



**Regional Synthesis  
of the National Assessments of Policies, Institutions and  
Processes for**

**SARD-M**

**in the Carpathian Convention Member States  
Czech Republic, Hungary, Poland, Romania, the Republic of  
Serbia, the 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
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
NFFPS	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

The present SARD-M report is a pioneering study. For the first time are sustainable agriculture and rural development in Mountain Regions (SARD-M) related policies, institutions and processes (PIPs) in the Carpathian region discussed 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 after coming into force in January 2006. (FAO, 2007A)

The CC provides an integrative platform for multi sectoral policy coordination including sustainable agriculture and forestry within the scope of application. As a result thematic issues are emphasised, relevant for the development of mountainous regions (Art. 4, Biodiversity; Art. 9 tourism; Art. 6 water management; Art. 8 transport and infrastructure; Art. 10, industry and energy). Thus it was accepted that the development of the regions in the Carpathian Mountains is not so much dependent on single factors and sectors as on the successful coordination of them. In particular the development of the agricultural and forestry sector is influenced significantly by other sectors operating in contiguous 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. This appears to be very idealistic and far from the current reality. Thus the Carpathian countries will have to face very intensive and complicated efforts towards reaching the desired goals (FAO, 2007D).

The necessity of a common approach is also defined in Art. 3 of the Carpathian Convention (CC). Consequently, „the parties must apply the approach of the integrated land resources management 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 focusing more on sustainability issues within agricultural and rural development processes in both developed and developing countries. Today, SARD is seen as a paradigm for a holistic development that intends the integration of the Millennium Development Goals and of related targets as its overarching goal (FAO, 2001).

In this paradigm, the issue of sustainable agriculture is closely linked to rural development. At the global level, Chapter 14 of Agenda 21 deals simultaneously with sustainable agriculture and rural development and declares 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 provides 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 which meets the following criteria (FAO, 1995):

- Ensures that the basic nutritional requirements of present and future generations, qualitatively and quantitatively, are met while providing a number of other agricultural products.
- Provides durable employment, sufficient income, and 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, and 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 of 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).

We now know that the SARD initiative is a multi-stakeholder umbrella framework designed to support the transition to sustainable agriculture and rural development and to strengthen participation in programme and policy development. The initiative is supporting the countries 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 employment in agriculture (FAO, 2007F).

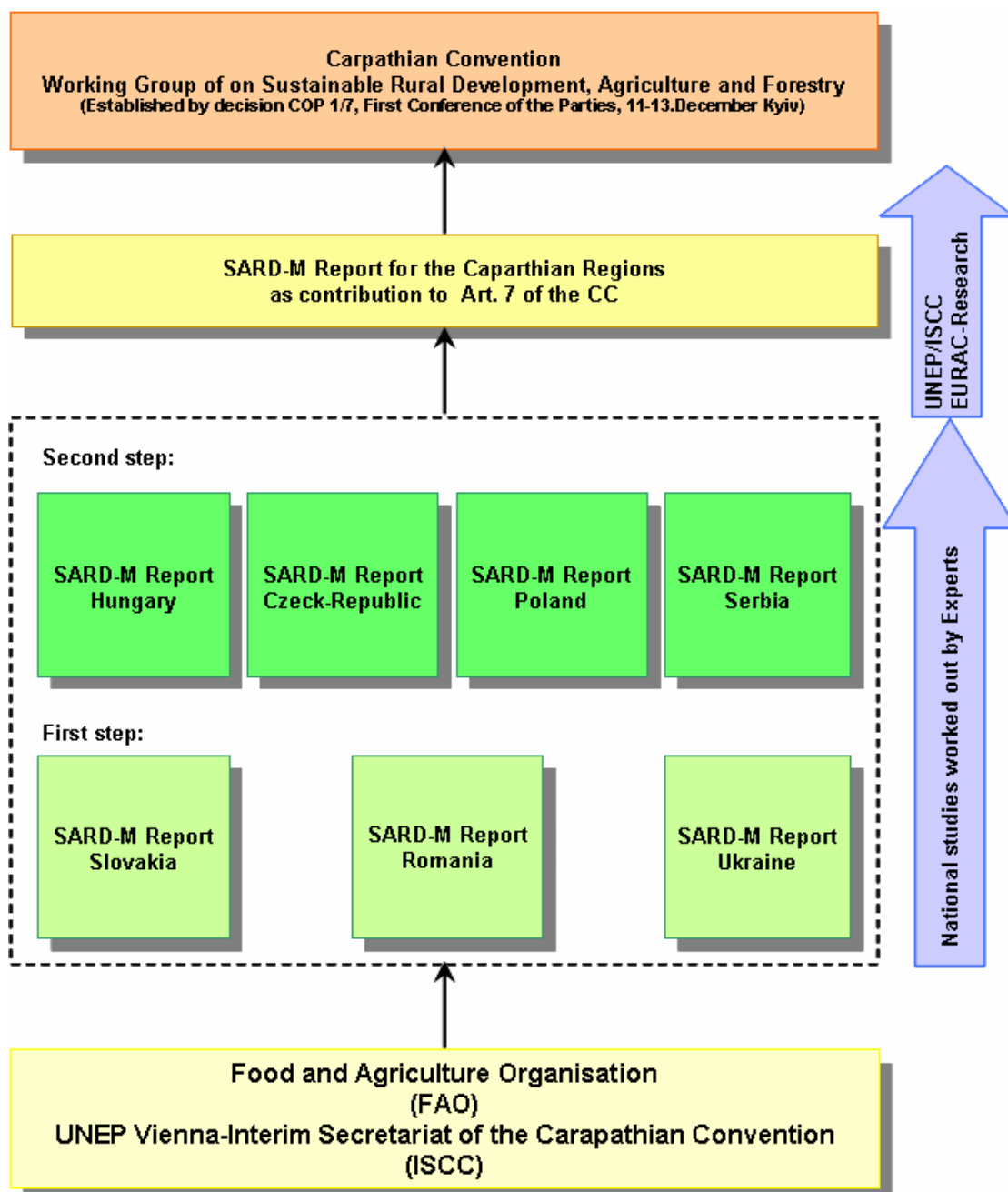
## 1.2 FAO and SARD

Following Rio, the UN established a Commission on Sustainable Development (CSD) to monitor progress in implementing Agenda 21. FAO was designated as Task Manager for Chapter 14. Besides contributing to SARD through its own programmes and projects, FAO fosters multi-stakeholder dialogues 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 for documenting the progress in the implementation of Chapter 14 (FAO, 2007A). The launch of the Sustainable Agriculture and Rural Development (SARD) Initiative took place on 30 August, 2002 at an official WSSD Side Event, where representatives from 65 governments, 5 UN Agencies, and 80 civil society organizations from nine Major Groups, including Farmers, NGOs, Indigenous Peoples, Workers and Trade Unions, Business and Industry, Local Authorities have participated (FAO, 2007A).

## 1.3 The SARD-M-report for the Carpathian regions

The SARD-M project liaises between Sustainable Agriculture and Rural Development (SARD) and Mountain issues. The concept aims to facilitate the design of coherent policies, appropriate institutions and processes (PIP) in mountainous regions in developed and developing countries. Among policy makers, the international community and the civil society the awareness for the role and value of mountain ecosystems and the need for SARD mountain specific policies, legislation and institutions has been increasing (LÁSZLÓ HRUBI ET AL, 2008).





**Fig. 1:** The cross linking of the SARD-M-process with the Carpathian Convention.

In 2005, as a contribution to Art. 7 of the Carpathian Convention, the Food and Agriculture Organization (FAO), through its Project for Sustainable Agriculture and Rural Development in Mountain Regions (SARD-M), and UNEP Vienna-Interim Secretariat of the Carpathian Convention (ISCC) agreed on performing assessments of the strengths and weaknesses of mountain related policies, including social, economic, environmental, legal and institutional aspects, in relation to SARD principles, in the Slovak Republic, Romania and the Ukraine. The objective was to identify sub-regional priority areas that need to be addressed by the future related Protocol, to determine common policy issues to work on at the regional level and to draw up recommendations and proposals for follow-up activities at the Carpathian level (FAO, 2007A).

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 in the three previously surveyed countries (FAO, 2007A).

The SARD-M-Reports were developed by experts from each Carpathian country (Tab. 1). They are attached in the annex. This synthesis report was derived in collaboration with UNEP and ISCC by the Institute of Regional Development and Location Management of the European Academy in Bolzano (EURAC). All data used for this report were taken from the national SARD-M reports. If data were not documented, they were either replaced by other statistical sources or stated as not available.

**Tab. 1:** *The national SARD-M reports.*

<b>Countries</b>	<b>Authors, citation</b>
Czech Republic, Hungary, Poland and Serbia	FAO 2007a: SARD IN THE CARPATHIANS - Regional Synthesis of the National Assessments of Policies, Institutions, and Processes for SARD in the Carpathians, draft of a regional synthesis;
Czech Republic	HAJDUČOVÁ 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	FAO, 2007b: 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. 2007: Sustainable Agriculture and Rural Development in Mountain Regions, Final report, Slovak Republic;
Ukraine	MARYSKEVYCH O. 2007: Country Survey on Sustainable Agricultural and Rural Development in Ukraine;

An International expert workshop 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 results of the SARD-M project for the Carpathian regions will contribute in the proposal of the appropriate policy instruments and strategies based on the comprehensive information generated. Thus the SARD-M process fosters the activities of the Carpathian Convention Working Group on sustainable agriculture, rural development and forestry. The Working Group’s mandate is to support the parties of the Convention in the implementation of Article 7 addressing SARD and forestry guidelines, as established at the First Meeting of the Conference of the Parties to the Carpathian Convention (11-13 December 2006, Kyiv (Ukraine); Decision COP1/7). This analysis is expected to provide a background study to facilitate the activities of this Working Group. Thereby arguments and objectives for its action in the Carpathian Region should be provided (FAO, 2007A).

## 1.4 The project area

The SARD-M synthesis report covers that Carpathian territory, as delineated in the national SARD-M reports. This delineation does not correlate with the territory that was ratified by the signature states in the year 2006, hence the relatively large variances in single countries. This is due to the different intention of the political obligation of the convention for a sustainable development in the Carpathians and that of a technical report for deriving strategically instructions. Tab. 2 provides an overview of the administrative units considered in the national SARD-M-reports (see also Fig. 2). Unfortunately it was not possible to establish a cartographical delineation according to the specifications of the national reports, as the declared project area of some countries only partly covers the specified administrative units of the Carpathian countries. Thereby the stated statistical data are partly related to the total administrative units. Hence the implications don't only affect mountainous regions, what has to be considered, for analysing the data.

**Tab. 2:** Administration units of the national Carpathian regions.

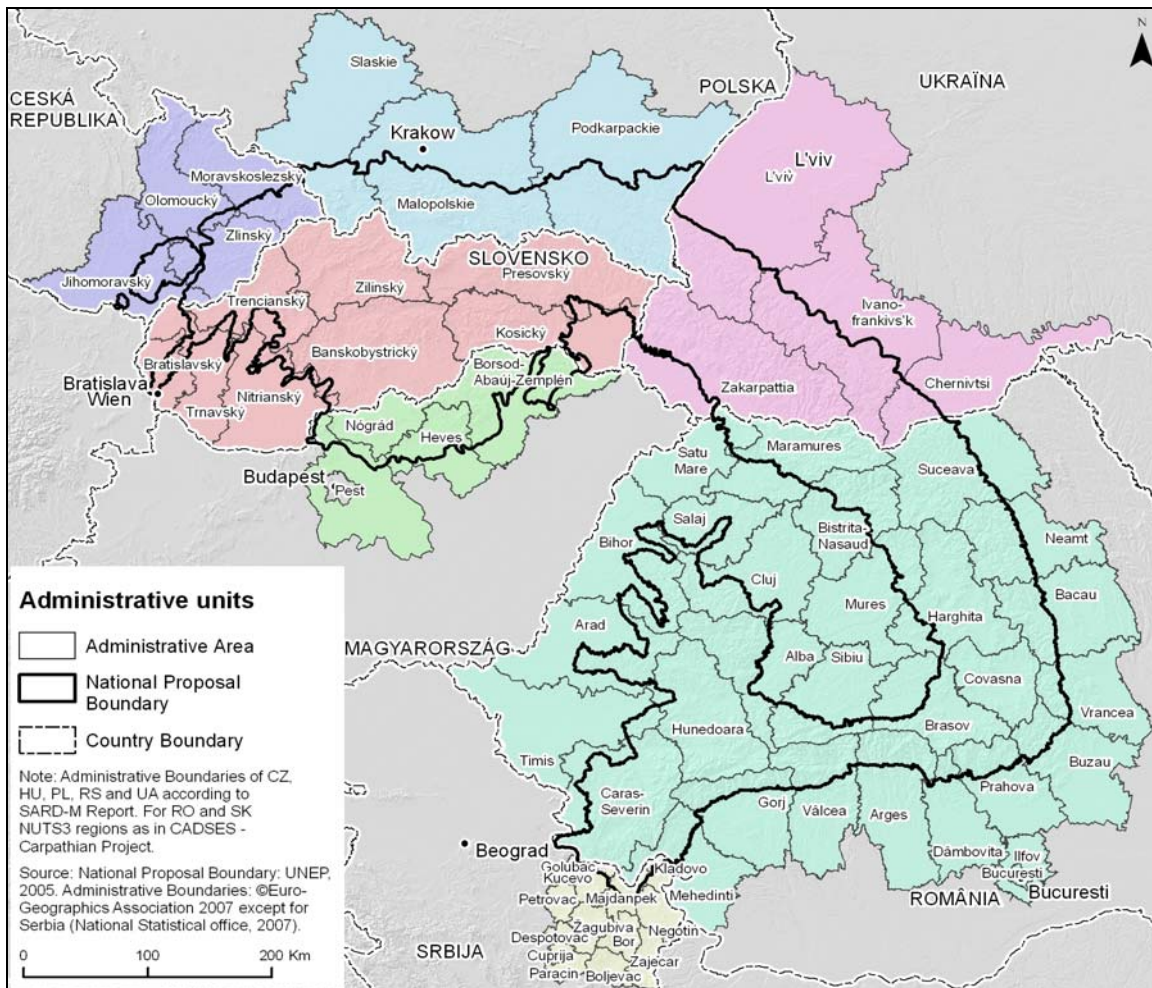
Countries	NUTS <sup>+</sup> /LAU <sup>*</sup> Level	Regions
Czech Republic	NUTS 3	Regions (kraje) and the districts (okresy): Zlínský, and parts of Jihomoravský, Olomoucký and Moravskoslezský;
Hungary	NUTS 3	Pest, Nógrád, Heves, Borso-Abaúj-Zemplén;
Poland	NUTS 2	Slaskie (Silesia), Malopolskie (Lesser Poland), Podkarpackie (Sub-Carpathian);
Romania		n. a.
Republic of Serbia	LAU 2	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 Volovets, 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 (NP<sup>1</sup> - Fig. 3) of the Carpathian Convention (CC) in the ratified area (161,805 km<sup>2</sup>) approximately 17.41 million people were considered in the signatory states, whereas the SARD-M reports have declared an area of 167,492 km<sup>2</sup> and 12.01 million inhabitants. Hence, the Carpathian mountain region according to SARD covers about 12.1 % of the total territory of the Carpathian countries (Tab. 3 and Fig. 2).

<sup>1</sup> The National Proposals are the national delimitations of the Carpathian Convention based upon the information provided by the focal points of the Carpathian Countries to UNEP. These official National Proposals were partially determined in the context of internal national consultations. In 2006 in most countries a final proposal of these national delimitations of the Carpathian Convention areas still had to be approved by the Ministers of the Environment.



