Environmental Integration in Agriculture in South Eastern Europe

Background document to the SEE Senior Officials Meeting on agriculture and environment policy integration Durres, Albania, April 15-16, 2005

ISSUE PAPER by:
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Introduction

Since the 1992 issuance of the United Nations “Rio Declaration,” sustainable development has become a widely known and globally accepted approach to addressing the negative environmental impacts of human activities. Many hope it can lead to a meaningful and prosperous coexistence between humans and the environment. The World Commission on Environment and Development (the Bruntland Commission, 1987) defined sustainable development as something “that meets the needs of the present without compromising the ability of future generations to meet their own needs,” the achievement of which is a global objective today. In adopting these principles, many of the world’s governments committed themselves to taking concrete steps toward its implementation by adapting existing policies and developing new ones that could better serve sustainable development. In addition to all the social and economic aspects, the integration of environmental concerns is recognised as one of the key conditions for progressing toward sustainable development.

These considerations are specifically relevant to agriculture. Agriculture accounts for a relatively small share of the economies of industrialised countries, but the sector provides food and other vital components for everyday life — and also comprises a great amount of land use. Agriculture places great pressure on the environment, but also plays a key role in maintaining the natural resource base — land, biodiversity, etc. — and culturally valuable rural landscapes. Its immediate ties with the development of rural areas and the complex relationship it maintains with the environment are largely reflected in the concept of Sustainable Agriculture and Rural Development (SARD), which perceives agriculture as a multifunctional sector with not only economic outputs, but social and environmental ones as well. A part of Agenda 21 (Chapter 14), which was adopted at the Rio World Summit, the SARD concept has been adopted by many countries and organisations, together with the main developmental directions it defines. The first of these directions — agricultural policy review, planning and integrated programmes in the light of the multifunctional aspect of agriculture, particularly with regard to food security and sustainable development — sets an ambitious agenda for policy development, which, among other things, envisions the integration of environmental and sustainable development considerations in agricultural policy.

Most environmental issues that bring about the need for integration arise directly from the farming practices and production decisions of individual farmers. These appear in response to various factors, such as market changes, developments in technology, broader economic and social changes in rural areas, and many other considerations. Government policy — namely agricultural and other sectoral policies — is just one of these driving forces, but it has significant influence. There is general consensus that, due to market and policy failures, policy intervention is needed for farming to achieve better environmental results. Markets fail when prices do not reflect the real values of resources, goods and services. Producers and consumers receive misleading signals about the scarcity of resources, which can lead to false incentives that encourage land abandonment, unnecessary intensification, lack of long-term investments for maintaining resources and many other problems. Appropriate policies play a key role in seeing that goods are priced correctly.

Aims and methodology of this paper

This issue paper intends to present some current concepts and principles and initiate discussion regarding environmental and agricultural policy integration in the specific context of South Eastern Europe. It has been prepared as a background document to the Senior Officials’ meeting on the integration of environmental concerns into agricultural policy in SEE, to be organised by the Regional Environmental Center for Central and Eastern Europe on April 15-16, in Durres, Albania.

1 South Eastern Europe, SEE in this study, refers to Albania, Bosnia and Herzegovina, Croatia, the former Yugoslav Republic of Macedonia, Serbia and Montenegro, and Kosovo (territory under interim UN administration).
The objectives of the study are:

- to provide an introduction to the basic concepts regarding the need for environmental integration in agricultural policy;
- to identify the most common environmental impacts of farming in selected SEE countries;
- to provide a brief overview on the current level of environmental policy integration in agriculture in SEE; and
- to identify specific “integration issues” that represent typical core issues — challenges or problems — in agriculture and environment policy integration, and have specific relevance to SEE.

Structure

Information in this issue paper is presented in three main chapters.

The first chapter provides a brief overview of the agricultural sector in SEE and discusses the most important environmental pressures of farming.

The second chapter focuses on existing policies, regulations and cooperation mechanisms, and attempts to draw conclusions regarding the level of environmental integration in agriculture in SEE.

The third chapter presents different aspects of environmental policy integration in agriculture — referred to as “integration issues” — and addresses their relevance to the specific circumstances in SEE.

Sources

This issue paper has been prepared based on reports provided by local correspondents, interviews with SEE officials and secondary desk research performed by the Regional Environmental Center for Central and Eastern Europe, using various current publications on this topic (e.g. publications of the Organisation for Economic Co-operation and Development, the European Commission, the European Environment Agency, the Food and Agriculture Organization, and others). The list of authors of local reports and officials providing interviews is presented in annexes 2 and 3. We would like to thank everyone involved for their contributions.
Environmental impacts of farming in South Eastern Europe

A first question that arises when analysing policy integration is “what should be integrated?” Namely, what is the object of policy integration? The questions with which this paper is particularly concerned are “what characterises agriculture in South Eastern Europe, and what are the main environmental concerns that should be integrated in policies shaping the sector?” The following text gives an initial overview of these considerations, with closer focus on the actual environmental impacts of agriculture.

General characteristics of agriculture in South Eastern Europe

South Eastern Europe’s high diversity of land, its specific geographic and climatic features and its unique history have all contributed to the development of varied agricultural techniques, which include intensive growing of arable land crops and animal products, the cultivation of fruits and vegetables on irrigated land, and extensive pasturing in high mountain meadows. Mountainous and hilly areas with generally more rainfall — the central and western parts of Bosnia and Herzegovina, the highlands of Albania, Croatia and the former Yugoslav Republic of Macedonia, and the central and eastern parts of Serbia — host extensive low-input farming systems mostly based on sheep and cattle production, which is, in Serbia’s case, mixed with fairly intensive production of soft fruits (berries) and vegetables. Intensive production of cereals (wheat, maize and barley), industrial plants (sunflower) and animal products (especially cattle, pigs and poultry) is more concentrated in larger flat areas of river valleys or coastal plains, such as the Sava and Drina river valleys in the northern and eastern parts of Bosnia and Herzegovina, the Pannonian plains of Croatia, the Vojvodina plains, the central plains of Kosovo (territory under UN interim administration), valleys and lowlands of the former Yugoslav Republic of Macedonia, and, to some extent, the irrigated coastal plains of southern Albania. In areas where impacts of the Mediterranean climate are much more pronounced — e.g. southern and coastal Croatia (Neretva Delta), the southern parts of Bosnia and Herzegovina, Montenegro, the hilly Mediterranean parts of Albania and the former Yugoslav Republic of Macedonia — the intensive production of citrus fruits, other Mediterranean cultures and horticulture products (onion, cabbage, lettuce, etc.) prevail.

As statistics show (see Table 1), agriculture plays a significant role in SEE economies. It occupies 21-36 percent of national territory, and approximately 17 percent of the economically active population (with extremes of 47 percent in Albania and 4 percent in Bosnia and Herzegovina), while contributing 8-25 percent (16 percent on average) of the gross domestic product (GDP). Agricultural contribution to GDP in the EU-15 is only 2 percent, which clearly signals the relative economic importance of the sector in SEE. This becomes even more obvious when considering the relatively high share of rural population, and the high levels of subsistence, semi-subsistence and part-time farms, and the high ratio of rural poverty in some countries (e.g. Albania, Bosnia and Herzegovina and the former Yugoslav Republic of Macedonia) where agriculture is the main source of living.

There are regions where farming is highly intensive and where uncontrolled intensification causes serious environmental problems, but agriculture in SEE is generally extensive compared to the EU and other European countries. There are large areas farmed with extensive methods, and in-put use is usually lower than that of the EU, even in intensively farmed regions. The amounts of fertilisers and pesticides used remain rather low, due mostly to the poor economic situation of most SEE farmers, and farmers have few opportunities to use or renew their farm machinery. In 2000, the average age of tractors in the former Yugoslav Republic of Macedonia was about 15-20 years, and only 25 percent of combines had been in use for less than six years, their estimated lifetimes. Only 17 percent of Albania’s farmers own agricultural machinery, and 40 percent farm their land without any kind of mechanisation. Much the same applies to irrigation systems, which are also outdated and cannot operate at full capacity, while the farming areas of some countries (e.g. Albania and the former Yugoslav Republic of Macedonia) are heavily dependent on irrigation.
On the other hand, the widespread existence of extensive farming systems and generally reduced pollution due to industry’s recent decline create excellent conditions for developing organic agriculture or applying other certified low-input production systems with special added value on the market.

Table 1: Basic agricultural indicators for SEE countries

<table>
<thead>
<tr>
<th>INDICATORS</th>
<th>UNIT</th>
<th>ALBANIA</th>
<th>BOSNIA and HERZEGOVINA</th>
<th>CROATIA</th>
<th>SERBIA and MONTENEGRO</th>
<th>KOSOVO (territory under UN administration)*</th>
<th>Former Yugoslav Republic of MACEDONIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>1,000</td>
<td>3,141</td>
<td>4,126</td>
<td>4,439</td>
<td>10,535</td>
<td>1,900</td>
<td>2,046</td>
</tr>
<tr>
<td>Population density</td>
<td>inh/sq km</td>
<td>115</td>
<td>81</td>
<td>79</td>
<td>103</td>
<td>175</td>
<td>80</td>
</tr>
<tr>
<td>Rural/Total population</td>
<td>%</td>
<td>56</td>
<td>56</td>
<td>41</td>
<td>48</td>
<td>&gt;60**</td>
<td>41</td>
</tr>
<tr>
<td>Agricultural labour force/Total labour force</td>
<td>%</td>
<td>47</td>
<td>4</td>
<td>7</td>
<td>18</td>
<td>60**</td>
<td>12</td>
</tr>
<tr>
<td>Total land</td>
<td>1,000 ha</td>
<td>2,740</td>
<td>5,120</td>
<td>5,592</td>
<td>10,200</td>
<td>1,088</td>
<td>2,543</td>
</tr>
<tr>
<td>Arable land</td>
<td>1,000 ha</td>
<td>578</td>
<td>997</td>
<td>1,462</td>
<td>3,397</td>
<td>300</td>
<td>566</td>
</tr>
<tr>
<td>Arable land in total land area</td>
<td>%</td>
<td>21.1</td>
<td>19.5</td>
<td>26.14</td>
<td>33.3</td>
<td>27.6</td>
<td>22.26</td>
</tr>
<tr>
<td>Arable land and permanent crops</td>
<td>1,000 ha</td>
<td>699</td>
<td>1,093</td>
<td>1,588</td>
<td>3,724</td>
<td>585</td>
<td>612</td>
</tr>
<tr>
<td>Agricultural land in total land</td>
<td>%</td>
<td>25.5</td>
<td>21.3</td>
<td>28.4</td>
<td>36.51</td>
<td>52.3</td>
<td>24.07</td>
</tr>
<tr>
<td>Irrigated land</td>
<td>1,000 ha</td>
<td>340</td>
<td>3</td>
<td>5</td>
<td>29</td>
<td>15</td>
<td>55</td>
</tr>
<tr>
<td>Irrigated land in agricultural land</td>
<td>%</td>
<td>48.6</td>
<td>0.3</td>
<td>0.3</td>
<td>0.8</td>
<td>2.6***</td>
<td>9.0</td>
</tr>
<tr>
<td>Fertiliser use/Arable land</td>
<td>kg/ha</td>
<td>61</td>
<td>33</td>
<td>118</td>
<td>91</td>
<td>-</td>
<td>39</td>
</tr>
<tr>
<td>Tractors/Arable land</td>
<td>no/1,000 ha</td>
<td>13.7</td>
<td>29.1</td>
<td>2.9</td>
<td>120.1</td>
<td>-</td>
<td>95.4</td>
</tr>
<tr>
<td>Agricultural GDP in total GDP</td>
<td>%</td>
<td>25.3</td>
<td>17.9</td>
<td>8.4</td>
<td>15.6</td>
<td>-</td>
<td>12.3</td>
</tr>
<tr>
<td>GDP annual growth (1990-2002)</td>
<td>%</td>
<td>5.4</td>
<td>11.2</td>
<td>1.3</td>
<td>-3</td>
<td>-</td>
<td>-0.1</td>
</tr>
<tr>
<td>Agricultural GDP growth (1990-2002)</td>
<td>%</td>
<td>3.7</td>
<td>5.2</td>
<td>-1.3</td>
<td>no data</td>
<td>-</td>
<td>-0.2</td>
</tr>
<tr>
<td>Trade balance of agricultural products</td>
<td>USD mln</td>
<td>-272</td>
<td>-688</td>
<td>-442.4</td>
<td>-115</td>
<td>-</td>
<td>-85.6</td>
</tr>
</tbody>
</table>


Environmental impacts of agriculture

Agriculture’s relationship with the environment is such that the sector is quite different from other sectors of the economy. Agriculture is one of the biggest users of land, and it directly builds on the production of the natural processes it maintains. Some farming systems adversely affect the environment and food safety (e.g. the build-up of nutrients and pesticides in soil and water, soil compaction and erosion, or excessive abstraction of water for irrigation), leading to heavy environmental degradation and biodiversity loss. However, much of the valued rural environment, such as traditional rural landscapes, large areas of semi-natural habitats and biodiversity supported by extensive, mosaic-like farming systems, is the direct product of the traditional presence of agriculture upon which it also depends. A brief summary of the positive and negative impacts emerging from agriculture and processes related to these is presented in Table 2.

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2 Sources: FAOSTAT; World Bank – World Development Indicators, 2004
Table 2: Environmental impacts of agriculture

<table>
<thead>
<tr>
<th>RELATIONSHIP</th>
<th>PROCESSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pollution of environment</td>
<td>• Build-up of nitrates and other mineral residues</td>
</tr>
<tr>
<td></td>
<td>• Pesticide residues</td>
</tr>
<tr>
<td></td>
<td>• Salination</td>
</tr>
<tr>
<td></td>
<td>• Ammonia and methane emissions</td>
</tr>
<tr>
<td>Depletion of environmental resources</td>
<td>• Inappropriate use of water and soil</td>
</tr>
<tr>
<td></td>
<td>• Destruction of semi-natural and natural land cover</td>
</tr>
<tr>
<td>Preservation and enhancement of the environment</td>
<td>• Creation/preservation of landscapes, habitats, land cover</td>
</tr>
<tr>
<td></td>
<td>• Preservation of genetic diversity in agriculture</td>
</tr>
<tr>
<td></td>
<td>• Production of renewable energy sources</td>
</tr>
</tbody>
</table>

An agricultural policy system is most appropriate from an environmental perspective when it recognises the environmental services farming delivers to society and rewards farmers for their provision, while efficiently counteracting and diminishing harmful effects to a sustainable minimum.

Environmental pressures and negative impacts

The most significant environmental pressures identified in South Eastern Europe are:

- eutrophication and water pollution from fertilisers and manure discharges from animal farms;
- water pollution from pesticide use and pesticide run-off;
- overuse of water resources and water depletion;
- soil erosion due to overgrazing of permanent pastures, land-use conversion and tilling;
- biodiversity loss due from expanded agriculture;
- loss of biodiversity due to land abandonment; and
- loss of biodiversity and landscape degradation due to intensified agriculture.

The often illegal transformation of arable land into construction land, leading to the destruction of the natural resource base for agriculture, is another problem. While not directly related to the environmental impacts of farming, it is still of significant relevance in several places (e.g. Kosovo, territory under UN interim administration).

The section to follow provides a short summary of the most relevant environmental pressures in the specific context of SEE.

Eutrophication and water pollution from fertiliser use and high nutrient loads from animal husbandry

High nutrient loads in surface and ground waters from excessive fertiliser application and high manure discharges from animal farms are typical problem areas with traditionally intensive agriculture. These problems seem to be relevant, though at varying levels, in all SEE countries, entities and territories considered, with the exception of Bosnia and Herzegovina.

Due to economic recession and political changes, agriculture in South Eastern Europe had become generally less intensive at the beginning of the 1990s, with lower livestock densities and less chemical application. Agricultural “agendas” of past communist regimes favoured industrialisation and sector intensification, which in most places resulted in the establishment of large state-owned agribusinesses. These were later either transformed into a newer generation of large enterprises (e.g. Croatia, Serbia and Montenegro) or completely dissolved and privatised (e.g. Bosnia and Herzegovina, the former Yugoslav Republic of Macedonia).

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3 Source: Indicators for the Integration of Environmental Concerns into the Common Agricultural Policy, Communication from the Commission (2000)
Such changes in the economic situation of agriculture led to a serious drop in farming intensity. In Serbia and Montenegro, for instance, fertiliser input decreased from 115 kg/ha in 1982-1987 to not more than 40 kg/ha during 1991-2000.

In spite of these trends, traditionally intensive farming still prevails in some areas, resulting in high nutrient loads that generally lead to water eutrophication. Pesticides are still applied in large amounts in the Pannonian parts of Croatia, in which most of the large farms and high livestock densities are concentrated (e.g. 550 kg/ha in Pozega — Slavonija County). The other most affected regions are northern and central Serbia (the Tisa and Danube river basins and plains along the Velika Morava), Shkoder Lake and vicinity in Montenegro, the lower regions of the former Yugoslav Republic Macedonia (e.g. the Prespa Lake region), and western and eastern parts (Dukagjini Plains and Anamorava) of Kosovo (territory under UN interim administration).

