

## Chapter XXX

### **The EU accession process and the challenges of integrating of agri-environmental policies in the candidate countries – The case of Czech Republic**

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#### **Abstract:**

Development of agriculture in CEECs created special conditions for environmental changes in European context. In all countries was agriculture influenced by planned economy, as a result the farm structure is different to majority of European countries. Various influences created in CEECs both heavily affected natural resources and lot of semi-natural habitats. Political framework changed at the end of 80ties and followed ten years of extensive agriculture with positive and negative affects on environment. Paper is discussing potential of new emerging agri-environmental policies in framework of CAP for CEECs and especially for Czech Republic. At the same time attention is paid to needed changes in policies and capacity building in order to prepare adequate policies, which could save high values in nature and environment in CEECs.

#### **Introduction**

Farming practices applied on agricultural land as in many other European countries represent in CEECs an important issue for environmental protection. Dramatic changes in agricultural policies and the whole economies and especially EU accession process create context for discussion of the topic in this paper.

Both - needs to protect environmental values and adoption of relevant EU legislation are reasons for preparation of new agri-environmental policy tools. There are several reasons why this process could be different in comparison with majority of EU member countries. The paper is

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focused in discussion of selected aspects of agri-environmental policies implementation in CEECs and Czech Republic.

The goals are:

- To show why new agri-environmental policies are in CEECs important.
- To identify potential difficulties in implementation of these policies.

The topic is quite broad to investigate it all. Nature/environment on agricultural land and associated policies from EU accession process perspective could be investigated from several points (for example):

- Impact of different CAP scenarios on environment and nature in EU accession countries.
- Opportunities for agri-environmental policies in CEECs (current policies vs. new with special attention to agri-environmental schemes).
- Opportunities/challenges for Czech administration.

In order to keep reasonable scope of the discussion part of the issues will be examined in case study relating to third topic “Opportunities and challenges for Czech administration”.

In order to bring issues into discussion following questions could be put:

- What are characteristics (structural etc.) of agriculture (past and present), which determine potential threats or opportunities of EU accession for CEECs environment/nature?
- What are natural values in CEECs, which should be saved (any threats)?
- What are potential future opportunities and threats to CEECs environment and nature?
- What is lacking in agri-environmental policies in CEECs – what are strengths?
- What lessons can be learned from case study about policy delivery system in agri-environmental policies in Czech Republic?

The presentation will give general overview of situation in CEECs in a first part and deeper discussion about case study in Czech Republic, which should allow to make excursion to the topic.

## 1. Agricultural characteristics in CEECs

Time before 1989 was characterised by process of agriculture industrialisation pursued by governments in centrally planned economies. As policy tools were used development targets given by government to which each farm should contribute.

1.1 There were quite heavy subsidies to farming in order to facilitate the industrialisation process and to create self-sufficiency in food (see Table 1).

Table 1: International comparison of PSE index in 1989 – 1997 (%) in selected CEE countries and world major producing countries

Country	1989	1991	1993	1995	1997
<b>CR</b>	55	51	27	15	11
<b>Hungary</b>	30	15	23	21	16
<b>Poland</b>	9	3	15	19	22
<b>Slovakia</b>	56	45	35	25	25
<b>Estonia</b>	80	57	-30	3	9
<b>Latvia</b>	83	83	-38	8	8
<b>Lithuania</b>	78	-259	-33	5	18
<b>EU</b>	40	48	49	49	42
<b>USA</b>	20	21	23	13	16
<b>Australia</b>	7	12	11	10	9
<b>New Zealand</b>	6	3	3	3	3
<b>OECD</b>	37	42	42	40	35

Source: (in DOUCHA, T. et al (1998), OECD (1998))

Note: PSE – production subsidies equivalent according OECD methodology.

1.2 As a result of a massive support there was extent use of fertilisers and pesticides associated with lack of ownership (ownership was transferred from private to collective in majority of CEECs), which leads to lack of discipline during agro-chemicals use. After decades of such influence there have been lot of waters contaminated, erosion was quite frequent, landscape lost its features important for biodiversity (hedges, field banks, spring sites etc.), significant part of wetlands was drained etc. in CEECs (Hagedorn et. all. 2000).

At the same time and little bit paradoxically lack of ownership was a factor, which prevented profit maximisation oriented exploitation of land and remained field margins and habitats were not affected so hardly and lot of marginal land was managed nearly occasionally. This mixture of

different influences allows to develop special types of landscape and a lot of habitats have still a high environmental quality.

1.3 Year 1989 was turning point for agriculture and new influences appeared. In countries where land was in previous period collectivised, fields were enlarged, landscape features replaced - nearly all land ownership/tenure was fragmented during privatisation process. Only exceptions were: Slovenia and Poland (agriculture was fragmented all the time) and Czech Republic, Slovak Republic and Ukraine where fragmentation was only partial. As an example see table 2 and 3 with farm numbers and their average size development in CEECs below.

Table 2: Number of farms in 1989/90 and in 1997/98 according types of farms in selected CEECs

Farms	Family farmers		Corporate farms		Co-operatives		State farms		Household plots	
	1989/90	1997/98	1989/90	1997/98	1989/90	1997/98	1989/90	1997/98	1989/90	1997/98
<b>Bulgaria</b>	-	85426	-	-	-	3269	-	-	-	1691696
<b>Czech R.</b>	3205	70500	0	1833	1024	1011	174	22	0	0
<b>Estonia</b>	10153	34671	11013	803	-	-	-	-	-	-
<b>Hungary</b>	-	-	-	-	-	-	-	-	-	-
<b>Latvia</b>	-	94905	-	-	-	487	-	81	-	173280
<b>Lithuania</b>	2892	67500	-	2004	-	-	-	-	-	314000
<b>Poland</b>	213800	204138	1155	-	2240	2467	1112	2016	1000160	-
<b>Romania</b>	-	397332	-	9489	-	3913	-	-	-	-
<b>Slovakia</b>	2437	-	0	529	681	831	73	4	16909	-
<b>Slovenia</b>	111951	-	-	-	189	219	-	-	90612	-
<b>Ukraine</b>	-	563626	8182	11684	-	335	4545	4666	39880	2678954

Source: adapted from Hagedorn et al. (2000)

-) Data not available

Table 3: Average size of farms (hectares) and share in total agricultural area in 1997/98 according types of farms in selected CEECs