**Fig. 2:** Administrative units reported in the Carpathian SARD-M reports (Map: Kathrin Renner, Eurac).

While the Carpathians constitute a central part of the national territory in Romania and the Slovak Republic, they are geographically of minor significance in the Czech Republic, Ukraine, Poland, Hungary and the Republic of Serbia (Tab. 3). The Ukraine, which is the largest Carpathian country by area, has the smallest share on the Carpathians (3.1%), whereas the Slovak Republic, as the smallest country, has a proportion of 69.8%. As such the Slovak Republic can be qualified as the most Carpathian influenced country though only 20% of the whole Carpathian mountain chain is Slovakian. However, Romania covers the largest Carpathian area (70,000 km<sup>2</sup>, 29.4% of the national territory). More than 40% of the total Carpathian area is Romanian.

The figures of the national SARD-M reports in Tab. 3 correspond quite well with the NPs published by Ruffini et al. (2006) (Fig. 2). Thereby the Czech-Republic's geo-morphological delineation applied for CC covers 7,139 km<sup>2</sup>, whereby its bio-geographical delineation is extended to 10,339 km<sup>2</sup>. Hence the land use areas of the Czech Carpathians (9,650 km<sup>2</sup>) were assumed as the SARD-M area (Hajduchová, 2007). In Hungary all the Carpathian regions situated 200m above sea level were considered for the SARD-M delineation (TINER, 2007). According to the Romanian Law of Mountain Region, 32.6% (77,715 km<sup>2</sup>) of Romania is covered by Carpathian Mountains. But from a geological point of view the extent is only 69,777 km<sup>2</sup> (FAO, 2007b).

The Republic of Serbia in contrast enlarged its Carpathian zone to 9.7% (Tab. 3) of its national area. Compared to the CC delineation, only including the Djerdab National Park, the SARD-M area was extended significantly (Tar, 2007). Slovaks SARD-M report beside considers 34,235 km<sup>2</sup>,

wherefrom 27,187 km<sup>2</sup> (55% of the national area) are mountainous regions (Kanianska, 2007). Furthermore the mountain areas of the Ukrainian Carpathian cover 18,900 km<sup>2</sup>, which constitutes 79% (> 24,000 km<sup>2</sup>) of the Ukrainian Carpathians, if the foothills are not considered. With these foothills considered the area would be spread over 37.000 km<sup>2</sup> (Maryskevych, 2007).

**Tab. 3:** Basic territorial figures of the national territories and the Carpathian region.

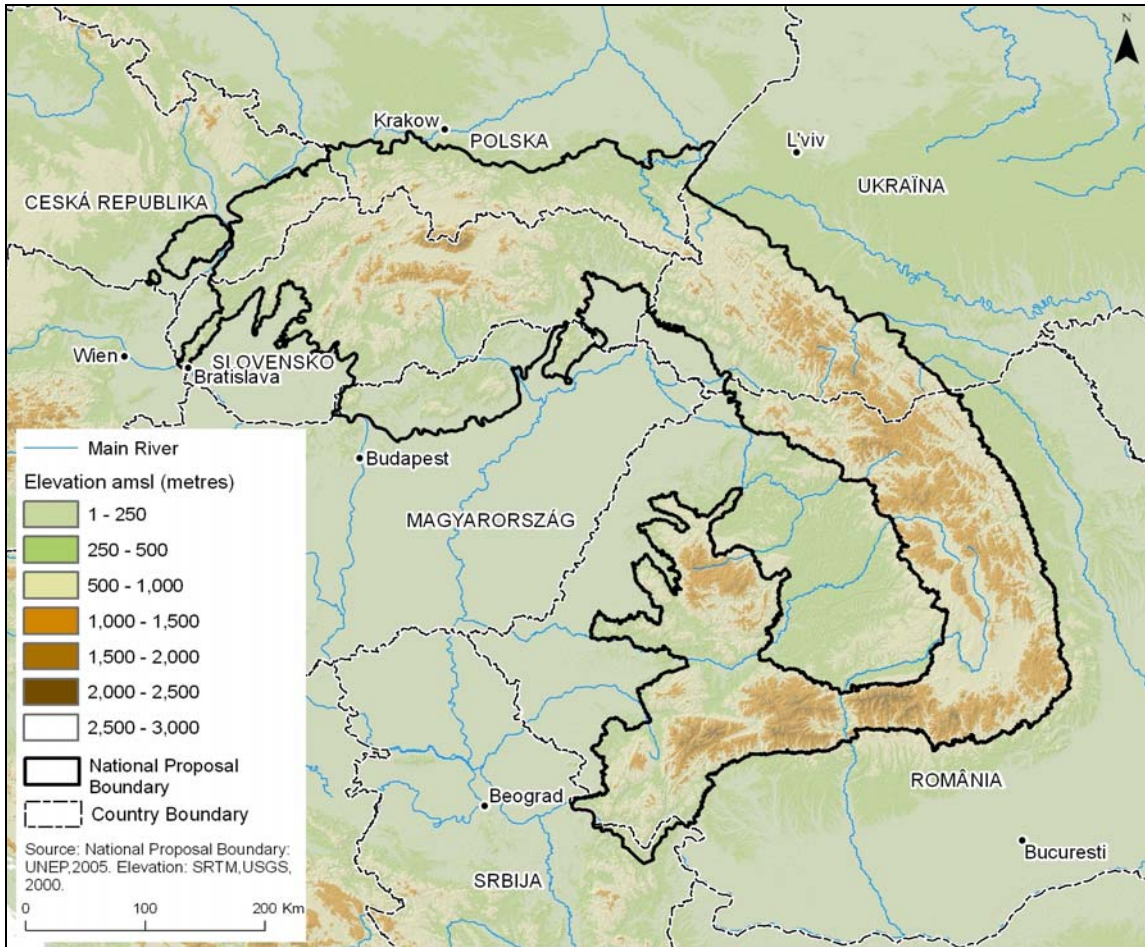
Country	Total national area* km <sup>2</sup>	Mountain areas (national SARD-M Reports, 2007)			CC area** (National proposals)	
		SARD-M* km <sup>2</sup>	Share on total national area %	Share on SARD-M area %	CC** km <sup>2</sup>	Share on the CC area %
CR	78,868 <sup>+</sup>	9,650	12.2	5.8	7,124	4.4
HU	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 <sup>+</sup>	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 <sup>+</sup>	18,900	3.1	11.3	22,109	13.7
<b>Sum</b>	<b>1,463,956</b>	<b>167,492</b>	<b>----</b>	<b>100.0</b>	<b>161,805</b>	<b>100.0</b>

<sup>+</sup> Eurostat 2006;

\* National SARD-M Reports;

\*\* Ruffini et al., 2006.

According to the applied cross-border analysis, the approaches and techniques used were dependent on the availability or the absence of reliable statistics and time-series data. Particularly in mountainous regions the accuracy of project-results is thereby hampered. Despite of consistent data availability, the assessments are an opportunity to identify data gaps and to encourage the collection of good quality data for future analytical work.



**Fig. 3:** The national delimitation of the Carpathians regarding the NPs (162,000 km<sup>2</sup>).



## 2 Background information of the Carpathian countries & regions

### 2.1 Land use

The forested (49.2% - Tab. 4) and agricultural (39.8% - Tab. 5) areas are the dominant land use types in the Carpathian SARD-M regions. About 82,000 km<sup>2</sup> of the Carpathian SARD-M area is forested. In contrast the forest area of the NP is extended to 95,657 km<sup>2</sup> (59.1%) of the Carpathian territory (Ruffini et al., 2006). The distribution of the forested areas proves that these areas are more than twice as prevalent in the Carpathians (49.2%) than in the average national territories (23.6%). Besides, Keller et al. (2001) confirmed that the Carpathians (59.1%) are even more forested than the Alps (43%) (Fig. 4 and Fig. 7). In all of the Carpathian Countries the share of forest areas in the Carpathian Mountains is significantly higher than that of the whole territory. Due to the forest management measures during the communist era the state of the forests are currently more likely semi-natural natural or "virgin" ones. And sometimes they are even strongly transformed.

Mainly the Carpathian Mountains of Romania (55.5%) and the Ukraine (65.5%) are covered with vast forests. The Slovak Republic is the country most covered by forest (40.9%), whereby averagely 50.8% of its Carpathian part is forested. Solely the reforestation measures between 1996 and 2004 have thereby caused an extension of forested land of 107 km<sup>2</sup> (KANIANSKA, 2007). In Hungary the reforestation of abandoned areas during the agro-structural process is the reason for the increased national forest resources (TINER, 2007). Aside the forests of the Republic of Serbia attain an extension of 40% across the Carpathian territory and are thus more densely forested than Poland or the Czech Republic (33.4%). Although Poland has a meaningful share on the SARD-M areas its forested area (14.1%) is the lowest among the Carpathian Mountains (Tab. 4). Accordingly the Carpathian forests are also referred to as "Green Carpathians".

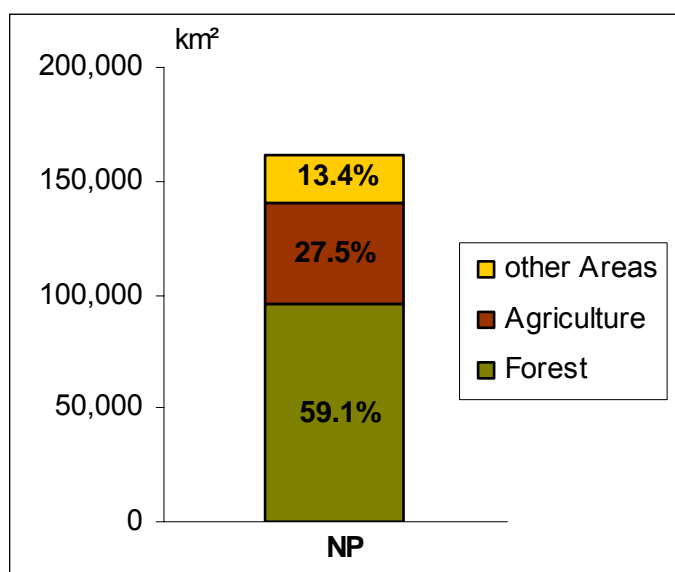
**Tab. 4:** The national versus the Carpathian forested areas (National SARD-M Reports, 2007).

Country	National Forestry areas		Carpathian Forest area (SARD-M reports)	
	km <sup>2</sup>	Share on whole territory %	km <sup>2</sup>	Share on the national SARD-M area %
CR	26,442 <sup>+</sup>	33.5	3,226	33.4
HU	18,364	19.7	4,081	34.8
PL	91,005 <sup>+</sup>	29.1	2,725	14.1
RO	62,000	27.0	38,862	55.5
RS	23,129 <sup>*</sup>	26.2	3,731	43.5
SR	20,049	40.9	17,385	50.8
UA	104,575 <sup>+</sup>	17.3	12,380	65.5
<b>Sum</b>	<b>345,564</b>	<b>23.6</b>	<b>82,389</b>	<b>49.2</b>

<sup>+</sup> Eurostat 2003.

In no Carpathian country are there agricultural areas which make up less than 50% of the national territory (Tab. 5). This corresponds to the shares in western European countries like France and Italy. In four countries (Ukraine, Republic of Serbia, Hungary and Romania) more than 60% of the national area is used for agricultural production. In the other Carpathian countries, Czech Republic,

Poland and Slovak Republic, 50% or just a little fewer than 50% of the national areas are agrarian ones. This picture changes when related to the Carpathian parts of these countries. Only in the Czech Republic, Hungary and the Republic of Serbia do the agricultural areas still cover more than 50% of the Carpathian territory. In all other countries, in particular UA, the share of agricultural areas is below that in the Carpathian areas (Fig. 6). Compared with the figures based on the NP elaborated by Ruffini et al. (2006) (44,428 km<sup>2</sup>), the agrarian areas from the SARD reports are significantly higher (70,656 km<sup>2</sup>) (Tab. 5).



**Fig. 4:** The distribution of forest and agricultural areas within the NP of the CC (Ruffini et al., 2006).

**Tab. 5:** The national versus the Carpathian agrarian areas (national SARD-M Reports, 2007).

Country	National Agrarian areas*		Carpathian agrarian area (SARD reports)	
	km <sup>2</sup>	Share on whole territory %	km <sup>2</sup>	Share on the national SARD-M area %
CR	42,360 <sup>+</sup>	53.7	5,205	53.9
HU	58,647 <sup>**</sup>	63.0	6,929	59.0
PL	161,694 <sup>+</sup>	51.7	8,215	42.4
RO	147,174 <sup>+</sup>	61.7	26,303	37.6
RS	57,340 <sup>*</sup>	64.9	4,797	56.0
SR	24,348 <sup>*</sup>	49.7	14,109	41.2
UA	430,089 <sup>+</sup>	71.3	5,098	21.3
<b>Sum</b>	<b>921,652</b>	<b>63.0</b>	<b>70,656</b>	<b>39.8</b>

<sup>+</sup> Eurostat 2003.

<sup>\*\*</sup> Gráf, J.: The Hungarian agriculture&food industry in figures,



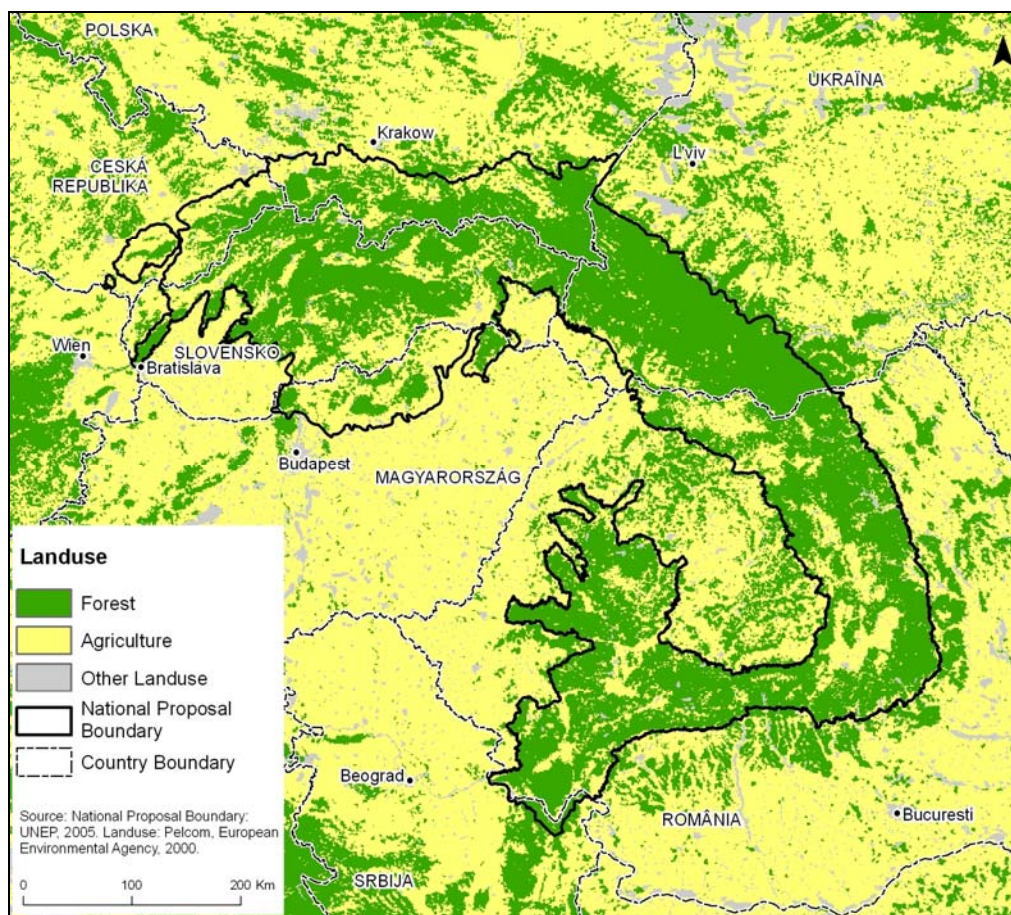


Fig. 5: According to the NP, almost 60% of the Carpathians are covered by forest (Ruffini et al., 2006).

