



SARD-M Report for the Carpathian Convention Member States

Assessment of Policies, Institutions and Processes

Regional Synthesis for Czech Republic, Hungary, Poland, Romania, Republic of Serbia, Slovak Republic and Ukraine



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Abbreviations

ARDA	Agriculture and Rural Development Agency
ARDOP	Agricultural and Rural Development Operational Programme
ARMA	Agency of Agriculture and Rural Development
CAP	Common Agriculture Policy
CC	Carpathian Convention
CERI	Carpathian Eco-Region Initiative
CR	Czech Republic
CSD	Commission on Sustainable Development
EAGGF	Guidance Section of the European Agricultural and Guidance Fund
EAR	European Agency for Reconstruction
EAFRD	European Agricultural Fund for Rural Development)
EAP	Environment Action Programme
EC	European Council
ECEAT	European Centre for Ecological Agriculture and Tourism
EIA	Environment Impact Assessment
ERDF	European Regional Development Fund
EU	European Union
EURAC	European Academy of Bolzano/Bozen
FAO	Food and Agriculture Organization
FDI	Foreign Direct Investments
FSC	Forest Stewardship Council
GD	Governmental Decision
GEF	Global Environmental Facility
GIS	Geographical Information Service
GMO	Genetically Modified Organism
HRDP	Horizontal Plan for Rural Development
HU	Hungary
IACS	Integrated Administration and Control System
ICT	Information, Communication, Technology
IT	Information, Technology
IPA	Instrument for Pre-Accession
ISCC	Interim Secretariat of the Carpathian Convention UNEP-Vienna
LA 21	Local Agenda 21
LAG	Local Action Group
LEADER	Liason Entre Actions pour le Développement de L'Economie Rurale
LFA	Less Favoured Area
LEAP(s)	Local Environmental Action Plans
LPIS	Land Parcel Identification System
MAFRD	Ministry of Agriculture, Forestry and Rural Development
MARD	Ministry of Agriculture and Rural Development
MAFRD	Ministry of Agriculture, Forestry and Rural Development
MAFWM	Ministry of Agriculture, Forestry and Water Management
MEW	Ministry of Environment and Water
MEWM	Ministry of Environment and Water Management
MoA	Ministry of Agriculture
MoE	Ministry of Environment

ABBREVIATIONS

NAEP	National Agro-Environmental Programme
NAMA	National Agency of Mountain Area
NBS	National Biodiversity Strategy
NDA	National Development Agency
NDP	National Development Plan
NEAP	National Environmental Action Plan
NEPA	National Environmental Protection Agency
NEP	National Environmental Programme
NGO(s)	Non Governmental Organization(s)
NDP	National Development Plan
NFPS	National Forestry Policy and Development Strategy
NRDP	National Rural Development Plan
NHRDP	New Hungary Rural Development Programme
NHRDSP	New Hungary Rural Development Strategic Plan
NPARD	National Programme for Agriculture and Rural Development
NRDP	National Rural Development Plan
NUTS	Nomenclature des Unités Territoriales Statistiques
OAI	Old Age Index
OECD	Organisation for Economy, Cooperation and Development
OP	Operational Programme (OP) on Rural Development and Multifunctional Agriculture
PEFC	Pan European Forest Certification
PLAs	Protected Landscape Areas
PIP(s)	Policies, Institutions and Processes
PHARE	Poland and Hungary: Assistance for Restructuring their Economies
PL	Poland
RD	Rural Development
RDP(s)	Rural Development Programme(s)
RDPPS	Rural Development Programming and Payment System
REReP	Regional Environmental Reconstruction Programme
RO	Romania
RS	Republic of Serbia
SAA	Stabilisation and Association Agreement
SAPARD	Special Accession Programme for Agriculture and Rural Development
SARD	Sustainable Agriculture and Rural Development
SARD-M	Sustainable Agricultural and Rural Development in Mountains
SAIF	State Agricultural Intervention Fund
SCTM	Standing Conference of Towns and Municipalities
SEA	Strategic Environment Assessment
SEP	State Environment Policy
SILP	Information System of National Forest
SME	Small and Medium sized Enterprises
SR	Slovak Republic
WSSD	World Summit on Sustainable Development
UA	Ukraine
UNDP	United Nations Development Programme
WWF	World Wildlife Fund
YI	Youth Index

1 Introduction

This SARD-M synthesis report represents a pioneering study. For the first time Sustainable Agriculture and Rural Development in Mountain Regions (SARD-M) as well as related Policies, Institutions and Processes (PIPs) in the Carpathian region are discussed together in one comprehensive assessment. SARD-M is a complementary component of the Framework Convention on the Protection and Sustainable Development of the Carpathians (CC). It is addressed in the Convention's programme of implementation, which came into force in January 2006 (FAO, 2007a).

The CC provides different application fields with an integrated platform for multi-sectoral policy coordination, including sustainable agriculture and forestry. As a result, thematic issues important to the development of mountain regions are emphasised (Article 4 – Biodiversity; Article 9 – Tourism; Article 6 – Water Management; Article 8 – Transport and Infrastructure; Article 10 – Industry and Energy). Overall it is accepted that the development of the Carpathian mountain region is not so much dependent on any one single factor or sector as on the successful coordination of all of them. In particular, the development of the agricultural and forestry sectors is influenced significantly by other sectors operating in related fields (BAUER, 1999).

According to the most acknowledged definition, SARD refers to a process which is ecologically sound, environmentally sustainable, economically viable, socially just, culturally appropriate, humane, based on a holistic scientific approach, and productive over the long term. Within the context of the Carpathian mountain region, this definition appears to be very idealistic and far from the current reality. Thus Carpathian countries will have to make a very intensive and complicated effort to reach the desired goals (FAO, 2007c).

The necessity of a common approach is also defined in Article 3 of the Carpathian Convention (CC). Consequently the parties must apply an integrated land resource management approach anchored in Chapter 10 of Agenda 21, by developing and implementing appropriate tools (integrated management plans) for the Carpathian Convention area.

1.1 The SARD Initiative

The SARD concept emerged in the early 1990s as a framework for increased focus on sustainability issues within the processes of agricultural and rural development of both developed and developing countries. Today SARD is seen as a paradigm for a holistic development with an overarching objective to integrate the Millennium Development Goals and related targets (FAO, 2001).

In this paradigm, the issue of sustainable agriculture is closely linked to rural development. On the global level, Chap. 14 of Agenda 21 deals simultaneously with sustainable agriculture and rural development, declaring that “major adjustments are needed in agricultural, environmental and macroeconomic policy, at both national and international levels to create the conditions for SARD” (FAO, 2007a).

The importance of the SARD concept was recognised and confirmed at the Rio Earth Summit in 1992, with Chapter 14 of Agenda 21 setting out the programmes and specific actions needed to promote sustainable agriculture and rural development. The Johannesburg Plan of Implementation adopted at the conclusion of the World Summit on Sustainable Development (WSSD) in September 2002 provided a framework for action to implement the original Rio commitments, with special focus on Water,

Energy, Health, Agriculture and Biodiversity (WEHAB) (FAO, 2007a). FAO defines SARD as a process that meets the following criteria (FAO, 1995):

- Ensures that the basic nutritional requirements of present and future generations are met, both qualitatively and quantitatively, while providing a number of other agricultural or livestock products.
- Provides durable employment, sufficient income as well as decent living and working conditions for all those engaged in agricultural production.
- Maintains and, where possible, enhances the productive capacity of the natural resource base as a whole as well as the regenerative capacity of renewable resources, without disrupting the functioning of basic ecological cycles and natural balances, destroying the socio-cultural attributes of rural communities, or causing contamination of the environment.
- Reduces the vulnerability of the agricultural sector to adverse natural and socio-economic factors and other risks, and strengthens self-reliance.

At WSSD, Chapter 14 was reaffirmed as a valid framework for action on SARD, and renewed international commitments were made to take concrete action to achieve this goal. Agenda 21 defines several programme areas, setting objectives for sustainable agriculture and rural development. The major objective of SARD is to increase food production in a sustainable way and enhance food security (FAO, 2007a).

The initiative supports those countries that are attempting to achieve SARD by facilitating pilot efforts and building the capacity of rural communities, disadvantaged groups and other stakeholders to improve access to resources, promote good practices for SARD, and foster fairer conditions of agricultural employment (FAO, 2007e).

1.2 FAO and SARD

Following the Rio Summit, the UN established a Commission on Sustainable Development (CSD) to monitor progress of Agenda 21 implementation. The FAO was designated as the Task Manager for Chapter 14. Besides contributing to SARD through its own programmes and projects, the FAO fosters multi-stakeholder dialogue and facilitates two stakeholder platforms – the SARD Initiative and the Adelboden Group for SARD in Mountain Regions. On behalf of all the stakeholders, reports are provided to the FAO Committee on Agriculture and to the CSD in order to document the implementation progress of Chapter 14 (FAO, 2007a).

1.3 The SARD-M Report for the Carpathian Region

The SARD-M project serves as a link between mountain issues and Sustainable Agriculture and Rural Development (SARD). The concept aims to facilitate the design of coherent policies, appropriate institutions and processes (PIP) in the mountain regions of developed and developing countries. The project responds to increasing awareness among policy makers, the international community and civil society as to the role and value of mountain ecosystems and the concurrent need for SARD mountain-specific policies, legislation and institutions (HRUBI et al., 2008).

In 2005, as a contribution to Article 7 of the Carpathian Convention, the FAO, through its Project for Sustainable Agriculture and Rural Development in Mountain Regions (SARD-M) and in conjunction with UNEP Vienna-Interim Secretariat of the Carpathian Convention (ISCC), agreed to carry out assessments in the **Slovak Republic, Romania** and the **Ukraine** regarding the strengths and weak-

nesses of mountain-related policies (including social, economic, environmental, legal and institutional aspects) in relation to SARD principles. The objective was to identify sub-regional priority areas that would need to be addressed by future relevant protocols, and by doing so to determine common regional policy issues to attend to, and draw up recommendations and proposals for follow-up activities at the Carpathian level (FAO, 2007a).

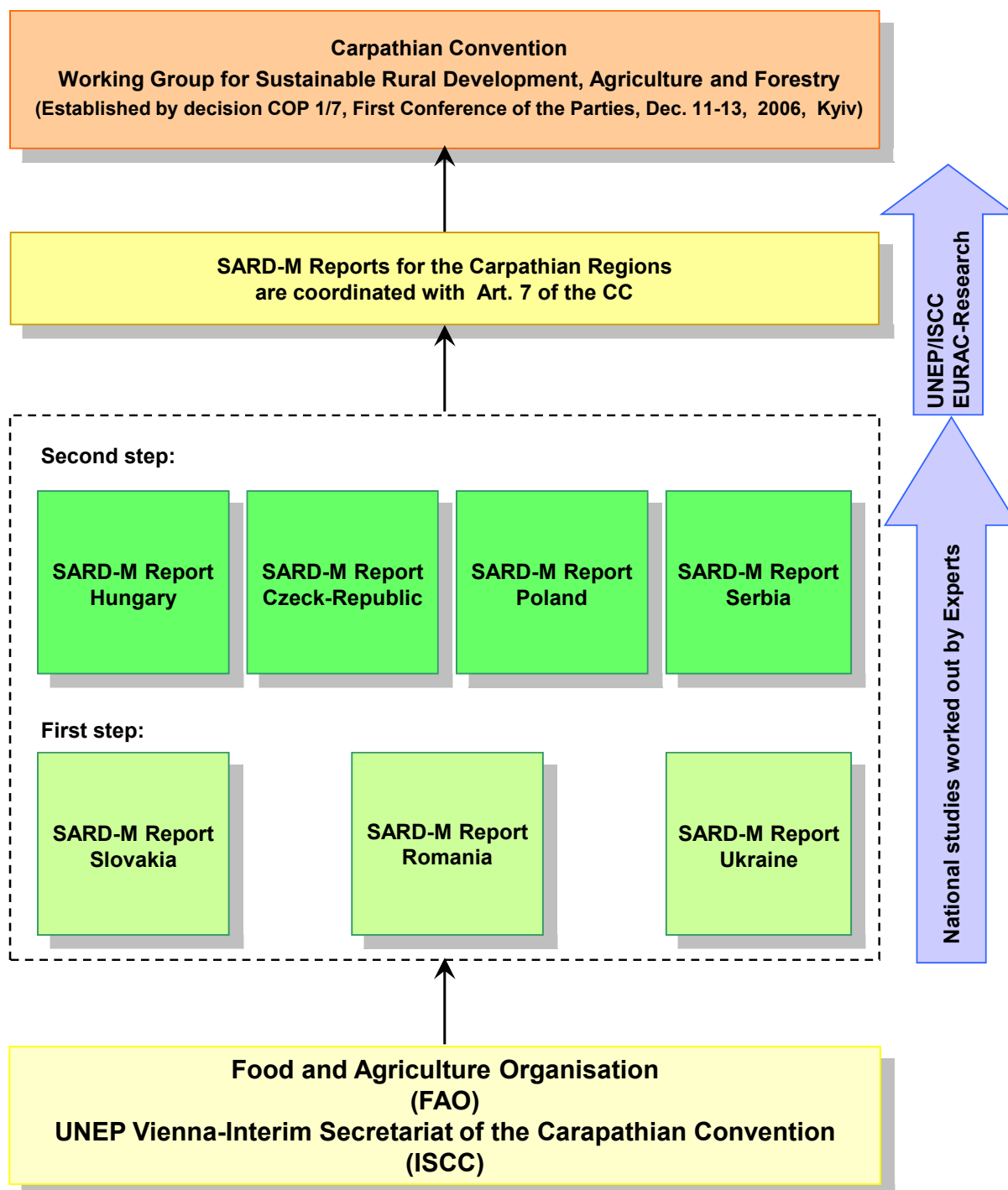


Figure 1: Cross-Linking the SARD-M Process with the Carpathian Convention. The Results of the SARD-M Synthesis Report will be considered by the Working Group of Sustainable Rural Development, Agriculture and Forestry.

Based on the recommendations and proposals from the activities in 2005, the FAO SARD-M Project and UNEP Vienna ISCC agreed to carry out “complementary assessments” of SARD-M policies in the remaining Carpathian region (**Czech Republic, Hungary, Poland and Republic of Serbia**). The implementation of these additional assessments is viewed as important in order to complement the results of the background study already completed in three countries (FAO, 2007a).

The SARD-M reports were developed by experts from each Carpathian country (Table 1). All the country reports can be found in the Annex. This synthesis report was developed in collaboration with the UNEP and the ISCC by the Institute of Regional Development and Location Management of the European Academy Bozen/Bolzano (EURAC). All data used for this report were taken from the national SARD-M reports. If data was not documented, it was either replaced by other statistical sources or listed as not available.

Table 1: *The Carpathian SARD-M Synthesis Report is based on the National SARD-M Reports.*

Countries	Authors, citation
Regional Synthesis (Draft)	FAO 2007a: SARD in the Carpathians – Regional Synthesis of the National Assessments of Policies, Institutions, and Processes for SARD in the Carpathians, (Czech Republic, Hungary, Poland and Serbia).
Czech Republic	HAJDUCOVÁ J. 2007: National Assessment of Policies, Institutions and Processes for SARD in the Czech Carpathian Mountain.
Hungary	TINER T. 2007: National Assessment of Policies, Institutions and Processes for SARD in the Hungarian Carpathian Mountains.
Poland	RUSZTECKA M. 2007: National assessment of Policies, Institutions and Processes for SARD in the Polish Carpathians.
Romania	BURDUSEL E. 2005: National Assessment of Policies, Institutions and Processes for SARD in the Romanian Carpathian Mountains.
Republic of Serbia	TAR D. 2007: National Assessment of Policies, Institutions and Processes for SARD in the Serbian Carpathian Mountains.
Slovak Republic	KANIANSKA R. 2005: Sustainable Agriculture and Rural Development in Mountain Regions, Final report, Slovak Republic.
Ukraine	MARYSKEVYCH O. 2005: United Nations, UNEP Vienna ISCC: Country Survey on Sustainable Agricultural and Rural Development in Ukraine (Ukrainian Part of the Carpathians).

An international group of experts will discuss and evaluate the outputs of the SARD-M policy assessments and formulate recommendations for the application of policies for SARD-M in the Carpathians. The comprehensive information generated by the results of the SARD-M project will contribute to the proposal of the appropriate policy instruments and strategies for the Carpathian region. Thus the SARD-M process supports the activities of the Carpathian Convention Working Group on sustainable agriculture, rural development and forestry. The Working Group’s mandate is to support the Convention’s parties in the implementation of Article 7, which addresses SARD and forestry guidelines as established at the First Meeting of the Conference of the Parties to the Carpathian Convention (December 11-13, 2006 in Kyiv, **Ukraine**; Decision COP1/7). The present analysis is expected to provide a background study to facilitate the activities of the Working Group. Thus arguments and objectives for its implementation in the Carpathian Region will be provided (FAO, 2007a).

1.4 Project Area

The SARD-M synthesis report covers the Carpathian territory as specified in the national SARD-M reports. This delineation differs with the territory ratified by the signature states in 2006, hence the

relatively large variances present within individual countries. The variances are due to differing intentions between the political obligations of the Convention in terms of Carpathian sustainable development and the strategic directives pertaining to a technical report. Table 2 provides an overview of the administrative units considered in the national SARD-M reports (Figure 2).

Table 2: Administrative Units considered in the National Carpathian SARD-M Reports.

Countries	NUTS ⁺ /LAU*	Regions
Czech Republic	NUTS3	Regions (kraje) and the districts (okresy): Zlínský, and parts of Jihomoravský, Olomoucký and Moravskoslezský.
Hungary	NUTS3	Pest, Nógrád, Heves, Borso-Abaúj-Zemplén.
Poland	NUTS2	Slaskie (Silesia), Malopolskie (Lesser Poland), Podkarpackie (Sub-Carpathian).
Romania		n. a.
Republic of Serbia	LAU2	Golubac, Zagubica, Kucevo, Negotin, Bor, Kladovo, Despotovac, Paracin, Cuprija, Petrovac, Majdanpek, Zajecar, Boljevac.
Slovak Republic		n. a.
Ukraine	Oblast (region)/raion (district)	Zakarpattya (fully eligible as mountainous area the district Volovet, Rakhiv, partial 84 % Velykyi Bereznyi), Ivano-Frankivsk (fully eligible as mountainous area the district: Skole, Turka), Lviv (partial 1 % Stryi), Chernivsti (fully eligible as mountainous area the district: Putyla).

+ NUTS: The Nomenclature of Territorial Units for Statistics;

* LAU: Local Administrative Units;

According to the National Proposals (NP¹) (Figure 3) of the Carpathian Convention (CC), the ratified area of the signatory states comprises 161,805 km², which includes approximately 17.41 million people. The SARD-M reports, on the other hand, consider a declared area of 167,492 km² and 12.01 million inhabitants. Hence, according to SARD the Carpathian mountain region covers about 12.1% of the total territory of the Carpathian countries (Table 3).

While the Carpathians constitute a significant portion of the national territory of **Romania** and the **Slovak Republic**, they are geographically of minor significance in the **Czech Republic**, **Ukraine**, **Poland**, **Hungary** and the **Republic of Serbia**. The **Ukraine**, which is the largest Carpathian country by land-mass, has the smallest share of the Carpathians (3.1%), whereas the **Slovak Republic**, although the smallest country, has a much higher proportion (69.8%). As such, the **Slovak Republic** can be qualified as the country most influenced by the Carpathians, even though only 20% of the whole Carpathian mountain chain can be considered as Slovakian. **Romania** covers the largest Carpathian area (70,000 km² or 29.4% of the national territory); more than 40% of the total Carpathian area is Romanian.

The approaches and techniques used in the cross-border analysis were dependent upon the availability (or the lack thereof) of reliable statistics and time series data. The accuracy of project results has been thereby hampered, particularly in mountain regions. Since the data availability is inconsistent the assessments are an opportunity to identify data gaps and to encourage the collection of good quality data for future analytical work.

¹ National Proposals are the national delimitations of the Carpathian Convention based on information provided to the UNEP by the focal points of the Carpathian countries. These official National Proposals were partially determined in the context of internal national consultations. As of 2006, a final proposal of these national delimitations of the Carpathian Convention areas still had to be approved by most of the respective ministers of the Environment of these countries.