Farms	Family farmers		Corporate farms		Co-operatives		State farms		Household plots	
	Size	Share %	Size	Share %	Size	Share %	Size	Share %	Size	Share %
<b>Bulgaria</b>	24	34	-	-	743	39	-	-	0	7
<b>Czech R.</b>	19	31	668	29	1349	32	864	0	-	8
<b>Estonia</b>	22	36	540	26	-	-	-	-	-	13
<b>Hungary</b>	-	58	-	16	-	26	-	-	-	-
<b>Latvia</b>	24	59	-	-	301	4	91	0	8	37
<b>Lithuania</b>	12	-	250	-	-	-	-	-	3	-
<b>Poland</b>	7	82	-	-	204	3	616	7	-	-
<b>Romania</b>	2	14	105	9	438	15	-	-	-	-
<b>Slovakia</b>	-	-	1154	25	1583	54	3546	1	-	-
<b>Slovenia<sup>2</sup></b>	4	61	-	-	165	2	-	-	5	-
<b>Ukraine</b>	0	6	2656	74	314	0	922	10	0	4

Source: adapted from Hagedorn et al. (2000)

-) Data not available.

It means landscape remained basically very similar (landscape features are usually lost for example) but in some countries parcels are now very small. In Czech Republic size of parcels are still in average approximately 24 ha (on fertile land even 100 ha fields).

1.4 For environment emerged new change - subsidies vanished (see Table 1 with PSE above) or at least the support was transferred from production to other types of support (investment etc.).

Such sudden change accompanied by instabilities on market with agricultural products and general weakening of economies lead to sharp cost price squeeze of agricultural products and consequently to large land abandonment. Abandonment became the biggest threat especially to landscape and habitats in nearly all pre-accession countries. In Czech Republic was for example

<sup>2</sup> Data only from year 1989/90.

the major reason for grassland abandonment decrease of cattle and sheep production. Substantial loss of farming employment in some regions and threatening of rural life accompanied sharp decrease of animals. Following table shows the development of cattle numbers in CEECs, which indicate under utilisation of grasslands and pressure to abandon land.

Table 4: Changes of cattle numbers (in thousands) in CEECs between 1993 and 1998

<b>Country</b>	<b>1989</b>	<b>1993</b>	<b>1998</b>
<b>Bulgaria</b>	1613	974	612
<b>Czech Republic</b>	3480	2512	1690
<b>Estonia</b>	-	615	326
<b>Hungary</b>	1690	1159	871
<b>Latvia</b>	-	1144	434
<b>Lithuania</b>	-	1701	1016
<b>Poland</b>	10733	7643	6955
<b>Romania</b>	6416	3683	3235
<b>Slovakia</b>	-	1203	803
<b>Slovenia<sup>3</sup></b>	-	504	446
<b>Ukraine</b>	-	22457	12759

Source: adapted from Hagedorn et al. (2000)

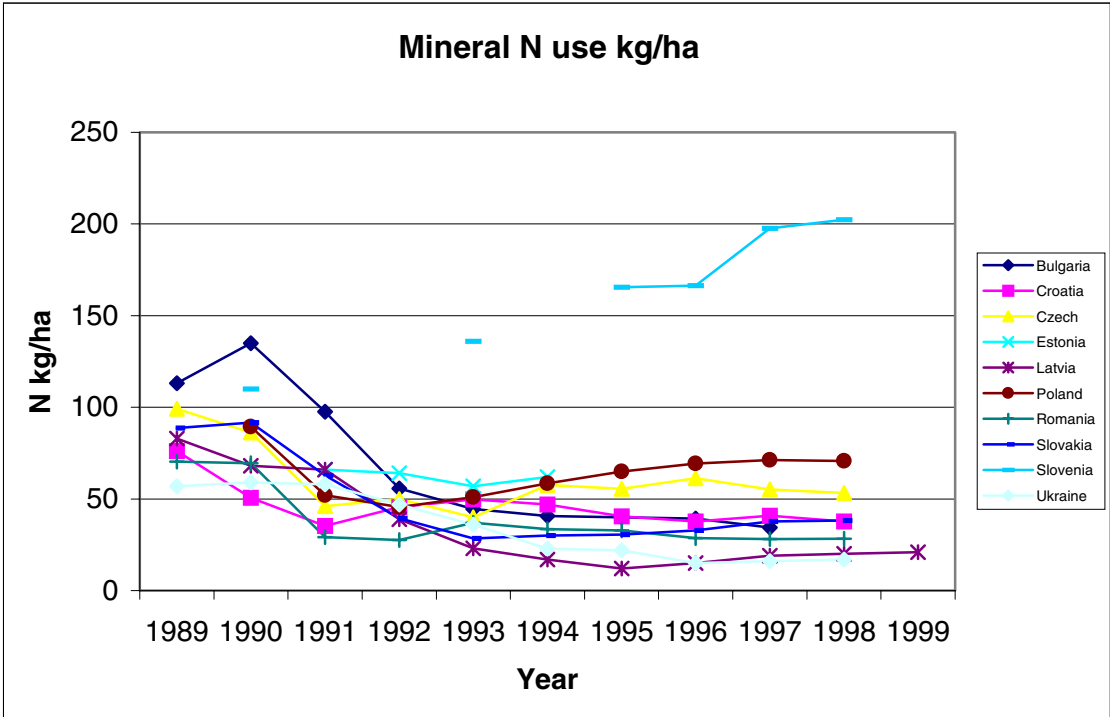
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1.5 At the same time changes in costs lead to drastic decrease of fertilisers and pesticides use. As a result there is potential for increase of water and habitat qualities. Following Figure 1 and 2 show changes in fertilisers consumption during the period in question. In addition it could be supposed (not surveyed yet) the farmers took more careful strategies in order to make pesticides and fertilisers use more efficient in order to minimise associated costs (at least farmers with agricultural education in some CEECs).