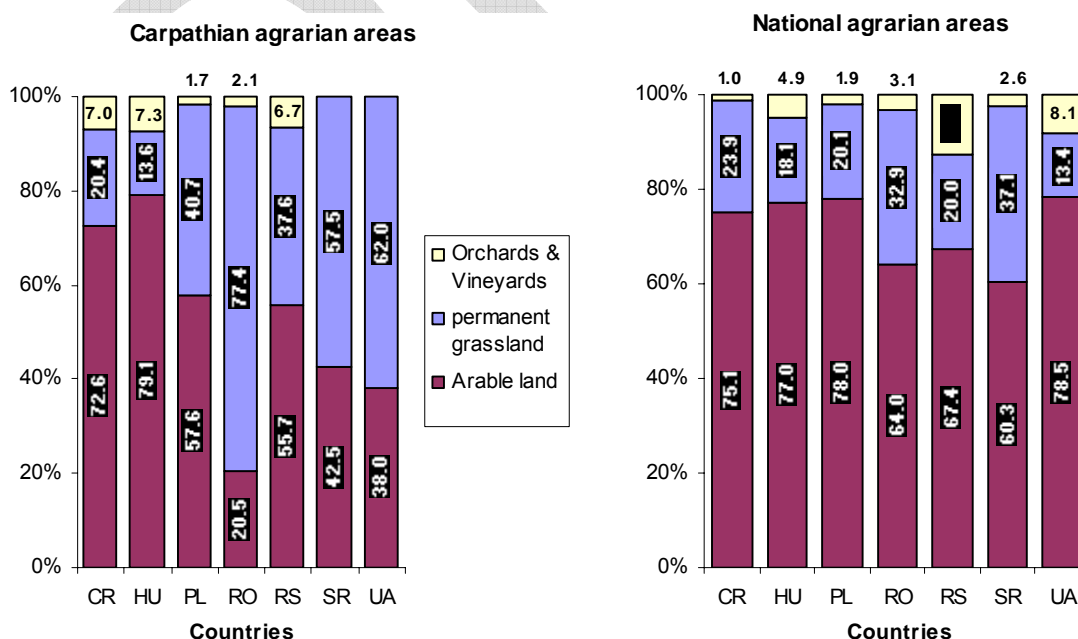
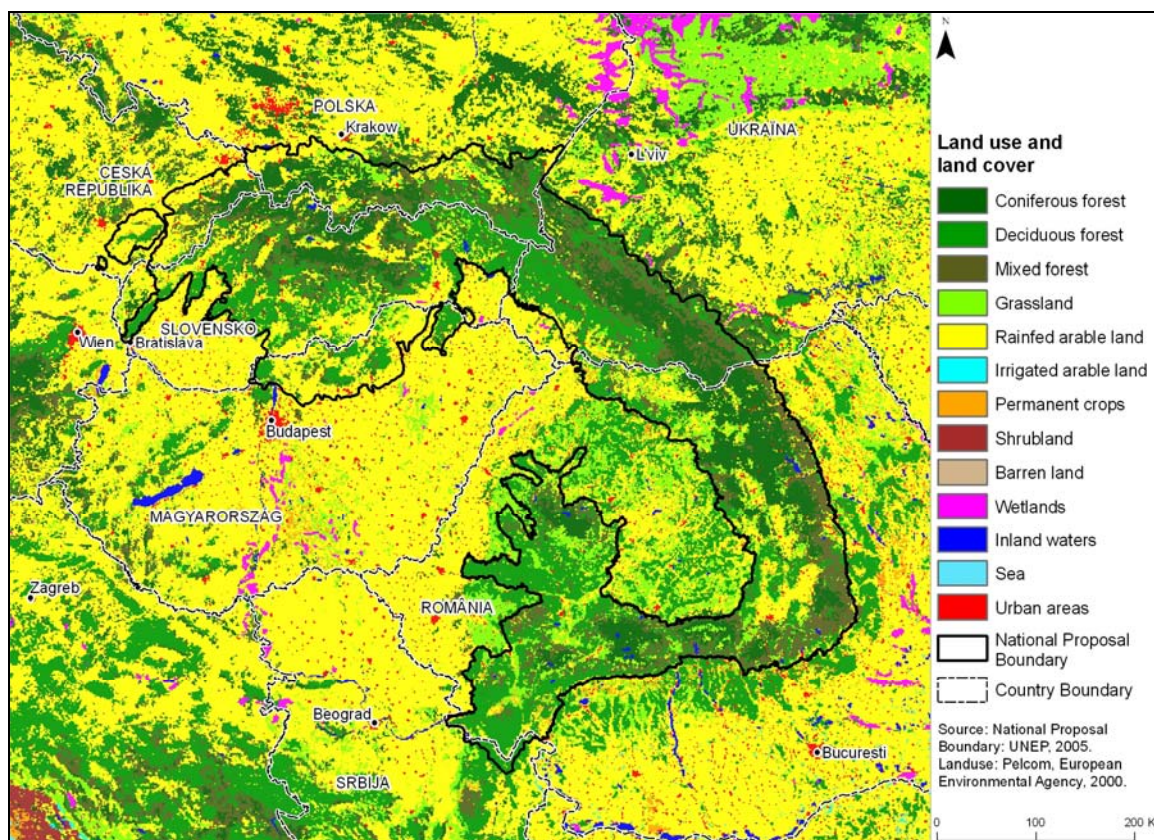


Fig. 6: Distribution of the country-wide and Carpathian-wide agricultural land use types (Sources: National agrarian area: Eurostat 2003; the Carpathian agrarian area: national SARD-M reports, Hungarian Carpathians: Eurostat 2005 – NUTS3).

Compared to the national land use distribution the share on arable land remains the dominant land use type in most of the Carpathian countries. Hence the distribution of agrarian land use types in the Carpathian Mountains is just changing slightly. Only in Romania, the Slovak Republic and the Ukraine, permanent grassland has become more significant (> 50%), whereby in the mountainous regions of Romania the agrarian land use distribution differs most. Permanent crops like orchards and vineyards only play a minor role in the Carpathian Mountains (Fig. 6).



**Fig. 7:** Land use and land cover in the Carpathians (CLC 1990, PELCOM; Ruffini et al., 2006).

## 2.2 Population

Generally, the South-eastern Carpathians are less densely populated than the Western and Northern Carpathians (Fig. 8). Population concentrations can be seen in the wider valleys, the plains, and 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/km<sup>2</sup>) areas, followed by Poland (201 inh/km<sup>2</sup>). The highest densities of more than 2000 inh/km<sup>2</sup> are attained in the capital cities of Bucharest, Vienna and Budapest. But in general the Population density is usually lower in the most rural areas such as the mountainous Romanian regions of Caras-Severin, Harghita and the Austrian Waldviertel and in the Serbian districts of Zajecarski, Borski and Branicevski.

Hence it is not surprising that the population density turns out to be much lower in the Carpathian mountain regions when compared with the national values. The largest difference in this context can be observed for CR, RS and RO. It is interesting to note that all CC population densities are

higher than the relative SARD values. This is due to the much higher absolute population values of the CC area. The two exceptions RS and CR are due to smaller areas considered in the CC, particularly RS.

**Tab. 6:** *Inhabitants and population density in the Carpathian countries and the SARD-M areas.*

Country	Total national inhabitants (Eurostat, 2006)		Inhabitants Carpathian Mountains (SARD-M Reports, 2007)		CC*	
	abs.	inh/km <sup>2</sup>	abs.	inh/km <sup>2</sup>	abs.	inh/km <sup>2</sup>
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. <sup>2</sup>	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. <sup>3</sup>	n.a.	3,800,000	109
UA	46,607,431	77	1,059,900	56	1,980,000	90
<b>Sum</b>	<b>139,479,846</b>	<b>95</b>	<b>---</b>	<b>71.7</b>	<b>17,410,000**</b>	<b>108</b>

\* Ruffini et al., 2006.

\*\* The value was calculated based on the GIS intersect method: Every municipality even situated only partly within the NP delimitation were included. Considering only those municipalities with their centroid within the NP boundary, the population would yield 14.2 Mio. inhabitants

**Tab. 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
<b>Sum</b>	<b>21,202,478</b>	<b>97,413,818</b>	<b>20,863,573</b>	<b>----</b>	<b>----</b>

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.

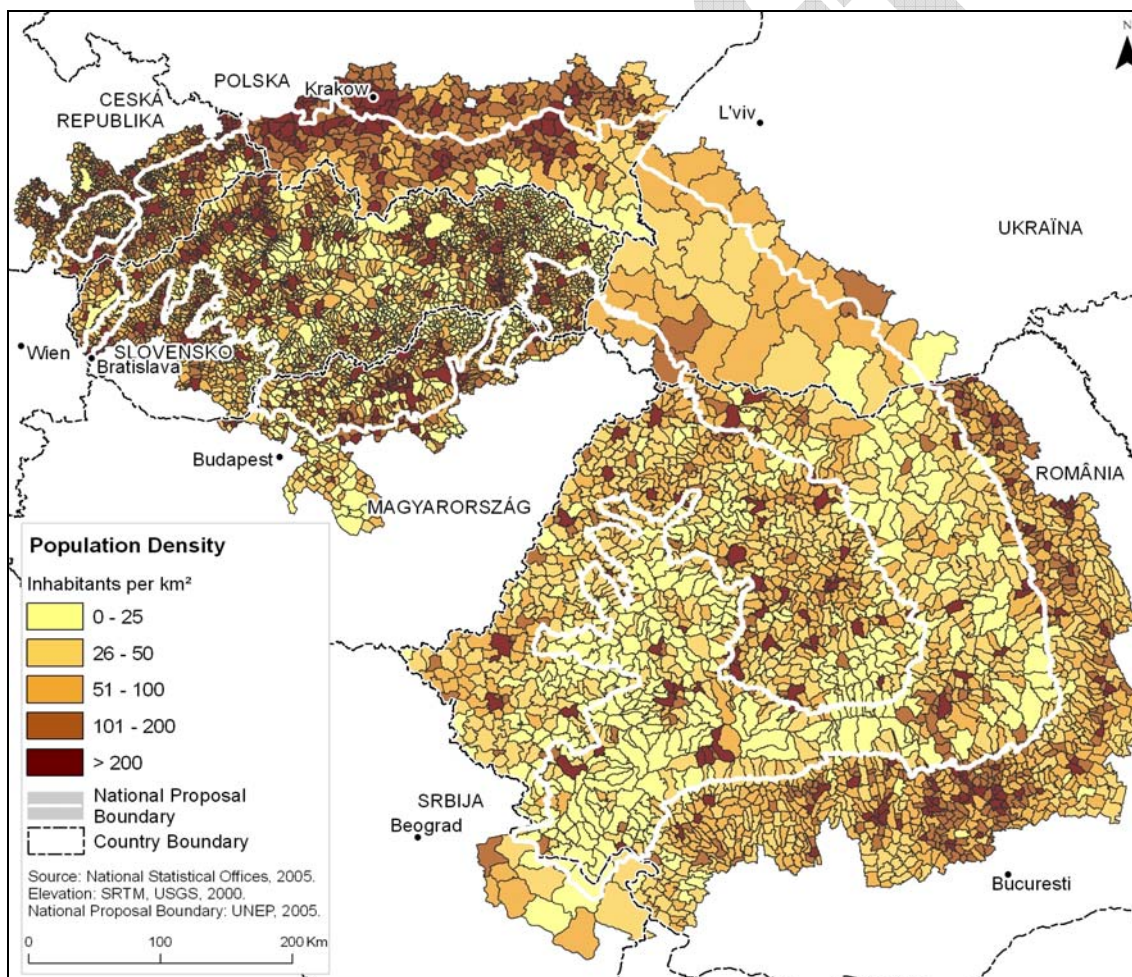
Wide areas of the Carpathians are predominantly rural areas with only a few municipalities not classified as rural. It has been reported that in the last decades rural areas in Eastern Europe have shown an economic decrease and a strong underdevelopment (HEIDELBACH, 2002). The vitality of rural areas is closely linked to the agricultural situation. Recently the worrying situation of

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

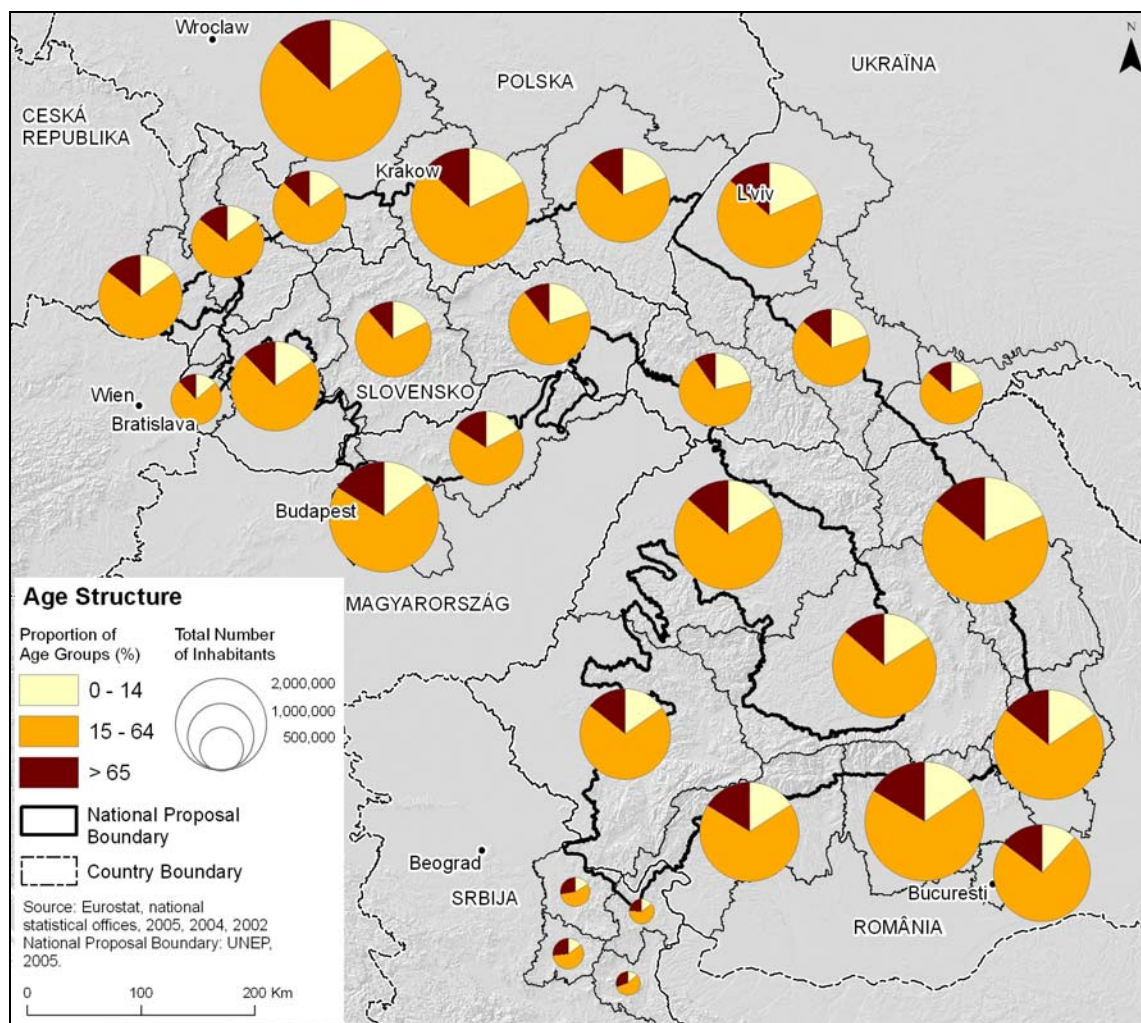
<sup>3</sup> Inhabitants living in rural areas (settlements < 5000 inhabitants) represent 43.7% (2,356,046) of the Slovakian population.

