

The analysis of the current forms of organic chicken husbandry in the Czech Republic and their social consequences

Analýza současných forem ekologického chovu slepic v České republice a jejich důsledky pro společnost

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Abstract: The paper deals with the development of the organic sector in the Czech Republic and by this it joins the current debate on the conventionalisation of organic agriculture. Using the case study method, it explores the situation of organically reared chicken. The main goal of the study is to find out to what extent the methods of organic farmers comply with the model of sustainable food production. The empirical analysis is based on the quantitative and qualitative approach. The results point out three different groups of producers, which are then described in detail with regard to their practices. The study suggests that the organic sector in the Czech Republic is becoming more differentiated and some of its current forms may violate the principles of sustainability. At the same time, it argues that this situation results from a more general framework of the modern society, which entails structures that are contradicting per se the sustainable model of food production.

Key words: conventionalisation, sustainable development, alternative food networks, hygienic mode of control, organic eggs, organic chicken meat

Abstrakt: Tato práce se zabývá vývojem ekologického sektoru v České republice, čímž se připojuje k současné debatě o konvencionalizaci ekologického zemědělství. S využitím metody případové studie zkoumá situaci ekologicky chovaných slepic. Hlavním cílem studie je zjistit, do jaké míry postupy ekologických farmářů odpovídají modelu udržitelné produkce potravin. Empirická analýza staví na kvantitativním a kvalitativním přístupu. Její výsledky ukazují tři skupiny producentů, které jsou následně detailně popsány s ohledem na jejich praxi. Studie ukazuje, že se ekologický sektor v České republice stává více diferencovaným, přičemž jeho některé formy mohou porušovat principy udržitelnosti. Zároveň upozorňuje na to, že daná situace vyplývá z obecnějšího rámce moderní společnosti, který obsahuje prvky, jenž samy o sobě stojí v rozporu s modelem udržitelné produkce potravin.

Klíčová slova: konvencionalizace, udržitelný rozvoj, alternativní produkční řetězce, hygienický mód kontroly, bio vejce, bio kuřecí

The official statistics show that the “average inhabitant” of the Czech Republic annually consumes 26 kg of chicken meat and 250 eggs (in the year 2006, ČSÚ 2008). The popularity of chicken among consumers is growing. The per-capita consumption in the Czech Republic already exceeds the consumption of the EU-25 member states (Magdelaine et al. 2008: 57). It is taken

for granted that this food comes from the intensive industrialised agriculture, but a closer look at this kind of production shows various social, environmental and ethical problems. These problems are particularly urgent in the case of fowls, since the *poultry industry* itself represents the modernist approach to agriculture, which results in many negative consequences.

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The chicken is the most industrialised animal in the world (Striffler 2007: 15). What this means to the casual consumer is that eggs and chicken are available as the cheapest source of animal protein – with a large “but”. It is necessary to add here that the extremely low price is only apparent, because it does not include the costs of many negative externalities that are typical of the conventional production. Otherwise it would not be possible to make the price for chicken lower than the price for cherries, or other kinds of fruit – “to be sure, rearing a 2-kilogram chicken, that is a live being, must be more costly than growing fruits or vegetables” (Šarapatka, Urban 2005: 29-31).

This fact has raised much concern, as many foreign publications show (e.g. Webster 1994; Pollan 2007; Singer, Mason 2007; Striffler 2007 etc.). In the Czech Republic, this kind of information is missing. The problems of industrial chicken husbandry have thus been publicly discussed only due to the effort of a few NGOs (see for example *Ochránci hospodářských zvířat* 2003 or *Společnost pro zvířata* 2009). Nonetheless, one can hardly conclude that the situation in the Czech Republic is different, or better, than abroad. Creating an alternative to these highly problematic methods of industrial agriculture is therefore a challenge worth studying.

These studies should in particular entail the sector of organic farming which is perceived as the representative of *the other way* of using natural sources, different from the conventional agriculture. The main organic principles are based on sustaining and enhancing the health of the soil, ecosystems and people as a whole (IFOAM 2007). The principles comply with the well-known elements of environmental, social and economic sustainability and, due to this, the concept of organic agriculture has become a practical means for the sustainable rural development. Yet, in reality a significant problem arises – how to meet and balance the principles which are somehow contradictory? Organising an economic activity to make it environmentally-friendly, socially-just and economically-viable does not automatically happen in the current modern society.

It is this dilemma that also accompanies the current critical debate on the development of organic farming. It has become obvious that, in terms of the officially stated rules, a varying range of forms of organic farming can be created. Each of these conducts the basic “programme” differently and, in this way, meets the theoretical mission of organic agriculture differently. The main points of this discussion are the circumstances which enable or disable organic farmers to carry out the organic ideas practically. The factors that influence the activities of farmers

are usually intertwined, work together and are not directly visible. In order to make the debate fruitful, it is necessary to identify those factors and their effects on organic farming.

The above-mentioned relationships are “tested” in this study within the case of the organic poultry production. As will be argued later on, the “social life of commodity” chicken is a convenient probe for the investigation of the described issue. If the current chicken are the typical products of the industrialised agriculture, it is useful to critically observe how the shift from the industrial to organic regime of production is realised in their case and, at the same time, to ask whether this change and the consequent effects correspond with the organic farming principles with regard to the sustainable rural development.

This study draws on the following general research questions: what are the basic descriptive features and forms of the organic poultry production, and how do they contribute to the rural development process? The goal of the paper is to (1) describe the different forms of the organic poultry production in the Czech Republic and (2) identify the factors which shape these forms with regard to the basic organic principles. The text firstly explains the focus of the empirical study, after which the current debate on organic farming is outlined. The next section then presents information on how the case studies was conducted, its results and, finally, the implication for the current research agenda on organic farming.

CONCEPTUAL FRAMEWORK OF THE STUDY

Chicken as a social phenomenon?