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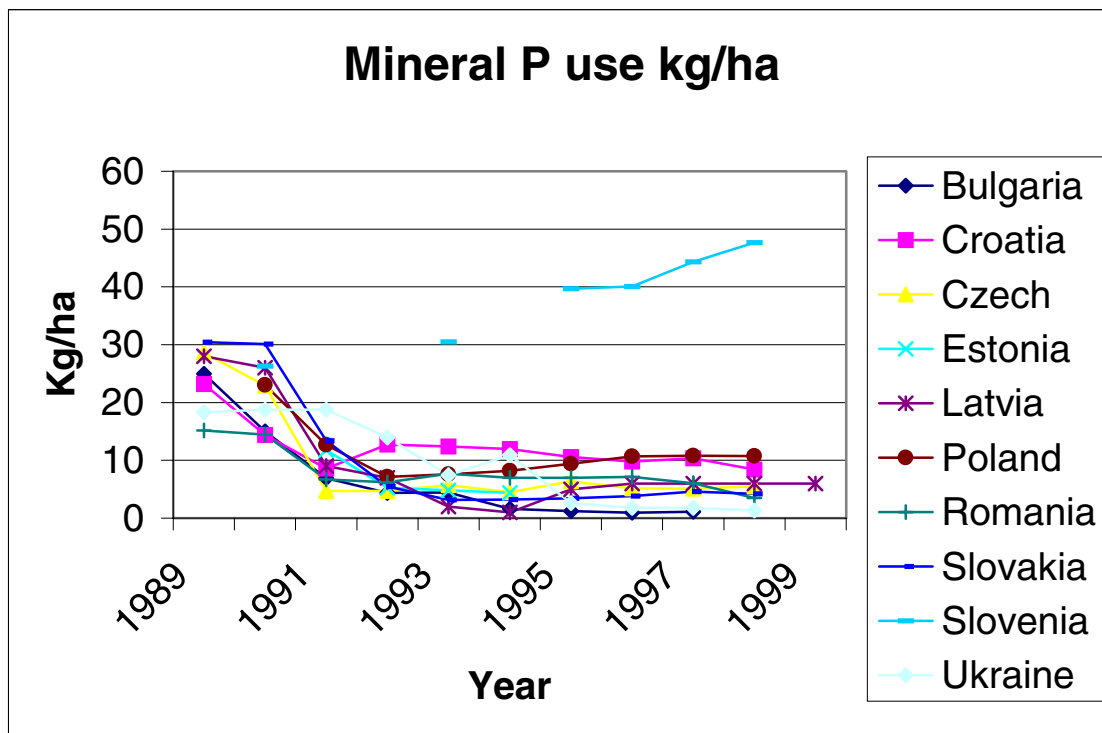
<sup>3</sup> Data only from year 1989/90.

Figure 1: Development of N-mineral use on agricultural land in CEECs, 1989-99



Source: Hagedorn et al. (2000)

Figure 2: P-minreal use on agricultural land in CEE countries, 1989-99



Source: Hagedorn et al. (2000)

As an example can be seen development of fertilisers and manure use in Czech Republic in figures (see Table 5).

Table 5: Development of fertilisers use in Czech Republic

		1989	1991	1993	1995	1997	1998
<b>Nitrogen (N), average</b>	kg/ha	99,2	46,1	40	55,6	55,1	53,3
<b>Phosphorus (P<sub>2</sub>O<sub>5</sub>), average</b>	kg/ha	65,6	10,8	13	14,6	11,7	12,6
<b>Potassium (K<sub>2</sub>O), average</b>	kg/ha	58	8	10,5	12,8	10,1	7,3
<b>Use of barn/farmyard manure, average</b>	t/ha	6,7	5,7	4,1	3,7	3,6	3,4

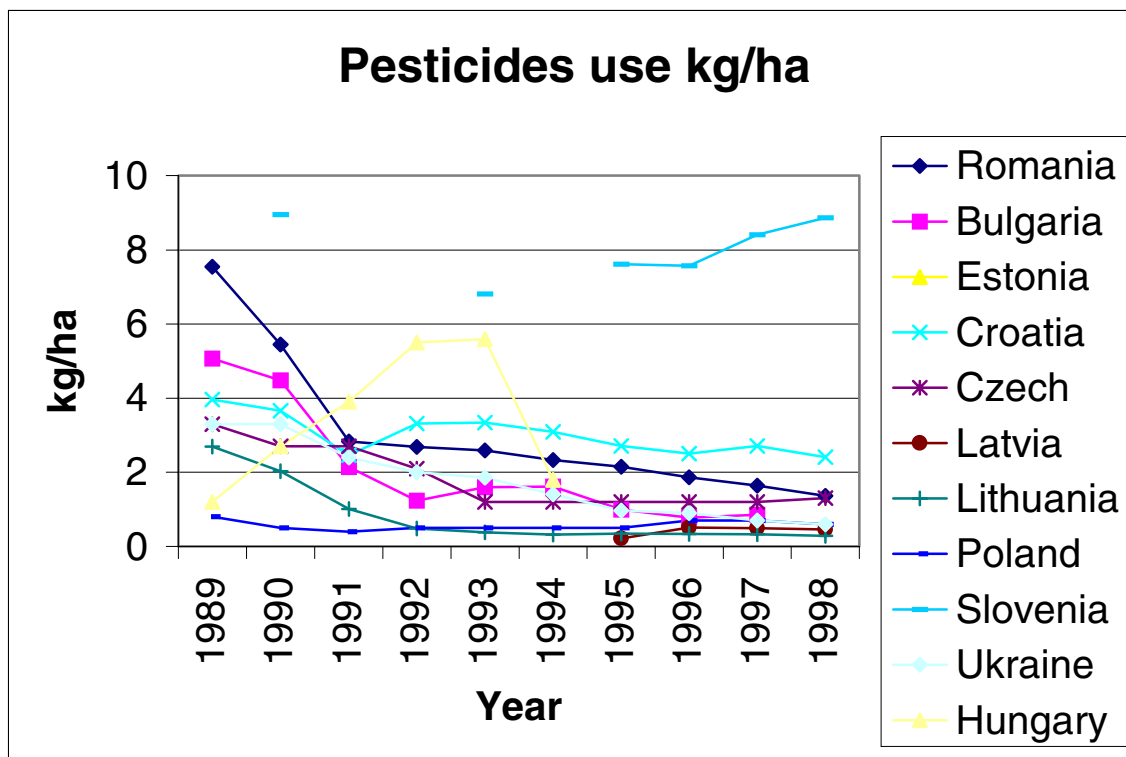
Source: Ministry of Agriculture (1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999)

For comparison EU N-mineral use was in average 70 kg/ha UAA in 1998 (Bundesministerium für Land-und Forstwirtschaft, Umwelt und Wasserwirtschaft 2000).