Romanian agriculture, recently discussed by Premier Calin Popescu-Tariceanu and commented by Florian Bichir in the Romanian newspaper *Evenimentul Zilei* on 19.03.2008, is alarming and represents one example of the difficult situation representative for many rural areas of the Carpathian region (BICHIR, 2008).

One of the basic indicators useful in the analysis of the situation in rural areas is the old age index (OAI) or respectively the Youth Index (YI). The figures for the Carpathian countries show, that on a national level over-aging does not seem to be a big problem (Tab. 7 and Fig. 9). High old age indexes were not registered in any country. Some countries with more over-aged-persons (> 65y) compared to young persons (< 15y) (CR, PL, RO, SR) stand against countries with a slightly younger population (HU, RS, UA). But it has to be added that more detail data on LAU level 1 or 2 would be required to attain more realistic results on the current regional situation. This would certainly reveal strong regional disparities.



**Fig. 8:** Population density on municipality level (LAU level 2) (Ruffini et al., 2006).



**Fig. 9:** Age structure on NUTS2 level (Map: Kathrin Renner, Eurac).

## 2.3 Employment

In 2004 in the EU25 the employment rate - considers people between 15 and 65 years – accounted for 56.6% (BBR, 2007). Generally, the employment rates of the Carpathian countries are comparable with those of western European countries (Tab. 8). Ukraine and Czech Republic with high employment rates stand against Poland and Hungary with low rates. However, these national numbers do not reveal the existing large regional differences.

Fig. 10 depicts the large discrepancies in the proportion of employees per sector between the northern and western on the one side and the southern part on the other side. While in Poland, the Czech Republic, the Slovak Republic, Hungary and the Republic of Serbia the service sector plays the major economic role, in Romania and Ukraine the first sector remains present.

The occupational significance of the primary sector has decreased steadily for many decades. While in Western Europe agriculture is of low relevance (average significantly below 5%), agriculture is still very important in PL, RO and RS (Tab. 8 and Fig. 10). In addition still relatively large numbers of many employees in the secondary sector can be seen. A shift towards higher shares of the tertiary sector is expected in the next few years. In 2005 the share of agricultural employees of the EU25 was 4.9%.

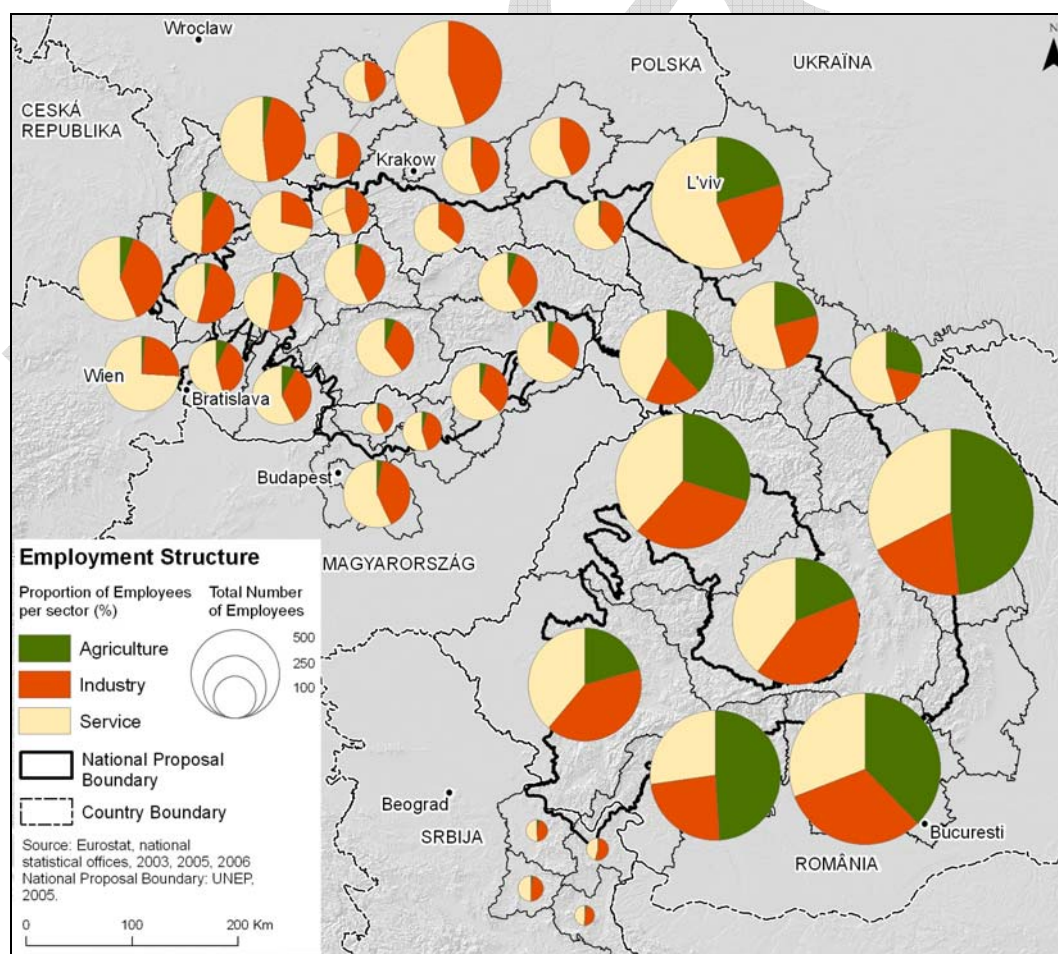
**Tab. 8:** Employees in the Carpathian states (Eurostat, 2006).

Country	Total	Employment rate**	First sector	Secondary sector	Tertiary sector
	in 1,000	%	%	%	%
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	35.3*	----	----
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

With the EU-membership of Romania and Bulgaria the share within EU27 has increased to 6.1%. This effect is the result of the high prevalence of agriculture in Romania, with more than 30% employed in agriculture which is far above the international averages (BBR, 2007). Many east European countries, in particularly Poland and the Republic of Serbia, have high agricultural employment rates. Across the Carpathian regions they are facing large regional differences. In Poland the observed rates vary between 4.3% in Slaskie and nearly 36% in Lubelskie (Fig. 10).

**Fig. 10:** Proportion of employees per sector (Map: Kathrin Renner, Eurac).

### 3 SARD-M policy-programmes and institutions involved

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

Through the access of five of the seven Carpathian countries into the European Union the agricultural production was significantly influenced. The impact of Brussels on the framework conditions of that sector is more crucial than compared to other sectors. Since entering into negotiations with the European Union, the legislative instruments were continuously adopted to the EU standards.

#### 3.1 Policy frameworks and policies for SARD-M

In **Romania** the Sustainable Development Strategy of Mountain Region is approved by the GD. no. 1779/2004 and the Mountain Law of Mountain Region no. 347/2004 came into force in 2004. The objectives of these instruments concentrate on the principles and strategies of a sustainable development in mountainous region. Although a couple of measurements were stipulated, no action plan was formulated and no financial resources were allocated (FAO, 2007b). Apart from Romania no Carpathian state has currently implemented a legislative programme, specifically adapted to the requirements of sustainable development in mountain regions.

According to the actual environment-related and agriculture-related national legislation, **Poland** is awaiting the enactment of the special Mountain Law. But due to the discussion to integrate the suggested approaches into already existing policies, the enforcement of this Mountain Law may be prevented (RUSZTECKA, 2007).

The **Ukraine** is presently formulating a concept for sustainable development in mountainous regions. Although the conceptual basis of establishing and implementing the policy of sustainable development of the Carpathian region was set forth in the report by Ms. Marushevsky at the Third All-Ukraine Environmental Community Conference (Kyiv, 29.11-01.12.2002), the Ukrainian government did not approve this proposal and has not implemented any national programme yet.

Apart, there are a couple of strategic programmes for sustainable development of rural areas already integrated in various other political programmes and strategies. Several programmes, different guidelines, concepts and strategies regarding rural areas and mountainous areas have been implemented into agricultural, forestry, environmental and tourism policies.

##### 3.1.1 Policies on rural development

Nearly every national SARD-M report (except the Ukraine) confirmed the integration and the enforcement of national programmes dealing with rural development. All of them consider the principles of the European Structural Programmes. Since 1997 their validity has been adapted to the European guidelines (EC-Regulation 1698/2005). According to the Lisbon and Gothenburg process the focus for strengthening rural development in mountainous regions concentrates on the following three axes:

1. Strengthening the competitiveness of the agriculture and forestry sector
2. Improving the environment and landscape
3. Quality of life in rural areas and diversification of rural economy

**Tab. 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:		x	
	AXIS I: Improving the competitiveness of the agricultural and forestry sector: Priority 1.1: Modernisation, innovation and quality; Priority 1.2: Knowledge transfer;		x	
	AXIS II: Improving the environment and landscape: Priority 2.1 Biodiversity, conservation and development of agricultural and forestry systems with a high added value and traditional agricultural landscapes; Priority 2.2 Water and soil protection; Priority 2.3 Mitigation of climate change;		x	
	AXIS III: Quality of life in rural areas and diversification of rural economy; Priority 3.1 Creation of employment opportunities and support of use of renewable energy sources; Priority 3.2: Conditions for growth and quality of life in the countryside; Priority 3.3: Education;		x	
	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; Agricultural and rural development micro regional programmes (1999 -2002); Rural Development Target Programme: LEADER - type pilot programme (2001-2004)		x	
	LEADER+ (from 2005) (EC 1698/2005)		x	
			x	
PL	NDP: National Development Plan 2007 – 2013: Rural Development Strategy for the years 2007-2013: Priority 1: Supporting sustainable development of rural areas; Priority 2: Preservation of natural and landscape values of rural areas;		x	
	Agro-environment programme 2004-2006 and 2007-2013: Less Favoured Areas (LFA);	x	x	
	Axis IV: LEADER (1698/2005/EC); Mountain law (not set in force yet)		x	x
			x	
			x	
			x	
RO	National Development Plan (NDP) (integrates Environment and biodiversity National Programme for Agriculture and Rural Development (NPARD):		x	x
			x	x
RS	The Spatial plan of the Republic of Serbia: The Strategy of Regional development: The Poverty Reduction Strategy: The Tourism Strategy of the Republic of Serbia:			x
				x
				x
				x
SR	Concept of Rural Development in the Slovak Republic: Rural Development Plan 2004-2006 of the Slovak Republic: National Plan for Regional Development of the Slovak Republic: Programme of Village Renewal: National Programme of Tourism Development in the Slovak Republic: Proposal of Strategy of Tourism Development in the Slovak Republic by 2013:		x	x
			x	
				x
				x
				x
UA	No programmes applied on the national level yet.			



Mainly the LEADER+ Programme (chapter 4.1.1.2) plays a major role in integrating sustainable development on the local level of rural areas. Local authorities, non-governmental organizations and business owners (Local Action Groups - LAGs) receive financial aid to carry out specific rural development projects. The improvement of life-quality in rural areas, the strengthening of the economic potentials, the utilisation of rural natural resources and the conservation of cultural heritage represent thereby the field of interests. All of the Carpathian countries recently incorporated into the European Union are already participating in or plan to (Romania, Slovak Republic) participate in LEADER+ (Tab. 9).

In the Republic of Serbia, as 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 (from 2003, amended on 2006). The plan outlines the development of rural and mountainous areas, considering the protection of land resources, reforestation and technical improvements of agricultural land. It stresses the efficient use of agricultural production resources according to the dominant production systems in the lowlands, highlands and mountainous areas. Apart from this, there are a couple of other sectoral plans applied, touching on issues concerning rural development. Thereby Poverty Reduction Strategy includes a multi-sector program concentrating on employment, adequate housing, social welfare, health and education as well as communal services. The Tourism Strategy in contrast strengthens the regional economy by emphasizing Serbian tourist potentials (Tar, 2007).

The majority of the funds spent on financing implementation of SARD-M policies in the Serbian Carpathians came from state budgetary funds. The Republic of Serbia is not yet eligible for IPARD (Instrument for Pre-Accession Assistance for Rural Development, a newly applied mechanism of EU support to rural development) and practically none of the donor funds went to direct financing of rural development measures (Tar, 2007).

### **3.1.2 Policies on agriculture**

Closely related to the programmes or rural development are the relevant guidelines of the agricultural sector. Their measurements not only concentrate on the agricultural production per se (farms, production type, product-quality etc.) but also on the intention to strengthen the agrarian sector as a main pillar for fostering rural development. Therefore the relationship between agriculture and environment should be promoted. Accordingly the predominant goal is the application of a multifunctional agriculture that has a meaningful impact on the regional economy and also considers the environmental and ecological aspects of the countryside.

According to the two phases of European enlargement, the new Member States of the Carpathian territory have integrated the strategies of the CAP into their guidelines for agricultural development. The adoption of agricultural programmes to the European standards was required in order to gain access to the European agricultural funds. The application of agro-environmental measures, of operational programmes, of multifunctional agriculture or of rural development plans, like in the Concept of Agrarian Policy 2004 -2013 in the Czech Republic, enables the participation of and access to the distribution of the financial means from European agricultural funds according to the European CAP (Hajduchová, 2007).

**Tab. 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:			
HU	National Agro Environmental Programme:			
	Agricultural and rural development operational programme (ARDOP):			
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"> <li>▪ The Taste of Malopolska;</li> <li>▪ The Sheep Programme—stimulating the economy and protecting Carpathian heritage;</li> </ul>		x	
RO	National Programme for Agriculture and Rural Development (NPARD):		x	x
	<ul style="list-style-type: none"> <li>▪ Measure No. 3.3 Agricultural Production Methods Designed to Protect the Environment and Maintain the Countryside;</li> </ul>			
	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:			x
	Concept of Agricultural and Food Policy of the Slovak Republic by 2005:			
	<ul style="list-style-type: none"> <li>▪ Support for operating in worse production conditions:</li> <li>Support for less favoured areas;</li> <li>Sheep and goat breeding;</li> <li>▪ Environmental measure:</li> <li>Agro-environmental programme;</li> <li>Environmental investment;</li> </ul>			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	

The agrarian policy is the main pillar for rural development and for decreasing regional disparities in the Republic of Serbia. Though different agricultural production methods between the low- and highlands are well known, no specific strategy is outlined for mountainous regions. According to the rural development policy framework which is not yet in place, the basic guidelines were derived from the agricultural strategy programme, which was adopted in 2004 on 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 to European funds it is envisaged to promote the Rural Development Programme and the Rural Development Plan in the year 2007, with the support of the project funded by European Agency for Reconstruction (EAR) "Support to Rural Development Programming and Payment System" (RDPPS). Thereby the defined objectives within the strategy for agriculture are applied as the most crucial ones for rural policymaking and rural development (Tar, 2007).

The Republic of Serbia concentrates on measures that promote an efficient and sustainable agricultural sector, that competes on the world market and that is contributing to the rise in income. Within these objectives, the rural support measures are defined according to the social, economic and environmental issues, including farm investment and farm structure support, rural development measures and improvement of product quality (Tar, 2007).

Nearly all of the Carpathian countries have applied national agro-environmental programmes (Czech Republic, Hungary, and Poland). The Republic of Serbia also plans to implement agro-

environmental schemes for marginal and nature protected areas. The Rumanian Agro-Environmental Programme for attaining the EU funds for the period 2007 -2013 is currently under consideration. Conversely, the Slovak Republic on the opposite has integrated its agro-environment programme into the Concept of Agricultural and Food Policy. The Ukraine is the only country which has not yet started any initiative regarding an agro-environmental programme (Tab. 10).