Animal farms, especially pig farms operating with liquid manure technologies, represent another serious source of pollution. Problems occur with large enterprises due to weaknesses of manure collection and treatment facilities (accidental leaks from manure tanks and lagoons), but small farms with higher proportions of farm animals (e.g. more than 80 percent in Croatia) can also cause serious threats by storing manure directly on the ground with no appropriate storage facilities.

Water pollution from pesticide use and pesticide run-off

Intensive crop production is particularly vulnerable to pests and diseases, with yield losses of 20-30 percent. Arable land technologies for corn, sugar beets, soybeans, sunflowers, rapeseed, tobacco and other “intensive” crop production methods require heavy application of pesticides in order to remain competitive. Excessive and improper application, weak storage or the inappropriate treatment of packaging wastes all lead to water pollution, and these problems impact the same areas of intensive farming mentioned earlier.

Exact data on pesticide application in SEE is not generally available, but one can conclude that the most severely affected water systems are those of the Danube, Drava and Sava rivers, which receive the run-off of many thousand hectares of intensive arable land.

Except for Albania, problems emerging from inappropriate pesticide application are relevant pressures in all the countries, entities and territories considered.

Overuse of water resources, water depletion

Overuse of water resources often occurs in regions where agriculture is highly dependent on irrigation. This is the case in some regions of South Eastern Europe, but especially in those with a more semi-arid climate, such as Albania and the former Yugoslav Republic of Macedonia. Indeed, these countries have the highest proportion of irrigated land in the region.

According to country correspondent estimates, water depletion is a relevant problem in Albania, Bosnia and Herzegovina, the former Yugoslav Republic of Macedonia, Serbia and Montenegro, and Kosovo (territory under UN interim administration).

The most frequent problems leading to overuse of water resources in South Eastern Europe are:

- unbalanced prioritisation in designing irrigation systems, and little attention paid to ecological considerations;
- either a complete lack of regulations concerning water use in agriculture, or lack of efficient compliance control mechanisms;
- incorrect limits on water use during dry periods (or no ecological minimum at all); and
- unmonitored water extraction.

Heavy overuse of water resources has been reported from the former Yugoslav Republic of Macedonia, where several rivers (e.g. Petruska, Kovanska and Sermeninska) are dry in their lower courses for most of the year due to water withdrawal for irrigation purposes.
Soil erosion due to overgrazing, land use conversion and tilling

Soil erosion resulting from agricultural activities has been reported as a problem in most SEE countries, entities and territories (Albania, Croatia, Serbia and Montenegro, and Kosovo (territory under UN interim administration).

The problem is most acute in Albania. Apart from natural factors like weather patterns and mountainous topography (60 percent), there is a very complex system of causes resulting in an annual loss of 20 to 70 tonnes of soil per hectare, or, in extreme cases, as much as 100 tonnes per hectare. Besides agricultural impacts (overgrazing and weak terrace designs), uncontrolled dredging of rivers for construction materials, logging, and poorly designed roads and channels are other important factors. The natural functions of floodplains were diminished by flood protection and land reclamation projects between 1945 and 1980, resulting in sediments (roughly 60 million tonnes of solid materials and 1.2 million tonnes of humus annually) being carried out to sea instead of being deposited in the floodplains.

Land use conversion and tilling, especially in intensive agricultural areas like Croatia and Serbia, also cause loss of soil. As a direct result of intensive agriculture, approximately 20 percent of the national territory of Serbia and Montenegro (20,000 km$^2$) has been classified as “degraded by water and wind erosion,” and the rate of soil erosion has been calculated to be 3-4 times the natural level.

Biodiversity loss due to expanded agriculture

Agriculture in most SEE countries and entities has already passed through “expansion” phases, and most of the land capable of being converted into agricultural land has been taken already. Large land reclamation projects in different marshlands and other areas were completed in most SEE countries, entities and territories during the decades following World War II. Today’s environmental problems from expanded agriculture are, therefore, more singular.

One of the main problems in some areas is the high level of rural poverty (e.g. in mountainous areas of Kosovo, territory under UN interim administration) and extreme dependence of the rural poor on land resources for food. This has sometimes led to expanded agriculture even within the boundaries of national parks and protected areas.

Biodiversity loss due to expanded agriculture has been reported as a negative impact in Serbia and Montenegro, and Kosovo (territory under UN interim administration).

Biodiversity loss due to land abandonment

Land abandonment that results in biodiversity loss is a familiar problem in semi-natural areas (especially grasslands) developed over the past centuries for agricultural purposes. These areas and their several threatened species completely depend on extensive farming systems based on grazing and mowing. When these decline or disappear, valuable grassland communities are overgrown by shrub vegetation such as the vaccinium and juniperus species.

Most SEE countries, entities and territories are traditionally rich in permanent grasslands, the abandonment of which proves to be a problem, particularly in Croatia, the former Yugoslav Republic of Macedonia, Serbia and Montenegro, and Kosovo (territory under UN interim administration). The main causes of the process are:

- past agricultural policies focused primarily on maximising yields and sector industrialisation;
- increased urbanisation, migration of rural population to urban areas (in Kosovo, territory under UN interim administration, the war in 1999 greatly accelerated this process), aging of the rural population; and
- severe reductions in livestock.
Biodiversity loss and landscape degradation due to intensification

Intensified farming in South Eastern Europe brings about two distinct processes, both of them leading to biodiversity loss.

Apart from the earlier described impacts on water resources and the soil, intensification also means the growing of monocultures on large plots. The ensuing destruction of hedges and groves results in drastically reduced landscape diversity and diminishes important ecological corridors that support the last remnants of biodiversity. The application of non-selective pesticides adds to this by destroying soil biodiversity and insects, thereby limiting the availability of food for other animals.

A second and more indirect impact is that intensification has introduced the application of new animal breeds and plant cultivars — which can produce higher yields, but only in more intensive circumstances. As a result, many extensive domestic animal breeds adapted to local conditions and extensive production systems have already disappeared or are at risk.

Both processes have been reported as relevant problems in Serbia and Montenegro and Kosovo (territory under UN interim administration), while the former is also a serious threat in Croatia.

Environmental services and positive impacts

The most important environmental services provided by agriculture in South Eastern Europe are:

- maintaining specific features of traditional landscape;
- providing habitats for wildlife and threatened or rare species;
- preserving and maintaining semi-natural habitats; and
- preserving traditional domestic breeds and agro-biodiversity.

All of these benefits are to some extent related to extensive farming systems. Other services, such as water accumulation and flood control, or counteracting soil degradation or erosion are not of high relevance in SEE.

The following section provides a quick look at environmental services in their specific SEE context.

Maintaining specific features of traditional landscape

Apart from areas already severely altered by intensive agriculture development, most countries, entities and territories of SEE still have extended areas where traditional land-use patterns emerged from the co-evolution of agriculture and nature. To some extent, these areas may be considered “transition zones” between purely agricultural areas and nature protection zones, serving in both a production and conservation capacity, with agriculture here playing a key role. As farming is traditionally extensive in these areas — thus economically much less productive and competitive than the more intensive systems — agricultural policy will provide important opportunities and incentives for preserving these areas.

The importance of this aspect of agriculture has proved especially relevant in Bosnia and Herzegovina, the former Yugoslav Republic of Macedonia, Serbia and Montenegro, and Kosovo (territory under UN interim administration).

Providing habitats for wildlife/threatened or rare species

Agricultural areas, especially extensively managed or semi-natural areas (e.g. orchards, meadows and pastures, alkaline pastures, extensive croplands), can support large numbers of wild species, some of which have adapted well to their specific circumstances. Many plant communities, insects (e.g. butterflies) and bird species depend heavily on the proper management of semi-natural grasslands of mountains and uplands that serves not only agricultural production, but also directly supports wildlife. A good example of this is the Serbian populations of Egyptian and griffon vultures (Neophron percnopterus and Gyps fulvus), which seriously declined following the decrease of livestock numbers grazing on mountain pastures.
Agricultural activities can play a significant role in maintaining biodiversity even in protected areas, which is increasingly important for the proper functioning of ecological networks. This is of specific importance in the light of international initiatives such as the Pan-European Ecological Network or the EU’s Natura 2000.

According to reports from national correspondents, these functions are of specific relevance to Albania, Croatia, the former Republic of Macedonia, Serbia and Montenegro, and Kosovo (territory under UN interim administration).

**Preserving and maintaining semi-natural habitats**

The function of preserving semi-natural habitats is directly related to the previously discussed role of agriculture in providing habitats to rare and threatened species, and it originates from the relatively high share of semi-natural areas — especially grasslands — within SEE’s agricultural areas. Most of these grasslands are now predominately used in an extensive way with a minimal amount of agro-chemicals, and their biodiversity is still remarkable.

It is by now well known that these areas host a large range of species (e.g. orchids and representatives of other plant families, such as Daphne, Dianthus, Gentiana), important threatened bird species such as the corncrake (Crex crex), partridge (Perdix perdix) and quail (Coturnix coturnix), or small rodents providing the food base for predator bird species — most of which depend on proper management.

Agricultural practices have proved relevant for all SEE countries, entities and territories considered, but especially for Albania, Croatia, and Serbia and Montenegro.

**Preserving traditional domestic breeds and agro-biodiversity**

A more widely recognised function of agriculture is the preservation of agro-biodiversity — i.e. those domestic animal breeds and plant varieties that have evolved together with the agriculture of a particular region — and are therefore very much adapted to local conditions. This function plays a very important role within traditional, lower scale mixed-farming systems (especially in utilising coarse forage of marginal areas and semi-natural grasslands), but is not favoured by intensive agriculture. These plant and animal species can be of specific value as sources of genetic material for breeding programmes, but their usually lower productivity and specificity make them uncompetitive compared to the more intensive breeds and varieties. As a result, they become of secondary importance in market oriented production and often disappear over time.

The issue, however, is of specific relevance in SEE because traditional farming systems still largely prevail. Forty-four breeds and seven strains of domestic animals have been recently recorded in Serbia and Montenegro, including eight cattle breeds, three goats, seven horses, 18 pig breeds, five breeds and seven strains of sheep, and three breeds of poultry. More examples are given in Table 3, which lists domestic animal breeds recorded in Croatia.

The gradual improvement of economic conditions (allowing farmers to operate with higher inputs and encouraging market production) can bring about further agricultural intensification, which could result in further agro-biodiversity loss not applicable to more intensive production systems. The importance of preserving agro-biodiversity has been realised by most SEE governments, which are now trying to complete databases of local domestic animal breeds and plant varieties, designing specific programmes for preserving them through direct subsidies, and supporting the development of markets for their products.

The role of agriculture in preserving autochthonous domestic animal breeds and plant varieties has been reported as highly relevant in Bosnia and Herzegovina, Croatia, Serbia and Montenegro, and Kosovo (territory under interim UN administration).
Table 3: Autochthonous domestic animal breeds of Croatia

<table>
<thead>
<tr>
<th>Breed</th>
<th>Category</th>
<th>Status</th>
<th>No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle breeds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slavonian podolian cattle</td>
<td>Of common origin with other podolian breeds</td>
<td>Critical</td>
<td>14</td>
</tr>
<tr>
<td>Lika (Croatian Busa)</td>
<td>Of common origin with the Busa breed</td>
<td>Unknown/critical*</td>
<td>&lt;10*</td>
</tr>
<tr>
<td>Istrrian cattle</td>
<td>Unique</td>
<td>Endangered</td>
<td>26</td>
</tr>
<tr>
<td>Gray cattle of Dalmatia</td>
<td>Not fully defined as a breed</td>
<td>Not endangered</td>
<td>&gt;500*</td>
</tr>
<tr>
<td>Horse and donkey breeds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medimurje horse</td>
<td>Unique</td>
<td>Critical*</td>
<td>&lt;10*</td>
</tr>
<tr>
<td>Posavina horse</td>
<td>Unique</td>
<td>Endangered</td>
<td>76</td>
</tr>
<tr>
<td>Island pony</td>
<td>Unique/not defined as a breed</td>
<td>Unknown/critical*</td>
<td>&lt;20*</td>
</tr>
<tr>
<td>South Dalmatian donkey</td>
<td>Not defined as a breed</td>
<td>Unknown/endangered*</td>
<td>&lt;80</td>
</tr>
<tr>
<td>Kvarner and Istra donkey</td>
<td>Not defined as a breed</td>
<td>Unknown/endangered*</td>
<td>&lt;50</td>
</tr>
<tr>
<td>Littoral and Dinarics donkey</td>
<td>Not defined as a breed</td>
<td>Unknown/endangered*</td>
<td>&lt;50</td>
</tr>
<tr>
<td>Sheep and goat breeds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ruda sheep</td>
<td>Unique</td>
<td>Unknown (critical*)</td>
<td>&lt;20*</td>
</tr>
<tr>
<td>Istrian sheep</td>
<td>Unique</td>
<td>Unknown/endangered*</td>
<td>&lt;80*</td>
</tr>
<tr>
<td>Cres island sheep</td>
<td>Unique</td>
<td>Unknown/not endangered*</td>
<td>700*</td>
</tr>
<tr>
<td>Pag island sheep</td>
<td>Unique</td>
<td>Not endangered</td>
<td>2,000</td>
</tr>
<tr>
<td>Pramenka sheep of Lika</td>
<td>Unique to the Balkans</td>
<td>Not endangered</td>
<td>5,000*</td>
</tr>
<tr>
<td>Croatian white goat</td>
<td>Unique</td>
<td>Unknown/critical*</td>
<td>&lt;20*</td>
</tr>
<tr>
<td>Croatian spotted goat</td>
<td>Unique</td>
<td>Unknown/threatened*</td>
<td>&lt;50</td>
</tr>
<tr>
<td>Pig and poultry breeds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turopolje pig</td>
<td>Unique</td>
<td>Critical</td>
<td>&lt;10</td>
</tr>
<tr>
<td>Black Slavonian pig</td>
<td>Unique</td>
<td>Critical</td>
<td>&lt;20</td>
</tr>
<tr>
<td>Zagorje turkey</td>
<td>Unique</td>
<td>Unknown</td>
<td>&lt;80*</td>
</tr>
<tr>
<td>Croatian hen</td>
<td>Unique</td>
<td>Not endangered</td>
<td>300</td>
</tr>
</tbody>
</table>
Policies and approaches addressing environmental aspects of agriculture in South Eastern Europe

The impacts and benefits of agriculture are very complex, with overlapping issues involving environmental, socio-economic and political aspects. This complexity places challenging demands on policy makers. Several decades of policy-making experience have made it evident that one-dimensional, unidisciplinary, uncoordinated sectoral policies do not serve the cause of sustainable development well, and they are especially poor at incorporating more external and environmental aspects.

All countries, entities and territories of South Eastern Europe, in the wake of conflict and subsequent democratic stabilisation, are committed to European integration. The process involves massive socio-economic transition, which includes setting and refining the policy frameworks in which different sectors operate. This ongoing work has supplied ample evidence that rural areas of SEE (which are otherwise facing severe socio-economic problems) have retained several unique natural and cultural values — the long term sustainability of which are now in the hands of these societies.

This following section focuses on how this integration is actually done — or, in other words, how existing policy frameworks in SEE foster the integration of environmental aspects of agriculture. We examine the following:

- objectives of general policies and strategies aimed at the integration and harmonisation of different sectors’ goals (e.g. national sustainable development strategies, regional development strategies);
- general goals and objectives of national agricultural policies, and the application of legal and economic instruments;
- policies and regulations of other sectors having a direct impact on agriculture and environmental performance; and
- cooperation mechanisms within different levels of agricultural policy (vertical coordination) and other relevant policy areas (horizontal coordination), including joint drafting or implementation mechanisms, or joint policy instruments.

The assessment of the level of environmental integration has been facilitated by seeking answers to the following questions:

- Is there any explicit political commitment to environmental policy integration in general, and are the environmental, social and economic agendas of different policies/sectors united in an overall strategy?
- Is there a need for compliance with international and EU commitments?
- Is there any explicit political commitment to environmental policy integration in the agricultural sector, and are there any common/coordinated action plans for agricultural/rural development?
- Are the goals of agricultural and environmental policies common and congruent, and is there a legal framework for environmental policy integration in agriculture?
- Is there any institutionalised and/or informal interaction between policy actors and non-state policy actors?
- Are there any coordinated procedures and rules for decision making by competent bodies?
- Are there any procedures for joint decision making, and joint responsibilities between the agricultural and environmental sector/policy actors?
- Are the different instruments of agricultural and environmental policies compatible and consistent?
- Are there any market-based instruments and financial mechanisms/incentives for environmental integration?
General policies and strategic framework documents

The integration of environmental dimensions in sectoral policies — as with any kind of policy integration — involves compromise between environmental policy goals and the respective sector's policy goals, which can be achieved only if these goals are compatible and can be integrated. Integrated national or regional-level development strategies, which provide an overall framework for development (e.g. sustainable development strategy, national development strategy), are tools for reaching overall congruence and integrated sustainable development principles. Their existence and the way they formulate environmental objectives are good signs of long-term government commitment to environmental integration in general.