The post-war development of poultry production is a good illustration of the applied modernisation processes in agriculture. The resulting forms of agriculture directly challenge a more detailed study. If we abstract from the notion of farm chicken as an agricultural commodity, and start to treat them as a social phenomenon (based on a wider configuration of social relationships), we will gain access to the space that offers an insight into the actual industrialisation principles and their consequences.

A few works in particular are inspirational, namely the study on globalisation of food production by Heffernan and Constance (Heffernan, Constance 1994), the study by Jane Dixon, who analysed the cultural and economic processes changing poultry production and the culinary culture in Australia (Dixon 2002), and the work of Steven Striffler, who

(based on an ethnographic study conducted in a chicken meat factory) empirically described the relationship between the exploitation of immigrants and the industrial food production in the USA (Striffler 2007). The current poultry production has also been described in Michael Pollan's "History of four meals", in which he studies and evaluates the environmental consequences of different forms of food production (Pollan 2007). Finally, the recent book by Peter Singer and Jim Mason (Singer et al. 2007) deals with the ethics of food with regard to the environmental impact. What these studies have in common is the meaning of chicken (i.e. chicken meat and eggs) as an element, which is a part of wide and mutually connected networks of political, economic, cultural and environmental relationships that reflect the significant features of the contemporary society.

This work draws on the same assumption. The focus of the work, however, is not related to conventional farming but, through the case of chicken, questions related to organic farming are reflected.

Current questions related to the development of organic farming

Organic agriculture is a contested term. Organic farming generally represents an alternative method of food production, different from the conventional one. The *differentness* is sometimes considered as a defining feature of organic farming (Michelsen 2001: 111), however, the exact specification of the differences (and therefore the delineation between *conventional* and *organic*) is a matter for discussion. For better understanding of this relationship, it is useful to go back to the times when agriculture started to become industrialised. According to Philip Conford, the main ideas of organic agriculture stem from the immediate response to the negatively regarded modernisation of the countryside at the end of the 19th century. The proponents of organic farming were not inclined to refuse technological innovations as such, but they firmly supported a specific approach to agriculture which was founded on the "positive acceptance of the natural order and the intention to work with this law" (Conford 2001: 17) and which was later undermined by modern agriculture.

Throughout the 20th century, organic farming was supported by the particular social movement which was active in different Western European countries and the USA. Their ideas of farming (in accord with natural processes) have formed an ideological opposition to the conventional farming (organised according to the instrumental logic of industry). Historically,

organic agriculture gained a transformation potential, which started to be put into practice in the early 1970s. The main result of this development has been the formal and political acceptance of organic methods and their inclusion into the official European policy at the beginning of the 1990s.

This point also emphasised the long-lasting dilemma of the organic movement. On one side, the organic activists wanted to enlarge the organic market (in order to have more organically farmed land) which, on the other hand, required starting to cooperate with the conventional structures within the production, processing and distribution of food, and additionally also giving the opportunity to become organic farmers to those who were not completely committed to the radical ideas of the organic movement (Banks et al. 2001: 118). Both of these steps were practically realised in the second half of the '90s. This situation then opened a discussion as to whether this kind of growth is not undermining the original capacity of the organic sector to realise the transformative potential and positively change the conventional systems of food production.

This issue should not be underestimated. The organic sector has been supported from public funds and its production in Europe has been valued at about 15 billion Euros (Richter, Padel 2007). In addition, organic farming forms an important part of the new paradigm of rural development, which is founded on multifunctional agriculture, localisation and valorisation of production (van der Ploeg et al. 2000: 399). Based on this perspective, organic farming is mainly seen as a potential solution to the problems that occurred in relation to the original (post-war) model of agriculture and regional economies. Large groups of social scientists have therefore been interested in how this potential is being realised with regard to the above-mentioned dilemma of the organic sector growth.

The keyword for many of these studies is the term *conventionalisation*. This concept became known after the publication of the empirical study from California, in which Buck et al. presented the evidence that "organic agriculture is beginning to resemble conventional agriculture", because it employs the processes such as intensification, substitution of labour with capital and the increased number of inputs that originate out of the farm (Buck et al. 1997: 15). These industrialisation tendencies have been analogically recognised in the study from Ireland, in which Hilary Tovey showed that, in spite of the critique of conventional farming, "it is becoming incorporated into the system which precisely allows that sort of farming to continue" (Tovey 1997: 36), and also in the study by Banks and Marsden who conclude in their report

that “the current growth of the organic sector does not necessarily lead to direct realisation of organic movement principles” (Banks, Marsden 2001: 118). The results of these studies have been elaborated by researchers in other countries, who have focused on refining the theory (e.g. Coombes, Campbell 1998; Hall, Mogyoródy 2001; Guthman 2004) or on the explicit verification of it (e.g. Best 2007).

The study of conventionalisation faces two major problems. Firstly, it has become obvious that the development of organic farming is socially and culturally determined and thus it is not possible to define the exact indicators which would enable the universal measurement of the “conventionalised” forms of organic farming. Secondly, it has been argued that the hypothesis of conventionalisation (and mainly its study from the political-economy perspective) can distinguish only two ways of development. The examination of the development dynamics from this perspective then “leads to underlying linear trajectory to understanding the development” (Campbell, Liepins 2001: 23), which is too simplistic. Lockie et al. then asked whether the importance of these (over)used concepts stems from the simple need to “make sense, in the absence of comprehensive data, of rapid processes of social change, or by the desire to make an ideological fit with movement goals that scholars identify with or have sympathy for” (Lockie, Galpin 2005: 305).

The critique of the dualistic approach to organic farming has initiated research which looks at the organic sector as a socially constructed phenomenon of a contingent nature, whose content is discursively created. From this perspective, the development of the organic sector cannot be explained as a result of economic forces, but rather as an intersection of different approaches, definitions and views of the engaged actors who are active in the given sector and give meaning to it. A practical example of this research approach can be found in the study by Isobel Tomlinson, who studied the British organic sector with the use of discourse analysis. Her results suggest that the organic sector is changing - in certain ways it is becoming more similar to conventional agriculture, but it still remains a key element for the positive rural development. The official policy played an important role in this shift, pushed the British organic farming out of the radical direction, “conceived it as a successful market segment offering public goods (...)”, but, at the same time, preserved its transformation potential (Tomlinson 2008: 147).