These environmental orientated programmes concentrate mainly on ecologically adopted production methods and on the processing of high quality products with a geographical denomination of origin or on other quality-labels. Thereby it is intended to maintain ancient animal species, to apply site-adapted production methods and to avoid genetically manipulated organism (plants and fodder). Of particular interest for mountainous areas are measures for managing grassland (pastures, permanent grassland, meadows) and the maintenance of certain animal species (cattle, pigs, sheep and goats).

Some of the national reports indicated that the pre-defined European framework-conditions for designing supply measurements are not always appropriate for the requirements of the national agricultural sectors (4.1.4). Thus the implementation of the agro-environmental programmes does not contribute solely 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 a rather economically driven purpose, without considering the environmental issues more than formally necessary (chapter 4.1.4).

### **3.1.3 Policies on biodiversity, nature conservation and environment**

In all Carpathian countries biodiversity, nature conservation and protection of the environment are covered by the relevant sectoral guidelines. The focus for conserving nature and for maintaining biodiversity is put on two particular pillars. On one hand the application of the segregative approach concentrates specifically on guidelines for protecting and conserving valuable nature-sanctuaries. Aside the integrative approach on the other hand aims on the implementation of regulations regarding nature conservation and biodiversity into all sectoral programmes that are touching environmental issues.

Aside the agro-environmental measures (chapter 3.1.2), most of the countries have themselves applied separate programmes for maintaining nature and for protecting the environment specifically. The Czech Republic, Hungary, Poland, Romania and the Republic of Serbia have all created national strategic nature conservation and biodiversity plans that run over several years considering this twofold strategy (Tab. 11). Their main aims are 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 people's quality of life.

Thereby the National Biodiversity Strategy of the Czech Republic is the only strategy directly focusing on mountain ecosystems in a separate chapter. Hungary intends to protect its main natural values by coordinating the sectoral programmes and the rational use of soil and mineral raw materials. Poland on the other hand, is aiming to create special Carpathian packages concentrating on the cross-links of spatial planning with environmental issues (nature protection, agro-tourism, organic farming, and traditional and regional agriculture production).

**Tab. 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 March 2004):		x	x
	National Biodiversity Strategy (NBS) of the Czech Republic (adopted by the Government under No. 620/2005 of 25 May 2005): <ul style="list-style-type: none"> <li>The National Biodiversity Strategy of CR is the only one strategy, which focuses on mountain ecosystems in a separate chapter;</li> </ul>	x	x	x
HU	NEP2: 2nd National Environmental Programme for 2003 – 2008:			x
PL	Act on the socio economic development of mountain region:			
	Second National Environmental policy (2002 – 2010): National strategy for conservation and sustainable use of biodiversity (adopted by the Council of Ministers in 2003):			
RO	National Programme for Agriculture and Rural Development (NPARD): <ul style="list-style-type: none"> <li>Sustainable Development Strategy of the Mountain Region;</li> <li>National Agro - Environmental Programme;</li> </ul>	x	x	
	Environmental protection and biodiversity conservation Strategies and Programme: <ul style="list-style-type: none"> <li>Strategy for the Environmental Protection (1996) and the Strategy for the Environmental Protection on Medium Term (2001 -2004);</li> <li>National Strategy and Action Plan for Biological Diversity Conservation and Sustainable Use: <ul style="list-style-type: none"> <li>The National Sustainable Development Strategy;</li> <li>Romanian Strategy for Environment 2004 – 2010;</li> <li>Regional Environmental Reconstruction Program (REReP);</li> <li>Approximation Strategy for the Nature Conservation Sector;</li> </ul> </li> </ul>			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

Admittedly huge parts of the available financial aid are already spent on setting up the formal plans and measures. Hence financial aid is not available for conducting operative measures. Without any Action Plan or concept it is not possible to coordinate measures and distribute the financial means. Although a lot of effort is put on measurements for maintaining environmental and biological diversity, the higher standard of life increased the demand for energy and led to the establishment of bigger and more efficient industrial plants and service infrastructure. Hence the emission of greenhouse gases and other related negative environmental effects have increased recently, even in rural areas. According to the still active heavy industries or recently abandoned ones, remote environmental damage may thus occur in designated nature protection area. In some rural areas of the Carpathians, coal and copper mines 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 AND TAR, 2007, chapter 4.1.5).

### 3.1.4 Policies on forestry

Due to the high amount of forested area on the Carpathian territory (59.2%, Fig. 4), forestry attains economical relevancy for the timber industry and also for private households. Thus all the Carpathian countries are running a Forestry Programme. According to the administrative organisation or dependent on its value added, the programmes are formulated to stand alone or

they are integrated into already existing programmes dealing with rural development or comparable thematic issues (Tab. 12).

Sustainability and forest management are directly related to each other. Aside from the predominance of economical function, forest areas provide various other functions and positive exogenous<sup>4</sup> effects. Therefore forest management and policy programmes are considered in the recommendations of the Ministerial Conference on Forest Protection in Europe. According to the resolutions in Strasbourg (S1 – S6)<sup>5</sup>, Helsinki, Lisbon and Vienna, the economical and ecological measures concerning sustainability are also dominating the multifunctional orientated forestry programmes in the Carpathian countries (Tab. 12).

**Tab. 12: Forest Strategies and Programmes.**

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 (National Rural Development Plan) and the NHRDP (New Hungary Rural Development Plan) as well as in the Agro-environmental plan and operate under the jurisdiction of the Minister of Agriculture and Rural Development.			x
PL	Forest Act of Poland: <ul style="list-style-type: none"> <li>▪ Forest Management Plan: <ul style="list-style-type: none"> <li>▪ National Plan for the Increase of Forest Cover;</li> <li>▪ Forest management certification programmes (FSC);</li> <li>▪ Active participation of Poland in the Ministerial Conference on Forest Protection in Europe:</li> </ul> </li> </ul>		x	x
RO	The Sustainable Development Strategy of the Romanian Silviculture in the periode 2000-2020 (MAPPM, 1999): The National Forestry Policy and Development Strategy (NFPS) for Romania (2001-2010) (MAAP, 2001):	x	x	x
RS	Forestry Development Strategy:		x	x
SR	Concept of Forest Policy by 2005:		x	x

Thus all of the national forest policies have taken into consideration the sustainable management of forest resources and forests lands. But current action plans and appropriate cost calculations are not always applied yet are stipulated to strengthen the rights and the responsibility of forest owners. Therefore concentration is put on programmes protecting forests against pollution, fire, pests and diseases and on the treatment of forest ecosystems and natural protection areas.

- <sup>4</sup> Economical: Aforestation and reforestation with autochthon tree species, rational harvesting methods.  
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, neutralization of industry emissions, leaving hollowed trees.  
Social: the influence on human health and well being, the landscape values, recreation.
- <sup>5</sup> Resolution S1 Monitoring of forest ecosystems; Establishing a European network of permanent observation plots for monitoring forest ecosystems.  
Resolution S2 Conservation of genetic diversity of European forests.  
Resolution S3 Decentralized 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 on the physiology of trees.  
Resolution S6 European network on forest ecosystem research.

Consequently there is a strong relationship between the forestry sector, agriculture and the development of rural areas. Therefore agricultural land with poor soil, where farming is economically unfeasible, and forestation has become the main alternative management-method (FAO, 2007b).

Although a couple of programmes are currently in place for the preservation of forest ecosystems and the promotion of the 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 and of forest land due to the removal of dead or decaying trees, due to “sanitary” logging (for the sake of forest “health”) and 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 indicators of IACS (2002) were used to evaluate the biodiversity of forests but more effective approaches on this issue would be needed. Possibly the forest certifications according to the guidelines of the Forests Stewardship Council (FSC) or of the Pan European Forest Certification (PEFC) are able to provide an alternative solution (FAO, 2007b).

### **3.2 Governance structures and institutional settings for SARD-M policies**

During the current ongoing political transformation process the governments of the Carpathian countries have revised and adopted their main sector policies. Already in the pre-access phase and also after the first years of being a member of the European Union, attention was focused on establishing institutions on the national as well as regional and local level for preparing, adopting and implementing all necessary strategic documents, needed for attaining the access to EU financial resources.

#### **3.2.1 National level**

##### ***Ministries involved in SARD-M process***

The Ministries of Agriculture play an important role for SARD-M in designing and implementing the policies for sustainable development in regards to agriculture, forestry and rural development in mountain regions. According to their authority, the agricultural ministries are in charge of policymaking and policy implementation. Due to the wide scope of duties, they also deal with agricultural (land cadastre – land property and restitution, data base applications) and water management as well as with food industry, forest management, hunting and fishing. Hence particular articles of the Carpathian Convention (Article 3: Integrated approach to the land resources management & Article 7: Sustainable agriculture and forestry) have an impact on their policies. Already the titles of the ministries' names indicate the focal points of their tasks (Tab. 13).

Under their supervision they develop strategic, conceptual and programming documents, prepare documents and submit them to the Government for approval. They also work with economic, environment and social partners and monitor and evaluate the progress of set goals. It is also part of the ministries' task to ensure project selection and independent project appraisal and co-operation with the EU institutions, for coordinating and controlling financial flows from the EU funds. The ministries of agriculture mainly host various directorates, agencies and institutions responsible for the operative implementation. Therefore the SAPARD (chapter 4.1.1.1) institutions, which were installed in the pre-access phase, have attained new tasks after the access to the European Union.

As they were in charge of adopting the former agricultural programmes to the guidelines of CAP, it became their task to manage the implementation of measures concerning Agro-Environmental, Agriculture Operational as well as Rural Development Programmes (KANIANSKA, 2007). In the Republic of Serbia the programming of the policies and measures are arranged by the sector for rural development and the sector for agrarian politics, whereby the majority of operational implementation and processing is also conducted by the Sector for agrarian operations (TAR, 2007).

**Tab. 13:** Ministries dealing with Agriculture, Forestry and Rural Development.

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):

Aside from the predominant agricultural ministries, there are a couple of other national ministries, which are in charge of various research or policymaking institutions and bodies that could respond to the specifics of mountain areas. Among them are the Ministries dealing with Biodiversity, Environment and Nature Conservation which also play a major role (Tab. 14). According to their administrative duties they are the counterparts of the ministries for 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 are thus referring 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.

**Tab. 14:** Ministries dealing with Biodiversity, Nature Conservation and Environment.

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:

The other ministries involved (Tab. 15) in the SARD-M process have only minor influences. 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 on a national level, their main tasks are not related to rural development issues. They are responsible for financial aid, spatial planning, and also deal with tax concession and handle problems concerning transportation and infrastructure, industry and mining and concepts for sustainable tourism.

All of these issues are relevant to rural development. But as long as these thinly populated and partially underdeveloped areas play only a minor role in the national orientation programmes of these ministries, rural development issues will only be marginally considered.

**Tab. 15:** Other Ministries corresponding to SARD;

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:

Although there are sufficient institutions available (except in the Ukraine), competences related to SARD-M are divided between several ministries and although a lot of interrelated topics are touched, a clear and direct focus on SARD in mountain regions is missing. The two main ministries emphasizing agriculture and environment should complement one another in their competences and tasks. Instead of focusing on synergetic effects there is only very little policymaking teamwork. Due to the division of authority deep tension is preventing cross-sectoral cooperation. Partly, this is also due to different attitudes and sometimes even antagonistic priorities of the ministries. Currently the inter-ministerial collaborations appear to be difficult, although recently the relationship between the ministries is improving, despite the historical tension (chapter 4.2.1).

### 3.2.2 Regional and local level

The regional and local authorities are responsible for particular decision-making processes and the preparation of strategic documents concerning the regional level under the supervision of their corresponding ministries.

#### ***Regional and local institutions and organizations involved in the SARD-M process***

Thus it is the task of regional governments, district-offices and local municipalities to cooperate with ministries and regional governments in processes related to regional development. The ability is there to participate in designing the national plan of regional development or develop regional or sectoral operational programmes for economic and social development (KANIANSKA, 2007).

The advantage of regional or local initiated bottom up processes is that the involved organisations have a deeper relationship to the uniqueness of the Carpathians. Consequently the developed



regional programmes and strategies are better adopted for issues concerning rural development, natural conservation or cultural heritage. And as far as their own surroundings are affected, there is a strong commitment and involvement of competent people in local initiatives related to SARD-M in the Carpathians.

For the implementation and transfer of ideas of these bottom-up activities cooperation with local and governmental stakeholders is required. Thereby the establishment of trans-sectoral cooperation-networks in the “vertical” dimension would be necessary to constitute a “catalyst” for fostering the information-flow between national and regional stakeholders and agencies (Rusztecka, 2007).

**Tab. 16: Regional and local Institutions**

Country	Regional Institutions
CR	<ul style="list-style-type: none"> <li>▪ Municipalities:</li> <li>Regional Offices – Departments of the Environment and Agriculture:</li> <li>Agriculture Agencies:</li> <li>Protected Landscape Areas (PLAs) Administrations:</li> </ul>
HU	<ul style="list-style-type: none"> <li>▪ <b>Ministry of Agriculture and rural development:</b> 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;</li> <li>Ministry of environment and water: National Park Directorates; Regional Directorates and Inspectorates for Environment, Nature and Water;</li> <li>Ministry of Education and Culture: Regional offices of Cultural Heritage</li> </ul>
PL	<ul style="list-style-type: none"> <li>▪ <b>Ministry of Agriculture and rural development and Agency for Restructuring and Modernisation of Agriculture:</b> Voivodeship self-governments – implementation of the Rural Development Programme; ARMA: Agency for Restructuring and Modernisation of Agriculture; The Euro-regions: Karpacki, Tatry, Beskidy – cross-border cooperation;</li> <li><b>General Directorate of State Forests:</b> Territorial Directorates on Forestry and Hunting;</li> </ul>
RO	<ul style="list-style-type: none"> <li>▪ <b>Ministry of Agriculture, Forestry and Rural Development:</b> SAPARD Agency (8 regional units); National Forest Administration – Romsilva; National Agency of Mountain area (NAMA);</li> </ul>
RS	<ul style="list-style-type: none"> <li>▪ Timok Public Health Institute:</li> <li>Zaječar Agricultural and Technological Research:</li> <li>Society of Young Researchers from Bor:</li> </ul>
SR	<ul style="list-style-type: none"> <li>▪ Municipalities:</li> <li>State administration bodies:</li> <li>Regional governments:</li> <li>Regional and districts offices:</li> </ul>

In contrast the Venice Commission, an expert body of the European Commission, warns against the division of competences between the state, autonomous provinces and units of local self-governance. They assess this decentralization strategy as a rather complicated solution, which enables a wide scope for interpretation and specification through legal acts of lower rank.

However this decentralization and fragmentation process of power aims for the establishment of more and independent competences for local governments. This would require a reallocation of competences from a state level to a local level. Therefore the political position of regional settlements would be strengthened in relation to the central administration and it would hence become easier to put the needs inflicted by living in a specific environment on a political agenda (TAR, 2007).

### 3.2.3 NGO initiatives involved in SARD-M

NGOs are active in a wide range of activities. There are various NGOs concentrating on environment, organic farming, landscape and nature protection issues. As NGOs are independent organisations they are responsible for the execution of their tasks. However NGOs also play an important role in applying and initiating new programmes or innovative projects.

#### **NGO initiatives in the Carpathian Mountains:**

There are several national NGOs that are active in the Carpathian Mountains, who are taking a pioneering position. Some of them have initiated projects concerning organic farming, local products, brands and others (HAJDUCHOVÁ, 2007), whereby mainly the ecologically managed small scaled traditional and organic farms are promoted. Others focus their work on maintaining biodiversity of the Carpathians. Therefore GIS and 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).