In most SEE countries, entities and territories there seems to be a somewhat new — yet pronounced — political commitment to integrated policy development and, more specifically, to environmental integration. However, due in great part to political and economic instability, SEE governments have only just started to adopt new approaches. Albania prepared its strategy on growth and poverty reduction in 2001 (the National Strategy for Social and Economic Development), while overall development strategies explicitly addressing environmental issues related to agriculture were adopted by Bosnia and Herzegovina and the former Yugoslav Republic of Macedonia only in 2004. Following its commitment to EU integration, Croatia is now in the process of drafting its National Development Plan. The Stabilisation and Approximation Process (SAP), EU integration and support from other major development organisations (e.g. the World Bank) are driving forces that play an important role in facilitating policy development in SEE. Some of these findings are summarised below in Table 4.

Table 4: Overview of overall development strategies of SEE countries/entities

<table>
<thead>
<tr>
<th>Country/Entity</th>
<th>National overall development strategies</th>
<th>Status</th>
<th>Reference to environmental impacts of agriculture</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOSNIA and HERZEGOVINA</td>
<td>Poverty Reduction Strategy (2004-2007) of Bosnia and Herzegovina</td>
<td>Adopted in April 2004</td>
<td>Yes</td>
</tr>
<tr>
<td>CROATIA</td>
<td>National Development Strategy for the Republic of Croatia</td>
<td>Under preparation</td>
<td>N/A</td>
</tr>
<tr>
<td>Former Yugoslav Republic of MACEDONIA</td>
<td>National Strategy for European Integration of the Republic of Macedonia</td>
<td>Adopted in July 2004</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>National Strategy for Sustainable Development and Action Plan (draft)</td>
<td>Under preparation</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>National Poverty Reduction Strategy</td>
<td>Adopted in 2001</td>
<td>Only rural development/ poverty and agriculture</td>
</tr>
<tr>
<td>SERBIA and MONTENEGRO</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Kosovo (territory under UN interim administration)</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

The following section gives a short overview of national development strategies of some SEE countries, entities and territories, describing, where relevant, the position of agriculture and environment in them.
In 2001, the Albanian government, in collaboration with the World Bank, prepared its Strategy on Growth and Poverty Reduction, known as the National Strategy for Social and Economic Development (NSSED) — the country's first comprehensive economic development strategy. Signalling a commitment to sustainable development and environmental integration, the strategy formulates a long-term environmental objective to “achieve gradually appropriate environmental standards in accordance with Albania’s commitments stemming from its association process with the EU.” It has also set medium-term goals to stop environmental degradation, create conditions for the rehabilitation of polluted areas, bring them within minimum safety standards, and to ensure more sustainable use of natural resources.

As an overall development strategy, NSSED also formulates general objectives for agriculture development, which are:

- to reduce poverty through a sustainable increase of crop, livestock, agro-industry and fishery production;
- to improve food safety and quality;
- to improve the market for agricultural products and food; and
- to ensure the sustainable management of natural resources such as land, water and biodiversity.

As with Albania, Bosnia and Herzegovina’s Poverty Reduction Strategy (2004-2007), effective from April 2004, is the country's first national-level strategic document. It was developed as a joint effort between the Council of Ministers, the governments of the Federation of Bosnia and Herzegovina and Republika Srpska, and experts from different NGOs — with the latter group being involved in more than 300 roundtable discussions. The document received the official support of both the president and parliament, with regular reporting periods of six months. Forestry, water, environment and agriculture (among others) were recognised as priority sectors, pointing to agriculture as the key sector for rural area development, fighting rural poverty, protecting the environment and preserving important natural processes.

The strategy’s agricultural priorities are to:

- strengthen the sector’s legal and institutional framework in harmony with EU legislation;
- improve the subsidy system;
- improve land management;
- improve the ecological aspects of agricultural development; and
- improve education and research in agriculture.

In the chapter referring to improving ecological aspects of agriculture (4.9), the strategy defines the reduction of negative environmental impacts of traditional intensive agriculture and the promotion of organic agriculture as two separate approaches. It recommends the following:

- establish a system to monitor soil, water and air;
- establish a registration and control system for the use of plant protection materials;
- introduce subsidies for organic farming and other related activities;
- introduce a law regulating the introduction and use of GMOs; and
- introduce systematic measures for environmental protection in agriculture — especially water resources.

The former Yugoslav Republic of Macedonia also developed several strategic framework documents, with a focus on general development of the country, employing an integrative approach, and addressing environment and agriculture. The most important strategies in this respect are:

- the National Strategy for European Integration of the Republic of Macedonia, prepared by the Government Department for European Integration, adopted by the Macedonian government in July 2004;
- the National Sustainable Development Strategy and Action Plan (draft), being prepared by the Ministry of Environment, Department for Sustainable Development; and
The National Strategy for European Integration defines the basic framework and national priorities for accession of the former Yugoslav Republic of Macedonia to the European Union. Strategy implementation requires strong coordination and cooperation from all national government institutions. As a result, an institutionalised system of inter-sectoral coordination has been established and is constantly upgraded when new challenges appear.

The main objectives of the strategy related to agriculture are:

- to strengthen the sector in applying for integrated regional markets of the European Union and South Eastern Europe;
- to increase the efficiency of agricultural production, processing and marketing;
- to establish appropriate and effective public and private institutions for supporting agricultural development;
- to increase agricultural incomes;
- to provide safe and healthy food to consumers;
- to promote the optimised and sustainable use of land, forests and water resources; and
- to establish sustainable rural communities through rural development.

In line with these objectives, the current priorities for agriculture defined by the strategy are: (1) to harmonise prices in line with the Stabilisation and Approximation Agreement and WTO membership conditions; (2) to rationalise budget support for agriculture; and (3) to reorganise and strengthen capacities of the Ministry of Agriculture, Forestry and Water Resource Management and relevant public agencies.

The National Strategy for European Integration defines the development of a National Sustainable Development Strategy and Action Plan as a priority to be fulfilled by 2005. According to the relevant government decision, the Ministry of Environment and Physical Planning is responsible as a focal point for coordinating efforts to develop the strategy and action plan that should be adopted and implemented by 2008. Several strategic documents have been prepared to date, the most important being:

- the Conceptual Approach for the Creation and Implementation of the National Strategy for Sustainable Development of the Republic of Macedonia (2000);
- the National Sustainable Development Assessment of the Republic of Macedonia (2002); and

Although Serbia and Montenegro has no overall strategy supporting coordination and environmental integration in the development of different sectors, there is clear, general political commitment for adopting sustainable development principles and environmental integration. Focused on support for the integration of environmental concerns into sectoral policies and programmes, the Serbian government established the Council for Sustainable Development in November 2003. The council includes ministerial representatives from various sectors, as well as NGO representatives. A set of relevant laws has been also drafted covering Environmental Protection, Environmental Impact Assessment (EIA), Strategic Environmental Assessment (SEA) and Integrated Pollution Prevention and Control (IPPC).

The situation is similar in Kosovo (territory under UN interim administration), where several government initiatives focusing on the development of integrated sectoral policies and strategies took place (e.g. the Strategy for Sustainable Agriculture and Rural Development of Kosovo), but the entity has no overall, integrated strategic framework for development.
Integration of environmental concerns into agricultural policy

General agricultural policy objectives

During the past several years, most SEE countries, entities and territories have developed or initiated a process for developing a new generation of comprehensive agricultural policies that approach the sector more through the values and principles of sustainable development (see Table 5).

Table 5: Sectoral policy documents formulating goals for agricultural development in SEE

<table>
<thead>
<tr>
<th>Country/Entity</th>
<th>Sectoral policy documents formulating goals for agricultural development</th>
<th>Status</th>
<th>Environmental priorities</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALBANIA</td>
<td>Green Strategy for Agriculture</td>
<td>Adopted in 1998</td>
<td>Yes</td>
</tr>
<tr>
<td>BOSNIA and HERZEGOVINA</td>
<td>Mid-Term Strategy for the Recovery of Agriculture: Federation of Bosnia and Herzegovina</td>
<td>Adopted in 1999</td>
<td>No data</td>
</tr>
<tr>
<td></td>
<td>Mid-Term Strategy for the Recovery of Agriculture: Republika Srpska</td>
<td>Adopted in 1999</td>
<td>No data</td>
</tr>
<tr>
<td>CROATIA</td>
<td>National Agriculture and Fishery Development Strategy</td>
<td>Adopted in 2002</td>
<td>Yes</td>
</tr>
<tr>
<td>Former Yugoslav Republic of MACEDONIA</td>
<td>Strategy for Approximation of the Macedonian Agro-food Sector to the CAP of the EU</td>
<td>Adopted in 2004</td>
<td>Yes</td>
</tr>
<tr>
<td>SERBIA and MONTENEGRO</td>
<td>Draft Agricultural Strategy of Serbia</td>
<td>Issued for public consultation in Nov. 2004</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Sector Policy Agenda of the Government of Montenegro</td>
<td>No information</td>
<td>Yes</td>
</tr>
<tr>
<td>Kosovo (territory under interim UN administration)</td>
<td>Strategy for Sustainable Agriculture and Rural Development</td>
<td>Adopted in 2003</td>
<td>Yes</td>
</tr>
</tbody>
</table>

These agricultural policies address the multifunctional character of agriculture, and seek to consider not only economic, but also social and environmental aspects. In this respect it is vital that agriculture appears in all policies together with rural development (social aspects) and the sustainable use of natural resources (environmental aspects). When looking at these policy objectives, the intent of policy makers to incorporate sustainability principles and international requirements becomes obvious, as does the attempt to address the very specific conditions in each country/entity. These priorities reflect a new approach to the sector that has been widely promoted by different international organisations and already adopted by many countries. The priorities also reflect the highly complex problems, weaknesses and specific values of SEE agriculture. From the different sets of objectives formulated in SEE agricultural policies, the following main development priorities can be identified:

1. Increase competitiveness, efficiency and productivity.
   This, in many cases, involves the upgrading of old production infrastructure and farm machinery, improving and rationalising land management, or, in some cases (e.g. Albania), even intensifying agricultural production to certain extent in order to decrease the need to import basic food items.
2. **Ensure the production of high quality and healthy food.**
   Directly related to the principle of competitiveness, this priority reflects both the realisation of increased food quality standards and requirements of markets, as well as farmers’ increased direct dependence on these. SEE countries have great potential to produce good-quality local products with higher added value, which could become an important factor in increasing economic sustainability of rural households.

3. **Encourage sustainable rural development to improve social-economic conditions of the rural population through income source diversification.**
   Through this priority, countries and entities recognise alternative functions and values of rural areas and the important maintenance role played by properly functioning rural communities. It is a main priority to improve the living standards of rural areas and increase rural incomes through the sustainable exploitation of assets other than agricultural (e.g. nature and valuable rural landscapes).

4. **Ensure sustainable management of natural resources.**
   This objective is central to all SEE agricultural policies, which is rather encouraging from an environmental integration perspective. However, it also reveals the existence of serious problems partly inherited from the past. Improving ecological aspects of farming, monitoring environmental protection in agriculture, promoting the protection of nature and valuable landscapes, and conserving autochthonous breeds and varieties are all aspects explicitly mentioned in the different policies.

5. **Develop organic farming.**
   All policies perceive organic agriculture as a model for sustainable agriculture, and one that offers a unique opportunity for generating rural income. The best target areas for developing such farming systems are the large areas of SEE where intensive farming has never been practiced, which explains why such a specific group of activities is mentioned at the strategic level. The most common means expected to promote organic farming are direct subsidies to conversion and certification, support for product marketing (e.g. national labels), training and capacity building, and support for the development of producers’ organisations.

6. **Achieve EU approximation.**
   Due to their EU integration agendas and participation in SAAs, each SEE country, entity and territory recognises to some extent the need for adjusting national structures and legislation to specific EU requirements and the Common Agricultural Policy (CAP). In some cases (e.g. the former Yugoslav Republic of Macedonia, and Bosnia and Herzegovina) this appears as an important element of agricultural policy — very much shaping the sector’s priorities toward CAP values.

7. **Improve the marketing of agricultural product.**
   Increasing market competitiveness and the quality of products in general is recognised in all agricultural policies, while some countries (e.g. Albania, Bosnia and Herzegovina, and the former Yugoslav Republic of Macedonia) adopted market integration (e.g. World Trade Organization and Central European Free Trade Agreement accession) and increasing the presence of their products on international markets as being among the main development direction for agriculture.

8. **Improve financial support schemes.**
   Due to difficult economic conditions, direct subsidies to agricultural producers remain low in SEE countries and entities. Also, the availability of capital through loans and credits for agricultural activities is also low, which significantly hinders sectoral development. Enlarging state support, and improving the system of subsidies and the availability of credits are often promoted in agricultural policies, for example in Bosnia and Herzegovina, the former Yugoslav Republic of Macedonia, Montenegro, and Kosovo (territory under UN interim administration).

9. **Develop a new system of institution building.**
   Building a new system of agricultural institutions and strengthening the existing legal and institutional frameworks are mentioned as important development priorities in the agricultural policies of Bosnia and Herzegovina and Montenegro.
The following brief presentations provide some further details on national agricultural priorities and policies in South Eastern Europe.

Directions for agricultural development in Albania are stipulated in the Green Strategy for Agriculture, which was developed by the Ministry of Agriculture and Food and approved by the Council of Ministers in 1998. The main objectives it sets are:

- to modernise and intensify agricultural practices and productivity to achieve food security and decrease the negative trade balance;
- to improve the welfare of farm families through agriculture and rural development with non-farm jobs — including jobs in agro-tourism;
- to penetrate export markets (fruit, grapes, fresh and processed vegetables, olives); and
- to slow migration to urban areas.

Bosnia and Herzegovina presently has no state-level policy for agriculture, but, with the support of the Food and Agriculture Organisation of the United Nations (FAO), both entities of the country (the Federation of Bosnia and Herzegovina and Republika Srpska) prepared a Mid-Term Strategy for the Recovery of the Agricultural Sector in 1999, which specifies objectives for development in a broader sense. These strategies form the basis for agricultural development in Bosnia and Herzegovina, and have provided direct input to the Poverty Reduction Strategy issued in 2004. Although the main objectives have been set, they remain rather general in scope, and operational documents defining how to bring about real achievements still need to be developed. Another recognised weakness of agricultural development is the lack of state level coordination and cooperation that could bring developments within the two entities under a single umbrella. A first step toward solving the problem would be the development of a state law. This has been proposed within a recent EU project, which formulated a first draft of this law. The main goal of the agricultural policy defined in this draft was to support agribusiness and rural society by means of legislative, tax, customs and trade policies and financial incentives in order to:

- achieve sustainable development in agriculture, forests and fisheries;
- overcome consequences of the war and remnants of the former state economic system in the countryside;
- ensure a sufficient supply of high quality and safe food at reasonable prices;
- ensure the presence of agricultural, forestry and fishery products on international markets under fair conditions;
- promote rural development and ensure the preservation and rational use of natural resources, the protection of landscapes, the development of agro-tourism and animal protection and welfare; and
- provide more effective governance and a more efficient approach to the Common Agricultural Policy (CAP) of the EU.

In July 2002, Croatia’s parliament adopted the National Agriculture and Fisheries Development Strategy (Official Gazette of the Government, 89/2002), which provides general long-term guidelines for agriculture development. Besides emphasising the importance of competitive domestic production, the strategy recognises the multifunctional character of agriculture in a rural development context. It focuses especially on food safety and organic farming, recognising the latter as a specific production system that allows for the sustainable management of land resources and provides additional market opportunities. Also, with the support of the United Nations’ Food and Agriculture Organisation (FAO), the Ministry of Agriculture, Forestry and Water Management prepared Croatia’s first draft of a rural development strategy.

The current agricultural policy of the former Yugoslav Republic of Macedonia has been under development since the very first days of the country’s independence, and is very much based on the the agricultural policy of the former Socialist Federal Republic of Yugoslavia. The first moves toward developing its own national agricultural policy were focused mostly on market interventions, domestic market protection through customs regulations, trade limitations and price subsidies for certain agricultural products. This approach, coupled with the sharp decline of the budget of the Ministry of Agriculture, Forestry and Water Economy led to severe policy reforms and an abandoned application of centrally pre-defined prices. The only exceptions today are strategic crops such as wheat and tobacco.
Within this reform process, in line with the Law on Transformation of the Enterprises and Cooperatives Running Agricultural Land” (Official Gazette of RM Nos. 19/1996 and 48/2000), starting from April 1996 large cooperative farms were privatised and transformed into joint stock companies or limited liability companies, while the land was kept in public ownership. The general goal of the policy is to increase sector competitiveness through increased efficiency, building effective public and private institutions, improving farm incomes, providing access to safe and healthy food, optimising the use of scarce land, forest and water resources in an environmentally sustainable manner, and building viable rural communities. Measures and instruments applied within the policy focus on direct support to producer and market interventions, trade regulations, renovation and maintenance of the irrigation system, rural development, research and advisory services, land use and a land cadastre. Further reforms of the agricultural policy will be implemented in line with the obligations of the former Yugoslav Republic of Macedonia emerging from the Stabilisation and Association Agreement with the EU, the Protocol for Accession of the Republic of Macedonia to the World Trade Organization, the National Strategy for European Integration and other bilateral free-trade agreements, and other international agreements.