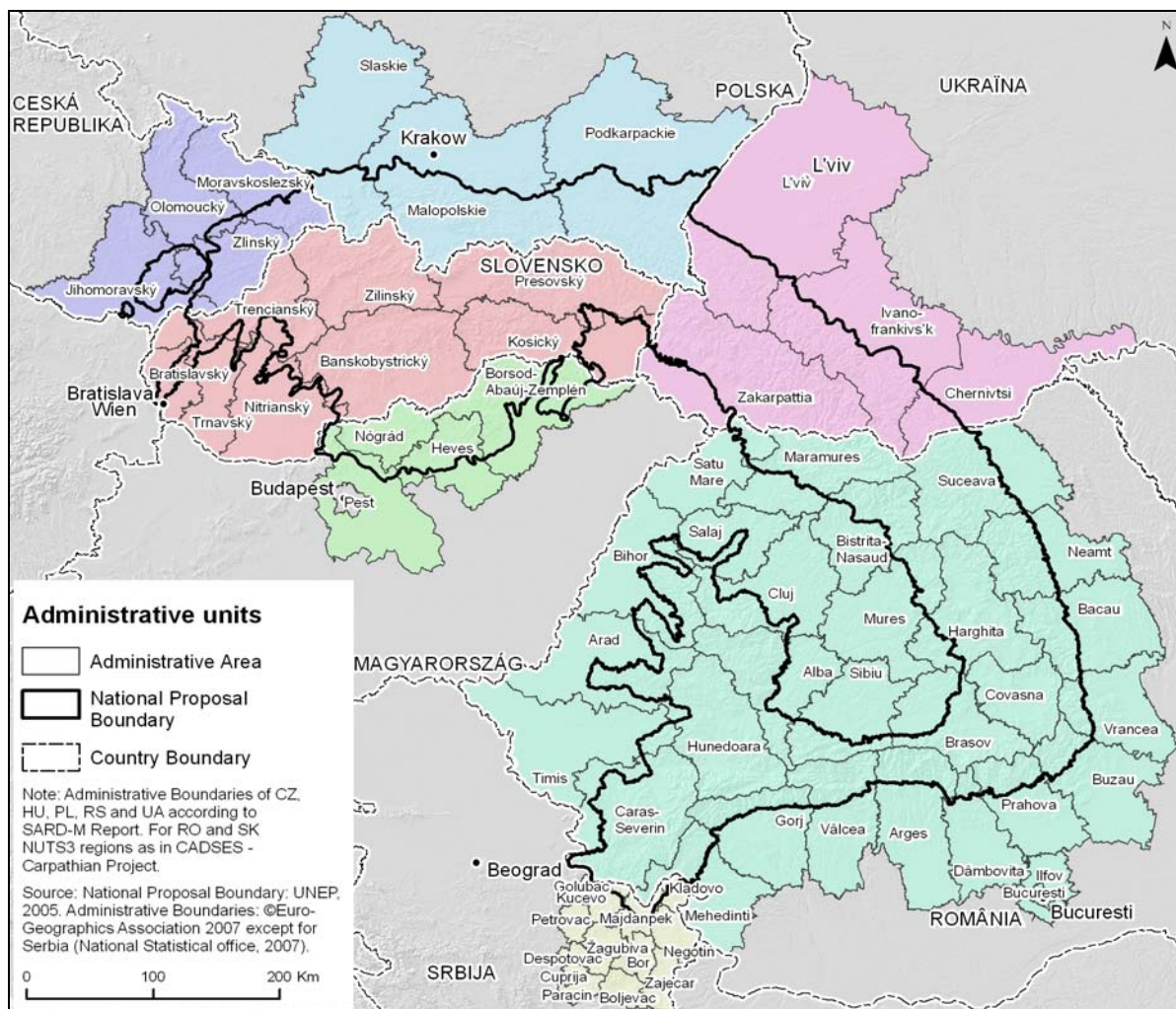


Figure 2: Administrative Units considered in the National Carpathian SARD-M Reports (Map: Kathrin Renner, EURAC).

Table 3: Basic Territorial Figures of the National Territories and the Carpathian Region.

Country	Total national area* Km ²	Mountain areas (national SARD-M Reports)			CC area** (National proposals)	
		SARD-M* km ²	Share on national area %	Share on SARD-M area %	CC** km ²	Share on the CC area %
CR	78,868 [†]	9,650	12.2	5.8	7,124	4.4
HU	93,030 [*]	6,772	7.3	4.0	9,626	5.9
PL	312,685 [*]	19,387	6.2	11.6	17,263	10.7
RO	238,391 [†]	69,777	29.4	41.8	69,872	43.2
RS	88,400 [*]	8,571	9.7	5.1	761	0.5
SR	49,034 [*]	34,235	69.8	20.4	35,050	21.7
UA	603,548 [†]	18,900	3.1	11.3	22,109	13.7
Sum	1,463,956	167,492	----	100.0	161,805	100.0

†) EUROSTAT 2006;
 *) National SARD-M Reports;
 **) Ruffini et al., 2006.

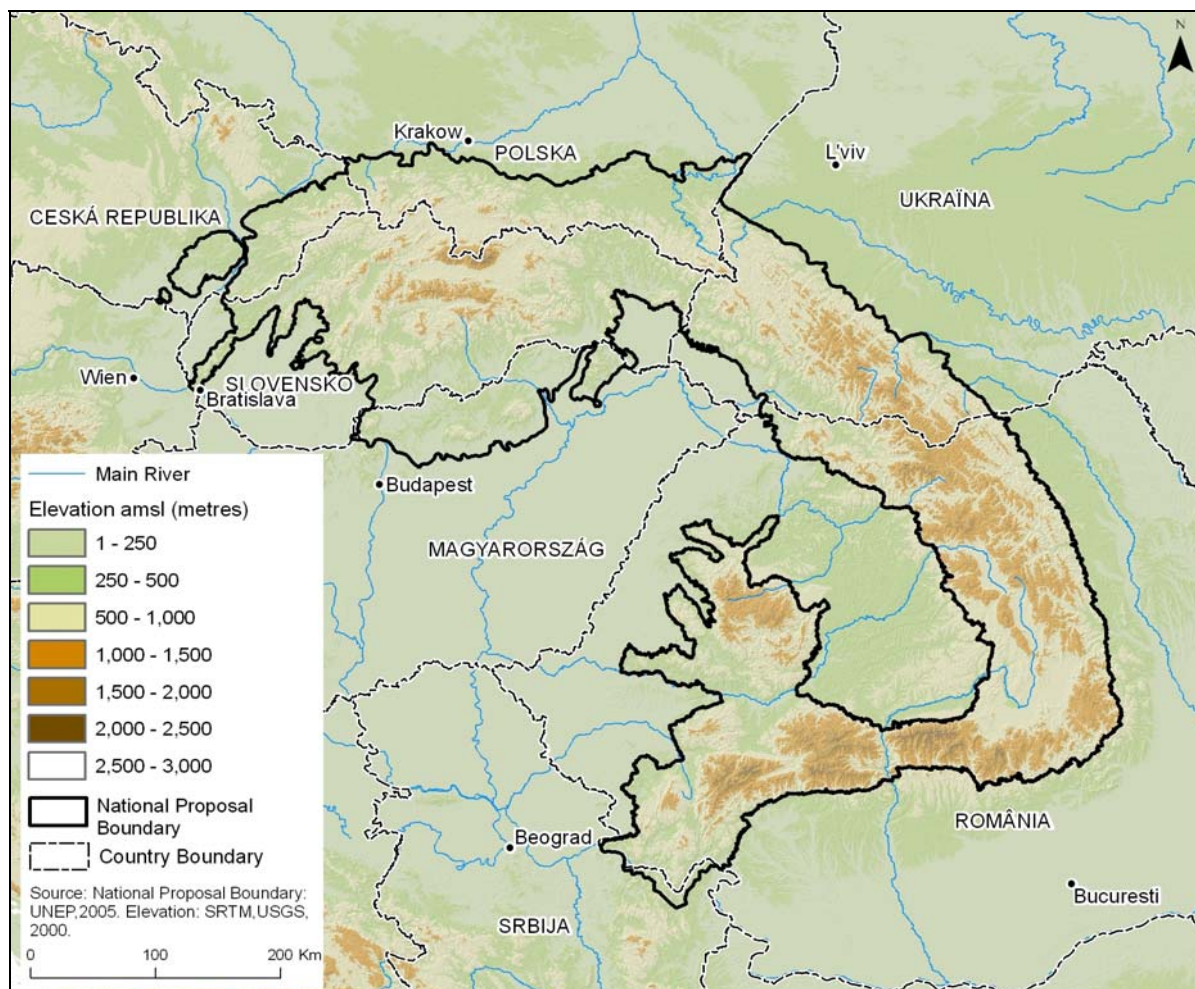


Figure 3: The National Delimitation of the Carpathians Regarding the NPs (162,000 km²).

2 Background Information on the Carpathian Countries and Regions

2.1 Land Use

Forested areas (49.2%; Table 4) and agricultural areas (39.8%; Table 5) are the dominant land use types in the Carpathian SARD-M regions. About 82,000 km² of the Carpathian SARD-M area is forested. In contrast, the forested area of the NP extends to 95,657 km² (59.1%) of the Carpathian territory (RUFFINI et al., 2006). The distribution of the forested areas shows that this type of area is on average more than twice as prevalent in the Carpathians (49.2%) as in the national territories (23.6%). In addition, KELLER & BRASSEL (2001) confirmed that the Carpathians (59.1%) are even more forested than the Alps (43%) (Figure 4 and Figure 7). In each Carpathian country the proportion of forested areas in the Carpathian Mountains is significantly higher than that of the whole territory. Due to forest management measures dating from the communist era, the current state of forests is more likely to be termed semi-natural or “virgin”; in some cases, they have been largely transformed into artificial or secondary forest stands.

Table 4: National versus the Carpathian Forestry Areas (National SARD-M Reports).

Country	National Forestry Area		Carpathian Forest Area	
	km ²	Share on National Territory %	km ²	Share on National SARD-M Area %
CR	26,442 [†]	33.5	3,226	33.4
HU	18,364	19.7	4,081	34.8
PL	91,005 [†]	29.1	2,725	14.1
RO	62,000	27.0	38,862	55.5
RS	23,129	26.2	3,731	43.5
SR	20,049	40.9	17,385	50.8
UA	104,575 [†]	17.3	12,380	65.5
Sum	345,564	23.6	82,389	49.2

[†]) EUROSTAT 2003.

The Carpathian Mountains of **Romania** and the **Ukraine** are covered with vast forests (55.5% and 65.5% respectively). The **Slovak Republic** is the country with the highest percentage of forested land (40.9%), and 50.8% of its Carpathian region is forested. Reforestation measures, occurring between 1996 and 2004, have resulted in an increase of 107 km² of forested land (KANIANSKA, 2005). In **Hungary**, the reforestation of areas abandoned during the agro-structural process has resulted in an increase in national forest reserves (TINER, 2007). The forests of the **Republic of Serbia** comprise 40% of their Carpathian territory, and are thus more densely forested than **Poland** or the **Czech Republic** (33.4%). Although **Poland** has a meaningful share within SARD-M capture areas, its forested zones (14.1%) are among the lowest in the Carpathian Mountains (Table 4). Given all these statistics, the Carpathian forests are often referred to as the “Green Carpathians”.

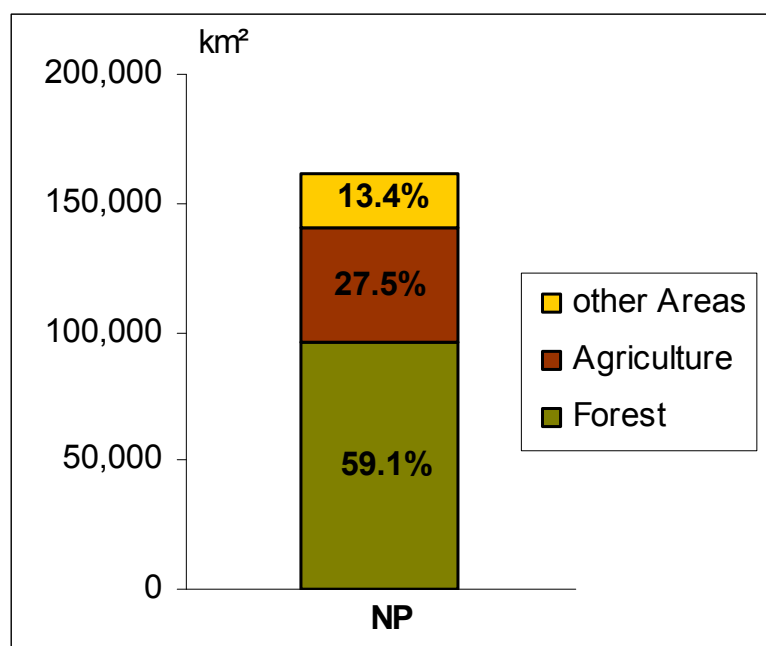


Figure 4: The Distribution of Forest and Agricultural Areas within the NP of the CC (RUFFINI et al., 2006).

No Carpathian countries have agricultural zones that cover less than 50% of the national territory (Table 5). This compares with figures from Western European countries like France and Italy. In four countries (**Ukraine, Republic of Serbia, Hungary and Romania**) more than 60% of the national territory is used for agricultural production. In the other Carpathian countries (the **Czech Republic, Poland and Slovak Republic**), 50%, or slightly less, of the national territory is agrarian. The picture changes when the Carpathian areas of these countries are considered. Only in the **Czech Republic, Hungary and the Republic of Serbia** do agricultural areas cover more than 50% of the Carpathian region. In all other countries, the **Ukraine** in particular, the share of agricultural zone is below that of the Carpathian areas (Figure 6). Compared with figures based on the NPs elaborated by RUFFINI et al. (2006) (44,428 km²), the agrarian areas from the SARD reports are significantly higher (70,656 km²) (Table 5).

Table 5: National versus the Carpathian Agrarian Areas (National SARD-M Reports).

Country	National Agrarian Area		Carpathian Agrarian Area	
	km ²	Share on National Territory %	km ²	Share on National SARD-M Area %
CR	42,360 ⁺	53.7	5,205	53.9
HU	58,647 [*]	63.0	6,929	59.0
PL	161,694 ⁺	51.7	8,215	42.4
RO	147,174 ⁺	61.7	26,303	37.6
RS	57,340	64.9	4,797	56.0
SR	24,348	49.7	14,109	41.2
UA	430,089 ⁺	71.3	5,098	21.3
Sum	921,652	63.0	70,656	39.8

⁺) EUROSTAT 2003;

^{*}) GRÁF, J.: The Hungarian Agriculture & Food Industry in Figures.

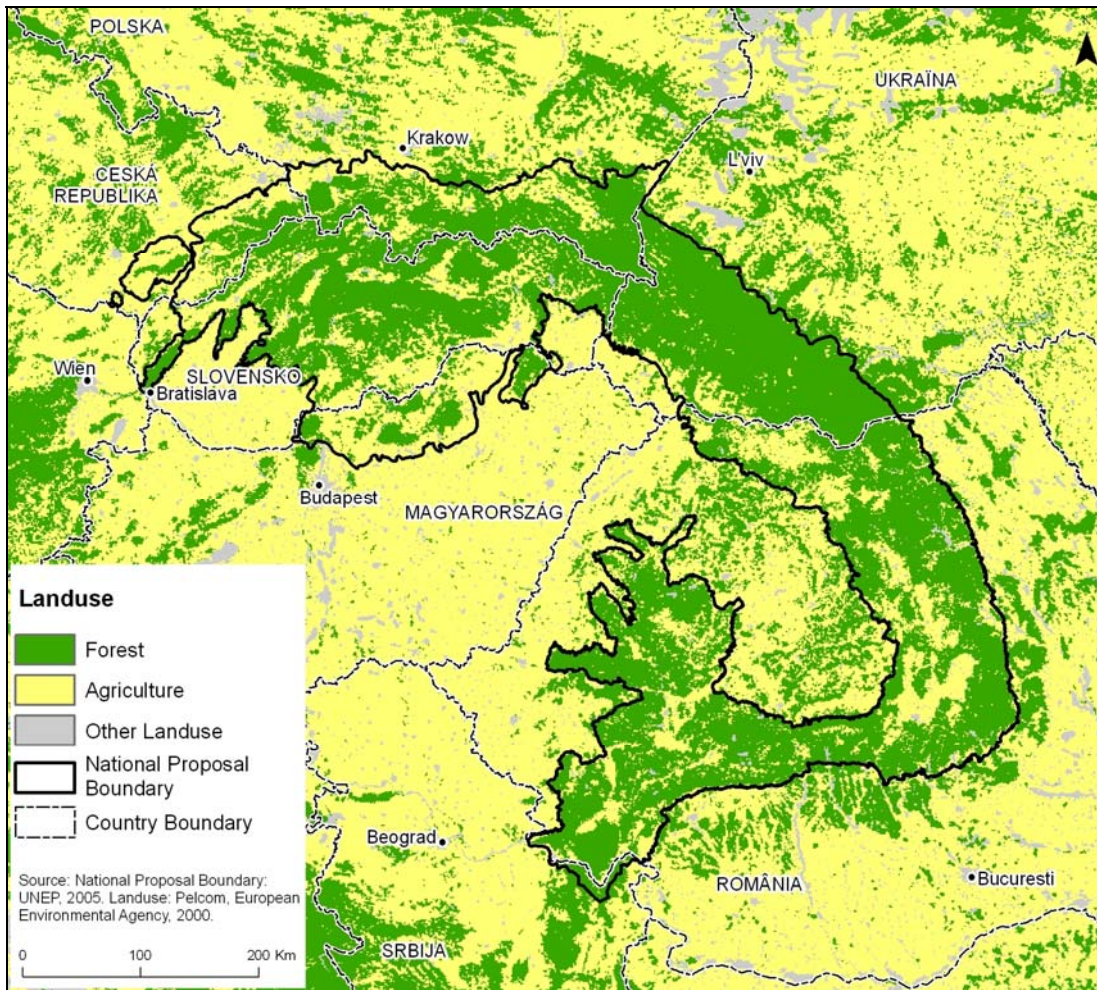


Figure 5: According to the NP, almost 60% of the Carpathians are covered by forest (RUFFINI et al., 2006).

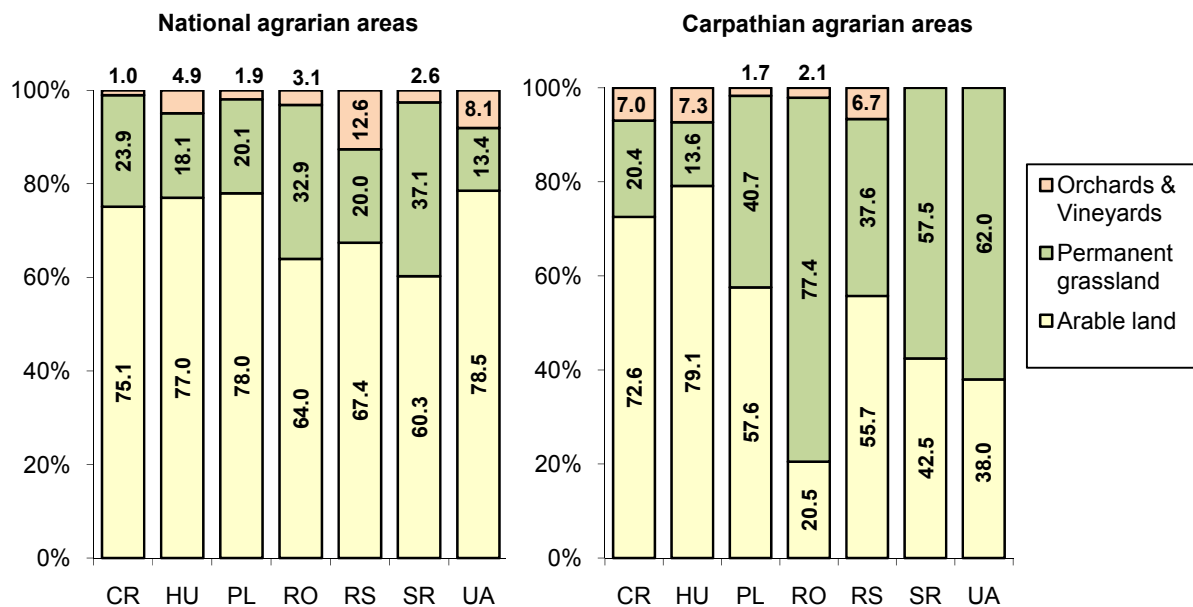


Figure 6: Distribution of the Country-wide and Carpathian-wide Agricultural Land Use Types (Sources: National Agrarian Area: EUROSTAT 2003; the Carpathian Agrarian Area: National SARD-M Reports, Hungarian Carpathians: EUROSTAT 2005 – NUTS3).

Compared to the national land use distribution, agriculture remains the dominant land use type in most Carpathian countries. Hence the distribution of agrarian land use types in the Carpathian Mountains is nominally changing. Only in **Romania**, the **Slovak Republic** and the **Ukraine** has permanent grassland become more significant (> 50%); of these, agrarian land use distribution differs most in the mountain regions of **Romania**. Permanent crops like orchards and vineyards play only a minor role in the Carpathian Mountains (Figure 6).