A similar research stance has also been applied in the Czech context by Zagata (2008), who focused on farmers’ approaches. Based on the empirical work, he

argued that the dichotomic classification of farmers/enterprises on the traditional- and pragmatic-acting individuals, as the conventionalisation theory suggests, may not be valid. The real strategies of farmers are in fact framed by the institutional forms of the market setting in which they operate. This setting also makes them to compromise and balance their values in order to stay and feel like organic farmers and to survive economically.

Those results also accord with the newly used theoretical framework of the so-called *convention theory*, which continues to undermine the dualistic perspective on the development of the organic sector. Using this theory, Rosin et al. (2009) showed that organic farming takes on many forms which are created and justified by the engaged actors by referring to a certain world of values. Organic farming is not then compared on the basis of the idealised substitution of conventional agriculture, but rather on the basis of how people understand, interpret and define food quality. The accession of large enterprises into the organic sector is simply one of the various ways of how the quality of organic products can be modified, based on the specific legitimisation of the given approach and the value orientation of the related groups of actors. “Organic is in ascendancy when the justifications of its qualities resonate strongly with a significant sector of consumers, retailers, or processors. It appears to be increasingly marginalized when issues of cost and efficient production and supply are considered more pertinent” (Rosin, Campbell 2009: 45).

The presented review simply illustrates selected answers to the basic question – what happens with the organic sector in the developed countries? A more detailed look shows that the potential answers are directly related to the theoretical tools which are used for their enquiry. The argument about the development of the organic sector is also a contest of a suitable conceptual framework for the empirical analysis.

Theoretical assumptions behind the analysis of the organic sector in the Czech Republic

This text considers organic agriculture to be a part of the food production sector. This means that the actual method of farming, and also the content of the organic agriculture concept, is shaped by the constitutive elements of the market setting to which it belongs. This delineation does not mean that the success of organic agriculture (in terms of sustainable rural development) would be *directly* and *solely* based on market success. The growth of consumer demand

and the consequent supply of organic products do not per se determine the positive outcomes of organic farming. What must organic farming then entail?

The most important element is *sustainability* itself. Paradoxically, the sustainability of organic farming is relatively less obvious, less attractive to consumers and, as such, it does not usually belong among the reasons for people purchasing organic products. A current survey among Czech consumers suggest that the Czechs mostly associate organic food with “growing without chemicals, (74%), more healthy food (30%), unstressed animals (6%) and better taste (5%)” (Ogilvy 2008). Those are the aspects showing that organic farming is not understood holistically, which weakens the relationship between organic farming and sustainable food production. This approach to organic farming has been (unfortunately) supported by the recent campaign of the Ministry of Agriculture of the Czech Republic, which informs consumers how to identify organic products in shops, what constitutes organic quality and why organic products are better (SZIF 2008), as if it were possible to make organic agriculture successful by the sufficient support of the demand, no matter what is its intrinsic content. The consumer approach is also being fortified by the strategies of international retail-chain stores that have the largest share in the market with organic products (Václavík 2007). Looking at the current state of their offers, one can see that they cannot be interested in having customers who are able to define the organic quality from a wider perspective. Their promotions thus frequently invoke egocentric motives of consumption and play down other aspects of quality, such as localness, seasonality of production, and implications for the Czech countryside. In spite of that, the experience from abroad clearly shows that “as social sustainability becomes the poor and misunderstood relation in the sustainability equation of organic farming, the rural development potential of the activity could regrettably diminish” (Banks, Marsden 2001: 119).

This moment is therefore crucial. Organic agriculture, which in practice does not comply with sustainable farming, is reaching the same trajectory of development as conventional agriculture, it is being conventionalised. It loses its original potential to change food production into a more environmentally-friendly system and to positively affect rural development.

The above-mentioned argument then implies that for the following analysis, it is necessary to clearly delineate the criteria for sustainability. In this paper, the conditions for sustainability are derived from the status of organic farming. The given sector is considered as the representative of alternative food networks, i.e. a specific system of food production which is founded

on the network cooperation of producers, consumers and other actors, who together create an alternative to the industrial method of food provision (Renting et al. 2003: 398). The alternativeness of these networks primarily stems from the new social relations between the engaged actors. This new configuration of social relations significantly changes the resulting outputs of farming. If we want to examine sustainability of food production, it is necessary to pay attention to the parameters of these social networks. From this viewpoint, one can distinguish three basic fields – social, economic and environmental – in which the changes take place. Each of them then reveals how organic farming contributes to sustainable food production and rural development. Now let us take a more detailed look at them.

- (1) *Social sustainability* ensues from the basic feature of the alternative food networks. Their structure enables the shortening of the standard long and anonymous links between producers and consumers. Due to this, consumers get closer to the food, acquire more knowledge about the origin and quality of the food. At the same time, the mutual relationship between the product and locality from which the food comes is shortened. Some authors (Renting 2003: 398) thus directly add to the alternative food networks the adjective *short*, because it better renders their basic capacity. For the purpose of this study, it is important to note that the short food networks shift the power (to construct the food quality) towards consumers and thereby these networks support the existence of other, non-industrial methods of food production.
- (2) *Economic sustainability* stems from innovations in farming. In terms of the organic sector, the innovation is related to the valorisation of farm products in combination with new ways of lowering costs. A key part of valorisation is the alternative quality reflected in the higher prices of products which consumers are willing to pay. This type of innovation is supposed to lower the squeeze on agriculture, which is a standard part of the industrial system of food production (van der Ploeg et al. 2000: 395) and which holds farmers on the well-known treadmill of growing investments and diminishing revenues. The structure of the short food networks again allows the capture of this newly-created added value and the assignment of it to farm producers, who can receive the so-called premium prices for products of organic quality.
- (3) *Environmental sustainability* is related to the reduction of risks that have got “modern reasons” (Beck 2004: 28). In the case of the organic sec-