EU approximation is the country’s highest priority. Adoption of the Strategy for Approximation of the Macedonian Agro-Food Sector to the Common Agricultural Policy of the EU is a very important step in this process and represents the basis of the country’s accession negotiations regarding agriculture. The strategy and its operational plan envision a series of reforms in policy, legislation and institutional structures. Following the principles of recent CAP reforms, it formulates concrete activities regarding environmental integration in agriculture. These include the defining of underdeveloped rural areas of particular interest for organic farming, and the design of several pieces of secondary legislation — concerning, for example, organic agriculture, plant and new plant variety protection, water management and GMOs. The next steps in this reform process will likely be structural measures for supporting rural development, enhancing producer competitiveness, supporting environment protection, organic production, and increased state support for agriculture.

In November 2004, through a highly participatory process, the government of the Republic of Serbia prepared a draft version of its Agricultural Strategy, which has been issued for public discussion. Compared to previous policies, it takes a unique approach to the sector. It is based on a realistic review of what agriculture can and cannot provide to society, and it defines a somewhat different role for the government in operating the sector. According to the strategy, this role is only to provide a correct market environment for farmers, input suppliers, processors and consumers, without any strict rules on how production should be structured. In line with this, the Ministry of Agriculture will issue a statement of its policy responsibilities and the services it will provide to the agricultural sector, differentiating between transitional and long-term undertakings.

Given the country’s aspirations toward European and WTO integration, the Ministry intends to undertake a complex review of its functions, structures and organisation in order to meet its institutional responsibilities arising from this intention, as well as to better help Serbia’s reformed market economy. In general, the strategy envisions that the sector will provide more wealth to farmers making significant contributions to the economy, produce safe and high quality food, ensure protection and improvement of the natural environment, and provide a short-term buffer to help ease the effects of economic restructuring. In the future, however, the sector will not be able to employ the number of people it does now, nor will it generate an acceptable level of living from the small mixed farms that predominate today. Realising the multifunctional character of agriculture, and that functional rural communities are a key factor in developing a healthy agricultural sector, the agriculture strategy considers “rural development” as one of its main pillars. In this respect the ministry would like to take a more proactive approach in setting up the new institutional and organisational framework needed to initiate coordination and cooperation with other ministries. In 2004, as a direct response to the needs of rural areas, a budget line on rural development was introduced into the ministry’s budget for the first time, and will be used for supporting environmentally friendly agriculture practices, diversification of agriculture and rural economy, increased efficiency of farming and improving the added value of products through local processing. Via these measures the ministry hopes to ensure a favourable environment for more efficient and sustainable use of available resources, to provide alternative job opportunities in rural areas, to develop new marketing strategies, and to increase the added value of products.
Agricultural priorities within the Sector Policy Agenda of the government of Montenegro also assign high importance to sector and policy reforms. Specific priorities defined are:

- encouraging development of agriculture policy;
- redefining measures to protect domestic agriculture;
- implementing crediting policy reforms;
- building a new system of agricultural institutions; and
- developing a national brand for organic agricultural products.

The main values behind these priorities are increased efficiency and productive competitiveness, the development of higher value-added products, increased food quality, rural development and the sustainable use of natural resources.

In Kosovo (territory under UN interim administration) the most important strategic document defining the framework for agriculture development within the entity is the “Green Book” — the Strategy for Sustainable Agriculture and Rural Development that was approved by the Ministry of Agriculture, Forestry and Rural Development in May 2003. The strategy was developed with the participation of a wide range of stakeholders (farmers, producer and trader associations, other ministry departments, national and local authorities, NGOs and donor agencies) with the coordination of the Ministry of Agriculture, Forestry and Rural Development and the Directorate for Rural Affairs. The main strategy objectives are to support rural communities and farmers to produce high-quality marketable products, to improve the cooperation of farmers with government agencies, to support the establishment of producers’ organisations, ensure credits, machinery and other services for farmers, and to provide for the sustainable use of soil and other environmental resources. Specific attention is paid to promoting the development of organic agriculture through training activities for farmers.

Specific regulations within agricultural policy

It is evident from the reports provided by local experts that most SEE countries, entities and territories are at the beginning of the process of developing their policy frameworks and legislative systems — including those which concern agriculture. On the one hand, prepared policy documents and existing policy initiatives prove that there is strong political commitment to environmental integration and sustainable development in general. Alongside some well formulated policy objectives, however, the system of concrete measures and regulations seems rather incomplete. Many of them — important from an environmental integration point of view — are still in either the drafting or planning stages, and there is an expressed need for restructuring existing institutional systems and improving enforcement.

The system of existing regulations seems to be more reactive, with more emphasis on command-and-control regulations that dominate the more proactive incentive measures. This might be partly due to the nature of issues tackled by the existing regulations (i.e. command-and-control regulations are simply more appropriate), and partly because of the limited availability of financial resources. Although successful enforcement of command-and-control regulations is more costly in general, these costs occur in the administration system and can be saved with limited or no enforcement. Incentive measures, on the other hand, involve direct payments on top of administration costs and are an immediate burden on weak ministry budgets.

All SEE countries, entities and territories have regulations within their agricultural policy that address certain environmental impacts (or services) of agriculture, but comprehensive systems of agro-environmental measures — i.e. agro-environmental programmes — do not exist yet. There are some initiatives (e.g. in Serbia and Montenegro) that formulate certain agro-environmental objectives, but they are more on the level of direct support schemes and lack a thorough review or systematic approach to agriculture’s environmental problems. The most advanced example in this regard is a recently implemented pilot project in Croatia that is focused on the development and implementation of a local agro-environmental programme. (Agro-Environment Programme for Zumberak-Samoborsko Gorje Nature Park, 2004).
More specific conclusions regarding the groups of regulations studied can be summarised as follows:

1. **Regulations concerning the use of agricultural land**
   The use of agricultural land in general and access to common land resources (e.g. pastures) is regulated in most SEE countries (no evidence has been provided for Serbia and Montenegro and Kosovo, territory under UN interim administration), formulating to some extent the clear responsibilities of resource users. However, ownership conditions are still not clearly settled in all cases, and land registration systems are incomplete in most countries. In some cases (e.g. Albania) explicit soil protection measures have not been formulated, in spite of the urgent need. No clear conclusions could be drawn on how well land markets are functioning, and to what extent land prices (also valued by credit institutions) encourage farmers to invest in maintenance.

2. **Regulations concerning the use of pesticides and fertilisers**
   The use of pesticides and fertilisers seems to be the best regulated environmental aspect of agriculture. Most SEE countries, entities and territories have comprehensive regulations, and the system of enforcement institutions either exists or is being established. Certain international requirements are integrated in most cases, but, in spite of well developed and up-to-date regulations, it is difficult to conclude how successfully they are enforced.

3. **Regulations concerning direct financial support to agriculture**
   Due in great part to difficult economic conditions, farmers generally receive little payment through direct financial support. In most cases improvements are planned. It is widely recognised that there are many positive initiatives and more support needs to be provided to agriculture for both production and non-production services, although direct support is rarely incorporated into an overall strategy of applying both commodity-based payments and incentive/compensation payments. In this respect Croatia, the former Yugoslav Republic of Macedonia and Serbia seem to be the most advanced in SEE, with Croatia’s support strategy being the best regional example. Direct financial support explicitly focused on improving the environmental aspects of agriculture are provided in Croatia, the former Yugoslav Republic of Macedonia, and Serbia and Montenegro. These considerations do not appear at the direct subsidy level in other places.

4. **Organic production**
   There is overwhelming evidence that all SEE countries and entities are keen to support the development of organic farming. Except for Albania and Kosovo (territory under UN interim administration), all of them have issued relevant laws and regulations and, in some cases, governments even provide direct support for the development of this sub-sector (e.g. the former Yugoslav Republic of Macedonia, Serbia and Montenegro).

5. **Irrigation and agricultural water consumption**
   The use of water for irrigation is regulated within the agricultural policy in both Albania and the former Yugoslav Republic of Macedonia. Environmental aspects do not seem to be integrated through relevant regulations, although in the former Yugoslav Republic of Macedonia the law promotes the sustainable use of irrigation water by supporting decentralised management of the irrigation system by groups of local farmers.

Further details on relevant agricultural policy regulations in SEE are provided below, while Annex 1 provides a list of laws and regulations used or quoted in this section.

**Regulations concerning the use of agricultural land**

Albania’s principal regulation on land use, the Law on Land and its Distribution (No. 7501/1991), is also one of the main umbrella regulations regulating the development of incomes from agriculture and non-agricultural activities in rural areas, property registration, cultivation of barren land, development of services for farmers, provision of access to credits and support to processing units, development of infrastructure for drinking water, sewage systems, roads, healthcare education, and the provision of state support to rural households in hilly and mountain areas not able to obtain the necessary minimum income from agriculture. Although there are no explicit environmental measures formulated, the law prohibits the use of agricultural land for other purposes, thus providing a certain level of protection for land resources.
However, in spite of the serious consequences, enforcement, which is a responsibility of local governments, has proved insufficient.

Further resource-use regulations that affect the environmental performance of agriculture are the Law on Pastures and Grazing (No. 7917/1995) and the Law on Leasing State-Owned Agricultural Land, Meadows, Pastures and Forests (No. 8313/1998). The former formulates provisions for grazing activities and sets grazing fees, while the latter regulates the longer term leasing of land through auctions. At present there is no explicit regulation on the protection of soils. There is a draft law under discussion that would formulate general provisions on the protection and rehabilitation of eroded and polluted soils, (as a responsibility of the Ministry of Environment), and the prevention and monitoring of further degradation of land resources, including a land cadastre, land evaluation, protection against erosion, degradation and pollution (to be conducted by the Ministry of Agriculture and Food in collaboration with the Soil Science Institute).

Land use and the protection of agricultural land is regulated in Bosnia and Herzegovina at the two-entity level (the Federation of Bosnia and Herzegovina and Republika Srpska) without overall state level coordination. The entities issued similar laws on agricultural land — they provide a legal definition of agricultural land and regulate principles of management and protection, as well as the selling and leasing of and the use of common pastures. They set important rules for the protection of land as a natural resource, stipulating that:

- Agricultural land temporarily used for non-agricultural purposes must be re-cultivated.
- It is forbidden to release harmful or toxic materials, mineral or organic fertilisers and plant protection materials that could damage agricultural land, change its purpose or damage crop production.
- Systematic investigation of soil fertility is obligatory for protecting, preserving and improving the physical, chemical and biological characteristics of agricultural land, as well as ensuring the correct application of fertilisers.
- Pastures can be used for other agricultural purposes, but only if a change will not cause erosion or nutrient wash-out.
- It is forbidden to breed nomadic sheep.

Croatia’s legal umbrella for agricultural activities is provided by the Agriculture Act (Official Gazette of the Government, Nos. 66/2001, 83/2002), which stipulates the goals, objectives and specific measures of the country’s agricultural policy, defines the basic legal terminology, sets the rules for institutional support and the range of beneficiaries, outlines the system of monitoring and reporting on agriculture, and regulates administrative and inspection control. More specific measures for the sustainable use and protection of agricultural land are formulated in the Act on Agricultural Land and the Ordinance on the Protection of Agricultural Land from Harmful Substances. The first law also regulates the sale and lease of state-owned agricultural land, while the second provides the regulatory framework for the application of harmful substances, sets limit values for their quantities in the soil, and establishing measures for pollution prevention and control. Land ownership and land use is monitored through a farm registration system that was launched in 2003, along with other means of direct support for the implementation of state support measures. The system provides an Internet-based central database managed by the Ministry of Agriculture, Forestry and Water Management through which farmers, companies, cooperative farms and small agricultural entrepreneurs register and enter their data on a compulsory basis. In 2003, 139,561 farms and their production resources (land, livestock, plantations, etc.) were registered, and the database has been directly used for calculating aid amounts. The Farm Register will be upgraded and adapted to the Integrated Administrative and Control System (IACS) used in the EU.

Realising the importance of agricultural land as a basic natural resource, the Macedonian government also introduced a special Law on Agricultural Land in 1998 (Official Gazette of RM, Nos. 25/1998, 18/1999 and 2/2004), which defines land ownership as public and private, and regulates the utilisation, management and protection of land from erosion and pollution. The law also controls the use of land for non-agricultural purposes. The use and protection of permanent pastures is regulated as a special category of agricultural land by a separate law: the Law on Pastures (Official Gazette of RM, Nos. 3/1998 and 101/2000).
According to its provisions, the Public Enterprise for Pastures Management was established with the mandate to ensure sound management, protection and improvement of pastures in public ownership. Property conditions of real estate and agricultural land in the former Yugoslav Republic of Macedonia are kept in two separate central databases, the Land Cadastre and the Cadastre of Real Estate, both maintained and managed by the State Authority for Geode tic Works. The authority implements its activities through a network of local and municipal departments in 30 municipalities. Records on land are maintained based on requests submitted by landowners, or by official inspections carried out by a competent institution.

**Regulations concerning the use of pesticides and fertilisers**

In 1993, Albania issued the Law on Plant Protection Service (No. 7662/1993), which regulates quality control of imported pesticides and their registration by the State Commission of Registration, which contains representatives of the Ministry of Environment. The law was amended in 1999 (Law No. 8531/1999) in accordance with EU regulation 91/414/EEC.

In Bosnia and Herzegovina, pesticide application is regulated primarily through state-level regulations later adopted by both entities, while the use of fertilisers is regulated through separate regulations of the two entities. The state Law on Plant Health Protection regulates the responsibilities of organisations and legal authorities implementing plant protection measures; defines prevention measures against the introduction of pests and pest control; introduces rules for transporting plants and plant products; and regulates the gathering, use and exchange of data and information, taxes, costs and compensation. It provides a legal background for the operations of public services and public interest associations working in plant protection, as well as for the Expert Council, which acts as an advisory board on plant protection. Separate sections of the law deal with biological pest control methods, defining the main principles of biological plant protection, as well as the use of autochthonous species and the introduction of exotic species for plant protection purposes. The Law on Phyto-Pharmaceutical Remedies was developed and based mostly on requirements of the WTO Agreement on the Application of Sanitary and Phyto-Sanitary Measures (SPS Agreement) and the EU list of active materials. It regulates all aspects of utilising phyto-pharmaceutical remedies (PPRs), including: trade, registration, classification, licensing, circulation, usage (i.e. the principles of correct usage and maximum permitted concentrations of residues), supervision, limiting factors and conditions prohibiting their application, the publication of data, technical requirements of application, the range of legal authorities responsible for law enforcement. The law foresees the introduction of special regulations on: (1) the application of chemicals used in the production of PPR, principles of good laboratory practice, classification, packaging and labelling; and on (2) environmental protection measures for the management of wastes and wrapping materials. In Republika Srpska, the application, production, trade and quality of mineral fertilisers is regulated by the Law on Agricultural Inspection, which also regulates the inspection of all agricultural regulations by either the Ministry of Agriculture or municipal agricultural inspectors. In the Federation of Bosnia and Herzegovina, a special law — the Law on Fertilisers — is applied, which formulates provisions of their certification, export, import and distribution, and control measures, in addition to inspection responsibilities.

In the Republic of Croatia, the Act on Plant Protection regulates the protection of plants and plant products, pest control (quarantines), the trade of products for plant protection and plant protection equipment. The act provides a regulatory framework for the wise use of pesticides, preventing damage to human health, animals, plants and the environment. To further secure good soil quality, the Act on Fertilisers and Soil Enhancers sets strict quality standards for fertilisers, introduces quality control measures, and regulates the labelling and trade of fertilisers (mineral and organic) and other soil enhancers. The act also regulates the production and control of organic fertilisers and soil enhancers.

During the last couple of years, several regulations controlling the application of pesticides have been issued in Kosovo (territory under UN interim administration). These are the Law on Pesticides (No. 20/2003), the Administrative Instruction on Banning the Use and Distribution of Pesticides Harmful to Human Health and Environment (Adm. Inst., No. 3/2002) and the Administrative Instruction on Specific Conditions for Production, Import, Export, Marketing and Application of Pesticides (No. ma-15/2004).
The safe management of pesticides requires that a multidisciplinary registration authority is established — including members of the Ministry of Agriculture, Forestry, and Rural Development, Ministry of Health, Ministry of Environment and Spatial Planning, Association of Agricultural Input Traders and relevant scientific or research institutions. These regulations formulate specific provisions for the disposal, management and trade of plant protection materials, and prohibit the application and distribution of pesticides damaging human health and the environment. In order to avoid the contamination of soils through low-quality mineral fertilisers, the Law on Artificial Fertilisers (No. 10/2003) prohibits the import, repacking, distribution or use of mineral fertilisers that do not comply with quality standards, contain destructive ingredients such as heavy metals or radio-nuclear waste, or which, when used according to indications of the producer, cause harm to plants, animals, humans, aquatic life, soil or water.