Sharp decline is documented in case of pesticides in CEECs too (see Figure 3).



Figure 3: Average pesticide use in CEE countries on agricultural land, 1989-99



Source: Hagedorn et al. (2000)

As an example see development of pesticides use in Czech Republic

Table 6: Pesticides (kg of active ingredient per ha of agricultural land)

	1985	1991	1993	1995	1997	1998
Pesticide use, average per ha of arable land	3,3	2,7	1,2	1,2	1,2	1,3

Source: State Plant Protection Authority (Annual reports 1991, 1992, 1993, 1994, 1995, 1998)

Of course evaluation of pesticides use decline is problematic because of constant innovation of these products and differences of their application patterns (these influence more effect to environment sometimes). This comparison should be taken as drawing of rough picture of the agriculture-environment relationship development in CEECs during last decade.

It is expected nearly all fertilisers are used for production of commodities intended for market and less on grasslands, which could benefit from increase of plant species as a result. As a result decline in yields of cereals did not drop so dramatically in some countries. Czech Republic example shows average yield of cereals from period 1980-1990 was 4,51 t/ha and from period 1991-1999 it was 4,22 t/ha (Ministry of Agriculture of Czech Republic 2000). This input use/yields development relationship is possible to take only as trends indication.

Selected characteristics of CEECs agriculture important for discussion:

- Heavy subsidies were replaced by very low support.
- Because of lack of free trade structural adjustments did not work properly during planned economies period. In some countries (Poland, Slovenia) farms stayed small during last decades while in others these were collectivised and size of them increased significantly (size of fields increased too).
- Mixture of influences on environment (lack of ownership and not full utilisation of land, big load of fertilisers and pesticides) was usual during centrally planned time period.
- During last decade collective farms were collapsing sharply and land ownership became fragmented with exception of Czech Republic, Slovak Republic and Ukraine.
- Sharp decline of pesticides and fertilisers use during last decade (which is promising for environment).
- Big decrease of cattle numbers is one of the factors causing land abandonment (quite serious problem in many CEECs), which is accompanied by decrease of farming employment, which could threaten rural life in some areas.
- Paradoxically all these changes created both environmental benefits (decline of input use), farm restructuralisation, and on the other hand under-provision environmental public goods (land abandonment) and social pressures in rural areas.

## **2. Natural values in CEECS, which should be saved**

2.1 During previous regime there was reduced application of property rights to a minimum and as a consequence people lost to large extent ownership in farming (exception in case of Poland and Slovenia). It creates both negative and positive effects to environment and nature. As it was mentioned above there are numerous habitats saved because of specific conditions in previous

planned economies. It means farmers were not driven by profit maximisation and did not utilise land so intensively (not managed field margins so effectively, some areas were affected some of them not etc.). Second major factor was relatively strong protection of valuable habitats created by extensive farming during previous centuries.

2.2 In addition after ten years of extensification of agriculture in CEECs there is quite significant increase of values of habitats. For example all meadows were fertilised only by 40 kg of N/ha/year in average in Czech Republic, which is one of the preconditions of grassland biodiversity increase. Another example is growing numbers of species, which are associated to agricultural habitats. Number of partridges grown by 30 % from 1990 to 1999 and in case of corncrake the number of nesting pairs increased during the same period 3 times during the same time period (in Czech Republic, Annual report of Ministry of Environment 2000).

2.3 There is another factor associated with weak property rights use. The state was able to establish quite large areas as Landscape protected areas (see Table 5) and to introduce their relatively strict regulations (in the most valuable parts exclusion of pesticides and fertilisers as applied in Czech Republic for example).

Table 7: Percentage of national areas in protected areas in CEECs in 1998 (Hungary 1996)

Bulgaria	4,47
Czech Republic	15,7
Estonia	9,1
Hungary	8,6
Latvia	-
Lithuania	11,4
Poland	29,8
Romania	4,8
Slovakia	19,5
Slovenia <sup>4</sup>	8,0
Ukraine	3,9

Source: adapted from Hagedorn et al. (2000)

-) Data not available.

In addition as a consequence of “command paradigm” (command society model) the biggest emphasis was put to laws (among other policy tools). Practically it means laws are very frequently covering topics and activities which are in other countries matter of education or support. On the other hand enforcement of such regulations is frequently difficult.

Because of above-mentioned causalities there is a lot of valuable habitats in CEECs, often unique in European context.

### **3. Potential future opportunities and threats to CEECs environment and nature?**

3.1 Because of consequences of restructuralisation process (instability of markets, decrease of economies in CEECs etc.) **land abandonment** is the biggest threat in the most of CEECs. Especially habitats, which emerged as a result of centuries of extensive farming, are in danger. The first wave of abandonment took place after the first years after the communist regime. Some countries are affected quite heavily (especially Baltic states<sup>5</sup>). In Czech Republic was this trend slowed down by state policies but it did not stop (current estimate is 5 % of agricultural land). Generally speaking in majority of countries there is not enough financial resources and frequently politicians do not regard agri-environmental problems as an issue.

This threat can be even increased if there will be differences in CAP use in previous countries and newcomers (Commodity Market Organisation implementation). Some of the CEECs commodities will not be competitive on European market and even more land will be abandoned. If current CAP is fully applied to accession countries it is expected the intensity in faming will increase significantly. If there are not developed corresponding agri-environmental measures the habitat values in CEECs could be lost.

3.2 At the same time if current CAP is applied to CEECs it could be expected **fertilisers** and **pesticides** use will **increase** (growing patterns partly remained in farming).

3.3 The major oppportunity is in obligation of CEECs to prepare **agri-environmental schemes**. Such measure is the main policy tool to partly prevent large-scale abandonment of valuable

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<sup>4</sup> Data only from year 1989/90.

<sup>5</sup> Hagedorn et. all 2000.

habitats and at the same time to prevent growths of fertilisers and pesticides use to undesirable level and way of use too.

3.4 Similar influence could be expected from **Natura 2000** but there is still not clear the way in which management will be financed. According to for example Czech system of nature protection the most suitable policy tool for management of Natura 2000 sites is agri-environmental scheme because most of valuable land under protection emerged in association to valuable farming systems. If it is done through agri-environmental schemes it could be the way to integrate policies and to help to CEECs to save their environmental treasures (opportunity for agri-environmental schemes especially in CEECs!).