tor, this entails a reflexive approach to industrial farming, which has led to various unanticipated consequences threatening Nature and Society. In the agricultural field, the risks are multiplied, because the negative effects of modernisation aim at a natural base for actual food production. This situation creates a boomerang effect with consequences for large social groups of inhabitants (Beck 2004: 49). The sustainability of organic farming is therefore conditioned by the technologies that can reduce those risks. In organic farming, closed cycles of nutrients and the use of internal sources are the key principles. This rule is supposed to limit the use of non-renewable sources of energy (including artificial fertilisers and other chemical substances) and to cut down negative externalities. A significant part of these measures is included in the formal framework of organic agriculture. The given regulation cannot, however, ensure that the impacts of organic farming will not include any other risks. Environmental sustainability is therefore related to broad circumstances and approaches to farming and so it also includes the social relationships which are an inevitable part of it.

One can see that this study uses the approach which examines organic farming in those three (mutually interdependent) dimensions. It is possible to assume that the real life includes factors which may disable one or more aspects of sustainable farming and which thus modify its idealised form. The following part of the study thus continues with the analysis of these factors and their effects on organic farming.

CASE STUDY: ORGANIC PRODUCTION OF EGGS AND CHICKEN MEAT IN THE CZECH REPUBLIC

Methods used

The given problem has been researched with the use of a case study method combining the quantitative and qualitative approach. The initial information about the organic sector was found in the official *List of Organic Farmers for the Year 2008*, published by the Ministry of Agriculture (MZe 2009). This docu-

ment states that organic chicken can be found on 35 farms. The case study entailed 23 units out of the potential 26 farms (see the Table 1). It is possible to assume that this sample enables an overview of the main facts about the entire sector.

Data has been collected in the period from September 2008 to March 2009, using qualitative (in-depth interview), as well as quantitative techniques (standardised interview). The majority of the possible farms (12 units), located in nine Czech regions, were visited as a part of the fieldwork. The qualitative interviews were held with the owners of these farms. The enterprises were selected one by one (using purposive sampling) in order to reflect the results of the ongoing analysis. Information about the remaining farms (11 units) was gathered through the computer-assisted telephone interviews. The goal of these interviews was to acquire the relevant facts about chicken husbandry on the given farms in order to complete the information.

Description of the sector and classification of the producers

In the year 2008, 1 946 organic farms were registered (MZe 2009). Obviously, this fact does not correspond with the information that poultry is kept on about 1.5% of farms. It is important to note here that the given one-and-a-half percent refers to the cases of certified husbandries which are under the official control exerted by the organic inspection bodies (KEZ, ABCERT and BIOKONT). Most likely, there is more poultry than that on organic farms, i.e. farmyards. The majority of them take the form of the so-called *hobby rears*, which typically include a small number of animals.¹

What different forms of organic poultry production can be recognised in the Czech Republic? Let us first take a look at the types of farms according to their size (Table 2). A typical flock of chicken on an organic farm is relatively small: two-thirds of the farms keep less than 40 chicken, but more often the flocks are even smaller – with the maximum of 20 birds. On some farms, approximately on one-quarter of them, a higher number of chicken (from 100–400) can be found. The organic sector also includes two specialised farms for organic eggs. Each of them keeps several

¹The produce of such small rears is linked with own consumption within a household. The chicken and their products do not have to be certified and therefore they are not recorded in the official List. Despite the fact that this group of farms is most likely under-represented in the study, these cases have only a little influence on the organic sector as such. Larger flocks of chicken which can hardly stay out of the technological and administrative processes of farms are completely included in the study.

Table 1. Distribution of organic farms for the purpose of the case study

Status of the farm	Counts
Keep poultry – including chicken for egg production	23
Keep poultry – except chicken, no egg production	3
Do not keep poultry (error in the List)	6
Did not want to participate in the study	1
Missed	2
Total	35

thousands of layers. However, the relative frequency of the given size group is small (less than 10%).

The differences in the number of chicken can be used for delineating three groups of producers – small, middle and large. It is assumed that the group of small producers is most likely under-represented. The other two groups present complete information about the current state of organic poultry production in the Czech Republic.

The represented distribution reveals a significant concentration of production. Basically, two-thirds of organic poultry production (eggs) comes from two farms. This effect multiplies the fact that the small producers deliver only a negligible part of their produce to the market. The demand for organic eggs is therefore satisfied by the produce of the two large farms.

The high concentration is associated with other characteristics which shape the actual form of farming. The most obvious one is the size of the farmed land on farms. Median values are 32 ha, 87 ha and 178 ha respectively for the group of small, middle and large producers. The relationship between the level of animal production and farm size is more or less

natural. Indeed, in terms of organic agriculture, it is desirable to keep animal husbandry integrated with plant production. This practice is one of the basic principles of organic farming, since it supports the closed cycle of nutrients.

Modern industrial farms (and this renders them to be modern), on the other hand, rely on the rationalisation processes such as specialisation, the appropriation of production inputs and intensification (for more, see Guthman 2001). As a result, these farms usually separate animal husbandry from plant production and increase the share of inputs from external sources in order to maximise outputs from the unit of inputs. At the beginning of this paper, it was stated that the conventional production of eggs and chicken meat is a typical representative of the mentioned modernisation processes in agriculture. Let us take a look then to what extent the organic sector can alternate these. The application of modernisation processes has been observed through several indicators related to rearing technologies. The indicators were in particular focused on the purposes of husbandry, reproduction of the flock, feeding, chicken breeds and lifespan. The relevance of the constructed indicators and the mentioned modernisation processes are displayed on the left side of Table 3. The right side then shows the frequency of cases that meet the given condition.