**Regulations concerning direct financial support for agriculture**

Separate regulations on the provision of direct support for agriculture and rural areas have been formulated for the two entities of Bosnia and Herzegovina. In the Federation of Bosnia and Herzegovina, the Law on Financial Support for Primary Agriculture Production regulates direct support for farmers and defines the sources of funding, amounts, rights of applicants, and purpose and utilisation of support. It sets a minimum annual government budget of 3 percent for covering these measures. A similar regulation, the Law on Directed Funds for the Development of Agriculture and Villages (Official Gazette RS, Nos. 43/2002, 44/2002) was formulated for Republika Srpska. It establishes sources of financing and regulates their utilisation for supporting agricultural production, improving conditions of rural settlements and securing food supply for the population.

The system of support for agricultural production and rural development in Croatia is stipulated in the Act on Incentives in Agriculture, Forestry and Fisheries, implemented from January 1, 2003. The Act takes a strategic approach to agriculture by unifying in one law the support schemes for production on commercial, subsistence and semi-subsistence farms. In addition to commodity production, the law provides support for rural development and to family farms with low incomes. Support is provided through four main models:

1. The **production incentives model** supports the production of field crops, permanent crops, fisheries, livestock production and livestock products on commercial farms. Support in this model is provided within established minimum and maximum incentive quantities (i.e. area, number of trees, heads of cattle, etc.).
2. The **income aid model** seeks to ensure a fair standard of living for uncompetitive family farms (non-commercial farms) not larger than three hectares and managed by elderly but still active farmers, and to create conditions for gradual reduction of their agricultural activities.
3. The **capital investment model** seeks to improve relations between farmers and lending institutions by increasing the productivity and competitiveness of commercial farms via the use of EU pre-accession funds.
4. The goal of the **rural development model** is to support maintenance and development of the countryside and to preserve traditional features of Croatian agriculture. Within this model, support is provided for sustainable rural development through co-financing initiatives of local governments, preserving autochthonous breeds, and marketing local agricultural products.

Market intervention measures are applied in the former Yugoslav Republic of Macedonia in order to support the incomes of agricultural producers — mainly through guaranteed commodity prices that are usually established at higher-than-world-market prices. If the need arises and the government decides to take steps toward stabilising domestic food prices and supporting agricultural producers, the Commodity Reserves Bureau, an agency within the Ministry of Finance, maintains a guaranteed purchase price for strategic agricultural products through swift procurement actions, or by selling agricultural products. According to obligations emerging from the Protocol for WTO Accession of the former Yugoslav Republic of Macedonia, the role of the Commodity Reserves Bureau will be limited to securing a permanent supply of basic food products in case of war or other natural disasters, and no interventions will be applied for the purpose of stabilising the domestic market.
Besides market intervention, direct support measures are implemented through the budget of the Ministry of Agriculture, Forestry and Water Economy. In 2002, approximately 75 percent of the available budget was spent on direct subsidies to agricultural producers. Reflecting much “greener” thinking, recent subsidy system reforms generally aim at moving away from production-based payments (which encourage intensification) and introducing area-based payments for crops and per-head payments for livestock.

In 2004, the government of Serbia established the Rural Development Grant Fund to help improve the sustainability of primary agricultural production and to further develop rural economies through the diversification of income sources of rural households. The fund provides co-financing of 20-50 percent for farms engaged in fruit, vegetable, mushroom, flowers and livestock production, and it supports up to 50 percent of certification costs for farmers switching to organic production. Further support is provided for improving the marketing of agricultural products, and for diversification of income sources through non-agricultural economic activities, such as agro-tourism, and certain environmental measures for farmers. Taking a more strategic approach toward conservation of agricultural genetic resources for social, economic, scientific and education purposes, the Federal Government of Yugoslavia adopted the Strategy for Preserving Endangered Domestic Animal Breeds in 2002, which the Republic of Serbia later adopted at the state level. In line with the strategy, the Department for Animal and Plant Genetic Resources of the Serbian Ministry of Agriculture implements a special payment scheme for supporting the conservation of locally adapted domestic animal breeds. Direct support is provided for the on-farm conservation of certain horses (EUR 380/head), cattle (EUR 380/head), pigs (EUR 90/head) and sheep breeds (EUR 27/head).

**Organic production**

Realising the unique opportunities organic agriculture can provide in terms of ensuring sustainable rural incomes and the sustainable management of natural resources, almost all countries and entities have formulated measures seeking to promote this form of agriculture. To establish the legal background for its development, Croatia (2001), the former Yugoslav Republic of Macedonia (2004), Republika Srpska of Bosnia and Herzegovina (2004), and Montenegro have formulated a law on organic farming, while Serbia is just in the process of finalising it. These laws have a similar focus, which is given by the common characteristics of the production system they promote. All of them formulate rules for the production of crop and animal products with certified organic methods and for conversion from traditional production. It sets the procedures for certification and specific measures for the marketing of organic products (e.g. labelling). Some governments (e.g. Montenegro) engaged in developing pilot projects for organic agriculture, while others (e.g. the former Yugoslav Republic of Macedonia, Serbia) offer direct support to farmers and other organisations.

**Irrigation and agricultural water consumption**

Unlike other governments in SEE, those of Albania and the former Yugoslav Republic of Macedonia — the two countries with the biggest proportion of irrigated land — regulate irrigation and agricultural water consumption through regulations within their agricultural policy.

In Albania, the regulatory framework for irrigation is set through the Law on Water Resources (No. 8093/1996) and the Law on Irrigation and Drainage (No. 8518/1999), neither of which has a strong environmental focus.

The Macedonian Ministry of Agriculture, Forestry and Water Economy provides, within the framework of the Water Economy Directorate’s annual programmes, direct support for capital investments to maintain and extend irrigation systems and the construction of water accumulation facilities. Recent restructuring within the water sector — issuing the Law on Water Communities and the Law on Water Management Enterprises — is aimed at promoting more efficient and sustainable water use through supporting the joint management and maintenance of irrigation systems directly by farmers and at the lowest possible levels of system infrastructure, in line with the needs of the production systems for which irrigation is used.
Environmental integration in agriculture through policies and regulations of other policy areas

As a cross-cutting issue, the environmental performance of farming is influenced by a number of other policies and regulations, which often formulate explicit measures targeting agriculture. The most important policy areas in this respect are:

- nature conservation;
- environment;
- spatial planning; and
- water management.

By formulating principles and general provisions for the sustainable use of natural resources, nature conservation policies have an obvious link with agriculture, as one of the main resource users. On the other hand, agriculture also performs a range of conservation activities that these regulations explicitly encourage. Strategies, policies and regulations on nature conservation have an important role in regulating environmental agricultural performance in Croatia and the former Yugoslav Republic of Macedonia. Specific aspects where they intervene are: conservation and sustainable use of natural resources; integration of nature conservation principles in sectoral policies; the introduction of exotic species and genetically modified organisms; ex-situ and in-situ conservation of autochthonous domestic animal breeds and plant varieties; preserving indigenous agricultural traditions; and promoting organic production and indigenous products.

In places where no nature conservation regulations are yet available, such as in Albania and Kosovo (territory under UN interim administration), environmental regulations provide a framework for the sustainable use of resources (not only biodiversity, but also water and soil) and formulate basic principles for the integration of environmental concerns in agriculture, together with other sectors. They have specific relevance in Albania (soil protection, hazardous substances, etc.), Croatia, the former Yugoslav Republic of Macedonia, Serbia and Montenegro, and Kosovo (territory under UN interim administration).

Spatial planning policies and regulations — found relevant in Albania, Bosnia and Herzegovina, the former Yugoslav Republic of Macedonia, and Kosovo (territory under UN interim administration) — are related to agriculture and environment through regulating land use and land-use planning. In Albania and Kosovo (territory under UN interim administration), where illegal construction is a specific problem, these regulations formulate measures to protect the use of agricultural land for this purpose.

Issues related to the use of water resources for agriculture in all SEE countries, entities and territories are at least partly regulated through water policies and regulations that formulate specific measures concerning erosion and erosion control, hydrological amelioration activities, the use of agrochemicals and agricultural activities in water protection zones, nutrient run-off from fertilisers and animal manure.

Further details on concrete examples of policies and regulations of other policy areas concerning agriculture and environment in SEE are provided in the following section.

Nature conservation policies and regulations

The two most important policy documents regulating nature conservation in Croatia are the National Biological and Landscape Diversity Strategy and Action Plan (Official Gazette, No. 81/1999) and the Nature Protection Act (Official Gazette, No. 162/2003). The first, as the highest-level binding document, describes the present state of biological and landscape diversity and specific natural values in Croatia, analyses threats and causes of damage, and introduces strategic guidelines with concrete action plans necessary for their protection. The Nature Protection Act is a general law (lex generalis), which regulates the protection of nature and the sustainable use of natural resources. In line with the holistic approach to nature conservation, the law requires the protection of nature in general, and it has more specific parts that focus on smaller “units” such as the protection of valuable natural areas, endangered plants, fungi and animals, as well as indigenous breeds of domestic species.
With direct relevance to agriculture, the act also regulates the introduction, transport, contained use and deliberate release of GMOs and the marketing of GMOs products. According to the Plan for the Harmonisation of Croatian Legislation with the Acquis Communautaire, a new Nature Protection Act has been drafted that will not contain provisions on GMOs. These issues will be regulated in a new Act on Genetically Modified Organisms, to be adopted in the first quarter of 2005.

The Macedonian National Biodiversity Strategy and Action Plan, based on a thorough country assessment, with the support of the World Bank/GEF, provides a foundation for improving biodiversity conservation and for integrating nature conservation principles into activities of other sectors, with a time horizon of 2004-2008. The strategy sets objectives and formulates concrete actions and outputs within given time frames. Integrating principles of biodiversity conservation and the sustainable use of natural resources and improving the cooperation between governmental, scientific and private organisations and NGOs are among the main strategic objectives. Concrete activities related to biodiversity and agriculture envisioned in the strategy focus on:

• developing on-farm conservation models for indigenous crop varieties and domestic animal breeds;
• establishing gene-banks of aromatic and medicinal plants, for preserving genetic and reproductive material of indigenous domestic animal breeds, and reintroducing species from ex-situ collections;
• establishing experimental farms with traditional agricultural production;
• stimulating and developing organic production as a means toward sustainable development;
• supporting the production of cultivated indigenous medicinal and aromatic plants; and
• introducing labelling systems for indigenous products.

Environmental policies and regulations

The two most important regulations within the environmental policy of Albania that have a direct impact on the environmental performance of agriculture are the new Framework Law on Environmental Protection, adopted in 2002, and Law No. 766 (January 21, 1993) entitled, “On Environmental Protection.” The new framework law addresses issues related to protecting agricultural soil and obligates land users to maintain land quality and restore degraded land. The environmental law issued in 1993 formulates requirements related to environmental impact assessment and licenses for activities that can have a significant impact on the environment, and that they be obtained for the exploitation of soil, forests, wildlife and fish, and when dealing with hazardous substances.

Development of the National Environmental Strategy of Croatia (Official Gazette, No. 46/2002) was based heavily on the principles of sustainable development. It provides a detailed description of the country’s present state of environment and specific obligations in this field. It also addresses environmental pressures and adequate responses to them, and finally sets general and long-term national objectives and short-term operational objectives. The strategy is complemented by the National Environmental Action Plan (Official Gazette, No. 46/2002), which contains detailed action plans for different sectors — agriculture among them — and different aspects of the environment (e.g. air, water management, soil and forest management, waste management, biodiversity and landscape conservation and geological heritage, urban and rural areas). At the lowest level, environmental protection is regulated through the Environmental Protection Act (Official Gazette, Nos. 82/1994, 128/1999), which provides the regulatory framework for monitoring the state of the environment, establishing and running an environmental information system, registering environmental polluters, and for raising environmental awareness through education and training.

In the former Yugoslav Republic of Macedonia, the process underway for developing national environmental action plans (NEAPs) for setting general environmental priorities and supporting environmental integration in all sectors is based on the Law on Environment and Nature Protection (Official Gazette of RM, No.13/2003). The first NEAP was developed with the support of the World Bank and adopted in 1996, while the second will be issued in 2005. Priority goals of the first action plan were to establish a basis for introducing environmental management systems, to define key challenges faced by the country, and to set objectives for environmental regulations in different areas.
The plan identified main sources of pollution and environmental damage, promoted the integration of environmental aspects in economic and social development programmes of the country, and appointed competent institutions. As a direct follow-up to these recommendations, the Ministry of Environment and the Fund for the Environment, with appropriate organisational set-up and independent budgets, have been established. The second action plan will provide a foundation for continuing the country's efforts toward improving its environmental policy according to the principles of sustainable development, further decentralisation, and European integration. In the context of integration, the plan will take account of new environmental laws (draft Law on Environment, Draft Law on Waters, Law on Waste Management, Official Gazette of RM, Nos. 68/2004, 71/2004; Law on Ambient Air Quality, Official Gazette of RM, No. 67/2004; Law on Nature Protection, Official Gazette of RM, No. 67/2004) that have been fully harmonised with the relevant EU directives. Further reforms of institutional structures and improving inter-ministerial and inter-sectoral cooperation are among the main goals of the second NEAP, which is being drafted through a participatory process and involves a wide range of stakeholders.

In 2004, with the support of the European Agency for Reconstruction, a process of developing a NEAP for Serbia was launched — with an expected early finish in early 2005. The plan is being prepared in a systemic way through a series of stakeholder consultations, and will present a list of priorities and financing strategy from local and international sources. Realising the need to further develop the legal and policy framework in the field of environment during 2004, the government of Serbia drafted a set of new laws and regulations, including a new Law on Environmental Protection, Integrated Pollution Prevention and Control (IPPC), Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA). In the field of agriculture and environment, the government intends to harmonise its entire legal framework according to the EU acquis.

The two most important strategic documents of Kosovo (territory under UN interim administration) with relevance to agriculture and environment are the Environmental Strategy of Kosovo and the National Plan for Environmental Evaluation. One of the main objectives of the former is to ensure the integration of environmental considerations in the policies of different sectors. Strategy implementation foresees strong cooperation between relevant ministries, such as the Ministry of Health, Ministry of Economy and Finance, Ministry of Public Services, and the Ministry of Agriculture, Forestry and Rural Development. Both strategies have been developed through a participatory process involving a series of public debates and consultations with relevant stakeholders, and a permanent committee has been established and given a mandate to support strategy implementation. The overall objectives of the strategy are to further develop the environmental legislation and ensure the application of existing regulations, as well as to ensure the protection and rational and sustainable use of natural resources. Following these principles, the Law on the Protection of the Environment (No. 8/2002) establishes the basic legal framework for promoting an increasingly healthy environment within the entity through the gradual introduction of the European Union’s environmental standards. It has the specific objectives to gradually reduce pollution and environmental degradation, preserve biodiversity, ensure the rational and sustainable use of natural resources, maintain the production capacity of land, and protect valuable natural features, diversity and cultural/aesthetic values of the landscape.

Spatial planning policies and regulations

In Bosnia and Herzegovina, the legal framework for regulating the use of land has been established through the Law on Physical Planning of the Federation of Bosnia and Herzegovina (OG FB&H, Nos. 13/1974, 9/1987) and Regulation on Special Control of Activities that Endanger or Could Endanger the Environment (OG FB&H, Nos. 2/1976, 26/1988) and the Physical Planning Law of the Republika Srpska (OG RS Nos. 19/1996, 25/1996 and 19/1998). These regulations generally intended to limit harmful impacts on the environment by determining a list of activities and facilities that could cause damage, and by setting up a permitting system for construction.

In 2004, the former Yugoslav Republic of Macedonia adopted the National Spatial Plan, which provides a basis for the organisation, development, use and protection of space in the country for a 20-year period. The plan also specifies goals and planning directions for environment protection within activities in the
field of spatial planning. Based on available scientific data on the state of the environment and nature, degraded areas and sites have been identified as a first step toward their protection.

The plan is implemented through the development of spatial plans for regions, municipalities and areas of public interest, as stipulated in the Law on Implementation of the Spatial Plan of the Republic of Macedonia (Official Gazette of RM, No. 39/2004).

Apart from setting general rules for spatial planning and construction, both the Law on Urban Planning (No. 8405/1998) of Albania and the Law on Construction (No. 15/2004) of Kosovo (territory under UN interim administration) formulate provisions and control measures in order to prevent the use of agricultural land for construction.

**Water Policies and regulations**

In Albania, besides the Law on Irrigation and Drainage (No. 8518/1999), the Law on Water Resources (No. 8093/1996) also addresses issues related to water use in agriculture. However, neither addresses environmental issues related to water management. A new water protection law has been drafted recently that, after being approved, will formulate measures for the control of soil erosion and the washing out of nutrients, and will establish water protection areas to safeguard the quality of drinking water.

The Water Act (Official Gazette 107/1995) provides the basic legal framework for water management in Croatia. It regulates the legal status of water and water assets, methods and conditions of water management (water use, water protection, the regulation of watercourses and other bodies of water and protection of water bodies from adverse effects), organisational structures for performing water management, responsibilities and duties of state administration bodies, and units of local government and self-government and other legal entities.