**Tab. 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 Fishermans (GASHF):
RS	Standing Conference of Towns and Municipalities (SCTM): Local Agenda 21 (LA 21): Local environmental action plans (LEAPs): Carpathian Ecoregion Initiative, 'CERI':
SR	n.a.

## 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 major political reform processes which have taken place in all central and eastern European countries. The membership in the European Union requires the acceptance of the European constitution regarding the free movement of capital, people, goods, and services. Hence the application of a couple of new political guidelines and the adoption of agro-political measures were necessary. Those changed framework conditions have generally a strong impact on the living standards in rural areas and especially for the agricultural production. The morphological structure and climate

All the Carpathian countries have to deal with the particular naturally framework conditions and the subsequent unfavorable side conditions as all the other mountainous regions worldwide too. Morphological structures and the climate affect a risen potential for natural hazards and a reduced growth period. Consequently only less permanent areas for settlements and utilized agricultural area are available. Some of these regions could only be accessed difficultly and have thus to face economical disadvantages. During this time of changes it is hardly possible to benefit from a wonderful countryside, a healthy environment, or from high quality of agricultural products.

### 4.1 Impact and perception of policies & processes for SARD-M

Rural Development Programmes (RDP) represents essential instruments for supporting agriculture and landscape development in various European states. The implementation of this political instrument should help the Carpathian countries to apply measures to approximate the development of rural areas to the European standards. In general it was a great advantage that the communication between the stakeholders and their engagement during the elaboration phase of the programmes was functioning pretty well. It was a successful attempt of this open and democratic preparatory process, in which a wide range of stakeholders and NGOs participated, to create an advanced awareness and appreciation for rural areas. During the political decision process a couple of the proposed measures were neglected and were hence not included in the final preparatory work (HAJDUCHOVÁ, 2007).

Although the Rural Development Programmes of the Carpathian countries include the principles and objectives of the Carpathian Convention, none of these countries except Romania has formulated a separate law considering sustainable development of mountainous regions, which would be comparable with that ones of the Alpine states.

Solely in **Romania** the Sustainable Development Strategy of the Mountain Region and The Law of Mountain Region (chapter 3.1) are providing principles, objectives and measures for approaching sustainable development and biodiversity conservation in mountain areas. But unfortunately there have been no financial means allocated for realizing the stipulated measures. Aside, the measure no. 3.3, which operates under the National Programme for Agricultural and Rural Development (NPARD), considers comparable issues. It emphasizes on agricultural production methods, which regulate the protection of the environment and the maintenance of the countryside across Romania (FAO, 2007B).

For mountainous areas in **Poland** either, all recommendations regarding sustainable agriculture and forestry outlined in the 7<sup>th</sup> Article of the Carpathian Convention are considered indirectly in

other official programmes or strategies. According to the actual 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 partnerships between local communities, self-governments, management authorities of national parks, and national forestry authorities, in the field of “use” of mountainous regions. Recently it was criticised that the core content of the mountain law supports tourism, sport and recreation development in the mountains, rather than a coherent act that would support the sustainable development of mountainous 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 opposite mountain farming is benefiting from the National Biodiversity strategy. Thereby the agricultural management of grassland in mountainous regions is particularly benefiting in 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 CAP (Act No 252/1997 Coll. on Agriculture) in the Czech Republic, has affected a huge step forward in the Czech Agricultural Policy. But thereof mainly farms and agricultural holdings with a large utilized agricultural area are primarily benefiting. But regarding the structural requirements and side conditions of mountainous areas with its small sized farm structures these political guidelines do not attain the desired effects (HAJDUCHOVÁ, 2007).

The agricultural and rural development policy of **Hungary** (Agriculture and Rural Development Operational Programme, 2003) is also favouring economic growth, improvement of infrastructure, competitiveness and productivity, as already applied in the communism era of the past decades. Although some acknowledgements of the importance for promoting the agro-environment programme were made, this was not incorporated into the objectives of the programme 2004–2006. It seems that specific aims to develop rural regions and to encourage sustainable farming in mountain areas are underrepresented in the Hungarian programme. Hence the formulation development programme for agriculture and rural development in mountainous regions is currently of low priority (TINER, 2007).

Besides, the **Slovak Republic** has also integrated principles for sustainable agriculture and rural development in mountainous regions in other conceptual, strategic and programming documents (chapter 3.1.2) (KANIANSKA, 2007). The most relevant aspects are integrated in the programmes listed in Tab. 10.

**The Republic of Serbia** does also not have any political strategy dealing with mountainous and rural areas. An appropriate policy framework has to be derived from the various sectoral policy documents (chapter 3.1.1 and 3.1.2) that indirectly refer to rural areas in mountainous regions. This strategy is expecting that all programmes and documents together are finally 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. Under the current circumstances, the focus of Serbian policies concentrates on political stability and achieving sufficient economic growth. Due to the political events in the past it has to be accepted that rural and sustainable development of mountain regions does not attain a higher priority on the political agenda (TAR, 2007).

The Ukraine's<sup>6</sup> major principles for generating concepts of sustainable development in its Carpathian regions are based on the Declaration on Environment and Development (14.06.1992, the UN Conference on Environment and Development). By now the Ukraine has already declared its commitment for the CC although its concepts for Sustainable Development of mountainous regions are still in the preparation phase. For enabling the implementation of appropriate SARD-M policy measures, large assignments need to be allocated from the state budget of Ukraine. Currently an international grant programs is already implementing elementary measures regarding SARD in the Ukrainian part 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 Ukrainians Carpathian regions (MARYSKEVYCH, 2007).

The analysis of the national reports have pointed out that a holistic legislative act for sustainable development of mountainous regions regarding Western European standards is nearly in non Carpathian country available except in Rumania. Besides, a lot of initiatives and measures regarding sustainable agriculture and rural development and minor issues of economic and social cohesion are integrated in various institutional programmes. Hence a political instrument would be needed that enables beside the precise delineation of mountainous areas according to proper criteria also 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 considers explicit strategies and policy-planning approach for the Carpathian mountainous regions (TINER, 2007).

#### **4.1.1 Special EU policy-programmes for rural development**

Since January 1, 2007 five of the seven Carpathian member states are part of the European Union (EU). The two others, the Republic of Serbia and the Ukraine, have shown their willingness or are attempting to attain the requirements for entering into negotiations with the European Union and are strengthening their networks with the European Community seriously. The enlargement of the Union requires on the other hand the reallocation of subsidy means and the implementation of the CAP guidelines. The preparation of integrating CAP in the new Member States was already initiated in a very early stage of the negotiations.

Particularly the Carpathian agricultural sector will be orientated towards a multifunctional approach in the future. Higher standards regarding food-safety and food-quality, marginally available structures for processing and storing agricultural products or the changed agro-political framework-conditions are proper challenges for Carpathian farmers nowadays. Moreover the new Member States are still in the learning phases, how to implement and to use their new chances and options most efficient. Not only the new Member States are thereby benefiting, also the non EU countries - the Republic of Serbia and the Ukraine - have access to Instruments for Pre-accession Assistance (IPA, 2008).

Mainly the Republic of Serbia is currently enforcing its efforts for becoming a candidate country. Due to political disagreements the preparations for the access-negotiations with the Republic of Serbia were again postponed. Instead Serbia and the EU have signed an agreement for promoting a more close collaboration (Stabilisation and Association Agreement SAA) on the 29<sup>th</sup> of April 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

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<sup>6</sup> As no policies and strategies are implemented on national level, Ukraine will mostly not be considered in the following thematic chapters.

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 European Union has already made specific funding resources available, which can be used for environmental protection and for supporting rural communities (MARYSKEVYCH, 2007).

#### 4.1.1.1 SAPARD - Special Accession Programme for Agriculture and Rural Development

During the pre-accession phase the candidates for the accession to the European Union could already be granted aid from SAPARD. The programme aims at balancing the disparities between rural and urban regions and to facilitate the entrance into the Common Agricultural Policy (CAP). In order to participate in SAPARD the countries had to establish a national program for agriculture and rural development.

In the Carpathian countries the financial support within SAPARD was distributed in different ways. **Hungary** has particularly promoted agricultural methods which protect the environment and preserve the rural and cultural heritage. **Romania** established the National Programme for Agriculture and Rural Development (2000-2006). **Poland** has improved marketing strategies and processes for agricultural products. The financial means from SAPARD enabled farm investments and the development and upgrading of rural infrastructure. Additionally the diversification of business activities was supported, too. In the **Slovak Republic** the SAPARD Agency (from now on 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 from the new EU member states, who are benefiting from these financial resources. Therefore it is required to fulfil the standards of the European programmes. Consequently they had to adopt their management and products as well as their processing methods and facilities.

Hence SAPARD plays an important educational role for establishing organisational structures to participate in the available European funds provided for agricultural-related programmes. This development enforces the intensive examination of public structures and farm owners with the opportunities and complexity of CAP for gathering the allocated subsidies from the European Union. This transfer of Know how is not always considered primarily (HAJDUCHOVÁ, 2007). Mainly small and medium sized farms in peripheral regions often don't 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 organizations and business owners receive financial aid to carry out specific rural development projects. It is based on non-returnable financial support and the aim is to motivate local partners to build interregional and European-wide networks and to collaborate among each other.

The involvement of local stakeholders has turned out as a great advantage of Leader+, as they have to deal with the strengths and weaknesses and are in charge of the development of their regions.

Thus awareness should be attained for the current problems as well as for possible developing – potentials. This intensive knowledge exchange, regarding the horizontal and vertical collaboration

is strengthening the interrelations and relations between governmental authorities and administrative agencies in peripheral and urban regions and is hence obtaining the acceptance among the local population.

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

The main challenge of LEADER is its integration into a holistic sustainable development-strategy and the adjustment of the applied projects. Thereby it is decisive for the single mountainous regions to formulate a basic strategic development programme. 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 the Carpathian countries are integrated and applied in various EU-programmes (chapter 3.1). Although most of them 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 for obtaining financial aid. Due to the provided subsidies the incomes from agriculture have risen significantly, resulting in the economical stabilisation of rural areas (HAJDUCHOVÁ, 2007).

The sustainable development strategies and goals for mountain regions mostly stipulate only general measures on the national floor without concrete specifications. The problematic financial situation of the Carpathian countries and the lack of political conviction for applying proper sustainable policies in mountainous regions are preventing the allocation of additional financial aid and consequently the application of sustainable measures.

In the **Czech Republic**, the recently applied Rural Development Plan (RDP) is providing instruments for achieving an agriculture structure that respects and preserves the valuable features of landscape (HAJDUCHOVÁ, 2007). This new RDP will coordinate and compensate the differences between the programmes, to be prepared for the next steps regarding the integration process of Europeans agricultural policy. Although the provided subsidies for the programmes led to economic stabilisation of the Czech agriculture, they do not always have a meaningful impact on necessary steps towards economical, ecological or social sustainability in rural regions. The implementation-guidelines of the EU appear sometimes too schematic for particular local or regional applications, as they do not correspond to the specific national requirements (chapter 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 (chapter 3.1.2 and 3.1.3), the implementation of the National Agro-environmental Programme, which aims on the promotion and support of sustainable farming approaches for using natural resources sustainable and for protecting biodiversity and landscape, was on the contrary delayed due to budgeting and political problems (TINER, 2007).

The rural development plan 2004 - 2006 and the sheep breeding programme as well as other programmes regarding agriculture and regional development (chapter 3.1.1 and 3.1.2) of the **Slovakian Republic** are partly considering issues of mountain regions. Although the Slovakian Republic is dealing with these crucial issues of rural and sustainable development, the definition

and application of strategic goals is often integrated without any adequate co-operation and interconnection. Consequently it was stated as necessary in the Mid-term Concept of Agricultural Policy 2004 -2006 to promote the enlargement of administrative capacities, structural support and legislative adoptions, for implementing CAP guidelines as well as programmes and measures referring to multifunctional agriculture and rural development (KANIANSKA, 2007).

The current political discussion in **Poland** to integrate the principles of rural and sustainable development regarding mountain regions into national strategies or plans is diminishing the effectiveness of a special mountain law in pursuing sustainable development goals. These legislative barriers may possibly result in insufficient coordination of tasks and economic, environmental and social duties in mountainous 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. Thereby 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). Besides, it has to be stated that the legal and institutional setup of programmes, which would provide a higher relevancy, is still missing. Hence specially designed regional programmes, particularly addressing the uniqueness of the Carpathian area were applied recently to raise the notion of rural development. But the operating distance of their actions and activities are unfortunately restricted to regional or local levels rather than to a pan-Carpathian dimension. Due to the concentration on those particular local regions there is a lack of coherent pan-Carpathian dispersion of conducted actions on the regional level (RUSZTECKA, 2007).

In **Romania** a couple of complex legislative acts, adapted to the European guidelines, came into force. But due to the lack of funds this law is currently far away from being implemented (FAO, 2007B). In contrast **Romania** expects important experiences from implementing agro-environmental measures. Thereof helpful hints for adopting the principles of CAP and for harmonizing legislative issues on the administrative as well as on the local level could be derived (FAO, 2007B).

Also the **Republic of Serbia** has recently adopted several new strategic documents and laws regarding various fields relevant for rural development (chapter 3.1.1) to attain an approximation to the European legislative guidelines. The consideration for establishing a holistic mountain orientated approach according to a more differentiated examination of rural development and its meaningfulness for the rural economy has not yet materialized through policies in the **Republic of Serbia** (TAR, 2007).

A comparable development has occurred in four mountainous 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 considering "mountainous" and environmental issues, most of them have nevertheless been approved due to the insufficient understanding and knowledge 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, 2007).



#### 4.1.2.1 Monitoring & controlling

Generally, all national policies are lacking an effective monitoring system for surveying indicators systematically to document the development of mountain regions in a standardised way. The integration of an adequate monitoring system, which would be appropriate to indicate a necessary course correction, enabling an efficient and effective evaluation of applied European structural funds. Although the Czech Republic, Poland, the Republic of Serbia and the Slovakian Republic have currently implemented monitoring applications, they are mostly not of sufficient quality and do often not provide realistic information about the impact on the landscape or the economic situation of the farmers (HAJDUCHOVÁ, 2007). Most of the Carpathian countries except the Czech Republic are lacking highly developed technical instruments to establish Geo-Information System, with detailed georeferenced spatial data for civil use (RUSZTECKA, 2007). Besides these technical lacks, the currently available set of indicators is not sufficiently appropriate to evaluate objectives accurately. Thus the monitoring function does not always provide the desired effect. Mainly the quality of performance and the effectiveness of the implemented measures could prevent an adequate evaluation (KANIANSKA, 2007). Consequently it becomes difficult to monitor objectives, if the values to be evaluated are surveyed inaccurate or incomplete. Accordingly, the installed systems are ineffective and are not appropriate to assess the impact of activities and processes on the project or the programme level (TAR, 2007).

Hence the application of a systematically observation and monitoring system of the spatial development and the survey of important indicators for documenting rural development would be required for documenting agricultural and forestry structures or socio-demographical issues precisely. In some areas they are already on their way to the implementation of effective control systems (KANIANSKA, 2007).

In any case the countries are aware that due to the availability and demand for information, the sensitivity for topics concerning the support and the protection of rural development is increasing among the public (HAJDUCHOVÁ, 2007). As the application of environmental assessment and information system or monitoring and early warning systems are already stipulated in Article 12 of the Carpathian Framework Convention, the implementation of monitoring and controlling instruments need to be installed anyway.