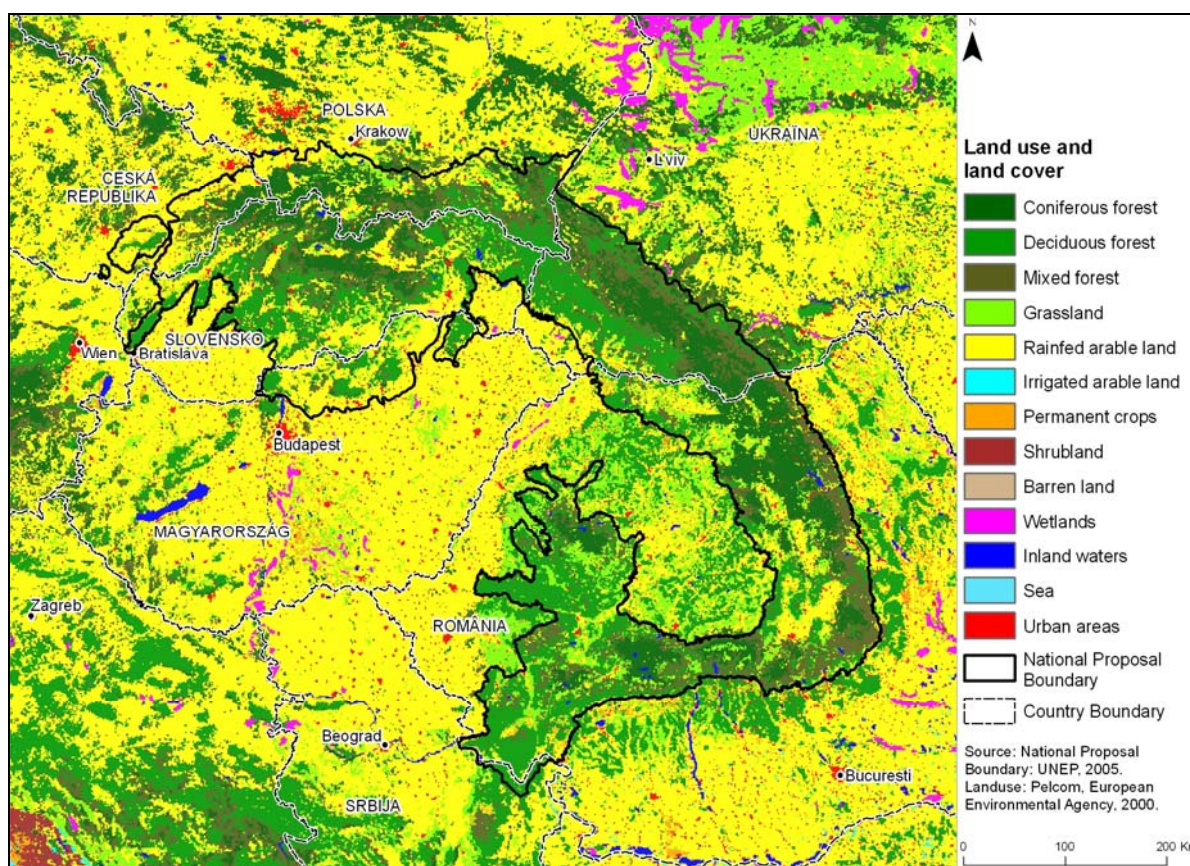


Figure 7: Land Use and Land Cover in the Carpathians (CLC 1990, PELCOM; RUFFINI et al., 2006).

2.2 Population

Generally, the Southeastern Carpathians are less densely populated than the Western and Northern Carpathians (Figure 8). Population concentrations can be seen in the wider valleys, the plains and in the densely inhabited northern area (RUFFINI et al., 2006). Regarding the NPs, the Carpathian Mountains of the **Czech Republic** are the most densely populated (205 inh/km²) followed by **Poland** (201 inh/km²). But in general, the population density is lower in most rural areas, such as the mountain Romanian regions of Caras-Severin and Harghita, and in the Serbian districts of Zajecarski, Borski and Branicevski.

Wide areas of the Carpathians are predominantly rural areas with only a few municipalities not classified as rural. It has been reported that over the last two decades rural areas in Eastern Europe have shown an economic decrease and a strong underdevelopment (HEIDELBACH, 2002). The vitality of rural areas is closely linked to the agricultural situation. The condition of Romanian agriculture (recently discussed by Premier Calin Popescu-Tariceanu and commented on by Florian Bichir in the Romanian

newspaper *Evenimentul Zilei* on March 19, 2008) is an alarming example of the difficulties experienced in many rural areas of the Carpathian region (BICHR, 2008).

Table 6: *Inhabitants and Population Density in the Carpathian Countries and in their SARD-M Areas.*

Country	Total national inhabitants (EUROSTAT, 2006)		Inhabitants Carpathian Mountains (SARD-M Reports)		CC*	
	abs.	inh/km ²	abs.	inh/km ²	abs.	inh/km ²
CR	10,269,134	130	1,863,490	193	1,460,000	205
HU	10,071,370	108	1,290,200	115	1,770,000	184
PL	38,141,267	122	n.a. ²	n.a.	3,470,000	201
RO	21,587,666	94	2,850,738	41	4,870,000	70
RS	7,411,569	84	224,036	35	60,000	79
SR	5,391,409	110	n.a. ³	n.a.	3,800,000	109
UA	46,607,431	77	1,059,900	56	1,980,000	90
Sum	139,479,846	95	---	71.7	17,410,000**	108

*) RUFFINI et al., 2006.

**) The value was calculated based on the GIS intersect method: Every municipality was included, even if situated only partly within the NP delimitation. If considering municipalities with their centroid within the NP boundary, the population would yield 14.2 million inhabitants.

Table 7: *Population according to Age Groups (National Values) (EUROSTAT, 2006).*

Country	Inhabitants < 15 years	Inhabitants 15 – 65 years	Inhabitants > 65 years	Old Age Index (OAI)	Youth Index (YI)
CR	1,490,423	7,309,299	1,469,414	98,6	101,4
HU	1,541,549	6,931,907	1,597,916	103,7	96,5
PL	6,105,768	26,939,336	5,096,167	83,5	119,8
RO	3,339,093	15,047,712	3,200,865	95,9	104,3
RS	1,157,618	4,975,986	1,277,968	110,4	90,6
SR	882,466	3,872,807	636,139	72,1	138,7
UA	6,685,561	32,336,771	7,585,104	113,5	88,1
Sum	21,202,478	97,413,818	20,863,573	----	----

OAI: Number of persons aged > 65 years on 100 persons < 15 years; Values > 100 indicate over-ageing.

YI: Number of persons aged < 15 years on 100 persons > 65 years; Values > 100 indicate a high youth rate.

One of the basic indicators useful in the analysis of the situation in rural areas is the Old Age Index (OAI) or the Youth Index (YI). The figures for the Carpathian countries show that over-ageing on a national level does not seem to be a significant problem (Table 7). High old age indexes were not reported in any of the countries. Some countries with more elderly persons (> 65y) than young persons (< 15y) as in the **Czech Republic**, **Poland**, **Romania** and the **Slovak Republic**, stand in contrast to countries with a slightly younger population, such as **Hungary**, the **Republic of Serbia** and the **Ukraine**. But it must be added that more detailed data on LAU1 or 2 would be required to give more accurate results on the current regional situation. It would certainly reveal strong regional disparities.

² Assuming the average population density (122 inh/km²) the Polish Carpathians would have around 2,365,153 inhabitants.

³ Inhabitants living in rural areas (settlements < 5000 inhabitants) represent 43.7% (2,356,046) of the Slovakian population.

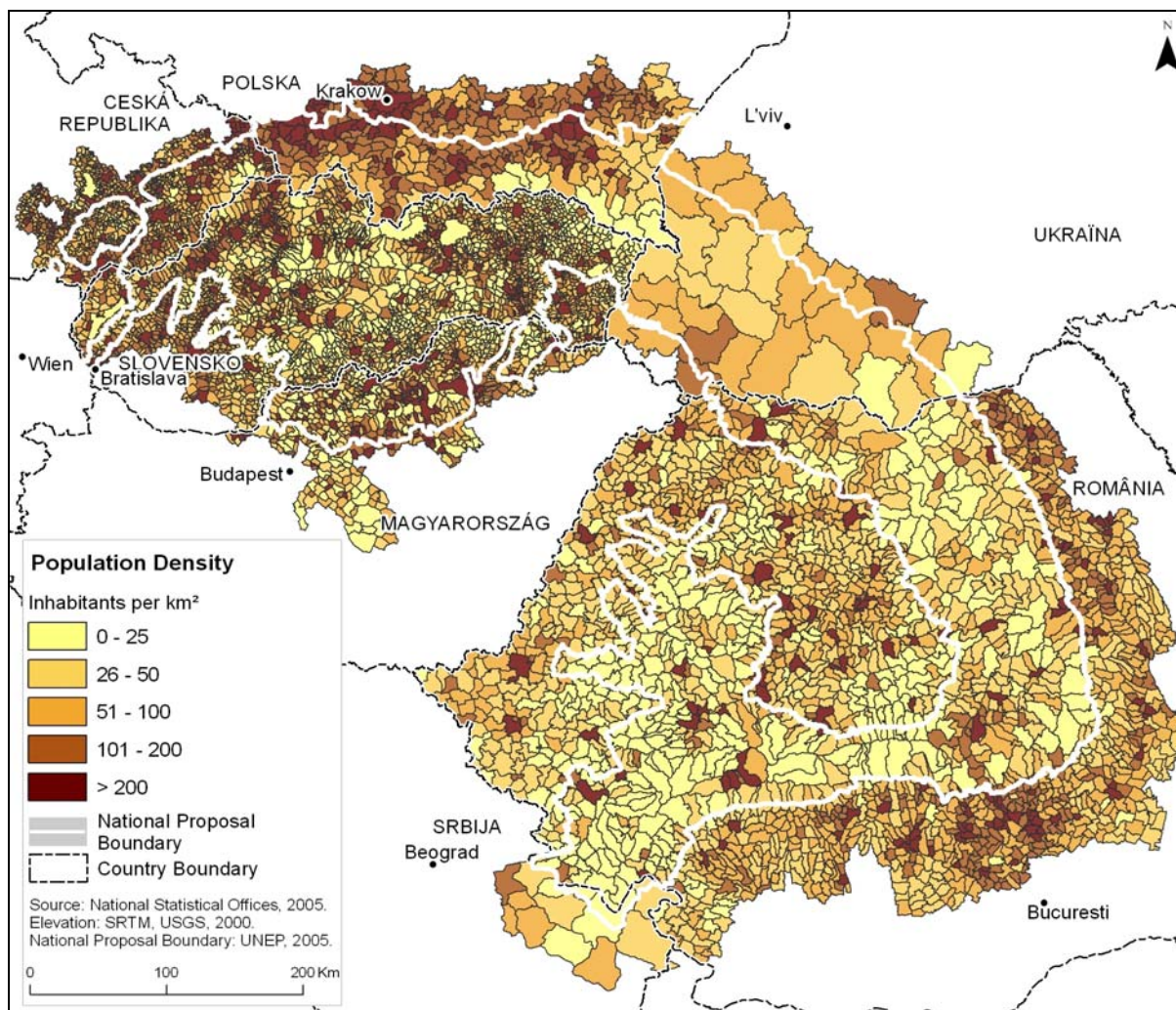


Figure 8: Population Density at the Municipal Level (LAU2) (RUFFINI et al., 2006).

2.3 Employment

As of 2004, the employment rate in the EU25 of individuals between the ages 15 and 65 accounted for 56.6% of the population (BBR, 2007). Generally, the employment rates of the Carpathian countries are comparable with those of western European countries (Table 8). **Ukraine** and the **Czech Republic**, with high employment rates, contrast with the low rates of **Poland** and **Hungary**. However, these national numbers do not speak to the large regional differences.

Figure 9 depicts significant discrepancies in the proportion of employees per sector between northern and western regions on the one hand, and the southern regions on the other. While the service sector plays the major economic role in **Poland**, the **Czech Republic**, the **Slovak Republic**, **Hungary** and the **Republic of Serbia**, in **Romania** and **Ukraine** the primary sector is still strongly represented.

The occupational significance of the primary sector has decreased steadily over many decades. While in Western Europe agriculture is of low importance (significantly below 5% on average), agriculture is still very relevant to **Poland**, **Romania** and the **Republic of Serbia** (Table 8 and Figure 9). In addition, a relatively large number of employees in the secondary sector can still be seen. A shift towards higher shares of the tertiary sector is expected in the next few years. In 2005, the proportion of agricultural employees in the EU25 was 4.9%.

Table 8: Number of Employees in the Carpathian States (EUROSTAT, 2006).

Country	Total employees in 1,000	Employment rate** %	First sector %	Secondary sector %	Tertiary sector %
CR	4,828.1	66.1	3.8	40.0	56.3
HU	3,930.0	56.7	4.8	32.4	62.9
PL	14,593.6	54.2	15.8	30.0	54.2
RO	9,291.2	61.7	30.6	30.7	38.7
RS	3,162.7	63.6	17.3 *	----	----
SR	2,302.3	59.4	4.4	38.8	56.7
UA	21,601.0	66.8	---	---	---

*) National SARD-M Reports.

**) Employees related to persons 15-65 years, according to the EUROSTAT Data 2006

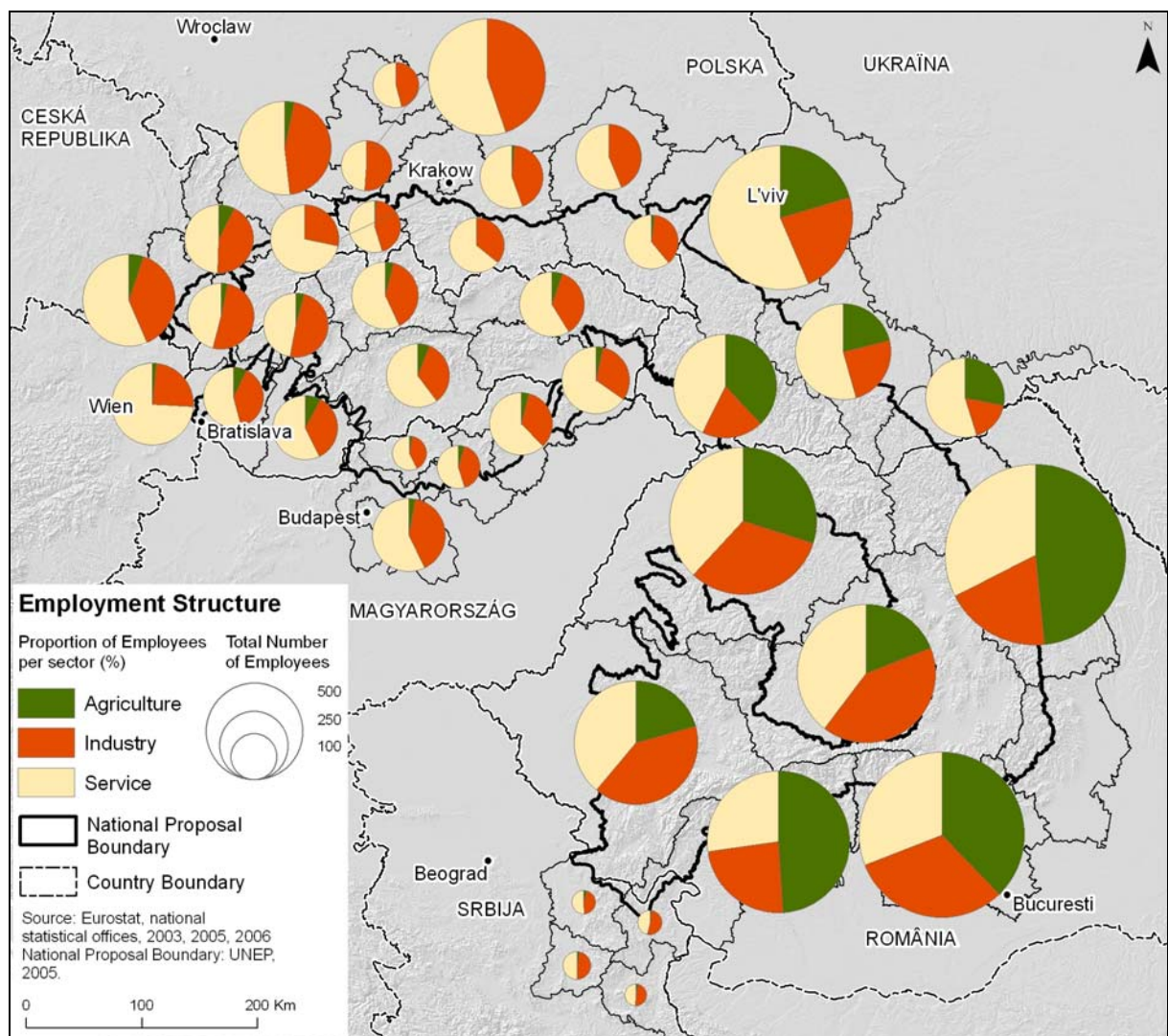


Figure 9: Proportion of Employees per Sector (Map: Kathrin Renner, EURAC).

With the accession of **Romania** and Bulgaria to the EU, the share of agriculture within EU27 has increased to 6.1%. This is the result of the prevalence of agriculture in **Romania**, with more than 30% of

the population employed in the field of agriculture, far above international averages (BBR, 2007). Many Eastern European countries, in particular **Poland**, **Romania** and the **Republic of Serbia**, have high agricultural employment rates. Within the Carpathian regions they face large regional differences. In **Poland**, for example, the observed rates vary between 3.8% in Slaskie (PL) and 25% in Podkarpackie (PL) (EUROSTAT, 2006).

3 SARD-M Policy Programmes and Related Institutions

The political and economic changes in the Carpathian countries have had a significant impact on their administration as well as on the social development and agricultural structures in regional areas. All the Carpathian states are currently involved in a restructuring process that strongly influences legislative and political programmes and strategies. Especially in the 1990s, the agrarian sector was characterised by a restitution process of private land and the dependent interrelations between size-structures, marketing opportunities, rationalisation, and the subsidy system.

With the accession of five of the seven Carpathian countries into the EU, agricultural production was significantly influenced. The impact of Brussels on the framework conditions of that sector is more crucial when compared to other sectors. Since entering into negotiations with the EU, the legislative instruments of the Carpathian countries have been continuously adapted to EU standards.

3.1 Policy Frameworks and Policies for SARD-M

In **Romania** the Sustainable Development Strategy of Mountain Regions is approved by GD. no. 1779/2004 and the Mountain Law of Mountain Regions No. 347/2004, which came into force in 2004. The objectives of these instruments concentrate on the principles and strategies of sustainable development in mountain regions. Although a couple of measurements were stipulated, no action plan was formulated and no financial resources were allocated (BURDUSEL, 2005). Apart from **Romania**, no Carpathian state has currently implemented a legislated programme specifically adapted to the requirements of sustainable development in mountain regions.

According to current environment- and agriculture-related national legislation, **Poland** is awaiting the enactment of the special Mountain Law; but a discussion underway to integrate the suggested approaches into pre-existing policies may prevent the enforcement of this law (RUSZTECKA, 2007).

The **Ukraine** is presently formulating a concept of sustainable development in mountain regions. Although the conceptual basis for establishing and implementing a sustainable development policy in this Carpathian region was set forth in the report by Ms. MARUSHEVSKY at the Third All-Ukraine Environmental Community Conference (November 29th to December 1st, 2002 in Kyiv), the Ukrainian government did not approve this proposal and has not yet implemented a national programme.

There are a couple of strategic programmes for sustainable development of rural areas that have been integrated into various other political programmes and strategies. Several programmes with different guidelines, concepts and strategies concerning rural and mountain areas have been implemented into agricultural, forestry, environmental and tourism policies. The administrative scope of these programmes refers either to the national territory or to rural areas. Only some programmes or instruments are created specifically for mountainous regions. Thus the following tables are making the following differentiation: national territory, rural areas and mountainous regions. If a programme applies for the national territory its scope includes rural and mountainous regions. The same holds true for rural areas, usually including mountain areas. If crosses for a programme with national or regional jurisdiction also appear in other categories, this indicates that this programme additionally covers its national or regional jurisdiction including specific instruments for mountainous regions.

3.1.1 Policies of Rural Development

Nearly every national SARD-M report (except for the Ukraine's) confirmed the integration and the enforcement of national programmes dealing with rural development. All of them take into consideration the principles of European structural programmes. Since 1997 their validity has been adapted to the EU regulations (EC No. 1698/2005). According to the Lisbon and Goteborg process, the strengthening of rural development in mountain regions centres on the following three axes:

1. Strengthening the competitiveness of the agriculture and forestry sectors.
2. Improving the environment and the landscape.
3. Increasing the quality of life in rural areas as well as the diversification of rural economy.

Table 9: The most relevant Guidelines regarding SARD-M in the Carpathian Countries (2005).

Country	Rural Development programmes according to the requirements of the European Structural and Cohesion Fund	Mountain regions	Rural areas	National territory
CR	The Rural Development Programme 2007 – 2013 (EC) 1698/2005 Art. 15. AXIS I: Improving the competitiveness of the agricultural and forestry sector: <ul style="list-style-type: none"> ▪ Priority 1.1: Modernisation, innovation and quality; ▪ Priority 1.2: Knowledge transfer; AXIS II: Improving the environment and landscape: <ul style="list-style-type: none"> ▪ Priority 2.1: Biodiversity, nature conservation and agricultural & forestry; ▪ Priority 2.2: Water and soil protection; ▪ Priority 2.3: Mitigation of climate change; AXIS III: Quality of life in rural areas and diversification of rural economy: <ul style="list-style-type: none"> ▪ Priority 3.1: Employment opportunities and the support of renewable energy; ▪ Priority 3.2: Conditions for growth and quality of life in the countryside; ▪ Priority 3.3: Education; AXIS IV: Leader (EC 1698/2005):		X	
	Rural Renewal Programme (government decree No.730).		X	
HU	NRDP: National Rural Development Plan (1999), EC regulation 1257/1999, 1783/2003, 567/2004.		X	
	NDP: National Development Plan (2004 – 2006) EC regulation 1260/1999.		X	
	Agricultural and rural development micro regional programmes (1999 -2002).		X	
	Rural Development Target Programme: LEADER – <i>type pilot programme (2001-2004)</i> . LEADER ⁺ (from 2005) (EC 1698/2005).	X	X	
PL	NDP: National Development Plan 2007 – 2013.			X
	Rural Development Strategy for the years 2007-2013: <ul style="list-style-type: none"> ▪ Priority 1: Supporting sustainable development of rural areas; ▪ Priority 2: Preservation of natural and landscape values of rural areas; ▪ Agro-environment programme 2004-2006 and 2007-2013: Less Favoured Areas (LFA); 		X	
	AxisIV: LEADER (1698/2005/EC).	X	X	
	Mountain law (not set in force yet).	X	X	
RO	National Development Plan (NDP) (integrates Environment and biodiversity).		X	X
	National Programme for Agriculture and Rural Development (NPARD). <ul style="list-style-type: none"> ▪ The Sustainable Development Strategy of the Mountain Region. 	X	X	
RS	The Spatial plan of the Republic of Serbia.			X
	The Strategy of Regional development.			X
	The Poverty Reduction Strategy.			X
	The Tourism Strategy of the Republic of Serbia.			X

Table 9: Continuation.