In Bosnia and Herzegovina, entity-level water laws (Official Gazette FB&H No. 18/1998 and Official Gazette RS Nos. 10/1998, 51/2001) have been issued to regulate water management issues, including the use and protection of water, flood protection and the system of water management organisations. With specific agricultural relevance, these laws define hydro-amelioration systems and structures, as well as soil erosion caused by water and wind. They regulate prevention and protection by prescribing the application of certain anti-erosion measures. Regarding the protection of water quality, regulations define toxic substances harmful to water resources (including those used in agriculture) and provide maximum allowable limits.

The monitoring of surface and ground waters in Serbia and Montenegro is regulated by the Law on Waters (Regulations on Hazardous Substances in Waters, Official Bulletin of SRS, No. 31/1982), and Regulations on Methods and Sampling for the Assessment of Wastewater Quality, Official Bulletin of SRS, No. 47/83). A new water law is now being drafted, and will then go through a process of stakeholder consultation in early 2005. The new law will regulate, among other things, nutrient run-off and discharge from livestock farms and slaughterhouses, in line with the EU’s Nitrate Directive.

The sustainable use and management of water resources in Kosovo (territory under UN interim administration) is regulated by the Law on Water (No. 24/2004). The main principles applied are the rational use of water, pollution prevention, consideration of links between surface and ground waters, the relationship of water bodies with surrounding ecosystems and environmental, inter-sectoral cooperation, and the “user pays” principle. In line with these principles, the Ministry of Environment and Spatial Planning will draft a strategic plan for waters in cooperation with the authorities responsible for economy, finance, agriculture, forestry, rural development, trade, industry, health, transport, traffic, public utilities, energy, environment and nature protection.
Other relevant policies and regulations

Two additional policies and regulations outside agricultural policy have been found to be of specific relevance for regulating environmental impacts of agriculture, namely the National Official Gazette of RM Implementation Plan on the Reduction and Elimination of Persistent Organic Pollutants (POP), (No.17/2004) of the former Yugoslav Republic of Macedonia and the Law on Genetically Modified Organisms (Official Journal of the FRY, No. 18/2001) of Serbia and Montenegro.

The National Implementation Plan on the Reduction and Elimination of Persistent Organic Pollutants (POP), adopted by the Macedonian government in January 2005 was prepared by the Ministry of Environment and Physical Planning as a follow-up to the signature and ratification of the Stockholm Convention on the Protection of Human Health and Environment from Persistent Organic Pollutants (POP) on March 19, 2004. Among the plan’s objectives and priorities are the preparation of inventories of POP chemicals (including pesticides used in agriculture), a hot-spots inventory, establishment of a National POP Centre, ensuring the proper management of wastes containing PCBs or OCBs, monitoring actions, legal measures, the reduction of dioxin and furan emission, promoting the use of unleaded fuels, public awareness and education.

In 2001, the government of Serbia and Montenegro adopted the federal Law on Genetically Modified Organisms, which regulates the control of GMO operations, their contained use, introduction into production and environment, and market placement. The authority responsible for the law’s implementation is the Ministry of Agriculture and Water Management, Department of Genetic Resources and GMOs, which, during the licensing process, consults the National Biological Safety Council to provide expert opinion on the risks of using certain GMOs and GMO products.

Cooperation mechanisms

Ideal policy integration can be expected if relationships between policy actors are cooperative, collaborative, non-conflicting, non-rivalrous and non-adversarial in general, and if actors have shared values, common visions, common goals, and apply the same rules — even when they are not within their organisational mandate. Such cooperation among policy actors can follow formal rules provided in the legislation. Besides institutionalised relationships, there are several informal cooperation mechanisms which appear spontaneously among official policy actors or non-formal (public) players — in both cases, contributing substantially to policy implementation and integration. Cooperation among policy actors can also happen within different levels of the same policy area (vertical cooperation) or with actors of other policy areas (horizontal cooperation).

Applying the above terminology, from the information provided it can be concluded that:

- Informal cooperation mechanisms with non-formal players, especially with NGOs, are spontaneously quite successful. This is due partly to the strong commitment of NGOs to the issues they represent and the general openness of authorities to such cooperation. Most policies and strategies are developed through public participation processes involving a wide range of stakeholders. Examples of such processes have been reported from almost all SEE countries and entities.

- Institutionalised (formal) cooperation within agricultural policy (vertical cooperation) is usually less developed, and no formal obligations are formulated to support the coordination of different administration levels. In this respect the two separate entities of Bosnia and Herzegovina represent a specific case. Development of the agricultural sector followed different patterns in the two entities — resulting in big structural differences, which makes cooperation almost impossible at higher levels. Substantial improvements are expected from the establishment of a State Ministry of Agriculture and Rural Development.
Although horizontal cooperation also follows informal channels in most cases, this proves to be rather successful. The practice of preparing laws and regulations in informal inter-ministerial working groups is being practiced by more governments (e.g. Kosovo, territory under UN interim administration) and Croatia. At the same time, all SEE countries, entities and territories recognise the need to improve inter-ministerial and inter-sectoral cooperation via further institutionalisation.

Joint drafting and joint implementation mechanisms are specific cases of institutionalised (formal) cooperation across different sectors. Good examples of this are the drafting processes applied in Croatia and Kosovo (territory under UN interim administration), and joint implementation of the Nature Protection Act of Croatia by the Ministry of Culture and Ministry of Agriculture.

The process of preparing laws and bylaws in Croatia requires a high level of cooperation between the different sectors concerned, which is partly formally regulated and partly informal. Law drafting happens in informal working groups established by the state administration body responsible for drafting the law, and is composed of relevant stakeholders later directly involved in the law’s implementation. Before submitting a draft law to parliament, opinions of all state administrative bodies need to be gathered and will be considered during its approval.

As a general practice in Kosovo (territory under UN interim administration), government strategies, laws and regulations are usually developed by joint working groups composed of representatives from different relevant ministries and other institutions. This is especially the case for agriculture and environment, because of the frequency of environmental problems emerging from agricultural activities.
Integration issues

Having provided an initial, basic assessment of main environmental impacts of agriculture and stages of policy development in South Eastern Europe, this section pertains to environmental integration through the identification of a list of concrete issues that represent more specific aspects of environmental integration in agriculture, and are of specific relevance to SEE. Concerning the situation in SEE, several general considerations can be formulated which are important to consider when defining these issues:

• Agriculture in SEE is generally extensive: problems from intensification are more localised, while large areas are being cultivated with extensive methods or — more and more frequently — abandoned.

• Geographic features in most countries/entities allow for “dual” development of the sector: more intensive farming systems in the plains and more extensive systems in hilly and mountain areas.

• In many SEE countries, entities and territories, sector performance is below capacity and efficiency is generally low.

• Financial support to agriculture is limited and, in many cases, markets are also unable to provide proper remuneration to producers.

• Subsistence farming is significant and, in many cases, agriculture serves to buffer rural unemployment.

• Agriculture in SEE preserves a large “stock” of environmental assets, such as extended semi-natural areas maintained by agriculture; rich traditions in operating low-input extensive systems; and a large number of unique domestic animal breeds and plant varieties.

• Environmental damage from agriculture is attributed to a lack of regulations and low awareness among farmers, rather than to misleading signals and policy incentives.

• Most SEE countries, entities and territories have already passed through the first stage of policy development (i.e. setting general goals and objectives), and all of them have adopted an integrated approach to defining national development goals and objectives for developing their agriculture.

• The implementation of a new and more sustainable “agricultural agenda” has been already started (new regulations have been issued). However, a great part of this still lies ahead: there are gaps and deficiencies in the legislation, and efficient enforcement mechanisms are missing.

These circumstances define several development areas where policies will play an important role in setting rules and facilitating development. From an environmental perspective, they will counteract externalities resulting from agricultural production — the costs of which farmers do not take into account — and provide remuneration for environmental outputs and services for which farmers do not get paid through markets. A more correct system of incentives should be provided that will promote the rational use of resources and ensure protection of the environment, as well as the natural and cultural assets of rural areas.

In more concrete terms, the following objectives have been deemed highly relevant:

• increase the efficiency of land use for agriculture in a sustainable manner;
• design proper direct support systems that prevent the depletion of resources and environmental harm;
• define rights and responsibilities of land users (i.e. the code of Good Farming Practice);
• provide incentives for desirable environmental outputs not remunerated through markets;
• develop markets for environmental outputs where possible; and
• harmonise institutional systems and create new ones for the efficient implementation of agri-environmental regulations.

The following section offers short descriptions on some of these issues, looks at the main underlying principles emerging from examples of other countries or international recommendations, and examines their specific relevance to SEE.
Rational land use and land-use zoning systems

Land use in agriculture is rational when directions of production and intensity are matched exactly with the land’s specific growing conditions — both in terms of production potential and environmental sensitivity — and which results in avoiding both over- and under-exploitation. One of the basic preconditions for sustainability in agriculture is to apply a land-use system that differentiates between agricultural areas (and sites) regarding the most appropriate levels of intensity and most suitable farming systems that can be sustained with the highest efficiency. Agricultural policy should note these differences and provide different incentive packages and development agendas for areas with different characteristics.

The past several years have shown that agriculture and nature conservation/environmental protection are highly interdependent. Species and habitats cannot be preserved through strictly isolated nature reserves, and, especially in Europe, agriculture is an important part of preserving certain species and habitats. Models by which strict protection rules are applied in conservation areas and no limits are set to activities elsewhere are no longer considered valid. On the other hand, the need for extreme extensification cannot be considered a valid general rule — not only for economic reasons, but also because some anthropogenic agricultural eco-systems can function only under intensive conditions. The third option for defining the proper direction of land use is the “integrated land use” system, first introduced by Erz (1978) through the land-use pyramid model (see Fig 1).

Fig 1: The land-use pyramid (adapted from Erz, 1978)

The overall objective of the system is to integrate the environmental and economic aspects of land use in agriculture by defining the intensity of production and protection based on the actual local conditions of different sites. The system defines nature protection areas as places where: no agricultural activities should take place; production functions have a secondary role compared to protection; and production functions are of primary importance. The intention to move boundaries of different land-use categories higher up on the pyramid and to focus only on production functions becomes rather obvious when one views examples from Western European countries and the agricultural agendas of former communist regimes in Central and Eastern Europe.

The application of these principles also means that differentiation among functions is made even at the level of plots and smaller production units, thus reconciling the importance of an integral biotope network (hedges, wooded strips and reed patches within agricultural plots, etc.) surrounding agricultural lands, even in very production-intensive systems.
The Hungarian example

The preceding principles have been used to establish a new land-use system as a foundation for developing the National Agri-Environmental Programme of Hungary. They resulted in a reconsideration of the existing land-use structure and suggest a downward shift on the land-use pyramid through the application of the following measures:

1. Halt agriculture on land with extreme soil conditions (very humid or very dry), and restore these areas to their natural state. The share of areas with primarily protective functions should reach 7-12 percent, even in the most intensively farmed areas.

2. Switch from conventional, intensive agriculture to organic or more extensive farming in areas that are more environmentally sensitive, along with the introduction of compensatory payments for protection services. (Areas with limited production potential on shallow, sandy and wet soils are of particular interest here.)

3. Introduce environmentally friendly farming practices in all other agricultural areas.

One of the most impressive consequences of applying these measures is the recommendation to convert approximately 1.5 million hectares of intensive arable land into forests, grasslands (measure 1) or extensively farmed areas (measure 2).

While developing the land-use system, attention has been focused on defining the production potential and environmental sensitivity of different areas, as well as on developing a delimitation of primarily agricultural areas, conservation areas and transition zones. Outcomes have been also used for defining the target areas of specific measures focusing on nature conservation, protection of water resources and soil. A series of GIS databases have been used to assess each hectare of a country against environmental sensitivity and agricultural applicability. Environmentally sensitive area with less production potential have been designated as protection zones. Less sensitive areas with limited production potential have been designated as transition zones, and all the rest are agricultural zones. The main criteria applied for developing the zoning system were the following:

- Agricultural applicability/production potential:
  - slope categories;
  - soil type and quality;
  - soil features (water conditions, pH and lime content, organic substances per hectare, thickness of the productive layer); and
  - climatic conditions, frequency of drought and suitability for growing corn, wheat and beer-barley.

- Environmental sensitivity:
  - existing system of protected areas;
  - national ecological network;
  - areas under the Ramsar Convention;
  - littoral zones of surface waters;
  - important bird areas and areas important for endangered grassland and farmland birds;
  - erosion and other soil features; and
  - surface- and ground-water protection areas.

Relevance to SEE conditions

If one considers the great diversity of agricultural systems applied in South Eastern Europe — along with the varied suitability of different areas to agricultural production — the relevance of these concepts is obvious. As with the Hungarian example, such a system can provide the ground for establishing a coherent support system that can differentiate between development priorities for intensive agricultural areas and extensively farmed areas, both of which are present in all SEE countries, entities and territories.
The generally reduced efficiency and productivity of SEE agriculture and the dedication of the countries, entities and territories to European integration suggests that certain amounts of intensification and increased agricultural support can be expected — at least in the near future. Having a land-use system that recognises the “site specificity” of agriculture and sets the rules for development support in areas with different potential can prevent damages emerging from intensification, and could lay the foundation for developing site-sensitive and environmentally friendly support mechanisms.

Environmental integration and direct support mechanisms

Realising that the market is not always able to provide sufficient remuneration to farmers, and that market imbalances can cause substantial short-term harm to the sector, different support mechanisms are widely applied under the agricultural policies of different governments. The most traditional support mechanisms are the following:

- market price support (when governments guarantee the prices of agricultural products on domestic markets);
- output or commodity-based payments (payments based on the amount of goods produced); and
- input subsidies (support for farmer purchases of agricultural inputs — e.g. fertilisers, machinery.

In some way, all of these support mechanisms are intended to counteract negative impacts of the growing gap between market prices of food and agricultural products, and increased prices of goods and services purchased by farmers. The recent discovery of the important role that agriculture plays in maintaining the countryside and providing employment has led to the introduction of several relatively new forms of support, which are more linked to non-productive functions of agriculture, or are intended to increase farmers’ incomes without being linked to particular product amounts (e.g. area-based payments, support for agri-tourism, etc.). Although the negative environmental impacts of agriculture have also become clear — especially in the examples of extremely intensive high-input/high-output systems, very much favoured in agricultural policies of the past — the external impacts of agriculture were, to a small extent, addressed by different support mechanisms. There is, however, an obvious tendency in Europe to shift toward developing an environmentally more sustainable sector that involves the introduction of new complex support systems and applying measures directly related to the environment.

The OECD example: likely environmental impacts and possible solutions

Experiences of countries belonging to the Organisation for Economic Co-operation and Development (OECD) clearly show that agricultural support policies have a direct influence on the environmental performance of agriculture — and this impact has been more negative than positive. All other things being equal, production-linked support (i.e. market price support, output payments and input subsidies) provides the greatest incentive to increase commodity production, which proves to encourage intensification, monoculture and bringing marginal land into production, leading to greater environmental pressure. On the other hand, these support schemes contribute to maintaining farm systems and, through this, the provision of some environmental services (biodiversity, landscape, etc.). However, when these effects are weighed against the environmental damage they cause, the latter is often more significant.

Although commodity-linked support has decreased since the second half of the 1980s, it has accounted for three-quarters of total support to farmers in OECD countries in 2003. Several other approaches have been applied with proven benefits regarding the negative environmental impacts of agriculture, the most important ones being:

- production limits applied together with commodity-linked support;
- cross-compliance conditions on commodity-linked support; and
- agri-environmental measures (direct support for environmental services).

Without having any direct relation to environment, production limits or quotas — introduced to bring supply and demand closer to domestic markets and counteract great surpluses of agricultural products —
proved beneficial, to a limited extent, by decreasing the incentive-like effect of direct payments linked to production.

Their applicability for environmental considerations is rather mixed, however. In some cases, production limits with high support levels create rigidity in the production structure. They also “lock in” regional distribution of production and support the maintenance of farming in less competitive areas.

Cross-compliance conditions are seen as one of the most efficient tools for integrating environmental objectives into agricultural budgetary payments. They link the receipt of direct support (production-linked support) to a requirement to meet certain environmental objectives. Those farmers who choose not to comply become ineligible for such payments. Cross-compliance measures have several advantages and disadvantages:

- They allow for better harmonisation of agricultural and environmental policies by developing environmental standards for agriculture (see the next section on Good Agricultural Practice).
- They can increase farmers’ awareness of the environmental consequences of their actions.
- They can increase public acceptance of budgetary support to farmers.

On the other hand:

- They can be applied only with high levels of budgetary support, and farmers’ interest in compliance will depend very much on their dependence on subsidies (i.e. the most dependent farmers will have the most motivation to comply).
- Farmers with the most interest in compliance are not necessarily those who farm on the most environmentally sensitive land.
- Compliance costs for farmers can vary greatly, and the system does not take these differences into account.
- Administration and transaction costs can be quite high.