#### 4.1.3 Socio-economic aspects in rural areas

Mountainous regions are suffering on unfavorable natural side conditions. Accordingly a couple of factors have a crucial impact on the economical and social development of these regions. Due to the low accessibility and the long distances to more densely populated centers, these regions are lacking the access to public services. The implementation and the maintenance of important public and social facilities (schools, hospitals, kindergarten, fire brigade, public bodies, cultural buildings etc.) are related with a high financial expense. The municipalities of those mountainous regions are mostly not very densely populated. Thus the costs in relation to the inhabitants are rising, the lower the population of a region is.

Consequently the common problems of Carpathian regions are mainly affecting small villages in peripheral regions, which are characterized by high unemployment rates, social problems and the low-educational level (TINER, 2007). Their physical isolation is hindering commuting to economical more powerful centres or the organization of mountainous communities to promote their collective interests (MARYSKEVYCH, 2007).

This viewless situation doesn't motivate young or new farm owners to continue their farm-work or to manage their resituated farm areas. Not even the new boom for biologically produced goods and

the bottleneck in the food industry raises their economical prospects meaningful, to earn a living by farming in unfavoured, peripheral mountainous regions.

Due to the lack of modern communication technologies, inadequate social-support-networks and unfavourable accessibility they are facing other problems regarding health and medical care and education options, too. The demand for agricultural education in the Carpathian regions is hence remaining low (TINER, 2007). Consequently training opportunities and consultancy services for farmers are hardly offered in regions with low production potentials. This makes aware of the low economical potential of the small structured mountainous agricultural in the Carpathians (**Romania, Slovak Republic and Hungary**), although the sector itself is dominating in these rural regions.

Mainly the younger generation don't see any future on the countryside. Their interest in keeping up the agricultural and rural traditions is only of low priority.

The national and European politicians are aware of these problems. Accordingly a couple of the national programmes aim on strengthening the competitiveness and on the prevention of depopulation. In a period of meaningful political changes and rising economical and social disparities, the policy measures have to deal with the most crucial social impacts and the maintenance of the territorial and social coherency. Sustainable National Strategies for the Carpathians should thus consider the main social, economic and environmental features. The focus thereby has to be put on strengthening the local economy, on extending the social abilities, on improving the communication, and transportation infrastructure as well as other supplying services, to become economically more powerful as well as attractive for living. Although it is the programmes' intention to set up positive impulses, the poor living conditions due to the raising income disparities in these less favourable areas, particularly in the Carpathians may remain as an insuperable barrier and could prevent all the well formulated initiatives (TINER, 2007).

In contrast it is also obvious that only the improvement of infrastructure facilities won't be suffice to enable in the long-term sustainable development. Mainly the demands for adequate education, for leisure, shopping and cultural opportunities, as well as for attractive jobs within a particular distance and expenditure of time, should be met. A focal point has to be put on the social conditions, too. Thereby emphasise should be put on the reunion and the strengthening of families. Due to the restrictions of mountain areas it is very difficult mainly for agricultural families to continue farm management or to overtake a farm considering the given economical prospects (HAJDUCHOVÁ, 2007).

These interrelations are exemplary for the southern Hungarian Carpathians. As one of the poorest regions of the European Union, its economic situation could at least be improved along the recently constructed motorway. But regarding the socio-economic circumstances in general, the remaining regions in peripheral areas of the Hungarian Carpathians still remain as one of the most underdeveloped in the European Union. Traditionally the economy there was based on manufacturing of machines and metallurgy. Due to their low productivity and low degree of specialisation these more small and medium sized enterprises have increasing liquidation problems, weaker market positions and lower cooperation-levels. And currently no sufficient political effort is taken to create networks for encouraging business activities or for applying and supporting innovative strategies.

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

In general the development of regional economy potentials still remain low and the willingness to invest is decreasing, what reduces the prospects on the job-market. If these region don't bear the establishment of jobs for skilled and well trained people they could face the risk of out-migration and the loss of one of the most important endogenous potential – the well trained human capital. In middle-term this social problem will advance to the main socio-economic problem across Central and Eastern European regions (TINER, 2007). The out-migration of mainly younger well educated people results in a higher age dependency ratio. Depopulation and obsolescence and the abandonment of enterprises are the most crucial endangerments of a region's vitality (FAO, 2007B). Consequently a relatively small amount of active working people have to finance the pensions, the health insurance and the rest of the social system in the future, what cannot be and will not be financed in the same extent as nowadays.

Out-migration is not only leading to an economical loss it also means a loss of traditional knowledge and "human capital". This does not only have an impact on the cultural heritage. The loss of traditional know-how is directly influencing society's experiences managing natural hazards and agriculture. Regarding agriculture the latent endangerment has to be faced that globalisation could enforce the abandonment of cultivating traditional ancient cereal-sorts or the abandonment of breeding ancient animal species.

For attaining economical diversification, tourism would be a proper opportunity for mountainous regions in the Carpathians. Thereby a main concern has to be put on sustainable regional development for preserving the ecosystems and natural surrounding to raise the attractiveness of the Carpathian regions for tourism and for the standard of living (MARYSKEVYCH, 2007). On the opposite if the vitality and living standards of a region are not attractive anymore, there won't be any chances for developing the tourism-sector (RUSZTECKA, 2007).

Even if regions are appropriate for developing a tourism-segment, they have to face enormous capital expenditures. Currently only less specific knowledge and few touristy infrastructure services are available and the existing accommodation facilities are mostly insufficient on the regional level. Apart from that basic facilities and efficient regional and territorial marketing strategies for promoting the regions are mostly not applied (TINER, 2007). Currently these peripheral mountainous regions in the Carpathians are attractive for individual tourists looking for a nature-event but not for mass tourism used to have a wide range of high quality services available.

Despite these doubts and insecurities the Republic of Serbia is convinced of its touristy opportunities and potentials and wants to promote these fields by reactivating abandoned housing infrastructure to create modern and landscape adopted tourism accommodation facilities. Therefore the still untouched and undiscovered parts of Serbians Carpathians are predestined for tourist-applications. The National Park Djerdap in the Republic of Serbia and the broad opportunities for sport-activities and cultural places of interest may offer a meaningful potential for applying a diversified tourism concept successfully (TAR, 2007). Thereby it would be reasonable, if the strategy pursues the collaboration with the sectors (Tourism, Agriculture) concerned and the sustainable use of local resources.

The regional and local economical development in the Carpathians is generally below national average. On one hand there are difficulties to transfer technical and economical innovation along the chain and on the other hand only low investments, mainly founded by public subsidies, are in place for innovation activities. Traditional industrial branches (exploitation of non renewable natural resources such as copper and coal in Majdanpek and Bor) and capital intensive activities (energetic or chemical industry) are dominating. However, due to the steadily growing numbers of small and medium sized enterprises the situation could improve (TAR, 2007).

#### 4.1.4 Agricultural programmes

Agriculture and forestry are the main land users in rural areas and are dominating the rural landscape. The development of these sectors is not only relevant for their responsibility regarding the management of natural resources, but also for the development of various other economical sectors and of social life in rural areas. The sectors' contribution to the maintenance of the cultural landscape creates the preconditions for potential tourist activities. Moreover the availability of a diversified range of agricultural products - an economical key-factor - could additionally raise the tourist attractiveness of a region. Besides peripheral and mountainous regions are the sustainers of typical traditions and cultural habits. Thus the sustainable collaboration of agriculture and tourism could provide a reasonable development option due their synergetic effects.

Therefore it appears justified that particularly these mainly small scaled farms, managing agricultural areas with unfavourable side conditions in mountainous regions are benefiting from indirect and direct subsidies, which are honouring their contribution to public welfare and balancing their income disparities. But recently the situation for proper regions, mainly mountainous ones, has worsened due to the liberalization of restriction within the CAP Health Check. As the milk quota system will be abolished in 2015 and as the principle of full decoupling will be extended, new strategies and measures will be necessary for compensating the economical disadvantages of agricultural production in mountainous regions.

Food quality and food safety as well as the processing and marketing of products and the collaboration and interrelations with the related sectors will play decisive roles for formulating future agricultural policy strategies.

##### 4.1.4.1 Europeans Common Agricultural and Rural Development Policies

Those Carpathian countries recently accessed in 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.

Pillar 1: market measures and direct aids

Pillar 2: Rural development measures

Mainly 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, on fostering cultural heritage and natural resources and on applying agro-environmental measures for improving the environmental conditions.

Nearly all of the Carpathian countries except the Ukraine<sup>7</sup> have already implemented National Rural Development Programmes (NRDP) (RUSZTECKA, 2007). The implemented agricultural programmes (chapter 3.1.2) are valid national wide, although the suggested measures do not always suit for the particular needs of mountainous regions. And moreover, not all measures, which are considered to be successful for the conditions of the other European countries, seem to be successful for the national application. In some cases it may happen that the requirements for the application are too schematic or restricted. In terms of incorrect applied measures or neglected restrictions, it has to be considered that this misuse of financial aid may lead to the withdrawal of subsidies. And as it was notified that the dissemination of some subsidies for particular measures are financed by returned subsidies, doubts about the objectivity of the controlling agency arouse (HAJDUCHOVÁ, 2007, RUSTEKA, 2007).

Generally during this transition period from the pre-access phase and the period immediately after joining the EU the administration is in a learning phase and had to deal with its experiences. Thus it could be tolerated that shortages due to the lack of Know How regarding the implementation of the EU policy framework, the application of European guidelines and the distribution of agricultural subsidies may happen at this early stage. It will take a couple of time until these administrative problems will be solved and the course of administration for distributing financial means according to the European guidelines is systematized. Therefore **Poland** and the **Czech Republic** have already established a good accessible system of Consultancy Centres and Information Points. Competent regional farmer consultants are offering training programmes to provide information concerning the implementation of the Agro-Environmental or the Rural Development Programme (HAJDUCHOVÁ, 2007 AND FAO, 2007B).

Already now, the agricultural development in all the Carpathian countries has benefited strongly from the 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 applying countries have now the access, the will and the ability to use these EU subsidies according to their purpose (HAJDUCHOVÁ, 2007). Thereby the European membership and the access to the European structural funds should not be misunderstood as a financial source for fostering national interests of agriculture and rural development. In return the subsidies of the European Union are related to proper conditions and are thus putting new requirements to the European agricultural structures and to those of the new Member States in particular. Accordingly the official entrance into the European market and the risen demand for agricultural products requires high food-quality and food safety standards. The compliance of hygienic and environmental standards, laws, guidelines and requirements could become an obstacle for the participation in European markets especially for the small structured farms. For adapting their management and production facilities to these restrictions and requirements they mostly don't have the required know how and are often lacking the necessary financial means.

The agro-economical framework and legislative acts in the Czech Republic are still likely to favour the formerly common large corporations, preferring conventional farming than small and medium sized and sustainable managed farm-households. But also in the EU are the big sized farms benefiting from the financial means of LFA and agro-environmental programmes due to scale effects. Regarding the financial possibilities the small scaled farms have fewer possibilities to react on financial problems. Thus these subsidies are for them of prime importance. In terms of delayed financial aid, the small sized farms may face the greater disadvantage, as they could be forced to take loans for bridging the time gap (HAJDUCHOVÁ, 2007).

Usually the agricultural management and planning systems, also in Hungary, are primarily organised top down. Thus the high level of subsidies is paid to the big sized farms usually applying intensive farm-management methods (wheat, maize, etc.). In contrast, if there would be too many small scaled organic farms focusing on sustainable measures, this would be an economical restriction too. They would not be able to guarantee the security of supply, the transaction costs for a small structured agriculture would raise and their economical stability would be low. Consequently most of these small sized farms in the Carpathian regions are not viable due to their size.

Besides, the hygienic standards and restrictions as well as the subsidy-system related to the managed areas are discriminating the numerous small and smallest farms. The sale of their products has become more difficult due to the more strict market-barriers. Thus it has to be feared that the sale of typically local and regional products of high quality could be hampered.

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<sup>7</sup> In the Ukraine there has not been any legal field or institutional provision established yet to implement state policy of sustainable development.

Apart from that, the fragmentation of farms is hence another economical barrier for managing farmland, which could be additionally worsened, if the property conditions are unclear, as it sometimes may happen in Carpathian countries, (TINER, 2007). In this connection the national agricultural privatisation-reforms brought meaningful changes. On the other hand it could happen that the new owners return their land (leasing-schemes) to the former cooperatives due to their lack of agricultural education and knowledge (TINER, 2007). Thereby it has become obvious that the small farms abandoned during the communism era will not be restored again. Following privatisation the amount of cultivated agricultural land has declined and the abandoned agrarian-areas have changed to weed-land (TINER, 2007, (KANIANSKA, 2007).

These problems regarding supply-security and sustainable management and their dependency from farm size will remain as the crucial tasks for the national agricultural policies in the Carpathians.

#### 4.1.4.2 Agro-Environmental Measures

The Agro Environmental programmes (Czech Republic, Hungary, Poland, Romania, Republic of Serbia, and Slovak Republic) and the sectoral Operational Programmes for Agriculture (Czech Republic and the 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 don't 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 of the importance of maintaining agro-environment measurements is made, this is not incorporated into the objectives of Agricultural and Rural Operational programme. It seems that specific aims to promote agro-environment and rural development measures are lacking at present and are only of low priority. Anyway this programme had some particular achievements. Funds have been spent to foster agro-environment measures to preserve high-value nature areas, traditional livestock breeding, cattle grazing and sheep production in valuable natural areas to conserve biodiversity. Unfortunately the implementation of a larger number of projects was prevented due to financial problems (TINER, 2007).

**Poland** in contrast is aware of the socio-economic relevancy of agro-environmental measures for the farmers as well as for the regions and the society. According to LFA these measures would be the most relevant instruments related to SARD Policies in Mountain area. 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 in mountain areas, Poland suffers from problems implementing its national agro-environmental programmes adequately: Still no initiatives have been suggested to increase the EU subsidies for farmers, who cultivate plots located in less favoured 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 emphasize on 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 of the Polish farmers with their farmland particularly in the Carpathian regions. Thereby the predominant extensive managed and small-

sized agricultural areas 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 Midterm evaluation of the SAPARD (chapter 4.1.1.1) Program (MINISTRY OF EUROPEAN INTEGRATION, 2004) partly draws a negative picture of the applied agro-environmental measures. The evaluation of the environmental situation was found insufficient as well. Thus further considerations, analysis and upgrades are needed to improve the environmental impact of the agro environmental program. These issues will be considered in the preparation of the new National Agro-Environment Programme of Romania to allocate the 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, 2007).

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 due to higher incomes. Besides, their application has stabilised the agricultural structures in less favoured areas. Practical experiences and knowledge regarding the implementation of European policies could be gained on the other hand, too. Only if focusing on the mountainous regions, it has to be recommended, that the preservation of permanent grassland – within the programme on LFAs was the only favourable subsidy-measure (HAJDUCHOVÁ, 2007).

Apart from these national agro-environment programmes, the Carpathian Framework Convention (ratified in 2006) designed an own protocol for developing sustainable agriculture. Within the scope of Article 7, a couple of good instruments are formulated to support the objectives of agro-environmental measures and to implement sustainable agricultural measures in the Carpathian Mountains (HAJDUCHOVÁ, 2007 AND FAO, 2007B).

#### 4.1.4.3 Organic farming

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

A couple of countries from 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 required to control the compliance of hygienic standards, to design a particular marketing strategy and to establish a functioning network between the production and product-processing. Mainly the access to European markets seems to be a challenge.

As it has to be estimated that none of the organic farms are big enough and have sufficient Know How for participating on the markets directly, particular cooperatives or cluster-structures need to be established. Besides these interior structures a national legislation framework has to be formulated for this sector, which needs to be adapted to the European standards. Because, only when the products fulfil the European requirements (Council Regulations 2092/91 and 1804/99), the development of that market segment and the access to the European markets may be attained (FAO, 2007B). Due to the increasing demand for organic products the agricultural sector is

increasingly facing logistical problems. The main focus must be the compliance of the required standards to pass the strict controls for organic products (FAO, 2007B).

