.organic-europe.net>

- Research Institute of Organic Agriculture FiBL, & International Federation of Organic Agriculture Movements IFOAM. (2014, August 13, 2014). Development of organic operators by country 2005-2012, from <http://www.organic-world.net>
- Sanders, J., Stolze, M., & Padel, S. (2011). *Use and efficiency of public support measures addressing organic farming*. Braunschweig: Johann Heinrich von Thünen Institut.
- Sciarini, P. (1996). Elaboration of the Swiss Agricultural Policy for the GATT Negotiations: a Network Analysis. *Schweizerische Zeitschrift für Soziologie*, 22(1), 85-115.
- Sissenich, B. (2010). Weak states, weak societies: Europe's east-west gap. *Acta Politica*, 45(1-2), 11-40.
- Stolze, M., & Lampkin, N. (2009). Policy for organic farming: Rationale and concepts. *Food Policy*, 34(3), 237-244. doi: <http://dx.doi.org/10.1016/j.foodpol.2009.03.005>
- van der Heijden, H.-A. (2002). Profile - Dutch Environmentalism at the Turn of the Century. *Environmental Politics*, 11(4), 120-130. doi: 10.1080/714000645
- Van Waarden, F. (1992). Dimensions and types of policy networks. *European Journal of Political Research*, 21(1-2), 29-52.
- Wasserman, S., & Faust, K. (1999). *Social Network Analysis: Methods and Applications*. New York: Cambridge University Press.
- Windhoff-Héritier, A. (1993). Policy Network Analysis: A Tool for Comparative Political Research. In H. Keman (Ed.), *Comparative politics. New directions in theory and method* (pp. 143-160). Amsterdam: VU University Press.

Figure 1 The Czech organic farming policy networks in 2004 (left) and 2014 (right)



Abbreviations:

- ABCERT Inspection and certification body
- AKCZR Czech Agrarian Chamber
- ASZ Association of private farmers
- BIOKONT Inspection and certification body
- COLIFE Czech branch of Country Life Ltd. – a whole food retailer
- CTPEZ Czech Technology Platform for Organic Agriculture
- EKOVIN Organic wine producers’ organization
- EPOS Czech association of advisors for organic farming
- GREMA Organic products marketing company
- KEZ Czech inspection body for organic farming
- LIBERA Organic farming organization
- MZECZR Ministry of Agriculture of the Czech Republic
- MZPCZR Ministry of Environment of the Czech Republic
- PKCZR Federation of food and drink industries
- PROBIO Organic farming organization
- SMO Association of marginal areas
- UKZUZ Central Institute for Supervising and Testing in Agriculture
- UZEI Research Institute of Agricultural Economics
- ZSCZR Czech farmers’ union

| | |
|--|---|
| <p>The colour of the actor node indicates its classification by the experts:</p> <ul style="list-style-type: none"> black: predominantly oriented to organic farming white: predominantly oriented to mainstream farming grey: balanced or undefined | <p>The shapes indicate the actor type:</p> <ul style="list-style-type: none"> ○ Non-state actor □ State actor ◇ Other (often semi-public) |
|--|---|

Table 1 Main characteristics of the Czech organic farming policy network 2004 - 2014

| Network measure/parameter | 2004 | 2014 |
|--|-----------------------------|-----------------------------|
| Size | 13 | 16 |
| Density | 17.3% (average degree: 2.1) | 20.4% (average degree: 3.1) |
| <i>Actor types</i> | | |
| State | 2 | 1 |
| Private | 10 | 13 |
| Others | 1 | 2 |
| <i>Predominant orientation of actors</i> | | |
| Oriented towards organic | 6 | 8 |
| Oriented towards mainstream | 3 | 3 |
| Indifferent or balanced orientation | 4 | 5 |

Table 2 Comparison between reputational power of actors 2004-2014

| | reputational power for organic farming policy (OFP)* | | reputational power for general farming policy (GFP)* | |
|--------------------------------------|--|------------|--|-------------|
| | 2004 | 2014 | 2004 | 2014 |
| state institutions | | | | |
| MZECZR | 100% | 94% | 100% | 94% |
| MZPCZR | 85% | 6% | 15% | 6% |
| organic farming organizations | | | | |
| EKOVIN | n/a | 0% | n/a | 0% |
| PROBIO | 100% | 94% | 0% | 6% |
| LIBERA | 8% | n/a | 0% | n/a |
| general farming organizations | | | | |
| AKCZR | 0% | 56% | 100% | 100% |
| SMO | n/a | 75% | n/a | 38% |
| ZSCZR | 0% | 6% | 62% | 50% |
| others | | | | |
| ABCERT | n/a | 6% | n/a | 0% |
| ASZ | 0% | 0% | 46% | 81% |
| BIOKONT | n/a | 6% | n/a | 0% |
| COLIFE | 8% | n/a | 0% | n/a |
| CTPEZ | n/a | 6% | n/a | 0% |
| EPOS | 8% | 0% | 0% | 0% |
| GREMA | 0% | 0% | 0% | 0% |
| KEZ | 92% | 19% | 0% | 0% |
| PKCZR | 0% | 13% | 38% | 56% |
| UZEI | 38% | 69% | 69% | 31% |
| UKZUZ | n/a | 19% | n/a | 6% |

* indicated is the percentage of interviewees who named the specific actor as one of the five most important actors for organic / general farming policy
figures in bold show where more than 50% of the interviewees named this actor as one of the five most important

Table 3: Comparison of betweenness centrality scores of actors 2004-2014

| betweenness centrality | | |
|---------------------------------------|--------------|--------------|
| | 2004 | 2014 |
| state institutions | | |
| MZECZR | 4% | 45% |
| MZPCZR | 0% | n/a |
| organic farming organizations | | |
| EKOVIN | n/a | 5% |
| PROBIO | 15% | 10% |
| LIBERA | 0% | n/a |
| general farming organizations | | |
| AKCZR | 0% | 5% |
| SMO | n/a | 10% |
| ZSCZR | 0% | 0% |
| others | | |
| ABCERT | n/a | 2% |
| ASZ | 0% | 0% |
| BIOKONT | n/a | 16% |
| COLIFE | 0% | n/a |
| CTPEZ | n/a | 8% |
| EPOS | 0% | 0.5% |
| GREMA | 1% | 0% |
| KEZ | 6% | 0% |
| PKCZR | 0% | 1% |
| UZEI | 0% | 0% |
| UKZUZ | n/a | 13% |
| Overall network centralization | | |
| | 13.7% | 40.5% |

Bold figures are used to point out the most relevant changes

Table 4 The most important actors for organic and general farming policy in 2004 and 2014

| | Organic farming policy* | General farming policy* |
|-------------|---|---|
| 2004 | MZECZR (100%) PRO-BIO (100%) KEZ (92%) MZPCZR (85%) | MZECZR (100%) AKCZR (100%) UZEI (69%) ZSCZR (62%) |
| 2014 | MZECZR (94%) PRO-BIO (94%) SMO (75%) UZEI (69%) AKCZR (56%) | AKCZR (100%) MZECZR (94%) ASZ (81%) PKCZR (56%) ZSCZR (50%) |

* indicated is the percentage of interviewees who named the specific actor as one of the five most important actors for organic / general farming policy; only those actors with a score higher than 50% are indicated