In response to mounting concern about the negative environmental impacts of agriculture, agri-environmental schemes and measures have appeared in the agricultural policies of many OECD countries. They were usually introduced to offer farmers at least partial compensation for the costs of meeting environmental regulations, to promote the application of certain practices and reward farmers for providing environmental services. Their introduction involved the establishment of certain thresholds and limits — especially for pesticide and fertiliser use, water quality, ammonia, and greenhouse gas emissions — also stipulated in environmental regulations. These thresholds are often considered as a minimum requirement that should be met at the expense of the farmer, while society should pay compensation for environmental services that exceed certain limits.

A fourth approach, very much promoted within the reformed CAP of the EU, is the complete decoupling of direct support from production inputs or outputs in different sub-sectors of agriculture. Such measures would mean a switch from output-based payments to area-based payments. In this way, the level of farm incomes can be maintained, but without any incentive toward intensification.

**Relevance to SEE conditions**

These examples emerge from countries with the most developed economies, where high levels of direct agricultural support are applied that set certain limits on their direct application to specific situations of SEE countries, entities and territories. On the other hand, when we consider the processes that have already begun in SEE and the widely recognised need to improve and increase direct support to farmers, the cases offer important lessons regarding the future development of direct support strategies in SEE. Furthermore, it is likely that EU enlargement will bring community resources and specific requirements for improving direct support to agriculture and its environmental performance, which will require careful development of new support mechanisms. While increased production intensity seems inevitable in some cases, proper incentives will need to be provided in order to prevent unsustainable resource depletion. There seems to be a large niche in SEE for developing specific support schemes for extensive, low-input farming systems — the continued functioning of which are crucial for maintaining biodiversity and rural landscapes.
Rights and responsibilities of land users: good agricultural practice

Good agricultural practice can be defined and understood in a number of ways (standards to be followed to ensure food safety and quality; a set of optimum production methods to maximise yields; etc.). Recently, however, it is applied more and more as a set of baseline environmental standards that apply to all farmers within a given territory in order to meet basic environmental requirements. Good agricultural practice is considered as central to environmental integration within the EU Common Agricultural Policy, which establishes the following basic principles:

- At a minimum, farmers should respect general environmental requirements (compulsory laws and regulations regarding pesticide use, fertiliser application, water use, etc.) without requiring payment.

- However, wherever society asks the farmer to fulfil certain environmental regulations beyond good agricultural practice, society must expect to pay for it.

Table 6: Classification of codes for good agricultural practice (GAP). (Bamber-Jones A., WWF)

<table>
<thead>
<tr>
<th>GAP code</th>
<th>Associated environmental issues</th>
<th>Measures</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air emissions</td>
<td>• Acidification</td>
<td>• Burning of crop residues</td>
<td>Ireland: Waste Management, Use of Sewage Sludge in Agriculture Regulations (1998)</td>
</tr>
<tr>
<td></td>
<td>• Eutrophication</td>
<td>• Reduction of ammonia emissions</td>
<td>Finland: Waste Act (1072/1993)</td>
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<td></td>
<td>• Reduced botanical diversity</td>
<td>• Appropriate storage facilities</td>
<td>UK: Code of Good Agriculture Practice for the Protection of Air (1998)</td>
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<td></td>
<td></td>
<td>• Applications of farmyard manure, slurry and other wastes</td>
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<tr>
<td></td>
<td></td>
<td>• Extensification of livestock production</td>
<td></td>
</tr>
<tr>
<td>Crop patterns and rotations</td>
<td>• Degradation of soil quality</td>
<td>• Crop rotation</td>
<td>Switzerland: Agriculture Act, Art. 70 (1998); Regulation of Direct Payments, Art. 8 (1998)</td>
</tr>
<tr>
<td></td>
<td>• Simplification and specialisation of cropping systems</td>
<td>• Cover crops over winter</td>
<td></td>
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<tr>
<td>Field boundaries and hedgerows</td>
<td>• Loss of biodiversity</td>
<td>• Maintenance of field boundaries</td>
<td>England and Wales: Hedgerows Regulations (SI 1997 No 1160)</td>
</tr>
<tr>
<td></td>
<td>• Soil erosion</td>
<td>• Trimming of hedgerows</td>
<td></td>
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<tr>
<td></td>
<td>• Loss of landscape elements</td>
<td>• Maintenance of headlands</td>
<td></td>
</tr>
<tr>
<td>Landscape</td>
<td>• Decline in landscape quality</td>
<td>• Setting aside land to benefit wildlife and landscape</td>
<td>UK: Draft Code of Good Agriculture Practice for Conservation</td>
</tr>
<tr>
<td></td>
<td>• Loss of landscape elements</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Loss of diverse landscapes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Irrigation and drainage</td>
<td>• Reduction of water quantity through over-abstraction for irrigation</td>
<td>• Control of abstraction: timing and amounts</td>
<td>France: Water Law (1992) Control of water use and Management</td>
</tr>
<tr>
<td></td>
<td>• River sedimentation</td>
<td>• Rotation of irrigation abstraction rights</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Water pollution</td>
<td>• Protection of wetlands, marsh, riverbanks</td>
<td></td>
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<tr>
<td></td>
<td>• Loss of nutrients and organic matter</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Salinisation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pasture management</td>
<td>• Loss of biodiversity</td>
<td>• Prevention of overgrazing</td>
<td>Denmark: Law 877, Maximal livestock units on farms (1998)</td>
</tr>
<tr>
<td></td>
<td>• Soil erosion</td>
<td>• Prevention of undergrazing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Water pollution</td>
<td>• Supplementary feeding on special habitats of conservation importance</td>
<td></td>
</tr>
</tbody>
</table>
### GAP code

**Protection of biodiversity**
- Decline in species and habitat diversity
- Decline in biotopes associated with farmed landscapes
- Changes in land management
- Decline in mixed farming

**Soil conservation**
- Loss of fertility and production potential due to:
  - Erosion
  - Compaction
  - Loss of nutrients and organic matter
  - Contamination by heavy metals and pesticides

**Storage facilities**
- Water pollution due to leakage from storage or during transfers/emptying
- Air pollution due to leakage from store or during transfers/emptying
- Acidification of soils

**Waste management**
- Water pollution
- Air pollution

**Water pollution**
- Quality/quantity reduction due to:
  - Over-abstraction for irrigation
  - Salinisation
  - Sedimentation
  - Contamination by heavy metals and pesticides

### Associated environmental issues

### Measures
- Protection of wild species
- Protection of agriculture dependent species
- Protection of designated sites and protected areas
- Soil labouring practices
- Use and maintenance of agricultural machinery
- Storage of sewage sludge, pesticides, agricultural wastes
- Planting of hedgerows
- Storage of manure and urine
- Storage of silage
- Storage of slurry
- Reuse of waste residues
- Waste disposal on land
- Disposal of sheep dips
- Field application of organic and inorganic fertilisers
- Use, handling, application of pesticide products
- Buffer strips for the protection of water courses

### Examples
- **UK**: Countryside and Rights of Way Act (2000)
- **Austria**: Code of GAP on the distribution and application of manure (2000) (Austrian RDP)
- **UK**: Environmental Protection Act (1990); Waste Management Regulation (1994); Code of GAP for the Protection of Soil (1998)
- **Sweden**: SJVFS 1991: 79 Regulation on Storage and How to Spread Manure
- **Ireland**: Control of Pollution (Silage, Slurry and Agriculture Fuel Oil) Regulations (NI) (1999)
- **UK**: Groundwater Regulations 1998 (SI 1988, No. 2746)
- **Finland**: Waste Act (1072/1993)
- **NL**: Mineral Accounting Act (1998)
- **Denmark**: Law No. 472, Reduction of Admissions of Fertilisers
- **Austria**: Code of GAP on maximum amount/application of fertilisers (2000) (Austrian RDP)

Good agricultural practice is a policy approach for defining property rights, and is the basis under which the polluter-pays principle applies. It is a key issue whether environmental standards for agriculture should be established based on required environmental outputs (emission levels) or appropriate farming practices for reaching desired environmental quality. Because of the non-point-source character of many environmental impacts of agriculture, these standards cannot be set as desired emission levels: therefore, in most of cases, they are defined as the best available technology.

Good agricultural practice is site and farm-system specific, and depends heavily on natural conditions, types of production systems, agricultural structures and even social perceptions. Table 6 provides examples of specific environmental issues addressed by GAP in different EU countries.

Different policy initiatives define good agricultural practices at very different levels. For example, in EU legislation three different reference levels can be distinguished: (1) minimum requirements, which are stipulated in environmental legislation and apply to all sectors; (2) verifiable and non-verifiable standards stipulated in Codes of Good Agricultural Practice; and (3) good farming practices, for the application of which farmers are rewarded through agri-environmental measures.
Good agricultural practice, as the basic level of environmental reference, also plays a central role in developing cross-compliance regulations, serving as a reference point for measuring compliance. GAP can establish minimum and maximum stocking densities in the livestock sector, and direct payments (headage payments) can be reduced when non-compliance occurs.

Developing and introducing good agricultural practice seems to be a major trend in European countries as a means of addressing externalities and public goods emerging from agriculture. However, it has several aspects that make its introduction rather difficult. Its implementation, monitoring and enforcement is expensive and difficult; stricter environmental standards are often perceived as a major barrier to market competitiveness (at least in the short term); and fines can affect farmers unable to pay for damage because of bad economic conditions.

The Swiss example

Following certain changes in the Swiss Federal Constitution introduced in 1999, the objectives of Swiss agriculture have included the preservation of natural resources and countryside upkeep. The provision of environmental services is now a key feature of Switzerland’s agriculture policy. As direct price support was reduced in the 1990s, a new system of direct payments has been designed, stipulating as a prerequisite that farmers must comply with “Required Environmental Services” (RES) to qualify for direct payments. Accordingly, farmers have to comply with baseline environmental legislation expressed through four federal laws concerning: environment, nature conservation, water protection and animal welfare, and they have to prove this through a certification process.

Basic standards expressed through RES include measures to minimise nutrient loss, annual crop rotations to maintain soil fertility, compliance with crop-specific soil protection indices to prevent erosion, restricted use of plant protection products and environmental compensation areas (ECAs), as presented in more detail below:

- **Animal welfare**: provisions of the regulation on the protection of animals must be respected.
- **Balanced use of fertilisers**: in order to reduce the loss of nutrients from the environment and to keep the cycle as closed as possible, nitrogen and phosphate inputs must be calculated in terms of plant requirements and farm potential for production; surplus inputs of up to 10 percent are tolerated, and at least every 10 years soil analysis must be conducted on each plot of land (plots with no added fertiliser (e.g. extensive grasslands) are excluded.
- **Environmental Compensation Areas (ECAs)**: at least 7 percent of holdings (3.5 percent for special crops such as vineyards and orchards) must be devoted to “environmental compensation” in order to promote biodiversity. Farmers can choose between 15 different habitat types/features such as extensive meadows and pastures, crop strips with no fertilisation and pesticides, etc., which they will maintain on their holding. Grassy strips of at least half a metre wide must be maintained alongside paths, and at least 3 metres wide along water courses, stretches of water, hedges, wooded riverbanks and forest edges.
- **Regular crop rotation**: in order to avoid monoculture, maintain soil fertility and to ensure plant health, an annual crop-rotation plan must be devised to include at least four different crops. On farms with more than 3 hectares of open land, main crops must occupy the majority of land under rotation.
- **Appropriate soil protection**: soil protection indices are defined for each crop; in order to reduce soil erosion and the loss of nutrients or pesticides. Farms with more than 3 hectares of open land are required to achieve a certain number of points as an average protection index for field crops.
- **Targeted selection and use of plant chemicals**: authorised products, subject to certain restrictions of use, are contained in a list that is updated regularly. With a few exceptions, pre-germination spraying is generally forbidden and is subject to authorisation of local plant-protection authorities.

Beyond the minimum level of environmental requirements set by the RES system, a further level of direct payments has been introduced to provide incentives for the provision of 15 different habitat types, including: extensive pastures and meadows, wooded pastures, floral set-asides and extensive cultivation strips, as specified under the ECA.
These payments, which strongly resemble the EU’s agri-environment payments, accounted for 15 percent of total direct payment expenditures and encouraged farmers to comply with certain restrictions on a voluntary basis. Concerning extensive meadows, for example, the payments are related to burning, timing and number of cuts, use of plant protection products, the collection of branches and litter in animal refuges, etc.

In 2000, 9 percent of utilised agricultural area received environmental compensation payments, though it is not clear to what extent these measures contributed to increased environmental performance of agriculture. Overall reduction in inputs might have been achieved through reductions in price support, but localised problems, such as overgrazing in mountainous regions and abandonment of farm holdings, apparently continue.

Relevance to SEE conditions

SEE agriculture faces problems of a rather different character than those of the EU. Due to the difficult transition process these countries are going through, possibilities for introducing and enforcing new costly and difficult methodologies are often limited. On the other hand, examples from other countries signal that the development of basic environmental standards for agriculture — i.e. good agricultural practice — is among the very first steps toward ensuring the effective integration of environmental objectives in agriculture, and finally the overall sustainability of the sector. Apart from structural problems emerging from difficult economic situations (rural unemployment and poverty in some countries, the weak economic condition of farmers, weak rural infrastructure, etc.), agricultural problems are very similar to the environmental problems of other European countries. Intensification in large lowland areas causes damage from overuse of natural resources and pollution, while extensively farmed areas (e.g. semi-natural grasslands) suffer from under-exploitation and abandonment. At the same time, the present work signals that land ownership conditions and land users’ rights in many cases are either not well defined or not successfully enforced. In response to EU requirements, GAP development has been started in some of the countries (e.g. Croatia), but the biggest part of the process is still ahead. The introduction of GAP could become an important element in the process of reforming land-use conditions, developing land-use registration systems and enforcing regulations on land users’/owners’ rights in SEE.

Incentives for environmental services — biodiversity conservation

Following its purpose, agriculture favours a few economically valuable species at the expense of many others. Through intensification it can reach high levels of efficiency and production, while drastically reducing biological diversity. Looking at its impacts from a wider perspective, agriculture has reduced biodiversity through the reclamation of natural eco-systems, and by levelling out the natural variety of abiotic conditions through drainage and the use of fertilisers and pesticides. On the other hand, it has created open spaces in the landscape, attracting many new species that would not appear otherwise. The result of this is a shift in species and species diversity, which depends greatly on the intensity of agriculture — low intensity being beneficial for high local biodiversity, with increased intensity causing severe reduction in species richness.

Recent surveys and studies have proved in many ways the relative importance of agriculture in maintaining biodiversity in Europe. As concluded by Birdlife International, a fairly large proportion (62 percent) of European “priority species”\(^4\) relies significantly on farmland. Additionally, at the pan-European level, 17 percent of Important Bird Areas are dominated by agriculture, and extensive agricultural habitats — especially in the Alpine, Mediterranean and Atlantic regions — occur in significant proportions in proposed Sites of Community Interest (SCI) under the EU Habitats Directive.

\(^4\) Priority habitats have been defined as those threatened at the European level, or those very much specialised to certain habitat types.
The negative impacts of modern agricultural practices have been documented for many species, but the most data available are for birds. These show that, of 120 farmland bird species, approximately 70 percent of priority species have an “unfavourable conservation status” in Europe, based on their population size and trends in the period of 1970-90. As shown by a survey implemented in old and new member states of the EU, farmland birds showed significant decline between 1980 and 2004, while woodland bird population remained almost at the same level. Threats playing a major role in these negative trends are mostly those related to intensification and land abandonment. A more detailed review of threats especially relevant in western and south-western Europe, identified by different authors, includes:

- increased use of pesticides and a possible reduction in food supplies;
- an increase in high-input cereal farming at the expense of extensive arable/grass systems;
- declining habitat diversity and increases in field size, due to intensification and mechanisation;
- loss of hedgerows and other non-productive land;
- changes in times of sowing and harvesting cereal crops, and the subsequent loss of winter stubbles;
- increased intensity of grassland management through increased stocking levels, the replacement of hay with silage crops, field drainage, reseeding and fertiliser application; and
- abandonment of low-intensity land with high biodiversity.

From the above impacts, as well as the correlation of species richness and intensity level, several conclusions can be drawn regarding the best policy approach to nature management at different intensity levels:

- Intermediate intensity: promoting extensification could be beneficial for biodiversity, and also be economically feasible.
- Highly intensive systems: the required level of extensification could be very high and not cost effective; relatively good results can be achieved in an economically feasible way through the restoration of small natural features (wooded or grassy strips, etc.) on the expanse of the utilised agricultural area.
- Extensive agricultural areas with high species richness: policies should promote the maintenance of low-intensity farming and avoid land abandonment.

In an ideally developed direct-support strategy, farmers receive compensatory and incentive payments for the environmental services they provide over a minimum level of environmental performance. Biodiversity conservation and the maintenance of nature conservation functions of agriculture, requiring a series of specific measures, is one of these services. Its importance has been largely realised at the policy level, which is well reflected in biodiversity priorities of agri-environmental measures of different European countries. A special category of agricultural land has been defined — high nature value (HNV) farmland — which distinguishes between three types:

- Type 1: farmland with a high proportion of semi-natural vegetation;
- Type 2: farmland dominated by low-intensity agriculture or a mosaic of semi-natural and cultivated land and small-scale features; and
- Type 3: farmland supporting rare species or a high proportion of European or world population.