SR	Concept of Rural Development in the Slovak Republic.		X	
	Rural Development Plan 2004-2006 of the Slovak Republic.		X	
	National Plan for Regional Development of the Slovak Republic.			X
	Programme of Village Renewal.		X	
	National Programme of Tourism Development in the Slovak Republic.			X
	Proposal of Strategy of Tourism Development in the Slovak Republic by 2013.			X
UA*	State Programme on the National Environmental Network Development 2000-2015;			X
	General Scheme for Planning the Ukrainian Territory, No. 3059-III, 2002;			X
	Stimulating the Development of Regions, No 2850, 2005;		X	X
	Cross-Border Cooperation No. 1861-IV from, 2004;			X
	Status of Mountain Settlements No. 56/95, 1995.	X	X	

Source: National Carpathian SARD-M Reports.

* HRUBI et al., 2008.

The LEADER⁺ Programme (Chapter 4.1.1.2) plays a major role in the integration of sustainable development at the local level of rural areas. All Carpathian countries that have recently joined the EU are already participating in or – as in the case of **Romania** and the **Slovak Republic** – plan to participate in LEADER⁺ (Table 9).

In the **Republic of Serbia** (one of the two non-EU countries) the major instrument for coordinating rural development is the Spatial Plan. The current version was created in 1996. It will remain valid until the strategy and schemes of spatial development of the **Republic of Serbia** are adopted in the Law on Planning and Construction (2003; amended in 2006). The plan outlines the development of rural and mountain areas, considering the protection of land resources, reforestation, and technical improvements in agricultural land. It stresses the efficient use of agricultural production resources according to the dominant production systems in lowlands, highlands and mountain areas. Apart from this, there are a couple of other sectoral plans in operation that touch on issues of rural development (Table 9). Of these, the Poverty Reduction Strategy includes a multi-sector programme that focuses on employment, adequate housing, social welfare, health and education as well as basic services (water, garbage collection, electricity, etc.). The Tourism Strategy, in contrast, strengthens the regional economy by emphasising the potential of tourism in Serbia (TAR, 2007).

Currently the majority of the SARD-M policies in the Serbian Carpathians are financed through state budgetary funds. The **Republic of Serbia** is not yet eligible for IPARD (Instrument for Pre-Accession Assistance for Rural Development, a new mechanism of EU support for rural development), and practically no donor funds directly financed rural development measures (TAR, 2007).

Similar to the approach of Serbia the **Ukraine** has also applied a couple of instruments (Table 9) for maintaining rural areas and regional initiatives. As the **Ukraine** has currently not even entered into the negotiation phase these measurements are not coordinated with the policy-guidelines of the EU yet. But beside the **Ukraine** itself has already 1995 set a law into force that explicitly focuses on the Status of Mountain Settlements (Law No. 56/95, 1995) (HRUBI et al., 2008).

3.1.2 Policies on Agriculture

Closely related to programmes of rural development are the relevant guidelines for the agricultural sector. This apparatus not only concentrates on agricultural production *per se* (farms, production type, product-quality, etc.) but also on strengthening the agrarian sector as a main pillar for fostering rural development, thereby promoting a stronger relationship between agriculture and the environment. Accordingly, the predominant aim is the application of multifunctional agriculture, which has a mean-

ingful impact on the regional economy while considering the environmental and ecological aspects of the countryside.

According to the two phases of European enlargement, the new member states from the Carpathian region have integrated strategies of the Common Agricultural Policy (CAP) into their guidelines for agricultural development. Adaptation of their agricultural programmes to European standards was required in order to gain access to European agricultural funds. The application of agro-environmental measures, operational programmes, multifunctional agriculture or rural development plans, such as found in the Concept of Agrarian Policy 2004-2013 in the **Czech Republic**, enables access to European agricultural funds according to the European CAP (HAJDUCHOVÁ, 2007).

Table 10: National Agro-Environmental Programmes in the Carpathians.

Country	Agro-Environmental Instruments	Mountain regions	Rural areas	National territory
CR	Operational Programme (OP) "Rural Development and Multifunctional Agriculture";		X	
	Horizontal Plan for Rural Development (HRDP);		X	
	Organic Agriculture Action Plan of the Czech Republic;			X
HU	National Agro Environmental Programme: Agricultural and rural development operational programme (ARDOP);		X	X
PL	Agro-environment programme 2004-2006 and 2007-2013 (integrated in the Rural Development Strategy);		X	
	Programmes and Initiatives concerning regional and traditional products: <ul style="list-style-type: none"> ▪ The Taste of Malopolska; ▪ The Sheep Programme; stimulating the economy and protecting Carpathian heritage; 		X	
RO	National Programme for Agriculture and Rural Development (NPARD): <ul style="list-style-type: none"> ▪ Measure No. 3.3 Agricultural Production Methods Designed to Protect the Environment and Maintain the Countryside; 		X	X
	National Agro-Environmental Programme (integrated in the NPARD);		X	X
RS	Rural development Programming through Agricultural Strategy:		X	X
SR	Programme of Agriculture and Food Industry Development in the SR by 2010: Concept of Agricultural and Food Policy of the Slovak Republic by 2005: <ul style="list-style-type: none"> ▪ Support for operating in worse production conditions; ▪ Support for less favoured areas; ▪ Sheep and goat breeding; ▪ Environmental measure: <ul style="list-style-type: none"> ➢ Agro-environmental programme; ➢ Environmental investment; 		X	X
	Mid-term Concept of Agricultural Policy 2004-2006: Agriculture and Food Industry.			X
	Sectoral Operational Programme Agriculture and Rural Development 2004 – 2006.		X	
	Action Plan of Organic Farming in the Slovak Republic by 2010.		X	X
	Concept of Sheep Breeding in the Slovak Republic by 2005.		X	
	Long-term Concept of Agricultural Biomass Utilisation in the Slovak Republic.		X	
UA*	The State Programme on the National Environmental Network Development for the period of 2000-2015.			X

Source: National Carpathian SARD-M Reports.

* HRUBI et al., 2008.

Agrarian policy is the main pillar for rural development and for a reduction of regional disparities in the **Republic of Serbia**. Although different agricultural production methods between the low- and high-lands are well established, no specific strategy for mountain regions has been outlined as of yet. Ac-

According to the rural development policy framework, which is not yet in place, the basic guidelines were derived from the agricultural strategy programme, adopted in 2004 in the rural development policy framework. Strengthening the competitiveness and the marketing initiatives of the agricultural sector is considered to be a major aspect for promoting rural development. As the **Republic of Serbia** is not eligible for European funds, it is projected to promote the Rural Development Programme and the Rural Development Plan in the year 2007, with the support of project funding from "Support to Rural Development Programming and Payment System" (RDPPS) from the European Agency for Reconstruction (EAR). Thus the objectives found in agricultural strategy are the most crucial for rural policy-making and rural development (TAR, 2007).

The **Republic of Serbia** concentrates on measures that promote an efficient and sustainable agricultural sector that can compete on the world market and help to boost income levels. Within these objectives, rural support measures are defined according to social, economic and environmental issues, including farm investment and farm structure support, rural development measures, and the improvement of product quality (TAR, 2007).

Nearly all of the Carpathian countries have implemented national agro-environmental programmes (**Czech Republic, Hungary, and Poland**). The **Republic of Serbia** also plans to implement agro-environmental schemes for marginal and nature reserve areas. A Romanian Agro-Environmental Programme designed to access EU funds for the period 2007-2013 is currently under consideration. Conversely, the **Slovak Republic** has integrated its agro-environment programme into the Concept of Agricultural and Food Policy. The **Ukraine** is the only country that has not taken initiative to develop an agro-environmental programme (Table 10).

These environmentally-orientated programmes concentrate mainly on ecologically-adapted production methods and on the processing of high quality products with proper point of origin or product quality labels. The intention of these measures is to preserve traditional animal species, to apply site-adapted production methods, and to avoid genetically modified organisms (plants and fodder). Of particular interest for mountain areas are measures for the management of grasslands (pastures, permanent grassland, meadows) and the maintenance of certain animal species (cattle, pigs, sheep and goats).

Some of the national reports indicate that pre-defined European framework conditions for defining supply measurements are not always appropriate for the requirements of the national agricultural sectors (Chapter 4.1.4). Thus the implementation of agro-environmental programmes does not always contribute to a positive development of the agrarian sector. Due to the objectives of some measures concerning particular farming structures and production forms and types, they could not be applied or they could be misused for fulfilling an economically-driven purpose, with only minimal consideration given to environmental issues (Chapter 4.1.4).

3.1.3 Policies on Biodiversity, Nature Conservation and the Environment

In all Carpathian countries, biodiversity, nature conservation and the protection of the environment are covered by relevant sectoral guidelines. The onus for conserving nature and maintaining biodiversity is placed on two particular pillars. On one hand, the application of a *segregative* approach concentrates specifically on guidelines for protecting and conserving valuable nature sanctuaries. The *integrative* approach, on the other hand, aims at the implementation of regulations regarding nature conservation and biodiversity in all sectoral programmes dealing with environmental issues.

Besides the agro-environmental measures (Chapter 3.1.2), most countries have applied their own programmes for the specific protection of nature and the environment. The **Czech Republic, Hungary, Poland, Romania** and the **Republic of Serbia** have created national strategic nature conservation and biodiversity plans that span several years and consider a two-fold strategy (Table 11). Their main aim is the protection of nature, landscape and biodiversity. Further objectives are the sustainable use

of natural resources as well as the improvement of the environment as an important contribution to quality of life. With the State Programme on the National Environmental Network Development 2000 – 2015 the **Ukraine** could also implement an instrument that emphasizes the maintenance of natural landscapes and the preservation of natural ecosystems (HRUBI et al., 2008).

Of these strategies, the National Biodiversity Strategy of the **Czech Republic** is the only one with a chapter directly focusing on mountain ecosystems. **Hungary** intends to protect its principal natural resources by coordinating the sectoral programmes and a coherent use of soil and mineral raw materials. **Poland** on the other hand, is aiming to create special Carpathian packages that concentrate on the links between spatial planning and environmental issues (nature protection, agro-tourism, organic farming, and traditional and regional agriculture production).

Table 11: National Programmes on Nature Conservation and Biodiversity Plans.

Country	Biodiversity and Environmental Programmes	Mountain regions	Rural areas	National territory
CR	State Environmental Policy (SEP) 2004-2010 (approved by Governmental Decree No 235/2004 on 17 th March 2004);		X	X
	National Biodiversity Strategy (NBS) of the Czech Republic (adopted by the Government under No. 620/2005 of 25 th May 2005): <ul style="list-style-type: none"> ▪ The National Biodiversity Strategy of CR is the only one strategy, which focuses on mountain ecosystems in a separate chapter; 	X	X	X
HU	NEP2: 2 nd National Environmental Programme for 2003 – 2008;			X
PL	Act on the socio economic development of mountain region;	X	X	
	Second National Environmental policy (2002 – 2010); National strategy for conservation and sustainable use of biodiversity (adopted by the Council of Ministers in 2003).			X
RO	National Programme for Agriculture and Rural Development (NPARD): <ul style="list-style-type: none"> ▪ Sustainable Development Strategy of the Mountain Region; ▪ National Agro-Environmental Programme; 	X	X	X
	Environmental protection and biodiversity conservation Strategies and Programme: <ul style="list-style-type: none"> ▪ Strategy for the Environmental Protection (1996) and the Strategy for the Environmental Protection on Medium Term (2001 -2004); ▪ National Strategy and Action Plan for Biological Diversity Conservation and Sustainable Use: <ul style="list-style-type: none"> ➢ The National Sustainable Development Strategy; ➢ Romanian Strategy for Environment 2004 – 2010; ➢ Regional Environmental Reconstruction Programme (REReP); ➢ Approximation Strategy for the Nature Conservation Sector. 		X	X
RS	National Environmental Programme;			X
SR	Strategies, principles and priorities of state environmental policy in the Slovak Republic;			X
	National Environmental Action Programme I, II;			X
	National Biodiversity Strategy of the Slovak Republic;			X
	National Biodiversity Strategy of the Slovak Republic for 1998 – 2010 (MoE SR, 1997).			X
UA*	The State Programme on the National Environmental Network Development for the period of 2000-2015.			X

Source: National Carpathian SARD-M Reports.

* HRUBI et al., 2008.

Admittedly, huge parts of the available financial aid have already been spent on drafting the formal plans and measures. Hence little financial aid is left for implementation. With no action plans or concepts it is not possible to coordinate measures and distribute funding.

Although a great deal of effort is put into deriving measurements for maintaining environmental and biological diversity, higher standards of living have increased the demand for energy and led to the establishment of larger, more efficient industrial plants and service infrastructures. Hence the emission of greenhouse gases and other related negative environmental effects have increased recently, even in rural areas. As a result of heavy industries still in operation or recently abandoned ones, remote environmental damage may occur in designated nature protection area. In some rural areas of the Carpathians, coal, copper and open cast mines, as well as settlements without sewage and solid waste disposal, are causing serious threats to air and water quality, soil and biodiversity (TINER, 2007; TAR, 2007, Chapter 4.1.5).

3.1.4 Forestry Policies

Due to high levels of forestation in the Carpathian territory (59.2%, Figure 4) forestry is economically relevant for both the timber industry and for private households. Thus all the Carpathian countries are running their own forestry programmes. Depending on the administrative organisation or in relation to its value added, the programmes are formulated either to stand alone or be integrated into already existing programmes that deal with rural development or comparable thematic issues (Table 12).

Table 12: National Forest Strategies and Programmes in the Carpathians.

Country	Forestry Programmes	Mountain regions	Rural areas	National territory
CR	The National Forestry Programme (adopted by Governmental Decree on 13 January 2003);			X
HU	Forestry management measures are included in the NRDP and the NHRDP as well as in the Agro-environmental plan and are supervised by the jurisdiction of the Minister of Agriculture and Rural Development.			X
PL	Forest Act of Poland: <ul style="list-style-type: none"> ▪ Forest Management Plan: <ul style="list-style-type: none"> ➢ National Plan for the Increase of Forest Cover; ➢ Forest management certification programmes (FSC); ➢ Active participation of Poland in the Ministerial Conference on Forest Protection in Europe. 			X
RO	The Sustainable Development Strategy of the Romanian Silviculture in the period 2000-2020 (MAPPM, 1999);			X
	The National Forestry Policy and Development Strategy (NFPS) for Romania (2001-2010) (MAAP, 2001);			X
RS	Forestry Development Strategy;			X
SR	Concept of Forest Policy by 2005;			X
UA*	Decree of Cabinet of Ministry of Ukraine No581 "Forests of Ukraine" for the period of 2002-2015.			X

Source: National Carpathian SARD-M Reports.

* HRUBI et al., 2008.

Sustainability and forest management are directly related to each other. Aside from the dominant economic function, forested areas provide various other functions and positive exogenous⁴ effects. For

⁴ Economical: Afforestation and reforestation with autochthon tree species; rational harvesting methods.

this reason, forest management and policy programmes are considered among the recommendations of the Ministerial Conference on Forest Protection in Europe. According to the resolutions in Strasbourg (S1-S6)⁵, Helsinki, Lisbon and Vienna, economic and ecological measures with respect to sustainability dominate the multifunctional forestry programmes in the Carpathian states (Table 12).

Thus all national forest policies have taken into consideration the sustainable management of forest resources and forestland. But current action plans and appropriate cost calculations are not always applied, even though their stipulations strengthen the rights and responsibility of forest owners. Hence focus is put on programmes that protect forests against pollution, fire, pests and diseases as well as on the treatment of forest ecosystems and natural reserve areas (BURDUSEL, 2005).

Although a couple of programmes are currently in place for the preservation of forest ecosystems and the promotion of a multifunctional forest management approach, the suggested measures cannot prevent the gradual degradation of forests. The most acute problem that exists in the Carpathian forests is not over-intensive, unrestricted exploitation of forests. Instead, the most pressing issue is to prevent the decrease of biological diversity of forest land due to the removal of dead or decaying trees, to "sanitary" logging (for the sake of forest "health") and to other forest management activities conducted in nature reserves, as well as the modification of forest species incompatible with the existing habitat conditions (RUSZTECKA, 2007).

Consequently, although indicators of IACS (2002) were used to evaluate the biodiversity of forests, more effective approaches to this issue will eventually be needed. It is possible that the forest certifications according to the guidelines of the Forests Stewardship Council (FSC) or of the Pan-European Forest Certification (PEFC) could provide alternative solutions (FAO, 2007b).

3.2 Governance Structures and Institutional Settings for SARD-M Policies

During the ongoing process of political transformation, the governments of the Carpathian countries have revised and adapted their principal sector policies. Starting from the pre-access phase and continuing for several years after membership in the European Union, attention was paid to establishing national, regional and local institutions that could prepare, adopt and implement all necessary strategic documents required to access EU financial resources.

3.2.1 National Level

Ministries Involved in the SARD-M Process

Ministries of agriculture play an important role for SARD-M by designing and implementing the policies for sustainable development with respect to agriculture, forestry and rural development in mountain regions. According to their authority, the agricultural ministries are in charge of policymaking and

Ecological: Positive influence on climate and atmospheric conditions; the protection of water and soil; the conservation of biological diversity; the conservation of genetic diversity within forests; landscape degradation; neutralisation of industry emissions; the preservation of forest floor (rotting trees).

Social: The influence on human health and well being; landscape values, recreation.

⁵ Resolution S1 Monitoring of forest ecosystems; Establishment of a European network of permanent observation posts for monitoring forest ecosystems.

Resolution S2 Conservation of genetic diversity of European forests.

Resolution S3 Decentralised European data bank on forest fires.

Resolution S4 Modification of management practices used in mountain forests and their adjustment to new environmental conditions.

Resolution S5 Expansion of the EUROSILVA research network to include investigations into the physiology of trees.

Resolution S6 European network on forest ecosystem research.

policy implementation. Due to the wide scope of duties, they also deal with agricultural (land cadastre: land property and restitution, database applications) and water management, as well as with the food industry, forest management, hunting and fishing. Hence particular articles of the Carpathian Convention (Article 3: Integrated Approach to the Land Resources Management and Article 7: Sustainable Agriculture and Forestry) have an impact on their policies. The names of the ministries already indicate the thrusts of their tasks (Table 13).

Under their supervision they develop strategic, conceptual and programming documents, and then submit them to their governments for approval. They also collaborate with economic, environmental and social partners to monitor and evaluate the progress of setting goals. It is also part of the ministries' task to ensure project selection and independent project appraisal and to cooperate with EU institutions in order to coordinate and control financial flows from the EU funds. Principally, the ministries of agriculture host various directorates, agencies and institutions responsible for operative implementation. Therefore the SAPARD institutions (Chapter 4.1.1.1), which were installed in the pre-access phase, have acquired new tasks following access to the European Union. As they were in charge of adapting former agricultural programmes to the guidelines of the CAP, it became their job to manage the implementation of measures concerning agro-environmental, agriculture operational and rural development programmes (KANIANSKA, 2005). In the **Republic of Serbia**, programming of policies and measures is arranged by the sector for rural development and the sector for agrarian politics, whereas the majority of operational implementation and processing is conducted by the sector for agrarian operations (TAR, 2007).

Table 13: *Ministries dealing with Agriculture, Forestry and Rural Development in the CC Member States.*

Country	National Institutions
CR	The Ministry of Agriculture (MoA)
HU	Ministry of Agriculture and rural development (MARD)
PL	Ministry of Agriculture and rural development (MARD) Agency for Restructuring and Modernisation of Agriculture (ARMA)
RO	Ministry of Agriculture, Forestry and Rural Development: (MAFRD)
RS	Ministry of Agriculture, Forestry and Water Management (MAFWM)
SR	Ministry of Agriculture (MoA)
UA*	Ministry of Agrarian Policy of Ukraine State Administration for Forestry

Source: National Carpathian SARD-M Reports.

* TISZA RIVER BASIN SUSTAINABLE DEVELOPMENT PROGRAMME, 2002.

Besides the pertinent agricultural ministries, there are a couple of other national ministries in charge of various research or policymaking institutions and bodies, which can respond to the specifics of mountain areas. Among them, the ministries dealing with Biodiversity, Environment and Nature Conservation play a major role (Table 14). According to their administrative duties, they are the counterparts of the ministries of agriculture. These ministries are more likely to focus on ecological tasks (National Parks) and landscape management, spatial planning, water management and nature conservation as well as on the protection of the geological environment. Therefore they are the supervisory body for environmental affairs and, as such, refer to Article 4 (Conservation and Sustainable use of Biological and Landscape Diversity), Article 5 (Spatial Planning) and Article 6 (Sustainable and Integrated Water/River Basin Management) of the Carpathian Convention. The Romanian Ministry of Environment and Water Management also manages the Inter-ministerial Committee and hosts the Technical Secretary of the National Environmental Action Plan.