#### **4. What is lacking in agri-environmental policies in CEECs – what are strengths?**

4.1 If we consider whole range of potential policy tools, which are used in Europe in agri-environmental policies it should be said in CEECs there is far more experiences with **regulations** than with other policy tools. As advantages there are quite large protected areas with valuable habitats and relatively regulated farming. On the other hand there are nearly no or small experiences with other policy tools, which are building agri-environmental policies. The system of protected areas could be regarded as strengths of the agri-environmental policies in CEECs. On the other hand the legislation system, which contains large amount of regulations, is covering so large area of issues there is not enough space for other policy tools in some cases. For example when there were started initiatives to design agri-environmental schemes in EU accession countries it was realised it is difficult to find enough prescriptions, which are not mentioned in some way in legislation of country in question. Similar situation is in case of Code of Good Agricultural Practices (currently called Good Farming Practices in EU). The situation is favourable to environment and nature but it is usual such large extent of regulations is not possible to enforce (to police) and in some cases there are envisaged legislation revisions.

4.2 Till the year 2000 there were only few **agri-environmental measures** (usually organic farming support, grass management, arable land conversion to grassland - Czech Republic example). Except organic farming the policy tools were not well-targeted and evaluated till 2000.

4.3 There is even bigger deficiency in **farmer's education**. In some CEEC countries there are not advisory services, which can spread needed information and facilitate the rest of agri-environmental policies. There is nearly no **public education** about relation of agriculture and environment. There is education provided by NGO and Ministry of Environment in Czech Republic but these are not usually targeted specifically to farmers. In Czech Republic the support of **extension service** is implemented but agri-environmental topics are not specifically supported and not in a sufficient extent.

4.4 In a few CEECs countries there are either in preparation or already published Codes of **Good Agricultural Practices** (or Good Agricultural Practices).

It should be said the **targeted** use of these policy tools is in some cases lacking and **integration** of agri-environmental policies is not implemented in a sufficient degree (both inside and outside the sector).

4.5 The least used policy tool is **state ownership**. In Czech Republic there is process of purchasing of the most valuable/marginal land in cases where other ways of protection could be risky for environment (in Landscape protected areas and National parks). The extent of such policy tool use is limited by state budget and by capacities of Administration staff in Landscape Protected Areas to manage the sites (in sense of proportion in a whole policy this tool is marginal).

As stated in Hagedorn et al. (2000):

“Concerning available policy instruments, regulation is the most widely applied tool in the eight specific problem areas, with exception of environmental friendly farming, which is characterised by the lack of specific legal framework in the majority of countries. In every policy area, on average half of the CEE countries apply financial instruments, of which penalties and taxes are the most commonly used and the application of financial incentives are limited to a few cases.”

Lack of financial incentives is not based only on small experiences but mainly on lack of financial resources to support farmers.

4.6 From above mentioned and from several projects (for example project 2078 in framework of PIN MATRA program supported by Netherlands Ministry of Agriculture, end in 2000) it is clear administrations in CEECs need to develop numerous policy tools, which will require commitment from officials, new experiences and some financial resources. One of the most difficult is **agri-environmental measures design**.

For agri-environmental measures design are frequently lacking especially: data about actual state of the environment in sufficient detail and spatial differences, sometimes knowledge of causality between farming practices and goals of protection, experiences in dealing with stakeholders, payments calculations and evaluation process design. Current administrative structures have not sufficient capacity for new measures. Common weakness is lack of communication between Ministry of Agriculture and Environment and frequently commitment of officials to start with measures design sufficiently in advance (there is a lot of another priorities, to which administrations face).

Activities, which could overcome these weaknesses, are needed in all CEECs (observations of the author during project 2078).

#### 4.7 Other agri-environmental policies

**Nitrate directive (676/91)** implementation requires to CEECs enormous effort. There is not enough information from majority of CEECs and following comments are based on personal experiences of author from Poland and Czech Republic. Usual difficulties are coming from lack of spatial data about water quality and especially from lack of communication between Ministry of Agriculture and Ministry of Environment. Small experiences in productive participation and often nearly no communication create decision-making process, which is not flexible and not favourable for solving of such complex projects. Natural results are delays in works on implementation, difficulties in creating of sufficient funds for directive implementation. In case of Czech Republic the process was sped up during recent year and current process looks promising. Only difficulty now become financing of investments to manure storage capacities. Current sectoral budget do not allow to support farmers enough to fit into time schedule

according nitrate directive. Another resources should be found to implement all measures needed according this measure.

**Habitat and birds directives:** There are information only from Czech republic and this topic will be more deeply investigated in 5<sup>th</sup> framework programme project “Central and Eastern European Sustainable Agriculture (CEESA)”. Areas according both directives are designated currently (Natura 2000) and discussions about ways how to implement needed management are running. From previous projects carried out in several protected areas it is quite even that majority of most valuable sites are already in protected areas and some of them will be newly designated. Current structure of land use of these sites shows the most valuable ones are still under quite strict protection and rest of them (still very valuable) are usually on agricultural land. There in big potential in agri-environmental schemes to facilitate implementation needed management on such sites (as mentioned in chapter 3.4). Similarly as in case of agri-environmental schemes there are nearly the same difficulties for both Ministries (Agriculture and Environment) with exception of shortage of information about the areas. Co-operation between both ministries is even more crucial in this case and will be one of the task testing capacities of this administration to solve such problem in a short time period.

Czech Republic is lacking agri-environmental policies especially for saving values in landscape, environment and nature and for prevention of substantial increase of input use after EU accession.

## **5. Preparation of agri-environmental measures – pilot schemes in SAPARD framework in Czech Republic**

There are only few measures, which could be regarded as agri-environmental in Czech Republic (organic farming support, grassland management, conversion arable land to grassland). It is supposed both zonal and horizontal measures will be designed and implemented. Obligation to prepare them (from EU regulation) is significant political help. One type of the zonal agri-environmental measures will be Environmentally Sensitive Areas, which will be targeted in Landscape Protected Areas (in a first wave of preparation). Pilot schemes designed during recent years for SAPARD are prototypes of future Environmentally Sensitive Areas supporting schemes



in rest of designated areas in Czech Republic. The projects will be pilot schemes supported as regular EU agri-environmental schemes.

It took three years to run the corresponding projects and during year 2001 there are preparatory works undertaken in order to start pilot measures in 2002.