The concept of HNV farmland and the importance of efficient conservation measures were also recognised by the European ministers of environment in Kiev. In their final resolution (UN/ECE 2003) it was declared that:

“By 2006, the identification, using agreed common criteria, of all high nature value areas in agricultural ecosystems in the pan-European region will be completed. By 2008, a substantial proportion of these will be under biodiversity-sensitive management by using appropriate mechanisms such as rural development instruments, agri-environmental programmes and organic agriculture, to inter alia support their economic and ecological viability. By 2008, financial subsidy and incentive schemes for agriculture in the pan European region will take the sustainable use and conservation of biological diversity in consideration.”
Relevance to the SEE region

There is no systematic data on farm-dependent biodiversity in South Eastern Europe. However, literature proves that extensive Mediterranean arable land systems and semi-natural grasslands — both present in SEE countries, entities and territories — are among the richest in terms of biodiversity. A specific feature of SEE agriculture from a biodiversity standpoint is the relatively high share of meadows and pastures (app. 37 percent, see Table 7), a great part of which are natural and semi-natural pastures, utilised with extensive methods.

Table 7: Permanent pastures and meadows in SEE

<table>
<thead>
<tr>
<th>Country</th>
<th>Territory covered by permanent pastures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1,000 ha</td>
</tr>
<tr>
<td>ALBANIA*</td>
<td>431</td>
</tr>
<tr>
<td>BOSNIA AND HERZEGOVINA</td>
<td></td>
</tr>
<tr>
<td>CROATIA</td>
<td>1,525</td>
</tr>
<tr>
<td>former Yugoslav Republic of MACEDONIA**</td>
<td>738</td>
</tr>
<tr>
<td>SERBIA AND MONTENEGRO</td>
<td>2,137</td>
</tr>
<tr>
<td>Kosovo (UNMIK)</td>
<td>180</td>
</tr>
</tbody>
</table>

* Agricultural Census, 1998; ** Agriculture Report 2003 of MAFWE

Extensity is a general characteristic of SEE agriculture, which from an economic perspective means the dominance of subsistence and semi-substance farms, limited access to markets, higher dependence on food imports, lower competitiveness, etc. From a biodiversity perspective, however, extensity can mean a high share of HNV farmland, which seems to be a specific asset of SEE agriculture. Improving the economic competitiveness of the sector while maintaining biodiversity dependent on large extensively farmed areas will be a specific challenge for SEE countries, entities and territories, in which future agricultural policies will play a very important role. The fact that all SEE agricultural policies emphasise the development of organic farming confirms that the need to find well-functioning markets for products of extensive systems has been recognised, especially given the lack of expensive support schemes.
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OECD (2004) Agriculture and the Environment — Lessons Learned from a Decade of OECD Work

Annexes

Annex 1 - Regulations within SEE agricultural policies with direct relevance to the environmental performance of agriculture

<table>
<thead>
<tr>
<th>Regulations on land use and land registration</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ALBANIA</strong></td>
</tr>
<tr>
<td>Law on Land and its Distribution (No. 7501/1991)</td>
</tr>
<tr>
<td>Law on Pastures and Grazing (No. 7917/1995)</td>
</tr>
<tr>
<td>Draft Law on Soil Protection</td>
</tr>
<tr>
<td><strong>BOSNIA &amp; HERZEGOVINA</strong></td>
</tr>
<tr>
<td>Law on Agricultural Land - Federation of Bosnia and Herzegovina (OG FB&amp;H No.2/98)</td>
</tr>
<tr>
<td>Law on Agricultural Land — Republika Srpska (SG RS, No. 14/04)</td>
</tr>
<tr>
<td><strong>CROATIA</strong></td>
</tr>
<tr>
<td>Ordinance on Protection of Agricultural Land from Harmful Substances (OG 15/1992)</td>
</tr>
<tr>
<td><strong>FORMER YUGOSLAV REPUBLIC OF MACEDONIA</strong></td>
</tr>
<tr>
<td>Law on Pastures (OG No.3/98 and 101/2000)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Regulations concerning the application of pesticides and fertilisers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ALBANIA</strong></td>
</tr>
<tr>
<td>Law on Phyto-pharmaceutical Remedies (SG No.49, pages 5130-5139, of November 2004)</td>
</tr>
<tr>
<td>Law on Plant Protection from Pests and Illness (OG SFRJ,89/74)</td>
</tr>
<tr>
<td>Regulation on Conditions for the Trade of Plant Protection Means (OG SFRJ, 36/91)</td>
</tr>
<tr>
<td>Regulation on Licensing for Trade of Plant Protection Means (OG SFRJ, 32/91)</td>
</tr>
<tr>
<td>Regulation on Performing Pre-examination and Examination of Plant Protection Means (OC SFRJ, 36/91)</td>
</tr>
<tr>
<td>Law on Plant Protection (SG RS, 12/97)</td>
</tr>
<tr>
<td>Regulation on Conditions for the Production of Plant Protection Means (SG RS, 4/98)</td>
</tr>
<tr>
<td>Regulation on Conditions for Performing Pre-examination and Examination of Plant Protection Means (SG SFRJ, 36/91)</td>
</tr>
<tr>
<td>Regulation on the Content of Declarations and Instructions for Marketing of Plant Protection Means (SG RS, 3/98)</td>
</tr>
<tr>
<td>Law on Agricultural Inspection (OG RS, 10/97)</td>
</tr>
<tr>
<td>Law on Fertilisers (OG RS, 35/04)</td>
</tr>
<tr>
<td><strong>BOSNIA &amp; HERZEGOVINA</strong></td>
</tr>
<tr>
<td>Law on Plant Protection (SG SFRJ, 32/91)</td>
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<tr>
<td>Regulation on Conditions for the Trade of Plant Protection Means (OG SFRJ, 36/91)</td>
</tr>
<tr>
<td>Regulation on Licensing for Trade of Plant Protection Means (OG SFRJ, 32/91)</td>
</tr>
<tr>
<td>Regulation on Performing Pre-examination and Examination of Plant Protection Means (OC SFRJ, 36/91)</td>
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<tr>
<td>Law on Agricultural Inspection (OG RS, 10/97)</td>
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<tr>
<td>Law on Fertilisers (OG RS, 35/04)</td>
</tr>
<tr>
<td><strong>CROATIA</strong></td>
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<tr>
<td>Act on Fertilisers and Improvers of the Soil (OG 163/2003)</td>
</tr>
<tr>
<td><strong>FORMER YUGOSLAV REPUBLIC OF MACEDONIA</strong></td>
</tr>
<tr>
<td><strong>SERBIA &amp; MONTENEGRO</strong></td>
</tr>
<tr>
<td>No such regulations exist</td>
</tr>
<tr>
<td><strong>KOSOVO (UNMIK)</strong></td>
</tr>
<tr>
<td>Law on Pesticides (No.2003/20)</td>
</tr>
<tr>
<td>Administrative Instruction on Banning the Use and Distribution of Pesticides Harmful to Human Health and Environment (Adm. Inst. No. 2002/3)</td>
</tr>
<tr>
<td>Administrative Instruction on Conditions for the Production, Import, Export, Marketing and Application of Pesticides (No. ma 15/2004)</td>
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<tr>
<td>Law on Artificial Fertilisers (No. 2003/10)</td>
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</table>
### Direct financial support to agriculture

<table>
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<tr>
<th>Country</th>
<th>Law</th>
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</thead>
<tbody>
<tr>
<td><strong>BOSNIA &amp; HERZEGOVINA</strong></td>
<td>Law on Financial Support to Primary Agriculture Production (OG FB&amp;H, No.28/04)</td>
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<td></td>
<td>Law on Direct funds for the Development of Agriculture and Villages (OG RS, 43/02, 44/02)</td>
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<tr>
<td><strong>FORMER YUGOSLAV REPUBLIC OF MACEDONIA</strong></td>
<td>No reference to regulations have been provided</td>
</tr>
<tr>
<td><strong>SERBIA &amp; MONTENEGRO</strong></td>
<td>No reference to regulations have been provided</td>
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</table>

### Organic farming

<table>
<thead>
<tr>
<th>Country</th>
<th>Law</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BOSNIA &amp; HERZEGOVINA</strong></td>
<td>Law on Organic Food Production (2004, SG RS No.75 (7-21)</td>
</tr>
<tr>
<td><strong>CROATIA</strong></td>
<td>Act on Organic Production of Agricultural and Food Products (OG 12/2001, 14/2001)</td>
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<tr>
<td><strong>FORMER YUGOSLAV REPUBLIC OF MACEDONIA</strong></td>
<td>Law on Organic Agricultural Production (OG No 16/04)</td>
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<tr>
<td><strong>SERBIA &amp; MONTENEGRO</strong></td>
<td>Draft Law on Organic Farming</td>
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<td>Law on Organic Farming in Montenegro (no reference provided)</td>
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### Irrigation and agricultural water consumption

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<tr>
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<th>Law</th>
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<tbody>
<tr>
<td><strong>ALBANIA</strong></td>
<td>Law on Irrigation and Drainage (No. 8518/1999)</td>
</tr>
<tr>
<td><strong>FORMER YUGOSLAV REPUBLIC OF MACEDONIA</strong></td>
<td>Law on Water Communities (OG No. 51/2003)</td>
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<td></td>
<td>Law on Waters Management Enterprises (OG No. 85/2003)</td>
</tr>
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### Research and institution building

<table>
<thead>
<tr>
<th>Country</th>
<th>Law</th>
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<tbody>
<tr>
<td><strong>FORMER YUGOSLAV REPUBLIC OF MACEDONIA</strong></td>
<td>Law on Establishing Agency for Promoting the Development of Agriculture (OG No. 03/98)</td>
</tr>
<tr>
<td><strong>KOSOVO (UNMIK)</strong></td>
<td>Regulation on Establishing the Administrative Department of Agriculture, Forestry and Rural Development (UNMIKL/reg/2000/27)</td>
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<tr>
<td></td>
<td>Regulation on Establishing the Institute of Agriculture (Adm. Inst. No. 2003/3)</td>
</tr>
</tbody>
</table>
Annex 2 — List of authors of local reports

Albania
Aben Molla, Director of Nature Protection Directorate, Ministry of Agriculture and Food

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Annex 3 — List of respondents to interviews

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Ministry of Physical Planning and Environmental Protection, Tuzla Canton
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former Yugoslav Republic of Macedonia
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Milos Vukelic, Institute for Nature Protection

Kosovo (territory under UN interim administration)
Ministry of Environment and Spatial Planning
Ministry of Agriculture, Forestry and Rural Development
Institute for Nature Protection
Annex 4 — Interview template

Meeting of Senior Officials on Agriculture and Environment Policy Integration in the SEE

April 15-16, 2005

Questionnaire on national priority problems and needs in agricultural and environmental policy integration in the SEE

*Please send the completed questionnaire to the local expert contacting you.*

February 28, 2005

Ministry/organisation/other body: ________________________________

Country/territory: ________________________________

1. Environmental impacts of agriculture

**Question:** How are agricultural impacts on environment formally addressed in your country/territory?

*(Please tick appropriate box)*

<table>
<thead>
<tr>
<th>Impact</th>
<th>Law or regulation</th>
<th>Proposed governmental policy</th>
<th>Authority responsible for the law/regulation/policy</th>
<th>Not addressed at the moment</th>
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<tr>
<td>Pesticide use and management</td>
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<tr>
<td>Fertilisers use and nutrient management</td>
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<tr>
<td>Seed certification</td>
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<tr>
<td>(\text{CH}_4) emissions</td>
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<tr>
<td>(\text{N}_2\text{O}) emissions</td>
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<td></td>
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<tr>
<td>Soil erosion and topographical changes</td>
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<td></td>
</tr>
<tr>
<td>Use of water resources</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use of land resources (rights and responsibilities of landowners)</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Biodiversity loss due to agricultural activities</td>
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<td></td>
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<tr>
<td>Preserving semi-natural habitats depending on agriculture</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
### Preserving local breeds/agro-biodiversity

### Landscape degradation/maintenance of traditional landscape features

### Introduction and control of new species in a given ecosystem

### GMO introductions and control

### Other (please specify)

#### Question: Please indicate three major environmental issues relevant to agriculture in your country/territory.

1. 
2. 
3. 

#### 2. Policy instruments for agriculture and environmental policy integration

#### Question: Which policy instruments for integrating agriculture and environment are used in your country/territory, and what is their formal status?

(Please tick appropriate box)

<table>
<thead>
<tr>
<th>Policy instrument</th>
<th>Legal requirement</th>
<th>Optional requirement</th>
<th>Proposal</th>
<th>Initiating authority</th>
<th>Not yet considered</th>
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</thead>
<tbody>
<tr>
<td>Preparation of national sustainable development plan or strategy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Preparation of integrated agricultural policy/strategy</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Preparation of integrated regional development strategies</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preparation of integrated rural development strategies</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Preparation of GMO introduction and control strategies</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Preparation of integrated strategies for the agricultural use of environmentally sensitive areas (e.g. protected areas)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preparation of a national agri-environmental strategy</td>
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</tr>
<tr>
<td>Preparation of an integrated policy for farming in less favoured areas</td>
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</tr>
<tr>
<td>Other (please specify)</td>
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<td></td>
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</tr>
</tbody>
</table>

#### Question: Please indicate three of the most promising policy instruments for integrating agriculture and environment in your country/territory.

1. 
2. 
3. 

51
3. **Cooperation between agriculture and environmental policy actors, or actors in other relevant policy areas (biodiversity, water management, forestry, etc.)**

**Question:** Which mechanisms are used to achieve cooperation between ministries of agriculture and ministries environment, or other relevant governmental agencies, regarding agricultural project and policy decision-making processes?

<table>
<thead>
<tr>
<th>Mechanism</th>
<th>Yes/No</th>
<th>If yes, please give details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard consultations between relevant governmental agencies</td>
<td>Yes/No*</td>
<td></td>
</tr>
<tr>
<td>Formally constituted intra-governmental body addressing agriculture and environment integration issues</td>
<td>Yes/No*</td>
<td></td>
</tr>
<tr>
<td>Formally established process for stakeholder involvement in design and implementation of integrated strategies</td>
<td>Yes/No*</td>
<td></td>
</tr>
<tr>
<td>Other (please specify)</td>
<td>Yes/No*</td>
<td></td>
</tr>
</tbody>
</table>

*Delete as applicable*

4. **Economic instruments**

**Question:** Which economic instruments are used to address external costs of agriculture in your country/territory and to improve environmental performance of farming?

<table>
<thead>
<tr>
<th>Economic instrument</th>
<th>Yes/No*</th>
<th>If yes, please give details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emission fees and fines for exceeding emission quotas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fees for resource use (e.g. water fees)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economic incentives for providing specific environmental services (agri-environmental schemes, payments for keeping local breeds, etc.)</td>
<td>Yes/No*</td>
<td></td>
</tr>
<tr>
<td>Cross-compliance regulations for the application of commodity support payments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economic incentives for the application of environmentally friendly methods (e.g. support for conversion to organic farming)</td>
<td>Yes/No*</td>
<td></td>
</tr>
<tr>
<td>Market development for environmentally friendly products (setting standards, introducing certification schemes, etc.)</td>
<td>Yes/No*</td>
<td></td>
</tr>
<tr>
<td>Other (please specify)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Delete as applicable*
5. Financial support system for agriculture

**Question:** Please indicate the relative proportion of public funding for agriculture (compared to the annual government budget) for general and specific agri-environmental measures. (Please provide a percentage figure based, if available, on average figures for the last three years.)

<table>
<thead>
<tr>
<th>General agricultural expenditures</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Public funding for agri-environmental measures in public agriculture expenditures</td>
<td></td>
</tr>
</tbody>
</table>

**Question:** Please indicate the proportion of commodity production based financial support and other type of financial support for agriculture (e.g. compensation for the opportunity costs of extensive farming, etc.) (Please provide a percentage figure based, if available, on average figures for the last three years.)

<table>
<thead>
<tr>
<th>Commodity production-based support</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Proportion of commodity-based support linked to cross-compliance criteria</td>
<td></td>
</tr>
<tr>
<td>Other agricultural support, not concerning commodity production</td>
<td></td>
</tr>
</tbody>
</table>

6. Agri-environmental measures

**Question:** Please outline the main governmental policy measures in your country/territory which promote agri-environmental measures.

**Question:** Please describe the main governmental policy measures in your country/territory to minimise the impacts of intensive agriculture on the environment.
**Question:** Please provide three examples of best practices in your country for promoting agriculture and environment integration at either the national, regional or local level.

1). ………………………………………………………………………………………………………
2). ………………………………………………………………………………………………………
3). ………………………………………………………………………………………………………

**Question:** Please suggest three priority measures for institutional strengthening of your country’s ministries, state agencies or municipalities in the field of agriculture and environment integration.

1). ………………………………………………………………………………………………………
2). ………………………………………………………………………………………………………
3). ………………………………………………………………………………………………………

*Note: Any additional information you might wish to add in support of your answers should be written in English and attached. If you need further clarifications, please send a message to grazyna@rec.org*

*Thank You.*