The other ministries involved in the SARD-M process (Table 15) have only minor influence. On a national level, as far as the ministries of Finance, Labour and Social Affairs, Construction, Trade Service and Tourism, Energy and Mining or the Ministry of Education and Research are concerned their main tasks are not related to rural development issues.

Table 14: Ministries dealing with Biodiversity, Nature Conservation and Environment in the CC Member States.

Country	National Institutions
CR	Ministry of Environment (MoE)
HU	Ministry of environment and water (MEW)
PL	Ministry of the Environment (MoE)
RO	Ministry of Environment and Water Management (MEWM)
RS	Ministry for Science and Environmental Protection
SR	Ministry of Environment
UA	Ministry for Environmental Protection

Source: National Carpathian SARD-M Reports.
* Government Portal, 2008.

Although there are sufficient institutions available (except in the **Ukraine**), competences related to SARD-M are broken up between several ministries, and although many interrelated topics are touched upon, a clear and direct focus on SARD in mountain regions is missing. The two main ministries emphasising agriculture and the environment should complement one another in their competences and tasks; however, instead of focusing on synergetic effects there is very little teamwork with respect to policy-making. Due to a division of authority, deep tensions are preventing cross-sectoral cooperation. Partly, this is also due to different attitudes and sometimes even the antagonistic priorities of the ministries. At present, inter-ministerial collaborations appear to be difficult, although recently the relationship between the ministries has improved (Chapter 4.2.1).

Table 15: Other Ministries relevant to SARD-M in the CC Member States.

Country	National Institutions
CR	Ministry of Finance Ministry of Labour and Social Affair
HU	Ministry of Education and Culture
PL	Ministry of Construction Ministry of Finance
RO	Ministry of Culture and Religious affairs Ministry of Education and Research
RS	Ministry of Capital Investments Ministry of Trade, Service and Tourism Ministry of Energy and Mining
SR	Ministry of Economy Ministry of Construction and Regional Development Ministry of Labour, Social Affairs and Family Ministry of Finance and the Ministry of Exchequer
UA	Ministry of Coal Industry of Ukraine Ministry of Economy of Ukraine Ministry of Culture and Tourism of Ukraine Ministry of Transport and Communications of Ukraine Ministry of Fuel and Energy of Ukraine

Source: National Carpathian SARD-M Reports.
* Government Portal, 2008.

3.2.2 Regional and Local Level

Under the supervision of their corresponding ministries, the regional and local authorities are responsible for specific decision-making processes and the preparation of strategic documents targeting the regional and local levels

Regional and Local Institutions and Organisations Involved in the SARD-M Process

It is the task of regional governments, district offices and local municipalities to cooperate with ministries and other regional governments in processes related to regional development. They have the capacity to participate in designing a national plan of regional development or to develop regional or sectoral operational programmes for economic and social development (KANIANSKA, 2005).

Table 16: Regional and Local Institutions.

Country	Regional Institutions
CR	<ul style="list-style-type: none"> - Municipalities; - Regional Offices – Departments of the Environment and Agriculture; - Agriculture Agencies; - Protected Landscape Areas (PLAs) Administrations.
HU	<p>Ministry of Agriculture and rural development:</p> <ul style="list-style-type: none"> - Animal health and food Control stations and Plant health and soil protection Directorates; - National Agricultural Certification Institute and its regional facilities; - National Forest service and its regional inspectorates; - Game management and fisheries. <p>Ministry of environment and water:</p> <ul style="list-style-type: none"> - National Park Directorates; - Regional Directorates and Inspectorates for Environment, Nature and Water. <p>Ministry of Education and Culture:</p> <ul style="list-style-type: none"> - Regional offices of Cultural Heritage.
PL	<p>Ministry of Agriculture and rural development and Agency for Restructuring and Modernisation of Agriculture:</p> <ul style="list-style-type: none"> - Voivodeship self-governments – implementation of the Rural Development Programme; - ARMA: Agency for Restructuring and Modernisation of Agriculture; - The Euro-regions: Karpacki, Tatr, Beskidy – cross-border cooperation. <p>General Directorate of State Forests:</p> <ul style="list-style-type: none"> - Territorial Directorates on Forestry and Hunting;
RO	<p>Ministry of Agriculture, Forestry and Rural Development:</p> <ul style="list-style-type: none"> - SAPARD Agency (8 regional units); - National Forest Administration – Romsilva; - National Agency of Mountain area (NAMA).
RS	<ul style="list-style-type: none"> - Timok Public Health Institute; - Zaječar Agricultural and Technological Research; - Society of Young Researchers from Bor.
SR	<ul style="list-style-type: none"> - Municipalities; - State administration bodies; - Regional governments; - Regional and districts offices.
UA	<ul style="list-style-type: none"> - Council of Zakarpatska Oblast; - State Administration for the Environment and Natural Resources in Zakarpatska Oblast; - Industrial Administration for Melioration and Water Economy of Zakarpatska Oblast; - Administration for Cross-Border Co-operation and Investments; - Administration for Tourism and Resorts.

Source: National Carpathian SARD-M Reports.
* HRUBI et al., 2008.

The advantage of regionally- or locally-initiated bottom-up processes is that the organisations involved have a deeper relationship to the uniqueness of the Carpathians. Consequently the regional programmes and strategies developed are better adapted to issues concerning rural development, nature conservation or cultural heritage. And as far as their own surroundings are concerned, there is strong commitment and involvement from competent people involved in local initiatives related to SARD-M in the Carpathians (Table 16).

For the implementation and transfer of ideas coming from these bottom-up activities, cooperation with local and governmental stakeholders is required. Thus the establishment of 'vertical' trans-sectoral cooperation networks could constitute a 'catalyst' to foster a free flow of information between national and regional stakeholders and agencies (RUSZTECKA, 2007).

3.2.3 NGO Initiatives involved in SARD-M in the Carpathian Mountains

Several national NGOs are taking a pioneering role in the Carpathian Mountains. They are concentrating their activities on the environment, organic farming and landscape and nature protection issues. Some of them have initiated projects on organic farming, local products, brands and others (HAJDUCHOVÁ, 2007), for the most part promoting ecologically-managed small-scale traditional and organic farms. Others focus their work on maintaining biodiversity of the Carpathians. Therefore a Geographic Information System (GIS) and a related database are also used to improve the technical standards. As well, an international network of NGOs and research institutes has been established to assure the international integration and the protection of the Carpathians (TAR, 2007).

Table 17: NGO Initiatives.

Country	NGOs and Institutions on local level
CR	- -40 NGOs considering agricultural or rural development issues;
HU	- Local Governments; - ARDA (Agricultural and Rural Development Agency).
PL	- League for Nature Conservation; - The Carpathians – a green heart of Europe; - Polish Ecological Club; - ECEAT-Poland (European Centre for Ecological Agriculture and Tourism in Poland); - IUCN-Polska – sustainable agriculture consultancy model of competence; - WWF-Polska – Natura 2000 activities.
RO	- General Association of Sport Hunters and Fishermen (GASHF).
RS	- Standing Conference of Towns and Municipalities (SCTM); - Local Agenda 21 (LA 21); - Local environmental action plans (LEAPs); - Carpathian Eco-region Initiative, 'CERI'.
SR	n.a.
UA	- Carpathian Environmental Club "Ruthenia"; - Environmental Organisation "Ekosfera"; - Regional Development Agency of Khust; - Zakarpattia Environmental Club "Edelweiss"; - HEIFER.

Source: National Carpathian SARD-M Reports.
* HRUBI et al., 2008.

4 Strengths and Weaknesses of Policies, Institutions and Processes

The evaluation of the strengths and weaknesses of SARD-M policies has to take into consideration the substantive political reforms that have occurred in Central and Eastern Europe. Membership in the European Union requires acceptance of the terms of the European treaties with respect to the free movement of capital, people, goods, and services. Hence it was necessary to adopt a number of new political guidelines and agro-political measures. These new framework conditions have generally had a strong impact on living standards in rural areas, and especially for agricultural production.

4.1 Impact and Perception of Policies & Processes for SARD-M

Rural Development Programmes (RDP) represent essential instruments for supporting agriculture and landscape development in a number of European states. The implementation of this political instrument can help the Carpathian countries to apply measures to bring the development of rural areas to EU standards. In general, it was fortuitous that communication between stakeholders as well as their engagement during the implementation period of the programmes functioned reasonably well. It was a successful attempt at an open and democratic preparatory process, in which a wide range of stakeholders and NGOs collaborated to increase awareness and appreciation of rural areas. Despite the participative political decision process for formulating a rural development programme, a couple of the proposed measures were neglected by the official authorities without explanation, and were therefore not included in the final preparatory work (HAJDUCHOVÁ, 2007).

Although the Rural Development Programmes of Carpathian countries include the principles and objectives of the Carpathian Convention, none of these countries (except **Romania**) has formulated a separate law which takes into account the sustainable development of mountain regions in a way comparable to similar laws of the Alpine states.

Only in **Romania** are the Sustainable Development Strategy of Mountain Regions and The Law of Mountain Regions (Chapter 3.1) providing principles, objectives and measures for approaching sustainable development and biodiversity conservation in mountain areas. But unfortunately, there have been no financial means allocated to realise the stipulated measures. Apart from this, Measure No. 3.3, which operates under the National Programme for Agricultural and Rural Development (NPARD), considers comparable issues. The measure emphasises agricultural production methods that regulate the protection and maintenance of the Romania's environment and countryside (BURDUSEL, 2005).

For mountain areas in **Poland**, all recommendations regarding sustainable agriculture and forestry outlined in the 7th Article of the Carpathian Convention are considered indirectly in other official programmes or strategies. According to current environment-related and agriculture-related national legislation, **Poland** is awaiting the enactment of the special Mountain Law. It should set up a relationship as well as rules of cooperation and partnership between local communities, self-governments, management authorities of national parks, and national forestry authorities in the use of mountain regions. Recent criticism has claimed that the core content of the Mountain Law supports tourism, sport and recreation development in the mountains, rather the sustainable development of mountain areas as a whole (RUSZTECKA, 2007).

Within the Concept of Agrarian Policy (2004–2013) in the **Czech Republic**, the Horizontal Plan and the Operational Programme of Rural Development (HRDP and the OP) have at least one concrete impact on mountain regions through the support for less favoured areas (LFA) – maintenance of the grassland. On the other hand, mountain farming is benefiting from the National Biodiversity Strategy. In this way, the agricultural management of grassland in mountain regions is proving particularly beneficial for the Natura 2000 regions. Regarding sustainable agriculture, the strategy is promoting and supporting environmentally-sound farming and encourages the restoration and creation of ecologically important landscape features as well as the maintenance of traditional crop varieties and animal breeds.

The implementation of the CAP (Act No 252/1997 Coll. on Agriculture) in the **Czech Republic** represents a huge step forward in the Czech Agricultural Policy. But within this, it is mainly farms and agricultural holdings with large agricultural area use that are the principal benefactors. Given the structural requirements and local conditions of mountain areas with their small-sized farm-structures, these political guidelines do not produce the desired effects (HAJDUCHOVÁ, 2007).

The agricultural and rural development policy of **Hungary** (Agriculture and Rural Development Operational Programme, 2003) also favours economic growth, improvement of infrastructure, competitiveness and productivity, as experienced during the previous communist era. Although some acknowledgement of the importance of promoting agro-environment issues was made, it was not incorporated into the objectives of the programme in 2004–2006. It seems that specific aims to develop rural regions and to encourage sustainable farming in mountain areas are under-represented in the Hungarian programme. Hence the formulation of development programmes for agriculture and rural development in mountain regions is currently of low priority (TINER, 2007).

Elsewhere, the **Slovak Republic** has also integrated principles for sustainable agriculture and rural development in mountain regions in various conceptual, strategic and programming documents (Chapter 3.1.2) (KANIANSKA, 2005). The most relevant aspects are integrated in the programmes listed in Table 10.

The Republic of Serbia also does not have any political strategy concerning mountain and rural areas. An appropriate policy framework has to be derived from the various sectoral policy documents (Chapters 3.1.1 and 3.1.2) that indirectly refers to rural areas in mountain regions. This strategy anticipates that the ensemble programmes and documents are in the end able to regulate the overall SARD-M development context for the **Republic of Serbia**. Therefore, balanced regional development and principles of sustainable development are often put forward through general measures, without translation into concrete actions and policies or clear budgetary commitments. Current circumstances in Serbia oblige that the focus of Serbian policy-making concentrate on political stability and achieving sufficient economic growth. Due to the political events in the past it has to be accepted that rural issues and sustainable development of mountain regions may not achieve a higher priority on the political agenda (TAR, 2007).

Ukraine's major principles for generating concepts of sustainable development in its Carpathian regions are based on the Declaration on Environment and Development (June 14, 1992, the UN Conference on Environment and Development). At this point, **Ukraine** has already declared its commitment to the CC, although its concepts for Sustainable Development of mountain regions are still in the preparation phase. Consequently no policies and strategies have been implemented on national level yet. To enable the implementation of appropriate SARD-M policy measures, significant funds need to be allocated from Ukraine's state budget. Currently, an international grant programme is already implementing elementary measures with respect to SARD in the Ukrainian region of the Eastern Carpathians. Its mid-term aim will focus on the establishment of special agencies and on the exchange of experiences with the members of the Carpathian Convention to promote the implementation of SARD-M policies at the level of the Ukraine's Carpathian region (MARYSKEVYCH, 2005).

The analysis of the national reports has revealed that a holistic legislative act for sustainable development of mountain regions reflecting Western European standards is next to non-existent in Carpathian countries with the exception of **Romania**. Nonetheless, many initiatives and measures regarding sustainable agriculture and rural development as well as minor issues of economic and social cohesion are integrated in various institutional programmes. Hence a political instrument is needed to enable a precise delineation of mountain areas according to the proper criteria as well as the application of a holistic political approach (economy, services, social life, education, culture, etc.). The results and findings of the assessments of the SARD-M analysis might also serve a basis for generating programmes that consider explicit strategies and policy-planning approaches for the Carpathian mountain region (TINER, 2007).

4.1.1 Special EU Policy Programmes for Rural Development

Since January 1, 2007, five of the seven Carpathian Member States have become part of the EU. The two others, the **Republic of Serbia** and the **Ukraine**, have shown their willingness to or are attempting to enter into negotiations with the European Union, and are thus strengthening their networks with the European Community. The enlargement of the Union requires the reallocation of subsidies and the implementation of the CAP guidelines. Preparations to integrate the CAP in the procedures of the new Member States had already been initiated in the early stages of negotiations.

In particular, the Carpathian agricultural sector will be henceforth orientated towards a multifunctional approach. At present, challenges for Carpathian farmers include higher standards with respect to food safety and quality, the limited availability of structures for processing and storing agricultural products, and the transformation of agro-political framework conditions. Moreover, the new Member States are still learning how to use their opportunities in an efficient manner. Finally, not only are new Member States benefiting from these opportunities, but non-EU countries (the **Republic of Serbia** and the **Ukraine**) as well have access to Instruments for Pre-Accession Assistance (IPA, 2008).

For the most part, the **Republic of Serbia** is making every effort to become a candidate country. However due to political disagreements preparations for access negotiations with the **Republic of Serbia** were again postponed. Instead Serbia and the EU have signed an agreement to promote a more close collaboration (Stabilisation and Association Agreement SAA, April 29th, 2008). Independent of these political issues, the **Republic of Serbia** has already envisaged a Rural Development Programme and a Rural Development Plan. These initiatives are funded by the Agency for Reconstruction (EAR) "Support to Rural Development Programming and Payment System" (RDPPS) (TAR, 2007).

The **Ukraine** still has to deal with political and economical reforms before entering into access negotiations. Nevertheless, the EU has already made specific funding resources available, which can be used for environmental protection and for supporting rural communities (MARYSKEVYCH, 2005).

4.1.1.1 SAPARD – Special Accession Programme for Agriculture and Rural Development

During the pre-accession phase, candidates for accession to the European Union are eligible for financial aid from SAPARD. The programme aims at balancing the disparities between rural and urban regions and facilitating entrance into the Common Agricultural Policy (CAP). In order to participate in SAPARD, countries have to establish a national programme for agriculture and rural development.

In Carpathian countries, financial support from SAPARD was distributed in different ways. **Hungary** promoted agricultural methods that protect the environment and preserve rural cultural heritage. **Romania** established the National Programme for Agriculture and Rural Development (2000-2006). **Poland** improved marketing strategies and processes for agricultural products. The financial support from

SAPARD enabled investments into farms and the development and upgrading of rural infrastructure. The diversification of business activities was also supported. In the **Slovak Republic** the SAPARD Agency (now known as the Agricultural Paying Agency for Rural Development) supports the sectors of agriculture, food processing, forestry, fisheries and rural development.

There is already a high percentage of farmers in the new EU Member States who are benefiting from these financial resources. It is therefore required that they meet the standards of the European programmes. As a consequence, they have had to adapt their management style and products as well as their processing methods and facilities.

Thus SAPARD plays an important educational role in the development of organisational structures necessary to benefit from the European funds available for agriculture-related programmes. This development supports an intensive examination of public structures and farm owners through the opportunities and comprehensiveness of the CAP with the objective to assist countries to access allocated subsidies from the European Union. This transfer of know-how is not always attained (HAJDUCHOVÁ, 2007); more often than not, small- and medium-sized farms in peripheral regions fail to gather this information in time.

4.1.1.2 LEADER⁺ – Liaison Entre Actions de Développement de l'Economie Rurale

The LEADER⁺ programme fosters the implementation of new strategies for the development of rural areas. Local authorities, non-governmental organisations and business owners receive financial aid to carry out specific rural development projects. It is based on non-returnable financial support with the aim to motivate local partners to build inter-regional and European-wide networks.

The involvement of local stakeholders has proven a great advantage in Leader⁺, given that they deal closely with the strengths and weaknesses of the regions and are charged with their development. In this way, awareness of the current problems must be encouraged, as well as of potential for development. Intensive knowledge exchange requiring both horizontal and vertical collaboration is strengthening relationships between governmental authorities and administrative agencies in peripheral and urban regions, and is thus earning respect from the local population.

Among Carpathian countries, the **Czech Republic**, **Hungary** and **Poland** have active Leader Action Groups (LAGs). **Romania**, the **Republic of Serbia**, the **Slovak Republic** and **Ukraine**, did not mention any LEADER⁺ activities in their reports, although it is expected that **Romania** and the **Slovak Republic**, as new EU members, will initiate their participation in the LEADER⁺ programme soon.

The main challenges for applying LEADER⁺ projects are the consideration of the three main strategic axes of Rural Development and the adjustment into a holistic sustainable development strategy. Thereby it is decisive for the individual mountain regions to formulate basic strategic development programmes. The Carpathian Convention could therefore be an excellent guideline for elaborating a holistic regional approach.

4.1.2 Rural Development Programmes

Many sustainable development strategies of Carpathian countries have been integrated into various EU programmes (Chapter 3.1). Although most of them have had a positive influence on rural development, some of them could not attain their objectives. The most significant impact on agriculture, forestry and rural development was the new approach in accessing financial aid. As a result of these subsidies, incomes from agriculture have risen significantly, resulting in the economic stabilisation of rural areas (HAJDUCHOVÁ, 2007). These sustainable development strategies and goals for mountain

regions mostly concentrate on general national measures for which concrete stipulations and financial obligations are not always well defined.

In the **Czech Republic**, the recently adopted Rural Development Plan (RDP) is providing instruments to achieve an agricultural structure that respects and preserves valuable landscape features (HAJDUCHOVÁ, 2007). This new RDP will coordinate and compensate the differences between the Operational Programme for Rural Development and Multifunctional Agriculture and the Horizontal Plan for Rural Development 2004-2006, to accelerate the integration process of European agricultural policy. Although the provided subsidies from the programmes help to stabilise the Czech agricultural industry, the desired impact to encourage an integrative, multi-sectoral approach that could in turn promote the sound economical, ecological or social development of the entire region could not be guaranteed. The EU's implementation guidelines appear sometimes too rigid for particular local or regional applications, as they do not correspond to specific national requirements (Chapters 4.1 or 4.1.4.1) (HAJDUCHOVÁ, 2007).

Hungary is currently elaborating its National Sustainable Development Strategy. The measures will contain fundamental principles and objectives of sustainable agriculture (TINER, 2007). Although aware of the relevancy (Chapters 3.1.2 and 3.1.3), the implementation of the National Agro-Environmental Programme, which aims at the promotion and support of sustainable farming approaches for the sustainable use of natural resources and for the protection of biodiversity and landscape, was unfortunately delayed due to budgeting and political problems (TINER, 2007).

The **Slovakian Republic's** Rural Development Plan 2004-2006 and Sheep Breeding Programme as well as other programmes of agricultural and regional development (Chapters 3.1.1 and 3.1.2) partly consider mountain region issues. Although the Slovakian Republic is dealing with these crucial issues of rural and sustainable development, the definition and application of their strategic goals are often integrated without adequate cooperation and interconnectivity. Consequently it was deemed necessary in the Mid-term Concept of Agricultural Policy 2004-2006 to encourage the enlargement of administrative capacities, structural support and adopted legislation, in order to assist in the implementation of the CAP guidelines as well as programmes and measures of multi-functional agriculture and rural development (KANIANSKA, 2005).