### **5.1 Pilot projects preparation process:**

As pilot areas three Landscape Protected Areas were chosen and local working teams were built. Regular consultations of the prescription with farmers were undertaken (supported by few seminars). Two of the three projects were supported by international consortium co-ordinated by AVALON Foundation from Netherlands (project 2078 in framework of PIN MATRA program). Finally each member of consortium evaluated final reports. Proposals for SAPARD were prepared, incorporated into the whole document and agreed by EU officials in 2000. Actual start of pilot projects is expected in 2002.

### **5.2 Overview of the pilot projects**

#### ***Pilot area Blanik***

Farming characteristics:

Because the pilot area is rather small there are few large farms (companies) and some family farms with smaller acreage. Blanik area is surrounded by relatively fertile land and most of farms have smaller part in Landscape Protected Area.

Only part of the land in protected area belongs to zone I and II with the most valuable habitats. Subject of protection are mainly wet and dry meadows and several temporary pools (amphibians habitats) on agricultural land. The main pressure is from growing land abandonment and potential intensification of farming on meadows (especially chemical fertilisers application). Grazing is not frequent there.

Types of farms in Blanik region	Number	Land - ha	Farm average - ha	In LPA	
				arable	grassland
Companies	5	7072,5	1414,5	1356	263,5
Family farms	14	592	125,4	48,45	42,3
Total	19	7664,5	403,3947	1404,45	305,8

It is necessary to say that the majority of small farmers are between 5 and 60 hectares large and only one is above 200 hectares. Few of them are part time farmers. For achievement of protection goals it is necessary to include great proportion of large farms. No farm has more than 50 hectares of eligible area.

Objectives for application of AE for the pilot

- To decrease risk of nutrients leakage, goal is to include at least 65 % eligible area to program (total eligible 1400 ha of agricultural land),
- To preserve/enhance current amount of plant species in wet grasslands by special management (at least 40 % of 110 ha of eligible area),
- To allow spring activities of amphibians in temporary pools on wet grassland (40 % of 110 ha of eligible area),
- To prevent biodiversity loss on meadows caused by increasing chemical fertilisers use in future.

#### **Task for achieving the objectives of the measures proposed**

- To assure the current level of nutrient use will stay at least the same - by pursuing farmers to make nutrient management plan, take samples, reduce nitrogen input on meadows etc.
- To manage temporary pools (especially spring to early summer) in order support amphibians - by maintaining of desired ground water level.
- To allow for natural propagation of plants on meadows by late mowing.
- To support wetland plant species by ground water level management.

#### **Agreements used in pilot project**

Agreement 1

Basic measure

Measure

1.	nutrient plan, application of sewage sludge, sampling and analyses
2.	to record information about farming*
3.	to keep the farm clean

\*) Paid up to 1000 ha.

Agreement 2                                      Wetland grasslands in zone I and II.

<b>Measure</b>
<ul style="list-style-type: none"> <li>- mowing: 1/2 of area to the end of June a 1/2 of area to the end of July (rotate the plots)</li> <li>- maintain the water table in average 0,2 - 0,4 m under the terrain by small ditches (made by plough for example - possible to overcome by machinery wheels)</li> <li>- when nest are present and are marked not to mow at least 25 m around the nest (paid by local envi. office).</li> <li>- maintain small pools on the grasslands even periodical, by mowing min. 1x a year, every only one half of the field. Definition: pools are keeping water at least 3 months from the beginning of March. Pools should be deeper than 30 cm but not more than 1,5 m, not smaller then 5 m<sup>2</sup> or bigger than 50 m<sup>2</sup>.</li> <li>- keep the plot of fields free from weeds by: spot application of herbicides and/or by mowing of the rest of grass by late mowing)</li> </ul>

Agreement 3                                      Extensification of wetlands in zone II

<b>Measure</b>
Use maximum of 40 kg N/ha

More description is prepared and will be used after the pilot is successful.

***Pilot area Bile Karpaty***

Farming characteristic:

Area of interest consists of valuable species rich meadows (40 species of orchids in area etc.) and extensive grassland. Size of meadows varies from 0,5 up to 40 hectares and size of farms from 5 to more than 2000 hectares. Area is so large it was divided to pilot areas and the rest, which can be included later. Total area of species rich meadows is 6000 hectares in whole Landscape protected area. Farming is extensive which means farmers were persuaded to exclude application of fertilisers (which is not compulsory in the zone II). This environmental service is not rewarded so far. Animal density on species rich meadows is usually below 1LU/hectare. The main threat is abandonment of species rich meadows and biodiversity loss, unsuitable techniques of farming, high densities of animals and potentially by nutrient supply in future.

Farm size in pilot area (number of small owners below 10 hectares is 560)

Size of farm	Number of farms	Agricultural land (ha)
Above 500 ha	6	7.593
10 - 500 ha	21	2.486

Objectives for application of AE

- to preserve/enhance plant species on dry grasslands in sub-regions as minimum number: Hornacko - 40 species/m<sup>2</sup>, Moravske Kopanice and Valassko - 30/m<sup>2</sup>, goal is to have 50 % of eligible area in project (1600 ha eligible), of it 800 hectares eligible for fencing/introduction of grazing on valuable habitats,
- increase number of meadows plant species on extensive grasslands in sub-region up to minimum: Hornacko - 30/m<sup>2</sup>, Moravske Kopanice a Valassko - 20/m<sup>2</sup> (for the first program period), goal is to improve the sward on 100 ha area,.

Task for achieving the objectives of the measures proposed

- to introduce measures for reduction/maintain current animals density to prevent damage of sward,
- to prevent nutrient application on meadows (in order to maintain current quality of species richness),
- facilitate natural plants propagation by leaving of some part of meadow not cut,
- increase of species number by sowing of additional regionally specific species to sward,
- assure maintenance of traditional orchards with regional sorts of fruits and species rich meadows.