The table above suggests that there are obvious structural differences between the organic farms with chicken. One can see that the large producers are completely specialised in egg production. Since they keep the hybrid layers, their chicks come from external suppliers, i.e. industrial hatcheries. Sometimes the external suppliers also provide the complete feed. These farms change the flocks at a certain time, so the lifespan of the chicken layers is limited – usually a period shorter than 2 years.

The rears of the middle producers diverge the most from this model of farming. The farmers rarely keep

Table 2. Distribution of farms according to the size of chicken flocks

Size of the flock (chickens)	Number of farms (absolute)	Relative counts (cumulative) for each group (%)	Classification of producers
<10	4		
11–20	7		
21–30	2	65	“small”
31–40	2		
100–400	6	26	“middle”
1 500	1		
3 000	1	9	“large”
TOTAL	23		

Table 3. Technologies applied in organic chicken husbandry for the three groups of producers

Process	Indicator	I. Small	II. Middle	III. Large
Specialisation	Egg production without meat production	+	+	++
Appropriation	Chicks are not hatched on the farm	-	--	++
	Most feed comes from external sources	--	--	±
Intensification	Use of final hybrids	-	--	++
	The lifespan is strictly limited	--	±	++

Note: All variables have been transformed to alternative ones. Their values indicate compliance with the given condition (operational definition). Due to the low number of units, the relative counts were substituted with symbols in the following way: [0–20% = “- -”], [21–40% = “-”], [41–60% = “±”], [61–80% = “+”], [81–100% = “++”]

hybrid chicken. More often they choose pure breeds of the laying type or dual-purpose chicken. Reproduction of their flocks is carried out on their own by (more or less controlled) breeding. The middle producers are not therefore dependent on external suppliers of chicks. Due to economic reasons, some of them intensify their production by limiting the animals' lifespan.

Small producers – just like the middle ones – have less specialised rears. More frequently than the middle producers, they purchase chicks from the external industrial hatcheries. However, they are not as completely dependent on them as the large producers. In some cases, they have to buy some feed (mainly grains, if they do not farm on arable land). Instead of the final hybrids, their yards are occupied by pure breeds of “freely bred” chicken, which do not usually have a limited lifespan.

Table 4. Loadings of explanatory variables for the discrimination functions

Explanatory variables (predictors)	Function	
	1	2
Egg production without meat production	0.101	0.169
Chicks are not hatched on the farm	0.318	0.685
Most feed comes from external sources	0.293	0.385
Use of final hybrids	0.254	0.428
The lifespan is strictly limited	0.481	–0.199
Total farmland	0.388	–0.274

Note: Information on the first canonical discrimination function: Eigenvalue equals 2.077 (the function explains 76.3% of variance), it is statistically significant on the 5% level. Information on the second canonical discrimination function: Eigenvalue equals 0.644 (the function explains 23.7% of variance).

The adequacy of the presented classification of organic producers can be checked with the discriminant function analysis. It is assumed that the group membership stems from specific differences among the groups of farms. The purpose of the analysis is to find such a linear combination of the explanatory variables that would provide answers to the two questions: What variables contribute to the assumed classification in the groups? Do the groups differ in the assumed way – is the presented classification adequate?

Correlation coefficients of the predictors and values of the first function (Table 4) show the highest association of the variables referring to lifespan, total farmland, hatching of chicks away from the farm, as well as obtaining feed from external sources. These variables point out the main differences between the groups. To state it differently: the observed farms differ in the extent of appropriation of inputs and the intensification of production. Table 5 proves the adequacy of this classification, which demonstrates that the discriminant function derived from the values of the six predictors can correctly classify 87% of the cases.

Results of the quantitative analysis suggest that the large organic poultry producers more likely employ the modernisation processes which are typical of conventional agriculture. This information is not surprising. A large number of animals can hardly be organised without effective means. Much more interesting and important is the question as to how these processes affect organic farming itself. At this point, it is already possible to argue that there is not just *one organic farming*, but several “organic farmings”. There is therefore a need to find out how the engaged actors in different contexts carry out organic farming, what they draw on and how the resulting constructions match the framework of sustainable food production and rural development.

Table 5. Evaluation of classification

			Predicted classification			Total
			1	2	3	
Assumed classification	abs.	1	14	1	0	15
		2	2	4	0	6
		3	0	0	2	2
	rel.	1	93.3%	6.7%	0%	100%
		2	33.3%	66.7%	0%	100%
		3	0%	0%	100%	100%

Note: 87.0% cases are classified correctly. By chance alone, 51.1% cases would be classified correctly (computation done according to Tabachnik et al. 1996: 544)

Group 1 – Small producers

Organic farming usually connotes small family farms which create an alternative to large industrial enterprises. Does *small* really mean *organic*? If this simple relationship held, then the farms in the first group should have the chicken rears that are the most organic.

The small producers usually have rears which stay away from the actual farm production. In spite of having chicken that are officially controlled and certified, their produce does not usually enter the official market. The eggs and chicken meat rather serve for the self-supply of the family, relatives or neighbours, and so the farmers have specific criteria for the chicken. The farmers keep chicken not only because they are useful, but also because they simply belong into their yards, because that is the way “it used to be” (F34)². Just as in the past, chicken acquire a certain aesthetic value which affects the choice of chicken breeds. Efficiency is important, but it is not the most significant part, because “having chicken is not any business plan” (F2), and its organisation is not necessarily based on the formal rationality.

Generally, the rears of small producers are typical of a low level of control. All aspects of the chicken's lives are more influenced by the Nature, rather than man. The chicken live in small flocks that are heterogeneous in age and sex, they are given free ranges, sometimes outside the farm space. In those cases, they must partly take care of their own feed and safety. In many places, they are threatened by predators. The reproduction of the flock is then based on the strict natural selection, which can even take an extreme form like this:

“Every year a brood hen produces about 60 chicks. Half of them doesn't survive the spring – predators,

they drown or get lost. Another quarter of them don't survive the first winter, so there remain 10-15 chicks, which add to the flock. (...) We have losses, but we do not mind that much.” (F30)

Under those circumstances, it is not always productive to rear the “top layers”, whose potential may become diminished. Nonetheless, among the small producers, there are also those farmers who keep the final hybrids of the laying type. If the flock is not located in the yard, farmers tend to keep the original chicken breeds which are considered tougher and therefore more suitable – at least as a basis of their rears. The subsequent reproduction often continues spontaneously, so the resulting breed takes the form of “whatever God gives” (F12). These rears do not have any specialisation. Only rarely do the small producers keep meat hybrids (broilers). They are less resistant in the farm setting and so it is more suitable to use roosters from their own flock instead of them.