The current political discussion in **Poland** to integrate the principles of rural and sustainable development of mountain regions into national strategies or plans is diminishing the effectiveness of a special mountain law to support sustainable development goals. These legislative barriers may possibly result in insufficient coordination of economic, environmental and social tasks in mountain regions. In contrast, it is encouraging to see that sustainable development activities and other environment-related issues are still being addressed and pursued through various regional and local policies. **Poland's** regional governments benefit from their own special budget lines (e.g., the Sheep Programme in the Malopolskie and Slaskie Voivodeship) dedicated to the provinces (voivodeships) and financed by the ERDF (European Regional Development Fund). As well, it must be stated that a legal and institutional foundation for the programmes (which would provide for greater relevancy) is still missing. Hence, specially designed regional programmes specifically addressing the uniqueness of the Carpathian region were applied recently to bring to the foreground the notion of rural development. But the operating reach of their actions and activities is unfortunately restricted to the regional or local level, rather than to a pan-Carpathian dimension. As a result of this concentration on particular local regions, there is a lack of coherent pan-Carpathian regional strategy (RUSZTECKA, 2007).

In **Romania** a couple of complex legislative acts adapted to European guidelines came into force. But due to a lack of funds, these laws are currently far from being implemented (BURDUSEL, 2005). In contrast, **Romania** is expecting important gains from its implementation of agro-environmental measures.

From this, helpful hints could be derived for adopting the principles of the CAP as well as for harmonising legislative issues at the administrative and local levels (BURDUSEL, 2005).

In addition, the **Republic of Serbia** has recently adopted several new strategic documents and laws regarding various fields relevant to rural development (Chapter 3.1.1) in order to attain an approximation of European legislative guidelines. Nonetheless, the volition to establish a holistic mountain-oriented approach that includes a specific examination of rural development and its relevance to rural economy has yet to materialise in Serbian policy (TAR, 2007).

A comparable development has occurred in the four mountain regions of the **Ukrainian** Carpathian Convention territory. There are already a great number of regional projects and development programmes in preparation, which have had an influence on the CC. Although these programmes concentrate primarily on the social and economical issues of rural development (without regard to mountain and environmental issues) most of them have nonetheless been approved, due to an inadequate understanding on behalf of the regional governments. Obviously, the implementation of specific measures of sustainable development programs planned by regional administrative units (regions, districts) strongly depends on whether the Supreme Council of **Ukraine** passes the national Concept of Sustainable Development and other appropriate legal acts (MARYSKEVYCH, 2005).

4.1.2.1 Monitoring and Controlling

In general, all national policies lack effective systems to systematically monitor indicators that could standardise the documentation of mountain region development. The integration of an adequate monitoring system, which would indicate necessary course corrections, would also enable efficient and effective evaluation of the use of European structural funds. Although the **Czech Republic**, **Poland**, the **Republic of Serbia** and the Slovakian Republic have currently implemented monitoring systems, they are for the most part of insufficient quality and often do not provide realistic information about the environmental impact on the landscape or the economic situation of the farmers (HAJDUCHOVÁ, 2007). Most of the Carpathian countries, except the **Czech Republic**, lack the high quality technical instruments necessary to establish Geo-Information Systems with detailed geo-referenced spatial data appropriate for civil use (RUSZTECKA, 2007). In addition to these technical weaknesses, the currently available indicator set is not appropriate for the accurate evaluation of objectives. Thus the monitoring function does not always provide the desired effect. Overall, the quality of performance and effectiveness of the methodology are decisive for getting an adequate evaluation (KANIANSKA, 2007).

In any case, Carpathian countries are aware that due to the availability and demand for information, public awareness for issues surrounding the support and protection of rural development is on the rise (HAJDUCHOVÁ, 2007). Given that the adoption of environment assessments, information monitoring systems and early-warning systems is already stipulated in Article 12 of the Carpathian Framework Convention, monitoring and control instruments will need to be installed in any case.

4.1.3 Socio-Economic Aspects in Rural Areas

Mountain regions suffer from adverse natural conditions, including several factors that have a crucial impact on the economic and social development of these regions. Due to difficult accessibility and long distances needed to travel to more densely populated centres, these regions lack access to public services. The construction and maintenance of important public and social facilities (schools, hospitals, kindergartens, fire brigades, public and cultural buildings, etc.) is very expensive. For the most part, the municipalities of these mountain regions are not very densely populated; thus, the lower the population of a region, the higher the cost per inhabitant ratio. Consequently the common problems of

Carpathian regions mainly affect small villages in peripheral regions, which are characterised by high unemployment rates, social problems and a poor level of education (TINER, 2007).

This bleak situation discourages young or new farm owners from taking over their parent's farms or managing their restituted farm areas. Not even the new boom in organically-produced foods and the global demand for agricultural resources can make the economical prospects of small-scaled farms in peripheral mountain regions meaningful.

Therefore the interest for agricultural education in the Carpathian regions remains low (TINER, 2007). In consequence, training opportunities and consultancy services for farmers are rarely offered in regions with low production potentials. This further highlights the poor economic potential of small sized farm businesses in the Carpathians (**Romania, Slovak Republic and Hungary**), in spite of the fact that this sector dominates the economic life of these rural regions. Overall, the younger generation sees little future in rural areas.

National and European politicians are aware of these problems. Accordingly, several national programmes aim to strengthen competitiveness and to prevent depopulation of the regions. Although these programmes include good approaches, the barriers created by the rising income disparity of these disadvantaged Carpathian regions may well render these initiatives ineffective (TINER, 2007).

In contrast, it is also evident that improvement of infrastructure facilities alone won't suffice to enable long-term sustainable development. Overall, the demands for adequate education, for leisure-time, shopping and cultural opportunities, as well as for attractive jobs within a reasonable distance, must be met (HAJDUCHOVÁ, 2007).

This inter-relationship is particularly pronounced in the southern Hungarian Carpathians. Although one of the poorest regions of the European Union, its economic situation could at least see improvement along the recently constructed motorway. But with respect to socio-economic conditions in general, the remaining regions in peripheral areas of the Hungarian Carpathians still remain one of the most underdeveloped in the European Union. Traditionally, the economy of the region was based on heavy machine manufacturing and on metallurgy. Due to their low productivity and low degree of specialisation, these mainly small- and medium-sized enterprises have increasing problems of liquidity, weaker market positions, and few possibilities for growth or interaction. At present, no substantial political effort is being taken to create networks to encourage business activities or to create and support innovative strategies.

With the European enlargement and the wave of globalisation, a few large companies have attained strong market positions, as they are benefiting from the low wage costs of unskilled jobs. Hence opportunities for well-trained and skilled workers still remain limited. Although these foreign companies have a meaningful effect on the regional economic development and wealth of the region, socio-economic disparities keep growing. And moreover, economic opportunities and added values become increasingly dependent on foreign enterprise (TINER, 2007).

In general, the development of the regional economy remains low and the willingness to invest in it is decreasing, which further reduces job market prospects. If these regions fail to establish jobs for skilled and well-trained workers they could run the risk of increased emigration and the loss of one of the most important endogenous potentials – well-trained human capital.

Emigration not only leads to economic losses – it also means a loss of traditional knowledge and 'human capital'. Not only does it have an impact on cultural heritage, the loss of traditional know-how directly influences a society's capacity to manage natural hazards and agriculture. Regarding agriculture, globalisation could provoke the abandonment of cultivating traditional, older forms of cereals or breeding traditional animal species.

To achieve economic diversification, tourism could be an interesting opportunity for mountain regions in the Carpathians. Consequently, a main concern will be sustainable regional development in order to preserve the ecosystems and natural surroundings in order to raise the standard of living as well as

the attractiveness of the Carpathian region for tourists (MARYSKEVYCH, 2005). If the vitality and living standards of a region are no longer attractive, there will be no opportunity to develop the tourism sector (RUSZTECKA, 2007).

Even if the regions are appropriate for the development of a tourism industry, they have to face enormous capital expenditures. Currently on the regional level, there exists only a limited knowledge-set for tourism and a poor degree of tourist infrastructure services. Existing accommodation facilities are mostly insufficient. Besides this, basic facilities and efficient regional and territorial marketing strategies for promoting the regions are for the most part not present (TINER, 2007). Currently these peripheral mountain regions in the Carpathians are attractive for individual tourists looking for a natural experience, but mass tourism, with its desire for a wide range of high-quality services, is not favoured.

Despite these doubts and insecurities, the **Republic of Serbia** is convinced of its tourism potential and is seeking to promote this industry by reactivating abandoned housing infrastructure to create modern tourist accommodation facilities adapted to the landscape. Therefore, the as yet untouched and undiscovered parts of the Serbian Carpathians are destined for tourist applications. The National Park Djerdap in the **Republic of Serbia** and the broad opportunities for sports activities and cultural sites may offer a meaningful potential for a successful concept of diversified tourism (TAR, 2007).

4.1.4 Agricultural Programmes

Agriculture and forestry are the main land users in rural areas and dominate the rural landscape. The availability of a diversified range of agricultural products – an economic key-factor – could augment the potential attractiveness of a region to tourists. In addition, peripheral and mountain regions are the sustainers of typical traditions and cultural mores. Thus, due their synergetic effects, the sustainable collaboration of agriculture and tourism could constitute a reasonable option for development.

It appears justified that these mainly small-scale farms, which manage agricultural areas in disadvantaged mountain regions, could be favoured by the allocation of indirect and direct subsidies, whose benefits would honour their contribution to public welfare and balance income disparities. But recently, the situation in these same regions (mainly mountain ones) has worsened due to the liberalisation of restrictions within the CAP Health Check. Considering that the milk quota system will be abolished in 2015 and the principle of decoupled production subsidies might be extended, new strategies and measures will be necessary to compensate for the economic disadvantages of agricultural production in mountain regions.

Food quality and safety, as well as the processing and marketing of products and inter-sectoral collaboration will play decisive roles in formulating future agricultural policy strategies.

4.1.4.1 European Common Agricultural and Rural Development Policies

Those Carpathian countries that have recently accessed into the European Union have already adapted their national agricultural programmes to the principle guidelines of the European Common Agricultural Policy (Chapter 3.1.2). Thus their programmes are from now on also based on the two main pillars of the European CAP:

- Pillar1: Market Measures and Direct Aids
- Pillar2: Rural Development Measures

Overall, the second pillar of the European CAP (EC 1257/99 Rural Development and EC 1698/05 - European Agricultural Funds for the Development of Rural Regions.) concentrates on developing

measures for rural economy, fostering cultural heritage and natural resources, and applying agro-environmental measures for the improvement of environmental conditions.

Nearly all Carpathian countries, have implemented National Rural Development Programmes (NRDP) (RUSZTECKA, 2007). Only the **Ukraine** has yet not been establishing a legal field or institutional provision to implement a state policy of sustainable development. But some of those issues are already partly integrated in the State Programme on the National Environmental Network Development for the period of 2000-2015 (3.1.1) (HRUBI et al. 2008). As most of the implemented agricultural programmes (Chapter 3.1.2) are valid nation-wide, the suggested measures do not always suit the particular needs of mountain regions.

Generally, during this transition period from pre-access phase and the period immediately following accession to the EU, the countries' administration is still in a learning process in which it comes face to face with a number of new experiences.. It will take some time before these administrative problems are solved and the administrative process for distributing financial means according to European guidelines is systematised. To this end **Poland** and the **Czech Republic** have already established fine, accessible Consultancy Centres and Information Points. Competent regional farming consultants are offering training programmes to provide information concerning the implementation of the Agro-Environmental or the Rural Development Programme (HAJDUCHOVÁ, 2007 and BURDUSEL, 2005).

Already agricultural development in all Carpathian countries has strongly benefited from European funds. As a result of sufficient financial means for agricultural policies, a high percentage (95% in the **Czech Republic**) of farmers from the new Member States and countries in the application phase have now the access, the will and the ability to use these EU subsidies according to their purposes (HAJDUCHOVÁ, 2007). In fact, EU subsidies are tied to specific conditions and are thus placing new requirements on European agricultural structures, and especially those of the new Member States. Accordingly, official entrance into the European market and the increased demand for agricultural products requires high standards of food quality and safety. Compliance with technical, hygienic and environmental standards, laws, guidelines and requirements could become an obstacle for participation in European markets, especially for small-sized farms. For the most part, they lack the required know-how and the necessary financial means to adapt their management and production facilities to these restrictions and requirements.

The agro-economical framework and legislative acts of the **Czech Republic** are still likely to favour large-scale farming reminiscent of communist era, hence preferring conventional farming over sustainably-managed small- and mid-sized family farms. Due to the virtue of their size, receive large sized farms a meaningful share of the European financial means for LFA and agro-environmental programmes. With respect to financial options, small-sized farms have fewer possibilities to react in times of financial difficulty. Thus subsidies are of the up-most importance for them. Furthermore, when financial aid is delayed, small-sized farms may face greater disadvantages, as they can be forced to take loans to bridge the time gap (HAJDUCHOVÁ, 2007).

In addition, hygienic standards and technical criteria, along with the subsidy system of the managed areas, discriminate against the numerous small-sized farms. The sale of their products has become more difficult due to the stricter market barriers. Thus there is a tangible fear that the sale of high-quality, traditional local and regional products could be hampered.

Apart from this, the fragmentation of farms is another economic barrier for managing farmland, one which can be additionally worsened if the property delimitations are unclear, as it sometimes the case in Carpathian countries (TINER, 2007). In this regard, national agricultural privatisation reforms brought meaningful change. On the other hand, it can occur that the new owners return their land (leasing schemes) to the former cooperatives due to their lack of agricultural education and know-how (TINER, 2007). Thus it has become obvious that small farms abandoned during the communist era will not be restored again. Following privatisation, the amount of cultivated agricultural land has declined, and the abandoned agrarian areas have changed to weedland (TINER, 2007; KANIANSKA, 2005). These pro-

blems of supply security and sustainable management and their dependency on farm size will remain as crucial tasks for the national agricultural policies in the Carpathians.

4.1.4.2 Agro-Environmental Measures

Agro-Environmental programmes (**Czech Republic, Hungary, Poland, Romania, Republic of Serbia** and **Slovak Republic**) and the sectoral Operational Programmes for Agriculture (**Czech Republic** and **Slovak Republic**), part of the national Rural Development Programmes (RDP), include the most relevant agro-environmental measures.

Currently the **Republic of Serbia** and the **Ukraine** do not have access to European funds supporting agro-environmental measures. While the **Ukraine** does not have any comparable structures named in its SARD report, the **Republic of Serbia** has implemented and elaborated several strategies for the agricultural sector.

In **Hungary** the most pertinent aspects are anchored in the National Agro-Environmental Programme. While some acknowledgement is made of the importance of maintaining agro-environment measures, this is not incorporated into the objectives of the Agricultural and Rural Operational Programme. It would appear that specific aims to promote measures of agro-environment and rural development are lacking at present and are considered a low priority. In any case, the programme had some notable achievements. To conserve biodiversity, funds have been spent to foster agro-environment measures that preserve high-value nature areas, traditional livestock breeding, cattle grazing and sheep production in valuable natural areas. Unfortunately the implementation of a larger number of projects was prevented for financial reasons (TINER, 2007).

Poland, in contrast, is aware of the socio-economic relevancy of agro-environmental measures for farmers as well as for the regions and the society as a whole. According to the LFA, these measures would be the most relevant instruments related to SARD policies in mountain areas. They would improve animal husbandry and preserve local, traditional breeds of farm animals. Currently **Poland** is also formulating a completely new edition of the agro-environmental programme (2007-2013). But in regards to the sustainable development of mountain areas, **Poland** struggles to adequately implement its national agro-environmental programmes: to date no initiatives have been suggested to increase EU subsidies for farmers who cultivate plots located in underserved areas (RUSZTECKA, 2007).

In the meantime, **Poland** has enforced the implementation of regional and local programmes (Sheep Programme, Taste of Malopolska, Silesia, Podkarpackie, etc.). These programs currently favour the promotion and broad dissemination of traditional products, the support of local producer groups, eco-tourism and folk crafts; they emphasise an integrated, multifunctional approach by preserving and revitalising the unique structure of rural landscape and its cultural heritage.

All these initiatives are based on the strong relationship that Polish farmers have with their farmland, particularly in the Carpathian region. In this way, extensively-managed and small-sized agricultural areas predominant in this region are maintained. The applied multifunctional management approach concentrates on the subsistence of agricultural production by means of extensive farming and eco-farming (RUSZTECKA, 2007).

Although **Romania** has improved its agricultural performance, the mid-term evaluation of the SAPARD Programme (MINISTRY OF EUROPEAN INTEGRATION, 2004) (Chapter 4.1.1.1) draws a partly negative picture of the current agro-environmental measures. The evaluation of the environmental situation showed insufficiencies as well. Thus further analysis and upgrades are needed to improve the environmental impact of the agro-environmental programme. These issues will be considered in the preparation for the new National Agro-Environment Programme of **Romania** that allocates EU funds for the period 2007-2013.

Environmentally-friendly agricultural procedures are also applied in the **Slovak Republic** to protect and to improve Natura 2000 areas. Nevertheless, the current range of agro-environmental schemes (concerning biodiversity, soil, etc.) is insufficient (KANIANSKA, 2005).

During the years 2004–2007 the OP (Operational Programme) of Agriculture and the HRDP (Horizontal Plan for Rural Development) in the **Czech Republic** had a major impact on agro-environmental measures. The implementation of these policies enabled the compensation of economical disparities in the agricultural sector. As well as increasing incomes, the policies have stabilised agricultural structures in disadvantaged areas. Practical experience and knowledge regarding the implementation of European policies may well prove to be another gain. Nevertheless, when focusing on mountain regions, it must be noted that the preservation of permanent grassland within the programme of the LFA was the only favourable subsidy measure (HAJDUCHOVÁ, 2007).

Although no specific guidelines regarding agro-environmental instruments or measures are currently applied in the **Ukraine**, some of these issues are dealt within the State Programme on the National Environmental Network Development (2000-2015) (3.1.1). Therein the objective that is dealing with the balanced and sustainable use of biological resources in economic activities is indirectly affecting the agricultural sector (HRUBI et al., 2008).

Apart from these national agro-environment programmes, the Carpathian Framework Convention (ratified in 2006) designed a unique protocol for developing sustainable agriculture. Within the scope of Article 7, several good instruments have been formulated to support the objectives of agro-environmental measures and to implement sustainable agricultural measures in the Carpathian Mountains (HAJDUCHOVÁ, 2007; BURDUSEL, 2005).

4.1.4.3 Organic Farming

All Carpathian countries have included measures for organic agriculture and high natural value areas within their Operational Programme for Agriculture, Agro-Environmental Programmes or comparable documents (in the case of the **Republic of Serbia** & the **Ukraine**). Organic agriculture and the production of high-quality, healthy food in disadvantaged areas or mountain regions may offer optimistic prospects for the Carpathian region (TAR, 2007). The arrival of this new and upcoming market segment offers farmers the opportunity to find stability and increase their income.

A couple of countries among the Carpathian states have already implemented strategies and operational agencies to promote this market segment. Therefore structures and frameworks need to be established. It is necessary to control the compliance to hygienic standards, to design a particular marketing strategy, and to establish a functioning network between production and product processing. In principal, access to European markets seems to be a challenge.

As it clear that none of the organic farms is large enough or in possession of sufficient know-how to participate directly in the market, specific cooperatives or cluster structures need to be established. Besides these internal structures, a national legislation framework adapted to European standards has to be formulated for this sector. Only when the products fulfil European requirements (Council Regulations 2092/91 and 1804/99) can the development of the market segment and access to European markets be attained (BURDUSEL, 2005). Due to the increasing demand for organic products, the agricultural sector is increasingly facing logistical problems. The main focus must be compliance with the required standards to pass the strict controls for organic products (BURDUSEL, 2005).

The conjunction of product origin identification, food safety and quality, and a high transparency of product processing are of prime interest for product placement. The demand for information regarding the chain of custody is increasingly becoming a decisive marketing criterion. Thus the implementation of IT solutions and GIS, (such as LPIS “Land Parcel Identification System” in the **Czech Republic**) are appropriate tools to handle the huge datasets required for monitoring or marketing applications

(HAJDUCHOVÁ, 2007). Administration and logistics will become more efficient. GIS is therefore the most common instrument for the authorities to support administrative processes. The control, analysis and documentation of various general agricultural indicators, irrespective of whether they concern organic or conventional farming, could be conducted with GIS.

The agricultural cooperative, Ecological Farmers Pro-Bio, in the **Czech Republic**, along with several other controlling institutions for ecological farming have already acquired a good position and have helped to create better market conditions for ecological farming (HAJDUCHOVÁ, 2007). Due to the rising number of organic farms in the Carpathian countries and the increasing demand for organic products on the European market, more certification agencies for organic farming are required. Certified organic farming must become a standard for all Carpathian countries. Accordingly, the number of units/farms applying organic production methods will continue to rise (HAJDUCHOVÁ AND BURDUSEL, 2005).

For the most part, the **Slovak Republic** and the **Czech Republic** have had positive experiences with respect to the administration of organic farming. They have integrated an Organic Agriculture Action Plan in the Operational Programme for Agriculture. This strategic instrument places emphasis on sustainable production methods and helps to set up concrete measures to achieve improvements in the field of organic farming. It has designed the preconditions for controlling the compliance of guidelines and requirements, thus guaranteeing the successful participation in this new and upcoming market segment. Unfortunately, local markets for agricultural products and for products of organic farming are still weak. There are only a few local brands, which receive no support to develop and improve their market position (HAJDUCHOVÁ AND KANIANSKA, 2005).