### **Description of the actions implemented under this measure - Bile Karpaty pilot area**

Agreement 1 - Species rich meadows in zone 1 (precondition for access to Agreement 2)

Prescriptions
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**Cutting grass** - when farm above 30 ha leave 5-15% of area in every second year not harvested (rotate these plots)

**Grazing and cutting grass**

- alternative system of cutting and grazing
- cutting of weeds after pasture season and arrows application
- changing of place of feeding and drinking facility
- no long-term stay of cattle in same locality
- lawn protection<sup>6</sup>
- exclusion of these meadows from using for over-winter stay (possible only after approval of protection authority)
- no fertilisers

\*) re-counted on total grassland area

**Agreement 2 - Species rich meadows in zone II**

**Prescriptions**

**Cutting grass**

- when meadow above 30 ha leave 5-15% of area in every second year not cut (rotate these plots)

**Grazing**

- alternative system of cutting and grazing
- when herd whole season on pasture max. 0,5 GAU/1 ha<sup>7</sup>, short term it is possible to increase density after prior approval by nature protection authority, herd no bigger than 30 LU
- cutting weeds after pasture season and arrows application
- no long-term stay of cattle in same locality
- changing of place of feeding and drinking facility
- lawn protection<sup>8</sup>
- exclusion of these meadows from using for over-winter stay (possible only after approval of protection authority)
- no fertilisers

**Agreement 3 – Species enrichment on selected of meadows**

**Prescriptions**

- to add local species of plants to grassland
- first four years only cutting of grass

**Agreement 4 - Grazing introduction on sensitive localities**

**Prescriptions**

- introduction of grazing on species rich grassland, close to streams, wetlands and plots of botanical monitoring (fencing)

<sup>6</sup> Allowed damage will be agreed according to local conditions (more restricted than in Codes).

<sup>7</sup> Approximately 150-180 days of grazing

<sup>8</sup> Allowed damage will be agreed according to local conditions (more restricted than in Codes).

There are more prescriptions prepared but these will be utilised after the first 4 are successful.

### ***Moravsky Kras area:***

#### Farming characteristics

Farming is quite intensive in this region because there are fertile soils on flat landscape above limestone caves, surrounded by forests and valleys. Farming causes water erosion and nutrients leaching into caves which decrease value of this natural feature (silting, destruction of beauty in caves etc.). The target area is relatively small and there are operating two large farms (1300 and 2000 ha) and three family farmers (from 25 and 170 ha). The intention is to include all farms into a pilot project (after one year of intensive discussions farmers agree). Arable farming should be transferred into permanent grassland management if conservation goals on the most sensitive localities should be achieved. Area eligible for grassland introduction is 170 ha and in case of crop rotation change 150 ha.

#### Objectives for application of AE

- to reduce erosion of soil and nutrients leaching above caves to a minimum (at least by 60 %).

#### *Task for achieving the objectives of the measures proposed*

- introduction of grassland above the caves,
- in buffer zones change of crop rotation system (exclusion of maize and reduction of grain area).

#### Description of the actions implemented under this measure in Moravsky kras

##### Agreement 1 - Arable land conversion to grassland

Prescriptions
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Grassland introduction - income foregone (gross margin for grain area lost)
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##### Agreement 2 - Adapted crop rotation

Prescriptions
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To exclude from crop rotation maize and to reduce grain - income foregone (GM/ha of lost grain area)
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### **5.3 Results of the project – experiences**

- Experiences with approach of agri-environmental schemes were built (from goals setting to calculation of payment levels) and will be used in designing of new measures.

- The conceptual difficulties were identified (overlapping of Czech law and voluntary participation in AEP).
- Experiences in communication with farmers were built.
- Some limits specific to Czech situation were discovered (size of farms vs. number of farms in areas – limits to schemes modulation).
- Results were used for promotion of the idea and additional two pilot areas are in preparation.
- Based on experiences there is produced simple manual for PLA administration staff to assist them in preparation of the part of measures design to ease the whole process.

SAPARD become a tool, which could resolve some of the difficulties with agri-environmental measures design and implementation in CEECs. Unfortunately the share of the pilot projects is in SAPARD so small and requirements for policy integration are not expressed clearly enough (exception is Good Farming Practices requirement) there are still lot of experiences, which should be gained by different way.

## **6. What lessons can be learned from case study about policy delivery system in agri-environmental policies in Czech Republic?**

The case study was undertaken in a framework of 5FP project CEESA coordinated by Humboldt University of Berlin (Lowe et. al. 2001). Subject of elaboration was policy delivery system especially in case of agri-environmental policies on a local/small region level. There was chosen one Landscape protected area and policies and strategies of all-important stakeholders were investigated on a field of basic conflict resolution: farming vs. nature protection.

Case study represents the first step in qualitative research in this field. Next step is done during 2001.

### **6.1 The problems in policies**

There are basically two policies influencing farming vs. conservation conflict in protected areas. Agricultural policy: did not compensate farmers till 1997 for conservation services, but supported grassland management (not well targeted). Measures are mandatory and farmers apply for them at the beginning of year. Later the year (in the middle of year) farmers could get higher payments for some most valuable grassland management from Ministry of Environment but this support is

not mandatory. These two policies were not co-ordinated and this created lot of misunderstanding between farmers and protected area administration and finally lack of management of valuable grasslands. Increasing abandonment of land at the first half of 90ties worsened the whole situation.

Landscape protected area administration used to regulate farmers for a long time but the whole framework changed at the beginning of 90ties. Farmers started to use democracy and it created lot difficulties in relationship between farmers and conservationists. Other stakeholders started to play their role in the problem solving very slowly and at the end of the last decade.

## **6.2 Methodology**

As a core method was chosen interview. Relevant legislation, previous studies and administrative structure were studied. Stakeholders were identified and the questionnaire designed before the interviews of all major stakeholders were undertaken. Interviews were focused to policies of all major stakeholders, their interests and ways how they work on above-mentioned conflict.

## **6.3 Approach**

Basic research questions dealing with conflicts, actors involved, changes of policies and strategies of actors were defined. Rest of basic factors of case study design were defined. Basic structure and links of organisations involved in a process of policy delivery process was identified.

Basic research questions:

1. What is the problem in potential conflict between farming and conservation (as understood by each stakeholder)?
2. Who are the actors involved?
3. What were the changes of: policies and strategies of actors?
4. What has been impact of these policies?

## **6.4 Findings**



## **Determinants of change and their impacts**

- 1) Stop of high production subsidies in early 90ties and state planning of production.
- 2) Privatisation process
- 3) Farmers started to ask for compensations in Protected landscape areas (democracy, property rights application),
- 4) New laws for environment protection were launched.
- 5) Majority of land is rented (land market is not developed, there are created artificial prices and rents by state).