The chicken rears of the small producers convey the principles of organic farming. Most processes are localised, farmers prefer internal sources. However, according to the farmers, it is possible to conduct the chicken rears in this way, due to the fact that they are not part of the official market and therefore not economically constrained. On one hand, the production of eggs and meat follows the criteria of sustainable systems, but on the other, the produce rarely reaches beyond the family and other relatives. The final price for eggs is not high (3–5 CZK), and the transformation potential of this kind of poultry production is, due to its extent, negligible.

Group 2 – Middle producers

The organic farms that have more than 100 chickens were categorised as the middle producers. A typical

²The number in parentheses refers to the farm where the interview was conducted.

feature of these farms is diversification. All representatives in this group farm on land with perennial grass, as well as arable land. Relatively large flocks of chickens are purposefully integrated into the entire farming system.

All of these farms use feed which is of their own origin – mostly grain, legumes and root-crops. Only some feed additives (grit, vitamins etc.) come from external sources. Chicken flocks are free-ranged. One farmer (F22) in fact practises “pastured poultry”, known from abroad (Pollan 2007: 208–225). Chicken layers are given several hectares of grass, where cattle had been pastured before them. A suitable timing can help to reduce the parasitic diseases of cattle and also contributes to the increased intake of nutrients for poultry, which is important for the overall efficiency of husbandry.

The question of efficiency is quite important. Although poultry production does not form the decisive part of the farms’ profits, chicken rears entail substantial costs and therefore it is important to organise them efficiently. For this reason, producers in this group pay more attention to the actual qualities of the animals and the flock reproduction. Only on one farm (the largest one in this category) can the final hybrids be found. Other farms always use the original chicken breeds, which are by deliberate breeding adjusted to the specific natural conditions. This approach can be illustrated by the experience of a farmer who started with the Moravia chicken hybrid. This appeared to be the wrong choice with regard to the farm setting – “the chicken did not know how to move in the yard, they let themselves be devoured by pigs, were not good brooders and they often got lost” (F5). The farmer soon realised that a chicken layer that would be suitable for her farm cannot be purchased. The “suitable chicken” can only be gradually bred. The result is what she calls the “domestic chicken” (F5), and can be described as chicken with a relatively high yield (250 eggs/year), with preserved instincts and the ability to hatch chicks. Not only this farm, but most of the farms in the second group, rely on their own flock reproduction. This fact increases the farming profitability. What is more, the own chicks are more valued, because they are more sturdy (F28). This strategy of the farms obviously challenges the appropriation process, because it makes them less dependent on the industrially produced inputs.

The farming method among middle producers corresponds with the gist of the alternative food networks. Eggs are sold to the selected customers, friends, employees and neighbours. The price reaches 3–5 CZK

(most frequently 4 CZK). The price of organic chicken meat is about 150–180 CZK/kg, quite low, due to the low production costs. One can see that the farming of these producers conveys the explicit organic principles. Their methods are more organised and controlled than in the case of the first group. Chicken rearing becomes an activity, which is a part of the entrepreneurship. The success is based on the reduction of external sources and costs. The main strategy of these farms is to use an alternative system of distribution, which allows for the receipt of premium prices, but also keeps the farm off the conventional market that entails much stricter formal rules.

Group 3 – Large producers

The third group of producers is represented by two farms. Both of them keep chicken flocks counting several thousand layers. These farms are also the only ones which have a certified egg-sorting and distribute eggs to Czech shops, including the retail-chain stores.

Both farms are relatively large (they have 100 ha and 265 ha of land respectively). The first enterprise does not farm on arable land. The second farm does, although the plant production does not guarantee the necessary integration with animal husbandry. More important is the efficiency of the whole farming system, as the director of the farms says: “We will calculate it after the winter and if we find that it is cheaper to buy the wheat, we will not do it (plant the wheat – LZ)” (F23). The feed can be also bought as a complete feed mixture from external suppliers.

On both farms, hybrid chicken layers (Isa Brown) can be found, coming from the Czech branch store of the Hendrix Genetics transnational corporation. The company offers with its *product* (i.e. chicken) a technical manual for “alternative systems”, but the content is no different from the information on industrialised farms.³ Surprisingly, the farmers mentioned that they were not in any way inclined to this specific type of chicken. Nonetheless, they must rely on the conventional (industrial supplier), because there is no other company in the Czech Republic that would manage to supply the required number of chicks for their farms. The large producers rear chickens in batches. They bring in approximately 1 500 chicken, which they keep during the first egg-laying period. Due to the economic and veterinary reasons, it is impossible to let the chickens re-feather, and so they must be slaughtered in about 14 months, then the new batch comes in. The flocks also include roosters.

³For more information, see the presentation of the company Integra Žabčice a.s. on the address: www.integrababice.cz

Yet, their role is rather formal and, due to their high number in the group, they often quickly perish.

This way of farming often faces dilemmas related to the general veterinary regulations and rules for organic farming. The veterinary regulations are of a universal nature and do not include any exceptions for organic regimes. The chicken layers cannot be practically treated, because the application of casual substances is limited. "It is better to let the entire flock be and have the yield reduced, rather than to deal with the problem and control everything – this is too expensive" (F23). Regarding the number of birds and their concentration, a strange situation occurs. Organic farms of this kind create systems which require a high level of control, but they do not have the necessary means for their effective enforcement. This type of farming thus seems to be more vulnerable. This is also evident in the fact that visitors are not allowed to come to the animals, just as on the large industrial farms.