4.1.5 Environment, Nature Conservation and Biodiversity Strategies

Upon entry into the European Union all Member States are legally obliged to accept the guidelines of the 6th Environment Action Programme 2002-2012 (EAP) of the European Community (EC). The Programme consists of four main pillars: Climate Change, Nature and Biodiversity, Environment and Health, Natural Resources and Waste. The main concern of the 6th EAP is the integration of environmental issues into all EC policies and actions and to provide the environmental component of the EC's strategy for sustainable development. Thus a link between the environment and the European objectives of growth, competitiveness and employment is established (EC, 2002).

SARD adopts this integrative approach. The general belief is to integrate ecological concerns directly into aspects of land use. Alongside those integrative approaches, segregated strategies are needed for those landscapes of important natural value. The topics of Nature and Biodiversity have thus a high priority within the SARD process. In order to develop nature and biodiversity, all Member States were obliged to submit proposals for Natura 2000 sites as defined within the guidelines to protect Fauna, Flora and Habitat (92/43/EC). The Natura 2000 sites make up a European-wide network of ecological areas of special value. By putting this guideline into practice the most important step towards implementing the "Emerald" network (as planned since 1989 at the convention of Berne) was accomplished in the European Union. This natural protection programme extends beyond the borders of the European Union to include all European states. The resolution of the Bern Convention establishes European-wide protection of endangered fauna and flora habitats with the aim of maintaining biodiversity.

Another important pillar is the realisation of the water directive (2000/60/EC). The EU's main focus here is on the management of inland surface waters, groundwater, transitional waters and coastal waters in order to prevent and reduce pollution, to promote sustainable water use, to protect the aquatic environment, to improve the status of aquatic ecosystems and to mitigate the effects of floods and droughts (EC, 2000). The framework directive provides for the adoption of management plans and programmes suitable for each type of water body. Here, an agreement between user interests and

nature protection has to be found. Agro-environmental programmes are applied in areas outside the protected areas.

Considering the individual European countries, these programmes cannot apply the same restrictive environmental measurements to achieve significant improvement in environmental conditions so long as agro-economical interests are pursued at the same time (DELARZE et al., 2003). For this directive to be really successful in rural areas, it is crucial that it is not only used to create agricultural income. It is in fact important to link its implementation to clear criteria and to monitor any achieved successes.

4.1.5.1 The Impact of Policy on Biodiversity and Nature Conversation

In 2005 the National Biodiversity Strategy (NBS) of the **Czech Republic** came into force. It is the only national strategic document that includes aspects specific to mountain ecosystems. The strategy stresses the main threats to mountain biodiversity. It monitors the development of biodiversity in mountain ecosystems, applies sustainable management for non-forest-semi-cultural and cultural-ecosystems in mountain regions, deals with forestation and deforestation, controls the use of chemical substances, documents species composition, and tries to reduce negative impacts on the character of the mountain landscape. The strategy is well formulated, but does not address the issue of genetically modified organisms. Although it is intended that the adoption of the National Biodiversity Strategy be followed by action plans, its implementation is currently hindered, as no financial support is guaranteed and no political will is evident. Despite the relevancy of the strategy, there is still a budgetary imbalance between the RDP and the needs of biodiversity conservation (HAJDUCHOVÁ, 2007).

The UNDP's GEF project, "The Conservation of the Biological Diversity of the Carpathian Mountain Grasslands" in the **Czech Republic** is an EU-funded project which has a significant impact on SARD-M assessment. The first practical results for evaluating outputs of EU policies were attained from that project. The project was initiated by NGOs and international communities and was accepted by the state administration. Its results are likely to be put into practice (HAJDUCHOVÁ, 2007).

Although the communist era ended almost two decades ago, large parcels of land are still common in the **Czech Republic**. The intensive farming methods in effect in those areas have a strong impact on the character of the landscape and seriously endanger biodiversity. Consequently more damage is expected due to erosion and other natural hazards (HAJDUCHOVÁ, 2007).

Poland also puts effort into achieving a higher percentage of natural conservation areas with high levels of biological diversity. But due to land consolidation, rural landscapes suffer from degradation. Accordingly, a complementary approach of sustainable agriculture was integrated in the framework of the agro-environmental programme. The management principles are related to Natura 2000 sites in the Carpathians. The awareness for sustaining natural resources and its relatedness to agricultural land has led to a high level of competence in the field of rural development and nature conservation. Nonetheless, a proper strategy still needs to be ratified by **Poland's** government. Since a significant amount of financial resources is often spent during the implementation process to set up an action plan, there is consequently a lack of finances left for monitoring indicators or for investigating the cause and effect of climate change (RUSZTECKA, 2007).

Romania's Sustainable Development Strategy of the Mountain Region is the only programme from among the Carpathian countries that provides principles, objectives and measures towards sustainable development (mainly sustainable rural development) and biodiversity conservation in mountain regions. Key issues are: land abandonment in disadvantaged areas caused by the economic condition of farmers, threats to biodiversity, insufficient measures dedicated to protected areas and ecological networks. An action plan for coordinating available resources is missing in **Romania** (BURDUSEL, 2005).

Although the **Serbian Republic** has not entered into access negotiations, it has already identified protected areas in the Carpathian regions. Among these, the Djerdap National Park is the most famous protected site. While the flora and fauna offer an abundant diversity of species, environmentally damaging industries are still operating in the same area. These coal and copper mines and open cast mines as well as settlements without sewage and solid waste disposal are causing serious threats to the quality of air, soil and water as well as to biodiversity (TAR, 2007).

4.1.5.2 The Impact of Policy on Environment

Hungary does not currently have a sustainable development strategy. There is a 2nd National Environment Strategy 2003-2008 (NEP2), however, which aims at sustainable development. In this strategy the protection of renewable natural resources is stressed. The focus is on the improvement of air, water and soil quality. Nonetheless, there is still the need to deal with problems caused by agriculture. The damaging effects of untreated sewage and canalisation systems for irrigation and drainage, abandoned natural grasslands, the pollution of groundwater and surface water due to intensive farming as well as illegal water extraction have to be controlled. In addition, power production plants, other Industrial plants and increasing traffic density are responsible for a rise in the emission of air pollutants. Pollutants are mainly concentrated in urban agglomeration belts or in densely-populated settlements and areas with a high concentration of industrial plants, as well as in regions with intensively-managed agricultural areas (TINER, 2007). Air pollutants behave differently in mountain regions, enhancing their environmental burden. Pollutants remain much longer in the atmosphere due to less air circulation as well as meteorological conditions like inversion that are common in mountain regions (HEIMANN, 2007).

Romania has formulated an environmental policy in the National Programme for Agriculture and Rural Development (2000-2006). Measure No. 3.3 regarding Agricultural Production Methods is designed to protect the environment and to maintain the countryside (BURDUSEL, 2005). In **Poland** the National Fund for Environmental Protection and Water Management and the Eko-Fundusz Foundation were set up in order to implement the Natura 2000 Management Plan. Also in the **Slovak Republic**, strategic and conceptual programmes were drafted to provide financial means for the realisation of environmentally-friendly measures. However, the Slovakian SARD-M Report noted insufficiencies in the range of agro-environmental schemes (concerning biodiversity) for soil protection, ecological stability of agricultural countryside, for improving agricultural production quality, for socio-economic rural development or for cultural and historical heritage of agricultural land (Kanianska, 2005).

Finally it needs to be noted that in all Carpathian countries technical measures and set-ups for biodiversity conservation and environment protection are currently lacking. Hence large investments will be necessary in the coming years to reach European environmental standards.

4.1.6 Forestry Programmes

Due to the succession process for abandoned agricultural land, forest areas have been extended. On the other hand the demand for land for infrastructure facilities (traffic, housing and recreation) threatens these forested areas.

As stated in the national SARD-M reports there are other relevant threats in the Carpathians, such as insufficient levels of competence in the field of forest management, inadequate management of wildlife and games species, illegal logging of forests, false declaration of volumes, species, values or origin of harvested round-wood, poaching and illegal fishing, sawdust production, and illegal construction. An insufficient level of expertise within the Ministry and other institutions and individuals involved

in the field make these undesirable situations possible, through a lack of efficient controlling systems and serious sanctions (HAJDUCHOVÁ, 2007).

The SARD report of the **Czech Republic** suggests an incoherency with the existing strategies. Although the National Forestry Strategies of the Carpathian countries define ecologically-conducive and well-targeted goals, they are not coordinated with current agriculture strategy or the RDP. A link between biodiversity conservation and the support of small, forestry-related businesses is lacking. Since the attitude of forest managers towards nature conservation and biodiversity differs widely, forest policy authorities often have to deal with underlying conflicts. Consequently it would be advisable that the **Czech Republic** adopts the legislation of the National Forest Policy as well. However, there is not always the political will to put these changes into practice. And since the implementation of the National Forest Strategy must be realised through coherent strategic documents or through previously provided state subsidies, some programmes in the **Czech Republic** would not be eligible for additional financial aid (HAJDUCHOVÁ, 2007).

Polish forest policy provides solid background and guidelines for sustainable forest management; however its strategies should be oriented more towards the preservation of biological diversity. In addition, **Poland** shows a lack of sufficient integration and coordination between IACS (Integrated Administration and Control System) and SILP (National Forest Information System) as well as the Natura 2000 network and the system of protected areas. Due to the diversity of activities in the Polish forestry sector, there are underlying conflicts between the responsible authorities. Forest activities in **Poland** are financed by national means. Although financial aid for the forestry sector is mainly provided by national funds, private forest owners are nevertheless facing considerable limitations (RUSZTECKA, 2007).

4.2 The Effect of Institutions in Charge of the SARD-M Process

Various governmental and non-governmental organisations and institutions on national, regional and local levels are involved in the SARD-M process. Therefore horizontal and vertical integration as well as the inter-sectoral cooperation need to be strengthened. In general it appears that the cooperation within horizontal structures is easier than across the vertical and inter-sectoral ones.

4.2.1 National Level

4.2.1.1 Legislative Restrictions

Various authorities are involved in the implementation of policies, programmes or strategies. The ministries of agriculture, forestry and/or rural development play a central role in SARD and SARD-M policies. These are often organised in umbrella-type organisations with various directorates, secretaries and a number of well-prepared agencies. As stated previously, the **Czech Republic** has a high degree of formal restrictions and overly rigid rules lead to problems with individual cases and the specific needs of farmers.

4.2.1.2 Communication and Coordination

Aside from the formal problems, there is a general lack of communication and coordination that represents the most crucial issue with respect to the horizontal, vertical or inter-sectoral collaboration. The inter-sectoral coordination of the institutions involved in the implementation of SARD policies is still

insufficient and lacks cohesion. This concerns horizontal levels of governance – from the ministerial to the local – as well as vertical coordination and partnerships.

A tense relationship is reported by all countries between the ministries of Agriculture, Forestry and Rural Development and the ministries of the Environment and/or Water Management. The at-times unbridgeable gap is partly caused by the division of closely-related or overlapping competencies regarding water management and water protection. Also different attitudes and sometimes even antagonistic priorities (e.g., high agriculture and wood production on the one side and landscape and nature conservation on the other) may be a key factor for the discrepancies. In addition, a lack of free flow of information between the ministries can be observed. This may be the reason for the lateness of information disseminated to the farmers.

Romania on the contrary, has by far the most influential ‘umbrella’ in the Ministry of Agriculture, Forestry and Rural Development (MAFRD). It is responsible for the Law of the Mountain Region and the Sustainable Strategy of Mountain Regions and the National Agency of Mountain Areas (NAMA). NAMA is hosted within the Secretariat of the Inter-Ministerial Committee for Mountain Regions and applies government policies in the field of the development and protection of mountain communities and the environment. It coordinates the inter-ministerial committees’ activities in charge of the Training and Innovation Centre for Development in the Carpathians.

The technical Secretariat of the National Environmental Action Plan (NEAP), though, is based at the Ministry of Environment and Water Management (MEWM). This plan has been developed following the European requirements regarding environmental protection and policies. For the implementation the National Environmental Protection Agency (NEPA) has been established to provide technical support and advice to MEWM. The NEPA supervises cooperation between the European Environmental Agency, national agencies in the EU Member States, and other Romanian and foreign environmental bodies. NEPA also monitors the implementation of environmental legislation, coordinates the implementation of National, Regional and Local Environmental Action Plans, executes national and international programmes and elaborates reports.

This situation of overlapping responsibilities of different ministries, departments or agencies, and the resulting lack of cooperation and communication between the involved institutions is imminent in all other Carpathian countries too (BURDUSEL, 2005). The cooperation between the Ministry of Environment (MoE), and the Ministry of Agriculture and Rural Development (MARD) is only working well in **Poland**. This is mainly due to the cooperation of the Natura 2000 Programme (MoE) and the agro-environmental programmes (MARD) that require coordination of the different activities. Through this approach agro-environmental programmes are supposed to serve as a financial instrument to support the implementation of the Natura 2000 network in rural areas. But when ‘vertical’ cooperation at the ministerial and self-government levels is missing, the practical implementation may unfortunately be delayed (RUSZTECKA, 2007).

In the **Czech Republic** the Operational Programme (OP) for Agriculture and the Horizontal Rural Development Programme (HRDP) could be considered as successfully-implemented instruments for coordinating vertical processes. This is the result of the preparation and engagement of the implementation agencies, which are looking for direct contact with the farmers (HAJDUCHOVÁ, 2007). The established Agricultural Paying Agency in the **Slovak Republic** is managing a network of 18 regional Agricultural Paying Agency offices. Thus good access to information for the farmers should be guaranteed. In contrast, poor communication and a number of controversies between the Chambers of Agriculture and other farmer unions and cooperatives have caused problems with sectoral collaboration (KANIANSKA, 2005).

4.2.1.3 Implementation

The definition and design of rural development measures is mainly the responsibility of the Ministry of Agriculture, Forestry and Water Management (MAFWM). In most countries it constitutes the main institution that defines programme priorities. The agricultural strategy in the **Republic of Serbia** was adopted after several months of public consultation meetings and a fair participatory approach. Nonetheless, the human capacity to implement and control administration and policy development are often insufficient. There is an urgent need in the **Republic of Serbia** to promote institutions and bodies (Programme Managing Authority, Programme Monitoring Committee, and Accredited Paying Agency) that can implement SARD. Rural development strategies have not been conceptualised nor verified in any of the public dialogue processes by senior Ministry officials. More participatory processes are needed.

4.2.2 Regional and Local Level

In all Carpathian countries, local governments and municipalities are often responsible for rural development issues. Despite this, they are only occasionally involved in rural development support measures and further policy development. Only a few organisations (agro-business centres, private companies, local development and entrepreneurship support centres) are fully informed about available support from the national Rural Development budget, and consequently have better access to funds. The improvement of the local organisation network or the promotion of them as partners in the implementation of RD measures has not yet been done (TAR, 2007). Nevertheless, on a regional level there is a strong will for cooperation among local stakeholders. Many agriculture advisors are qualified in the field of rural development, sustainable agriculture and nature conservation. They pass their knowledge on to local Carpathian NGOs and regional consultant centres for farmers. They are most likely to participate in rural programmes (Chapter 3.1.2), if specially addressed initiatives (Chapters 3.2.2 and 3.2.3) help to conserve the Carpathians surrounding and uniqueness (RUSZTECKA, 2007).

Nevertheless, permanent pan-Carpathian cooperation is missing between interdisciplinary networks or 'advisory bodies' with representatives of national, regional and local authorities. In addition, a broader active participation with the main 'Carpathian' NGOs or representatives of universities and scientific institutes is absent. Hence, activities and initiatives occurring between the Carpathian provinces will be an exception to the rule (RUSZTECKA, 2007).

It is not only the lack in vertical coordination that hinders policy processes. The horizontal lack of coordination and cooperation among the regions also causes political inertia. Generally the rural population is willing to participate actively in the process of rural development. Unfortunately dialogue is sometimes lacking between ministries and representatives of regional governments and non-governmental organisations, including farmers. Hence, qualified experts on policy implementation processes are needed to improve learning and consultation systems, to ensure adult education and to enable the access to so-called 'business incubators' (KANIANSKA, 2005).

Nevertheless, there is strong commitment and involvement from local and regional initiatives – prominent stakeholders, NGO members, and small initiative-groups in sustainable development processes. These bottom-up initiatives are pushing for the establishment of trans-sectoral networks and cooperation in the 'vertical' dimension (e.g., the Green Carpathians Initiative). Their initiatives represent a very important basis and a 'catalyst' for fostering communication between national and regional stakeholders, agencies, NGOs, ministries and self-governments (RUSZTECKA, 2007).

5 Recommendations

5.1 Recommendations related to the Carpathian Convention

- The CC should represent the Carpathian-wide platform for developing a suitable mountain-based approach that integrates policies, institutions and processes (PIP) relevant for SARD-M, as well as for going beyond conventional cooperation, and for deepening political relations in order to fully evaluate the CC. This platform may create additional opportunities for SARD-M in terms of sharing and learning as well as for mitigation of negative side-effects of the related policies of rural areas. In addition, such a platform can serve as a body of credible information about good practices of SARD in mountain areas based on practical, real-life experiences. Those good practices and success stories could be replicated in other countries within the Carpathians, as well as beyond this mountain area. It should stimulate a rise in awareness for SARD and provoke discussions on the Carpathian Convention as well as on common development agendas in a wider sense that facilitate the learning and experience sharing process.
- The CC can contribute to solving important questions related to rural development, infrastructures, cultural exchange, administrative cooperation, energy, nature conservation and development including harmonisation of the legislation of different issues in a trans-border approach with respect to sustainable development of a mountain area.
- The creation of a Carpathian Research Initiative and the launch of a Research Agenda are needed for the sustainable development of this region. A key element is research for the Carpathians. The region and its inhabitants should benefit from this research and its resulting innovations. The research will be transnational, trans-disciplinary and problem oriented. This requires collaboration with international organisations, NGOs and other groups beyond the Carpathian space as well as the local population and institutions interested in mountain research.
- A knowledge base for SARD in mountain areas can be built in cooperation with other mountain regions, for example with Alpine Convention countries that already have experience in developing common policies and instruments. Linkages can be established between interested stakeholders to facilitate communication, collaboration and interaction so as to obtain the objectives of SARD and the Carpathian Convention. In order to better address the problems of mountain policy, future activities may consider:
 - the improvement of living conditions;
 - the application of appropriate land use and nature-friendly and ecologically-sound farming;
 - the promotion and marketing of agricultural and forestry high quality products, and;
 - the definition of approaches to improve social cohesion and regional value added.
- Increased national awareness and action can be obtained by informing a broad public of the results, achievements, and lessons-learned with respect to SARD and forestry. This could serve as a complementary part of the Carpathian Convention Work Programme to ensure that the issue receives enough attention at various levels of institutional settings.

5.2 EU related Recommendations

- For formulating future rural development programmes it is compulsory for the EU Member States to consider the three dimensions of competitiveness, land management and quality of life within the second pillar of the CAP (EC 1698/d2005). Funding can only be received if the requirements of these axes are fulfilled. Consequently they are also important for SARD-M and the Carpathian Convention. Within the framework condition for rural development 2007-2013 given by the Göteborg directives and the renewed Lisbon strategies, requires the preparation of healthy and high-

quality products, and sustainable production methods (including organic production, renewable raw materials and the protection of biodiversity).

- The most successful EU funded policy instruments with respect to best practice strategies for mountain areas have to be analysed in the context of this region. The most appropriate ones that use the advantages of the CAP should be adopted and implemented for the needs of the individual Carpathian countries.
- Continue the high level of effort and investments for the implementation of quality and sanitary standards in agriculture in compliance with high European food safety standards, mainly relevant for the dairy and meat sectors (BAUM et al., 2004). Therefore the training of farmers and administration related to the management of rural and mountain areas is important.
- Central and South East European countries aspiring to join the European Union should participate in the programmes SAPARD, PHARE, ISPA and CARDS. They could make use of EU funds available from the Central Europe Programme for 2007-2013 periods (covering all countries except **Romania** and Serbia), particularly if they are developing project proposals for common trans-disciplinary projects within the South East Europe Transnational Cooperation Programmes 2007-2013.
- The **Republic of Serbia** (currently involved in access negotiations) and the **Ukraine** (already announcing its interest to enter into application negotiations) should exploit the Instrument for Pre-Accession Assistance (IPA), which enhances the efficiency and coherency of aid by means of a single framework. EU Member States could support these countries by means of the CC to create a solid basis for a possible future accession. In particular, inhabitants and administration in peripheral mountain areas have to be informed. The non-EU Carpathian countries should develop an increasingly close relationship with the CC, which goes beyond conventional cooperation, deepens political cooperation, develops a solid foundation for further integration into European structures and spreads European standards over the whole Carpathian region. They should utilize the various opportunities of the Carpathian Convention in order to strengthen and deepen their relationship and networks with the European Community as well as to build for themselves a Carpathian identity and a Carpathian space. The Convention provides a transnational framework for the application of EU policies throughout the Carpathian region.
- The Carpathian Convention may offer an important link for those countries not benefiting from the EU structural fund, and could hence represent an instrument to develop cohesive policies within the Carpathian Region. To this end, there is the example of support the EU Commission lent to the Southeast Europe Transnational Cooperation Programme 2007-2013.
- The attractiveness of the Carpathian Region could be enhanced by installing appropriate tourism structures (accommodation facilities) that respect sustainability, and by initiating marketing strategies to promote them Europe-wide. The focus must be put on the development opportunities of SMEs, agro tourism, tourism and protected areas/spas and so forth, to become one of Europe's most attractive destinations. The valorisation of the Carpathian outstanding cultural heritage should thereby provide a significant economical opportunity.