## **6.5 Impacts**

- 1) Farm structures changed significantly, abandonment of land and of whole farms in early 90ties, loss of habitats (especially of species rich meadows), now more beef cattle on pastures and numbers are still growing,
- 2) State farms were stopped here; some part of land was claimed back by owners, the majority of land was rented.
- 3) Debate about farmer's compensation started and in 2001 farmers started to be compensated by clearly targeted measure (LFA payment adopted for protected areas).
- 4) PLA administration would like to apply new laws fully, but these are vague and the staffs understand the unfavourable economic situation facing farmers (policy making process does not allow Protected landscape area administration to influence the process of new legislation creation - now this law is in process of amendment!).

As a result of the driving forces and inadequate policies, previous opponents started to collaborate in order to find ways to achieve a common goal: to keep farmers in the Protected landscape area as the best means to manage valuable meadows. New strategies to overcome inadequate policies are still regarded as the second best solution and there is effort to improve the situation (NGO intervention in policy formulation - there is effort but still no response from the policy makers etc.).

## **6.6 What has been impact of policies of stakeholders?**

- Whole culture in persuasion of regional development goals changed from confrontation to participation (policies are more efficient than one could expect). There is trust at least among some leading farmers and Protected landscape area administration.
- All stakeholders found some way of how to overcome the shortcomings of government policies to some extent - the system is adapted but did not find the most efficient way to provide needed environmental services.
- Farms are more adapted to local production potential and conservationists interests (structural adjustment is successful, not so much abandoned land).
- All questioned stakeholders are looking for ways to keep farmers in the region and how to assure that they can provide environmental services.

## **6.7 Conclusions of the case study**

Two administrations are solving the basic conflict – conservation vs. farming: regional Ministry of Agriculture and ministry of Environment. Both changed their policies from previous command type.

Market liberalisation (diminishing subsidies, rising costs), democratic principles, privatisation and new policies (new supporting programmes) brought potential for more easy solution of the conflict but new policies are not integrated enough..

Because of initial difficulties (continuation of command performance etc.) administration of Protected area started new approach. They started to integrate actions with Ministry of Agriculture and local NGO and managed to bridge gaps among corresponding policy tools. Co-operation with farmers is improved and land abandonment diminished. Local administrations were able to decrease damaging effect of improperly designed policies but the core of the problems remained.

From personal experience of author it is clear the situation is similar in about 30 % of protected areas – in rest of them the major problem remained land abandonment and weak relationships between Protected areas administration and farmers.

Lack of communication with policy makers prevented to use these experiences as argument for policy improvement.

## 7. Conclusions

History of agriculture in CEECs during planned economies shows there are several reasons for both positive and negative long-term impact to environment and nature. Drastic lowering of intensity of farming during last decade brought significant increase of natural values but at the same time land abandonment (in some areas loss of biodiversity). Areas of CEECs contains valuable habitats and landscapes which should be saved because lot of them are unique in European context.

In CEECs there are experiences mainly with regulations (strengths) as agri-environmental policy tools but not enough experiences with other tools and definitely not enough financial resources to create supporting measures, which could save habitats endangered by lack of management.

Environment and nature could benefit a lot from EU accession because this process is speeding up the process of creation of needed agri-environmental policy tools. Especially those, which can facilitate implementation of proper management of valuable habitats and other natural resources such as agri-environmental measures, are essential.

CEECs officials face to build new agri-environmental measures and usually there are not enough experiences to build on. Busy with other priorities administrations struggle with: lack of spatial environmental and farm data, lack of skills to deal with other ministries and farmers, not sufficient financial resources, skills needed for payments calculations etc.

Any assistance to CEECs officials in corresponding agri-environmental policy tools design and implementation could help to save really valuable environmental assets<sup>9</sup> because there is clear evidence of environmental value increase during last decades in these countries.

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<sup>9</sup> There are far more corncrakes in Czech Republic than in whole France for example - despite of country size differences (source: consultation with head of Czech Ornithological Association).

Czech Republic example with pilot agri-environmental measures brought following evidence: SAPARD is becoming a efficient tool for resolving of some of these difficulties but not all of them because it is possible to implement few pilot agri-environmental schemes and it does not initiate creation of whole range of agri-environmental measures and other policy tools.

Case study in Czech Republic investigating implementation of agri-environmental policies implementation on regional level shows deficiencies in policies integration even in case when there were only two similar and simple measures (measures helped to save significant part of species rich meadows). Even local administrators were able to partly compensate some negative effects of the policies by making partnership with other stakeholders it is still creating potential danger of future failures of even more complicated policies after EU accession (and as a consequence land abandonment and new intensification).

All administration in question need capacity building and especially training. In addition assistance or help with creation of partnership with other stakeholders is needed (especially between other Ministry, farmers and with NGO). The case study showed value of such partnership for reaching of the conservation goals.

## Literature

Bundesministerium für Land-und Forstwirtschaft Umwelt und Wasserwirtschaft (2000): Austria Agriculture, Forestry, Environment and Water Management 2000, Wien, 51 p.

DOUCHA, T. et al, Vytvoření agrárního sektoru ČR v období 1989 – 1997 (Development of agrarian sector between 1989 – 1997), Research Institute of Agricultural Economics, report to Ministry of Agriculture Czech Republic, Prague, 1998.

Hagedorn, Konrad., et al, Documentation of conflicts and environmental problems related to agriculture in twelve CEE countries, report of projects under 5 Framework programme “Sustainable agriculture in Central and Eastern European Countries (CEESA)”, Humboldt University of Berlin, 2000.

Lowe, Philip., et. al, Description of agri-environmental policies in Central and Eastern European Countries, University of New Castle upon Tyne, 2001

Ministry of Agriculture of Czech Republic, Current situation and future – cereals, Prague 2000.

Ministry of Agriculture, The state of agriculture in Czech Republic in 1999 - Green report 1999, Prague, 2000.

OECD, Agricultural policies in emerging and transition economies, monitoring and evaluation 1998, Paris, 1998.

Prazan Jaroslav, Description of two pilot projects envisaged for SAPARD proposal in Czech Republic, report for the project 2078 led by AVALON, Fund for Organic Farming, Prague 2000

Prazan Jaroslav, Setting up a National agri-environmental scheme for Czech Republic, report for the project 2078 led by AVALON, Fund for Organic Farming, Prague 2000