Other contradictions between the organic regime and the general veterinary requirements can also be seen in the field of product quality. Veterinary regulations prohibit the sale of unclean eggs. Organic farms, on the other hand, keep free-range chickens and therefore it is impossible to ensure 100% clean eggs. The situation, which is acceptable in the case of smaller producers, because some of their customers are "disgusted with the super-clean eggs for 0.90 CZK per piece" (F29), is unthinkable here. Six organic eggs of the M size can be bought in a supermarket for about 56 CZK, i.e. more than 9 CZK per egg.

Organic production in this form requires a high capital. This is probably one of the reasons why this group includes only two farms. High investments and high production costs therefore imply a higher rationalisation of farming.

The described farms have surely succeeded in offering their products to large masses of customers. In many respects, this could have been done only if they used the implemented conventional structures in terms of farm technologies, distribution channels and product quality, and not only that. In many respects, this could have been done only if they lowered some of the implicit principles of organic farming. The given form of production is only partially localised and it strengthens the dependence of the farms on external suppliers. The farms do not necessarily use the feed from their own sources, but from external suppliers, which may come from abroad. Although the given farms receive premium prices for organic quality, they must share it with the sellers. Considering the setting of conventional supermarkets, they must compete not only with quality, but also with price

(there are Austrian organic eggs available, which are by about 10% cheaper). This situation puts the large producers in a specific position. One of the direct results is that their farming method is in many respects close to the conventional one, with its negative consequences.

DISCUSSION

It is often stated that the organic farming represents "in most cases a more environmental friendly way of agriculture" (Lustigová, Kušková 2006: 508). The Czech organic sector has gone through the rapid development that has led to a new differentiation of organic forms. This paper argues that the research on these forms and their critical reflection is an important condition for retaining the transformation potential of organic farming. This aspect has been frequently overlooked in other analyses of Czech organic sector (e.g. Živělová, Jánský 2007; Jánský, Živělová 2007).

The study presented three pictures of organic agriculture within poultry production. The classification suggests that the current organic farming also entails the forms which challenge the often-mentioned dualism of organic and industrial. In each of the three groups, the producers organise their activities purposefully. All of them conduct their farms in order to comply with the necessary organic rules and also to rationalise their work. In addition to this, the representatives of the second group manage to produce eggs and chicken meat in accordance with the explicit conditions of sustainability: they have created alternative systems of production and distribution by which they have valorised their organic produce. However, the third group of large producers has already started to implement the methods which are typical of the conventional industrialised farms.

Nevertheless, it would be too simplistic to assume that this way of farming is based on purely economic reasons – to increase profit. The given form of agriculture has resulted from several influences. In particular, it appeared that the concept of organic farming was in practice deformed by the so-called "hygienic regime of control" (Marsden 2006: 203). Concerns for the health of consumers, due to various alimentary crises, support the proliferation of strict rules which cannot be met without high investment costs. These high costs force producers to apply the economy of scale, which entails a high rationalisation. The hygienic regime of the control confines the farmers' possibilities to develop the model of sustainable food production practically.

This fact supports the qualitative insight into the actual practice of organic farmers. The approach of the farmers in the first and second groups accords with sustainability more than the farmers in the third group. All the producers are acting within the bureaucratic regime of the hygiene control. Under these conditions, the small and middle producers partly decommodify their produce. The large producers act differently within this setting, relying on the official conventional structures. This also means that they need to rationalise their setting and to adjust it to the given bureaucratic rules. The regime of hygiene control is through and through industrial: it favours the industrial criteria of quality, but it also requires farmers to apply the industry-like methods in order to meet them. Organic farming in this regime, nevertheless, collides with the principles of sustainability.

CONCLUSIONS

At the beginning of this study, the question dealing with the forms of organic poultry production was posed. The empirical research produced evidence that the given sector in the Czech Republic is developed enough and is becoming more differentiated – just as in other European countries. Organic chicken rearing is not very frequent. Most organic farmers keep chicken for their own use. Their produce therefore hardly reaches beyond the limited space of the family. The farms with 100 or more chicken represent a larger potential. It appears that the farming methods of these enterprises can meet the principles of sustainable food production. This is possible only if these farms partly decommodify their produce, limit their size and stay out of the official framework of the regime of hygiene control.

In the Czech Republic, there are two large farms specialising in the certified egg production, others will most likely appear soon. These farms keep large flocks of chicken and often apply the methods that are typical of the conventional sector. Their approach does not stem simply from economic reasons, but is based on the nature of the modern setting in which the bureaucratic and hygienic control is exerted. This general framework can be seen as the heritage of the productivist model of agriculture and rural development that again emphasises the question of efficiency and formal rationality.

The social life of the selected commodity chicken pointed out the factors that are necessary to be taken into account when dealing with the aspects of sustainable food production. In accordance with the conventionalisation theory, this study suggests that

some forms of organic farming may violate the principles of sustainability. At the same time, it argues that conventionalisation is not supported only by economic factors. The dilemma of the growth of the organic sector is shaped by a more general framework. This framework may entail structures that contradict the sustainable model of food production.