5.3 Policy and Process related Recommendations

Agriculture, Forestry and Rural Development

- Initiate the foundation of advisory boards for agricultural extension for farmers, administrative staff and other levels *in situ*, that is, in the mountain areas, and in line with sustainable agricultural practices (management of hazards, implementation of good environmental practices and biological agriculture, etc.). They may help to make the support measures functional rather than declarative. Thus it is necessary to extend the initiatives for agricultural extension/advisory services and rural innovation support centres in order that small-scale farmers have access to EU funds as well (BICHIR, 2008).
- More flexible programs should be formulated to generate a framework that facilitates the specific regional and local requirements of mountain regions. Stronger focus needs to be put on production

conditions, typical farm structures, settlement patterns and natural conditions of mountain areas, and so forth. Local stakeholders, entrepreneurs and administrators should be kept well-informed and skilled in order to guarantee the efficient implementation of measures.

- Initiate a paradigm change towards environmentally-friendly land use strategies and land consolidation processes. More specifically, this means taking a holistic view of mountain areas that considers different structural aspects with respect to culture, heritage, settlement, economy and nature. The application of multifunctional farming has in this way contributed to the reduction of chemical fertiliser use. Through these efforts a higher biodiversity level was attained by the reintroduction of missing species. Hence the political instruments of rural development programmes (RDP) that support agro-environmental and economical measures as well as quality of life and diversification approaches seem to be effective and should thus be extended to make sound and ecological farming in mountain areas even more attractive.
- Since the booming demand for sustainably-produced, high quality products exceeds supply, farmers should be motivated and trained to farm organically. Measures should be implemented that emphasise the quality, security and processing of these products. With respect to marketing activities, the establishment of cooperatives could be a reasonable option.
- Enforce the improvement of agricultural product processing and the marketing of high quality products with denominations of geographic origin. This means the creation of proper conditions for marketing organic meat, vegetables and dairy products as well as for selling goods directly. In this context, attention needs to be paid to the improvement of monitoring and evaluation systems for the protection of the certified original label and geographical denomination, which are essential for promoting its singularity. Finally, more effort has to be put into the development of the local market, local products, regional brands, and the diversification of production.
- Create structures that enable the promotion and sale to international markets of high-quality processed products from the Carpathian area. The cooperation of farmers within a core cooperative should be seen as a possible approach.
- Strengthen measures that support compliance with community standards (especially for marketing, processing strategies and qualitative agricultural products). Consequently, the impacts of SARD policies on the food and agricultural sector performance need to be assessed in terms of food security, rural welfare and international trading relations to identify appropriate marketing strategies and sales logistics.
- Extend the distribution of financial means to young farmers and to investments in agricultural holdings (BAUM et al., 2004). Provide subsidies to specialised local processing companies (local slaughterhouses, dairy plants or cheese producers) with the contingency that they consider the same hygienic production restrictions as do large-scale food producers. By strengthening the regional economy the value added chain remains in the region.
- Maintain small-sized family farms and companies, which could prevent a decline in ancient and possibly endangered agricultural species as well as the loss of traditional know-how of production and management methods. Support an economic diversification (SME) and creation of off-farm income possibilities, that is, investments that foster the rural economy. This could constrain the motivation of large industrial holdings to buy or rent thousands of hectares of grassland in marginal or less favoured areas (LFA) in order to profit from CAP subsidies. Agriculture will, even in the mid-term, play an important role in most rural areas in Central and Eastern Europe, although the importance of agriculture is declining relative to the other economic sectors (BAUM et al., 2004).
- The CAP should be seen as an administrative and economic challenge (EU standards), but one, which offers huge economic opportunities (quality improvement, export, funds, etc.).
- It has to be assumed that the agro-structural change will continue. Hence, the creation of a series of measures to mitigate negative social impacts is necessary.
- Increase forestry extension in order to improve the management skills and competence of private forest owners. Enlargement activities should focus on a long-term forestry strategy that considers the sustainable, biological cycle-friendly and regionally-aware utilisation of forests. Instruments of forestry planning should be devised and harmonised transnational within the framework of the CC

to develop and use this unique forested area of the Carpathians. More attention needs to be placed on sustainability measures and integrative forestry management practices that support the notion that autochthon forest species composition and other environmentally-friendly (harvesting) methods will serve to upgrade forest management guidelines and applied forestry programmes.

- Forests should be regarded as important economic areas for leisure and tourism activities.
- Integrate and coordinate between IACS (Integrated Administration and Control System) and SILP (National Forest Information System) as well as Natura 2000 areas and protected areas.

Socio-economic Frame

Economic Aspects

- Maintain and improve infrastructure and public services as one of the key factors behind economic development in rural areas. This includes services of general economic interest that are vital to rural and mountain areas. According to the new rural paradigm of the OECD, transport and ICT infrastructure, public service provision, valorisation of rural amenities and rural enterprise promotion are crucial for rural areas. In terms of conserving the vitality of a region, particular infrastructure services should be available.
- A central role in the supply system of a whole region is related to different large- and medium-sized centres. They may represent the regional starting point of sustainable development and may influence the peripheral areas through their capacities (job opportunities, public services, training, culture, etc.). The loss of innovation potential due to the 'brain drain' could be prevented by creating job opportunities, cultural activities, and so forth within a reasonable distance.
- Upgrade tourism interests and the valuable historical heritage of the Carpathian regions. Tourism is seen as the most likely income sources in rural areas (with the most positive outcomes), followed by manufacturing, specialised food and drink, and finally information technology (IT). Combining and promoting eco-tourism and traditional or organic farming offers opportunities for preserving the traditional rural landscape and cultural heritage and strengthens the rural economy. However it should be expected that only certain areas with favourable conditions would be able to play an important role in tourism.
- To avoid a further decline of rural areas and negative demographic trends, measures and strategies must be invoked to establish alternative sources of income (SME) for those employed in the agricultural sector of mountain regions. Improving off-farm employment and income sources is becoming more and more decisive for the socio-economic wellbeing of rural areas (BAUM et al., 2004). Within this initiative, and in favour of the local population, the additional income should be acquired in sectors closely linked with the endogenous development potential of the regions. In this context, the maintenance of the existing small- and medium-sized enterprises (SME) is essential, because it is exactly these types of enterprises that can enforce a diversification strategy.
- Implement a balanced regional policy based on endogenous potential. That said, stimulating the inflow of capital and FDI could boost economic possibilities if it were to mobilise local economic potential. Regardless, without investment no new jobs in rural regions can be created.
- Mobilise participative processes and sectoral collaboration, which are preconditions to raise the domestic and international demand for culture and eco-tourism with regard to local products and services.
- Apply multifunctional agriculture, the use of renewable resources and the development of markets for organic and traditional products as appropriate strategies for the application of SARD-M related policies. Due to the potential threat to biodiversity and assumed health risks, many stake holders would appreciate, if GMOs are excluded from the production of foodstuffs and bio-fuel plants.
- The industry should consider European standards for safeguarding the environment. Environmentally-damaging industries should be equipped with the latest environmental technologies in order to prevent serious threats to the quality of air, soil and water as well as biodiversity.

- Maintain the ownership and responsiveness of local citizens as a particular precondition to continue the production of typical nature-friendly farm products, which would be unviable at present, if not supported.

Social, Socio-cultural and Educational Aspects

- Rural areas cannot be considered homogenous and general statements such as “over-aged population” are not appropriate (BAUM et al., 2004). Consequently, the usual national statistical data concerning unemployment, age structure or migration fail to express the true regional situation. To improve the efficiency of rural development programmes, more detailed economic and socio-economic analyses are required than are provided on NUTS3 in order to apply concrete policy measures adapted to the specificities of particular regions.
- The most difficult and problematic issue is the maintenance of all regional aspects of culture, including traditional forest and agriculture practices, and their connection to sustainable use of natural resources. Thus the use of local knowledge (local cultural values and skills) combined with knowledge acquired from other Carpathian countries and other mountain areas should be promoted, including documenting activities to preserve the traditional knowledge (toponomastic, cultivation methods, products, animal species, languages, etc.) and its relationship to landscape and cultural heritage. This requires increasing the appeal and promoting the needs of rural people. The sense of ownership of and responsibility to the land experienced by local people are essential conditions for the successful launch of the SARD-M process.
- Link policy with practice: Sufficient effort to raise the attractiveness of rural areas, integrating the needs of rural people has to be made. The ownership and responsibility of these local people will play a key role for launching SARD-M policies successful. Thereby, communication, public participation and cooperation between stakeholders are valuable factors for implementing SARD.
- Facilitate access to learning and training processes in rural areas for the wider public. This means intensifying human resource development as a core capacity for building, transferring and acquiring knowledge (training, interactive learning and knowledge networks). Special attention must be paid to the experience of indigenous mountain people according to the motto: “scan globally, reinvent and implement locally”. Accordingly, it must be an aim to apply educational measures adapted to the age structures of the regions (BAUM et al., 2004).
- Use the synergies between the countries of the Carpathian region within the framework of the Carpathian Convention and the exchange of resources to lead to additional benefits.
- Preserve and develop some unique Carpathian phenomena including the preservation of material and non-material goods such as craft techniques, buildings with historical value, settlement traditions, and regional languages (including dialects, etc). Moreover, maintain the cultural particularities of the Carpathians in order to develop a common Carpathian identity and awareness. In this optic, it would be desirable to create pan-Carpathian programmes.

5.4 Recommendations: Institutional Perspectives

- Promote better cooperation and coordination among ministries and stakeholders and a more advanced and systematically structured collaboration. Cooperation should not only be fostered on the horizontal level between the regional and local authorities in charge, but also on the vertical level with national institutions or ministries. Due to the lack of available budget and personal capacities as well as the presence of overlapping competences, tensions between ministries and institutions are almost reaching a point where no reasonable collaboration is possible. Hence, participatory and communication processes between all stakeholders should be intensified and supported through the implementation of proposed recommendations derived from a transparent process. This means a move away from pure sectoral initiatives to promote a more multidisciplinary

approach that fosters horizontal and vertical coordination with respect to sustainable and rural development. To attain a higher efficiency, the general introduction and application of modern IT techniques (e.g., data bases, IS, GIS, etc.) would be advisable. These initiatives need to be enlarged beyond the country systems and between the counterparts. An international, multi-sectoral cooperative approach would be desirable, which emphasises the collaboration between competent regional and local authorities across the Carpathian countries

- The regional and local authorities should be given the ability to participate in the preparation and implementation process of policies and measures within their competences and within the existing institutional framework. Such transparent integration processes would be favourable to strengthening the credibility of civil society authorities. Sometimes, this vertical coordination is not present. As decisions on the national level are occasionally made without any participative or democratic process, it is even possible that a national regulation could become a barrier to the realisation of local or regional initiatives. Consequently, administrative and organisational requirements need to be devised to create structures that will enable the coordination of what is at present only a theoretical vertical decision approach.
- It is necessary to improve the decision-making systems to enhance government functions in the fields of policy, coordinating information management, and monitoring/evaluation.
- Research and training institutes, universities, agricultural and environmental organisations, and the media of all Carpathian countries should be considered in the effort to build cooperation. These institutions should operate according to the demands of the mountain regions in the Carpathians.
- With government support, existing national and regional networks of stakeholders associated with SARD could be coordinated and centrally organised within one formal Internet portal, where experiences, information and best practices examples as well as the lessons-learned could be shared.
- Engage the services of advisory bodies consisting of representatives from the Carpathian Framework Convention to supervise the mechanisms of communication and public participation. Their main tasks would be the coordination and harmonisation of interventions; the intensification and support of participative processes between stakeholder ministries, agencies and civil society; and the support of inter-organisational partnerships including public-civil and public-private partnerships at the vertical, horizontal and inter-sectoral levels. Each Carpathian country should define the best level of coordination and cooperation between national, regional and local authorities (networks) directly involved in the SARD-M process to encourage responsibility, accountability and solidarity.
- Integrate the most relevant national and international organisations and institutions interested in the Carpathian SARD-M process. In this sense, stimulating the collaboration and participation of various government agencies and ministries would be useful as well. For ensuring and organising inter- and trans-disciplinary collaboration, qualified human resources and the allocation of sufficient financial means would be required.
- National policies and measures adjusted to the needs of sustainable agriculture and rural development in mountain regions need to be designed, implemented and evaluated. To this end, unfavourable location conditions; limited possibilities and higher costs for production; disparities in access to culture, education, services; and fewer job opportunities must be taken into account.
- In order to close the information gap and to implement coherent actions, farmers need the support of the agricultural consultancies to be able to cope with the bureaucratic requirements. Most of these farmers managing small- and medium-sized farms in Carpathians mountain regions do not have access to modern communication facilities. Hence the implementation of agricultural funding extensions is relevant to provide the latest information and developments regarding production restrictions or to access funds to implement major decisions on SARD policies.
- Accordingly, an increase of human resources in local institutions for the application of rural planning and the development of effective participatory planning methods would promote the implementation process.
- Finally, the budget planning process must guarantee the implementation of all programs that have formulated an action plan.

5.5 Future Prospects and Challenges

Climate Change

Global warming represents a challenge for the world, and thus for mountain regions as well. In Central and Eastern Europe decreases in summer precipitation levels is increasing concerns about water consumption. Health risks due to heat waves are on the rise. Forest productivity is declining and the frequency of peat land fires is increasing. Hence, Carpathian countries must strictly adhere to national thresholds of greenhouse gases that respect the Kyoto agreement and EU limits. That would mainly require diminishing air pollution (SO₂ and nitrogen oxide emissions of the heavy industry) concentrated in the Western and North Western Carpathians, and in the Czech and Polish parts of the Silesia region. The sequestration of carbon offers an interesting opportunity to access funds through the Clean Development Mechanisms by applying appropriate strategies to improve carbon fixations.

Bio-Energy (Biomass) Bio-Fuels and Food from Wood

The EU renewable energy roadmap is likely to have a significant impact on EU agriculture. This potential has to be used in a sustainable way. Currently there is only a modest use of bio-energy in the EU. About 6% of the primary energy supply is biomass based (BERNDES & HANSSON, 2007). Carpathian EU members have a substantial biomass production potential. Their production costs are much lower than in Western European countries. If this potential could be realised, these countries could contribute to EU targets on bio-energy and renewable energy sources. The management concepts need a two-fold strategy: sustainability has to be guaranteed, and the added value of the renewable energy sector has to be kept within the region. Regardless, it should be accepted that the primary vocation of European agriculture will continue to be food and feed production (UNEP/DEWA, 2007).

Water Management

In the Carpathians, water resources are a key factor, particularly for agriculture, fisheries, industry and energy production, as well as for tourism and human consumption. Favourable climatic and hydro-geological conditions offer plentiful fresh water resources that support the fundamental needs of human wellbeing and natural life in the Carpathian region and adjacent areas. Freshwater is still sufficiently available, particularly in mountain areas. In all Carpathian countries, water management will face great challenges due to economic transition and privatisation of the public sector, as well as current socio-economic developments and human lifestyle tendencies in the Carpathians. Measures for sustainable water management (KEO Report, UNEP/DEWA, 2007) include:

- Maintaining the water infrastructure and improving public awareness through education initiatives and the promotion of reduced water consumption;
- Ensuring a safe drinking water supply with corresponding policies as the basis of adequate management of water resources;
- Preventing the further deterioration of water sources;
- Protecting freshwater ecosystems; and
- Using artificially-regulated ground and surface waters in a sustainable manner.
- The sustainable management of watersheds could become a rewarding environmental service.
- Cross-border collaboration with regard to the implementation of the water framework directive would be appropriate among the countries of the Carpathian Convention (CC).

Biodiversity

According to the KEO report (UNEP/DEWA, 2007), the biodiversity of the Carpathians is difficult to estimate. Even today knowledge of the exact number of species and their populations, along with their

exact distribution and range is incomplete and often fragmented. As the Carpathian regions cover broad foothill areas and river valleys, the list needs to include many species that principally occupy lowland ecosystems (and only marginally inhabit mountain areas). In addition, one should consider migratory and invasive species. It is estimated that the entire Carpathian region is home to more than 60,000 native species, excluding micro-organisms. Agriculture has therefore a key role to play in protecting biodiversity. Based on the results of the KEO Report (UNEP/DEWA, 2007), the principal challenges and measures are:

- Climate change, which is likely to result in modified habitats, causing the decline of some species and enabling the expansion of others, including invasive alien species.
- Managing mass tourism (rethinking the proposal to organise the Winter Olympic Games in Poprad, **Slovakia**, and Zakopane, **Poland**).
- More sustainable management of hydro-electric investments and the construction of large dams and reservoirs.
- Planning and constructing trans-Carpathian highways and motorways.
- Changes in agriculture and forestry and an abandonment of traditional agriculture and forestry methods, such as pasturage or coppicing, common to the Carpathians.
- The contribution of Carpathian rural communities to a reduction of the loss of biodiversity should also be taken in consideration, to remunerate environmental services.

5.6 SARD-M Strategies in Line with CC Articles

The Carpathian Convention is designed to be an innovative policy instrument to protect the uniqueness of the Carpathians and to conserve their ecological value and cultural heritage. In particular, Article 7 of the Convention emphasises sustainable agriculture and forestry in the Carpathian Mountains. Besides the agricultural focus, the Convention emphasises a diversity of environmentally and economically relevant issues concerning the Carpathian Mountains. Recently all seven of the Carpathian Member States have ratified the Carpathian Framework Convention.

The SARD-M project, which is operating worldwide, is a unique opportunity for all concerned stakeholder governments, international communities and civil societies to develop joint initiatives in favour of sustainable and rural development as well as to raise awareness of the role and value of mountain ecosystems and the need for SARD mountain-specific policies, legislations and institutions.

Currently mountain populations lack a voice in political life, as they are physically isolated and socially marginalised. They are far from decision centres, on the wrong side of the digital divide, and often do not have the critical mass to affect political decisions. Consequently, mountain people are among the poorest and hungriest (FAO, 2007b). Therefore improvements in the quality of life as well as the strengthening of local economies are core focal points of Article 2 (General Objectives and Principles) in the Carpathian Framework Convention (ISCC/UNEP, 2007).

Moreover, mountains are crucial for human life in general. They provide fresh water and are storehouses of genetic diversity. Since their ecosystems are fragile, they suffer from threats due to climate change, globalisation and population dynamics (FAO, 2007d). As the impact on mountain ecosystems is multifunctional, all of the 13 articles of the Carpathian Framework Convention consider sustainable measures and approaches to maintain their ecological balance.

- Sustainable agriculture in mountain regions is a prerequisite for protecting the mountain environment, for promoting rural economy and the livelihoods of mountain people. A vital mountain agriculture assures the provision of environmental services (external effects) for humanity (FAO, 2007d). These core elements of SARD-M are considered in Article 7 (Sustainable Agriculture and Forestry) and in Article 2 (General Aspects and Principles). When designing regional cooperation projects with respect to SARD and forestry within the framework of the Carpathian Convention, the

fragility of mountain ecosystems with respect to local surroundings and the specificities of the Carpathians should be addressed.

- In view of the cooperation needed with regards to SARD in the mountain regions of the Carpathians, collaboration between research institutions, international organisations, NGOs and other groups of the Carpathians must be enhanced in order to identify the requirements of a pan-European research approach. This approach is in line with Article 13 of the CC that pursues access to public information and public participation on the protection and sustainable development of the Carpathians (ISCC/UNEP, 2007).
- Therefore cooperation with other mountain regions, mainly with Alpine Convention countries, is of great relevance to construct a knowledge base for SARD. This would enhance dialogue with international organisations and agencies engaged in fields related to SARD and forestry issues. Their experiences in developing common policies and instruments (MOUNTAIN FARMING PROTOCOL, 2006) in the coordination of interested stakeholders and the facilitation of communication could be useful for adjusting the objectives of SARD-M.
- More awareness for the SARD-M initiative and forestry will be attained by informing a broad public of the results, achievements and lessons learned. Through its complementary objectives to the articles of the Carpathian Convention Programme, the SARD-M approach will receive enough treatment and attention on the regional, national and global level.

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The SARD (Sustainable Agriculture and Rural Development) concept emerged in the early 1990s as a framework for focusing greater attention on sustainability issues within agricultural and rural development processes in developed and developing countries. Today, SARD is seen as a paradigm for holistic development that seeks the attainment of the Millennium Development Goals that emerged at the Rio Earth Summit in 1992. According to the most acknowledged definition, SARD refers to a process which is ecologically sound, environmentally sustainable, economically viable, socially just, culturally appropriate, humane, based on a holistic scientific approach and productive over the long term.

Under the auspices of the Carpathian Project, UNEP Vienna has assigned the Institute for Regional Development and Location Management for delivering a transnational SARD-M synthesis report. Based on the national Carpathian SARD-M reports the analysis illustrates the national strengths and weaknesses of policies, institutions and processes involved in the SARD-M process. As the Report is making contributions for appropriate policy instruments and strategies for the Carpathian Convention Working Group on sustainable agriculture, rural development and forestry, this transnational approach has to be regarded as complementary to the Carpathian Convention.

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