REFERENCES

- Banks J., Marsden T.K. (2001): The nature of rural development: the organic potential. *Journal of Environmental Policy and Planning*, 3: 85–103.
- Beck U. (2004): *Riziková společnost: Na cestě k jiné modernitě* (Risk society: Towards a new modernity). Slon, Prague.
- Best H. (2007): Organic agriculture and the conventionalization hypothesis: A case study from West Germany. *Agriculture and Human Values* 24 (published online 19 June 2007).
- Buck D., Getz C., Guthman J. (1997): From farm to table: the organic vegetable commodity chain of Northern California. *Sociologia Ruralis*, 37: 3–21.
- Campbell H., Liepins R. (2001) Naming organics: understanding organic standards in New Zealand as a discursive field. *Sociologia Ruralis*, 41: 21–39.
- Conford P. (2001). *The Origins of the Organic Movement*. Floris Books, Edinburgh, UK.
- Coombes B., Campbell H. (1998): Dependent reproduction of alternative modes of agriculture: Organic farming in New Zealand. *Sociologia Ruralis*, 38: 3–20.
- ČSÚ (2008): Statistical Yearbook of the Czech Republic 2008. Available at [http://www.czso.cz/csu/2008edicniplan.nsf/eng/6E00499142/\\$File/0001080910.xls](http://www.czso.cz/csu/2008edicniplan.nsf/eng/6E00499142/$File/0001080910.xls) [Quoted April 24th 2009].
- Dabbert S., Häring A.M., Zanolli R. (2004): *Organic Farming: Policies and Prospects*. Zed Books Ltd., London, UK.
- Dixon J. (2002): *The Changing Chicken: Chooks, Cooks and Culinary Culture*. University of New South Wales Press, Sydney, Australia.
- Guthman J. (2004): *Agrarian Dreams. The Paradox of Organic Farming in California*. University of California Press, Berkeley, USA.
- Hall A., Mogyoródy V. (2001): Organic farmers in Ontario: An examination of the conventionalization argument. *Sociologia Ruralis*, 41: 399–422.
- Heffernan W.D., Constance D.H. (1994): Transnational corporations and the globalization of the food systems. In: Bonanno A., Busch L., Friedland W., Gouveia L., Mingione E. (eds.): *From Colum-*

- bus to Conagra. The globalization of agriculture and food (pp. 29–51). University of Kansas Press, Lawrence, Kansas, USA.
- IFOAM (2007): Principles of organic agriculture. Available at http://www.ifoam.org/organic_facts/principles/pdfs/IFOAM_FS_Principles_forWebsite.pdf [Quoted April 24th 2009].
- Jánský J., Živělová I. (2007): Subsidies for the organic agriculture. *Agricultural Economics – Czech*, 53 (9): 392–402.
- Lockie S., Galpin D. (2005): The ‘conventionalisation’ thesis reconsidered: structural and ideological transformation of Australian organic agriculture. *Sociologia Ruralis*, 45: 284–307.
- Lustigová L., Kušková P. (2006): Ecological footprint in the organic farming system. *Agricultural Economics – Czech*, 52: 503–509.
- Magdelaine P., Spiess M.P., Valceschini E. (2008): Poultry meat consumption trends in Europe. *World’s Poultry Science Journal*, 64: 53–64.
- Marsden T.K. (2006): The road towards sustainable rural development: issues of theory, policy and practice in a European context. In: Cloke P.J., Marsden T., Mooney P.H. (eds.): *Handbook of rural studies* (pp. 201–213). Sage, UK.
- Michelsen J. (2001): Recent development and political acceptance of organic farming in Europe. *Sociologia Ruralis*, 41: 3–20.
- MZe (2009): The list of organic farmers 31.12.2008. Available at http://www.mze.cz/UserFiles/File/Ekologicke_zemedelstvi/seznamy%2008%20na%20web.xls
- Ochránci hospodářských zvířat (2009): Velikonoce bez průmyslově produkovaných vajec! (Eastern without the industry-produced eggs!). Available at <http://www.ohz.cz>
- Ogilvy (2008): Bio – výzkumná zpráva (Bio – research report). Available at http://www.mze.cz/attachments/BIO-_zprava_z_vyzkumu-_rozdeleni_zavery.ppt
- Ploeg van der J.D., Renting H., Brunori G., Knickel K., Mannion J., Marsden T., de Roest K., Sevilla-Guzmán E., Ventura F. (2000): Rural development: from practices and policies towards theory. *Sociologia Ruralis*, 40: 391–408.
- Pollan M. (2007): *Omnivore’s Dilemma: A Natural History of Four Meals*. Penguin Group (USA).
- Renting H., Marsden T., Banks J. (2003): Understanding alternative food networks: exploring the role of short food supply chains in rural development. *Environment and Planning A*, 35: 393–411.
- Richter T., Padel S. (2007): The European Market for Organic Food. Available at <http://orgprints.org/13170/> [Quoted April 24th 2009].
- Rosin, C., Campbell, H. (2009): Beyond bifurcation: Examining the conventions of organic agriculture in New Zealand. *Journal of Rural Studies*, 25: 35–47.
- Šaraptka B., Urban J. (2005): Ekologické zemědělství II (Organic agriculture II). Učebnice pro školy a praxi. Ministry of Environment of the Czech Republic, Prague.
- Singer P., Mason J. (2007): *The Way We Eat: Why our Food Choices Matter*. New York, Rodale, USA.
- Společnost pro zvířata (2009): Drůbež (Poultry). Available at <http://www.spolecnostprozvirata.cz>
- Striffler S. (2007): *Chicken: Dangerous Transformation of America’s Favourite Food*. Yale University Press.
- SZIF (2008): Co je bio (What is bio). Available at <http://www.jimebio.cz>
- Tabachnik B.G., Fidell L.S. (1996): *Using Multivariate Statistics*. 3rd ed., HarperCollins Publishers, Inc., Northridge, CA.
- Tomlinson I. (2008): Re-thinking the transformation of organics: the role of the UK government in shaping British organic food and farming. *Sociologia Ruralis*, 48: 133–151.
- Tovey H. (1997): Food, environmentalism and rural sociology: On the organic farming movement in Ireland. *Sociologia Ruralis*, 37: 21–37.
- Václavík T. (2007): Český trh s biopotravinami (Czech Organic Food Market). Greenmarketing, Moravské Knínice.
- Webster J. (1994): *Animal Welfare: a Cool Eye Towards Eden*. Blackwell Scientific, Oxford.
- Zagata L. (2007): Bio cash-cow? Context and content of Czech organic farming. *Agricultural Economics – Czech*, 53 (1): 45–53.
- Živělová I., Jánský J. (2007): The conditions of organic market development. *Agricultural Economics – Czech*, 53 (9): 403–410.

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