The identification with the product and its geographical origin, as well as food-safety and food-quality coupled with a high transparency of product-processing are of prime interest for product placement. The demand for information regarding the chain of custody is more and more advancing to a decisive marketing criterion. Hereby are the implementation of IT solutions and GIS (Geographical Information Systems) – like LPIS (Land Parcel Identification System) in the Czech Republic, appropriate tools to handle those huge data-sets required for monitoring or marketing applications (HAJDUCHOVÁ, 2007). Administration and logistics will become more efficient. GIS is thereby the most common instrument for the authorities to support administrative processes. The control, analyse and documentation of various general agricultural indicators, independent if they concern organic or conventional farming, could already be conducted with GIS.

The agricultural-cooperative, Ecological Farmers Pro-Bio, in the **Czech Republic** and several controlling institutions for ecological farming have already attained 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 bio-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 FAO, 2007B).

Mainly the **Slovak Republic** and the Czech Republic have good experiences in regards to the administrative level 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 and thus guarantees the successful participation on this new upcoming market-segment. Unfortunately local markets for agricultural products and for products of organic farming are still rarely present. There are only a few local brands, which do not receive any support to develop and improve their market position (HAJDUCHOVÁ AND KANIANSKA, 2007).

#### 4.1.5 Environment, nature conservation and biodiversity strategies

With entry into the European Union all member states are legally obliged to accept the guidelines of the 6<sup>th</sup> Environment Action Programme 2002-2012 (EAP) of the European Community. The Programme consists of four main pillars: Climate Change, Nature and Biodiversity, Environment and Health, Natural resources and Waste. The main concern of the 6<sup>th</sup> EAP is the integration of environmental issues into all Community policies and actions and to provide the environmental component of the Community's strategy for a sustainable development. Thus a link between 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 natural landscapes that are especially precious. 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 ecologically especially valuable areas. By putting this guideline into practise 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 including all the European states. The resolution from the Bern-convention protects European-wide 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 the adoption of management plans and programmes of measures 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 on areas outside the protected areas.

Considering the individual European countries, these programmes cannot apply the same restrictive environmental measurements for attaining a significant improvement regarding the environmental conditions as long as agro-economical interests are pursued, too (DELARZE ET AL., 2003). For this directive to be really successful in rural areas according to its objectives it is crucial that it does not only serve to create an agricultural income. It is in fact important to link its implementation to clear criteria and to actually monitor any achieved successes.

#### 4.1.5.1 The policy impact on Biodiversity & Nature Conservation

In 2005 the National Biodiversity Strategy (NBS) of the **Czech Republic** came into force. It is the only strategic national document that formulates aspects that are specific to mountain ecosystems. The strategy is stressing 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 input of chemical substances, documents the species composition and tries to reduce negative impact on the mountain landscape character. The strategy is well formulated, but does not address the issue of genetically modified organisms. Although the adoption of the National Biodiversity strategy should 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 that strategy there is still a budgetary imbalance between the RDP and the needs of biodiversity conservation (HAJDUCHOVÁ, 2007).

The UNDP - 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. 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 practise (HAJDUCHOVÁ, 2007).

Although the communism era ended almost two decades ago, large land parcels are still common in the Czech Republic,. The applied intensive production methods 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 attaining 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 the

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 the Government. A significant amount of financial resources, though, are often spent during the implementation process in setting up an Action Plan. Consequently, there is a lack of financial means for monitoring, surveying 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 among the Carpathian countries providing principles, objectives and measures towards a sustainable development (mainly sustainable rural development) and biodiversity conservation in mountain regions. Key issues are: land abandonment in less favoured areas caused by economical considerations of the farmers, threats concerning biodiversity, insufficient measures dedicated to protected areas and ecological networks. An Action Plan for coordinating the available resources is missing in Romania (FAO, 2007B).

Although the **Serbian** Republic has not entered access-negotiations, it has already identified protected areas in the Carpathian regions. The National Park "Djerdap" is the most famous protected site. While the flora and fauna offer an abundant diversity of species, environmentally damaging industries operate 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 biodiversity (TAR, 2007).

#### 4.1.5.2 The Policy impact on Environment

**Hungary** does currently not have any sustainable development strategy. There is a 2<sup>nd</sup> National Environment Strategy 2003 - 2008 (NEP2), though, which aims at sustainable development. In this strategy the protection of renewable natural resources is stressed. The focus is on the improvement of the quality of air, water and soil. Nonetheless, there is still the need to deal with the problems caused by agriculture. Unwanted effects regarding untreated sewages 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 get under control. Besides power production plants, other industrial plants and the increasing traffic intensity are responsible for the raising emissions of air-pollutants. Pollutants 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 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 (FAO, 2007B). 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 claims that 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 is insufficient (KANIANSKA, 2007).

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

#### 4.1.6 Forestry Programmes

Due to the succession-process on abandoned agricultural land, forest areas have been extended. On the other hand the demand for land for infrastructure-facilities (traffic, housing and recreation) threatens 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. As the level of the ministry and the level of expertise of the institutions and people involved are currently not sufficient these unwanted effects become possible due to the lack of efficient controlling systems and serious sanctions (HAJDUCHOVÁ, 2007).

The SARD report of the **Czech Republic** claims insufficient coherency with the existing strategies. Although the documents of the National Forestry Strategy define ecologically convenient and well targeted goals they are not coordinated with the current agriculture strategy or the RDP in hardly any of the Carpathian countries. A link between biodiversity conservation and the support of small forestry related businesses is lacking. As the attitude of forest managers towards nature conservation and biodiversity differ widely forest policy authorities have to deal with latent conflicts. Consequently it would be necessary, also in the Czech Republic, to adopt the legislation of the National Forest Policy. However, there is not always the political will to put these changes into practise. And as the implementation of the National Forest Strategy should be realised through coherent strategic documents or through already provided state subsidies, some particular programmes in the Czech Republic would not receive additional financial aid (HAJDUCHOVÁ, 2007).

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

## 4.2 Effects of the 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 the horizontal as well as the vertical integration and the intersectoral cooperation need to be strengthened. In general it appears that the cooperation within horizontal structures appears to be easier than across the vertical and intersectoral ones.

## 4.2.1 National level

### 4.2.1.1 Legislative restrictions

For the implementation of policies, programmes or strategies various authorities are involved. The ministries for agriculture, forestry and/or rural development play a central role in SARD and SARD-M policies. These are often organized 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 too precisely defined rules lead to problems regarding 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 representing the most crucial issue concerning the horizontal, vertical or intersectoral collaboration. The intersectoral coordination of the involved institutions for implementing SARD policies is still insufficient and incohesive. This concerns horizontal levels of governance - from ministerial to local -, as well as the vertical coordination and partnerships.

Between the Ministry for agriculture, forestry and/or rural development and the ministry for environment and/or water management a tense relationship is registered for all countries. The sometimes 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 side) may be the key factor for the discrepancies. This is the result of the existing hierarchies which hinders cooperation. In addition, a lack of information flow between the ministries can be observed. This may be the reason for the late disseminated information to the farmers.

**Romania** on the contrary, has by far the most influential “umbrella” Ministry of Agriculture, Forestry and Rural Development (MAFRD). It is responsible for the Law of Mountain Region and the Sustainable Strategy of Mountain Region and the National Agency of Mountain Area (NAMA). NAMA is hosted within the Secretariat of the Inter-Ministerial Committee for the mountain region and applies government policies in the field of the development and protection of the mountain communities and environment. It coordinates the inter-ministerial committees' activities in charge of Training and Innovation Centre for Development in the Carpathians. The MAFRD also manages the technical Secretariat of the National Environmental Action Plan (NEAP) which has been established to ensure the technical support and advice for MEWM activities. Furthermore NEPA supervises the cooperation with the European Environmental Agency, with the national agencies in the EU member states and Romanian environmental bodies. NEPA also monitors the implementation of environmental legislation in the country, coordinates the implementation of National, Regional and Local Environmental Action Plans, executes national and international programmes and elaborates reports.

Although the cross-links in cooperation at the ministerial level seem to work in Romania, all of the other Carpathian countries have confirmed an obvious lack in cooperation and communication among the involved ministries (FAO, 2007B). Only in **Poland** is the cooperation between the Ministry of Environment (MoE) and the Ministry of Agriculture and Rural Development (MARD) working well. This is mainly due to the cooperation of the Natura 2000 Programme (MoE) and the agro-environmental programmes (MARD), which require coordinating 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 the “vertical” cooperation at the ministerial and the self-governmental level is unfortunately missing, the practical implementation may 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. Thereby good access to information for the farmers should be guaranteed. In contrast poor communication and several controversies between the Chambers of Agriculture and other farmer unions/cooperation have caused problems in the sectoral collaboration (KANIANSKA, 2007).

#### 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 is the main institution which defines the priorities of the programmes.

The agricultural strategy in the **Republic of Serbia** was adopted after several months of public consultation meetings and a fair participatory approach. Nonetheless, human-capacities for implementing and controlling administration and policy development are often not enough. 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) to implement SARD. Rural development strategies have not been conceptualized nor verified in any of the public dialogue processes by the 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. However, they are only randomly involved in rural development support measures and further policy development. Only a few organizations (Agro-business centres, private companies, local development and entrepreneurship support centres) are fully informed about supports from the national Rural Development budget and have consequently better access to funds. The improvement of the local organization network or the promotion of them as partners in the implementation of RD measures has not yet been done (TAR, 2007). Nevertheless, on 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 (sheep programmes, chapter 3.1.2), if specially-addressed initiatives (chapter 3.2.2 and 3.2.3) help to conserve their surrounding and the uniqueness of the Carpathians (RUSZTECKA, 2007).

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

It is not only the lack in vertical coordination that hinders policy processes. Also the horizontal lack of coordination and cooperation among the regions causes political stop. Generally the rural population is willed to participate actively in the process of rural development. Unfortunately the dialogue between ministries and representatives of regional governments and nongovernmental organisations, including farmers, is sometimes insufficient. Qualified experts on the policy implementation process are hence needed to improve learning and advisory systems, to ensure adult education and to enable the access to “business incubators” (KANIANSKA, 2007).

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

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## 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 and 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 aspects for rural areas related policies. In addition such a platform can serve a body of credible information about good practices on SARD in mountain areas based on practical experiences of real life. Those good practices and successful stories could be replicated in other countries within Carpathians as well as beyond this mountain area. It should stimulate a raising awareness for SARD and the discussion on the Carpathian Convention as well as on common development agendas in a wider sense for facilitating the learning and experience sharing process.
- The CC can contribute to solve important questions related to rural development, infrastructures, cultural exchange, administrative cooperation, energy, nature conservation and development including harmonization of the legislation of different issues in a trans-border approach regarding sustainable development of a mountain area.
- The creation of a Carpathian Research initiative and the launch of a Research Agenda are needed for sustainable development of this region. Key element is research for the Carpathians. The region and its inhabitants should benefit from it and its resulting innovation. Research is to be set transnational, trans-disciplinary and problem orientated. That requires the collaboration with international organizations, NGO's and other groups beyond the Carpathian space as well as the local population and institutions, which are interested in mountain research.
- To build up a knowledge base on SARD in mountain areas in cooperation with other mountain regions, e.g. with the Alpine Convention countries, having experiences in developing common policies and instruments; to create linkages between interested stakeholders and facilitate communication, collaboration and interaction among them for attaining 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,
  - application of appropriate land use and nature friendly and ecologically sound farming,
  - the promotion and marketing of agricultural and forestry high quality products and
  - approaches to improve social cohesion and regional value added.
- Increase national awareness and action by informing a broad public of the results, achievements, lessons learned regarding SARD and forestry as a complementary part of the Carpathian Convention Work Programme, to make sure that this issue receives enough treatment and 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 –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. They consequently are also important for SARD-M and the Carpathian Convention. Within the framework condition for rural development 2007-2013 given by the Goteborg directives and the renewed Lisbon strategies, measures regarding healthy and high quality products, environmentally sustainable production methods including organic production, renewable raw materials and the protection of biodiversity need to be implemented.
- The most successful EU policy instruments regarding the best practice strategies for mountain areas have to be analysed. The most appropriate ones should be adopted and implemented for the needs of the single Carpathian countries with the support of EU-funds by using the advantages of the CAP.
- Continuing the high effort and investments for the implementation of quality and sanitary standards in agriculture for attaining the compliance of Europeans high food safety level, mainly relevant for the dairy and meat sector (Baum et al., 2004). Therefore the training of farmers and administration related to rural and mountain areas are 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), if developing project proposals particularly for common trans-disciplinary projects, applying in the South East Europe Transnational Cooperation Programs 2007-2013.
- The Republic of Serbia, currently involved in access-negotiations, and the Ukraine, already announcing its interest to enter into application-negotiations, have to exploit the Instrument for Pre-Accession Assistance (IPA) which enhances the efficiency and coherence of aid by means of a single framework. The EU-Member States could support these countries by means of the CC to create a solid basis for a possible future accession. Inhabitants and administration in peripheral mountain areas have to be informed particularly. 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 and also among each other building up a Carpathian identity and Carpathian Space. The Convention provides a transnational framework for the application of the EU policies throughout the Carpathian region.
- The Carpathian Convention may offer an important link for those countries not benefitting from the EU structural fund and could hence represent an instrument for cohesive policies within the Carpathian Region. Moreover, there is an example of support of the EU Commission lent to the South East Europe Transnational Cooperation Programme 2007-2013.
- The attractiveness of the Carpathian Region could be extended by installing appropriate touristic structures (accommodation facilities) respecting sustainability and by initiating marketing strategies to promote them Europe-wide. The focal point has to be put on the development-opportunities of SMEs, agro tourism, tourism and protected areas/spas etc. to become one of Europe's most attractive destinations.



### 5.3 Policy and process related recommendations

#### *Agriculture, forestry and rural development*

- The foundation of advisory boards for agricultural extension for farmers, administrative staff and other different levels in situ i.e. in the mountain areas 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 also the small scale farmers have access to the EU-funds (BICHIR, 2008).
- More flexible programs, which are considering the specific regional and local requirements of mountainous regions, should be formulated i.e. stronger focus on regional production conditions in mountain areas and their typical farm structures, settlement pattern, natural conditions etc.. Local stakeholders, entrepreneurs, administrative responsible persons should be kept largely informed and skilled in order to guarantee that measures are implemented without problems.
- To initiate a paradigm change towards environmentally friendly land use strategies and land consolidation processes. This means, a holistic view on mountain areas considering different structural aspects regarding culture, settlement, economy and nature. The application of multifunctional farming has thereby continued the reduction of using chemical fertilizer. By the efforts taken a higher biodiversity level was attained, as missing species have been reintroduced. This includes the support of local agro-environmental action programmes through technical cooperation activities and monitoring.
- Since the booming demand for sustainable produced and high quality products exceeds supply, farmers have to be stimulated, motivated and trained to farm organically. Measures should be implemented pointing on the quality, security and processing of products. Regarding, the marketing activities, the establishment of cooperatives could be a reasonable option.
- The improvement of agricultural product-processing and the marketing of high quality products with an origin geographical denomination should be enforced. This means the creation of proper conditions for marketing bio-meat, vegetables and diary products as well as for selling goods directly. In this context, attention needs to be paid on the improvement of monitoring and evaluation systems for protecting the certified original label. Finally, more effort has to be put on the development of the local market and local products, regional brands and diversification of production.
- To create structures which enable to promote and sell high quality processed products from the Carpathian area on international markets. The cooperation of farmers within a core cooperative should be seen as a possible approach.
- Strengthening measures supporting the compliance of community standards (especially for marketing, processing strategies and on qualitative agricultural products). Consequently the impacts of SARD policies on the food and agricultural sector performance need to be assessed by means of food security, rural welfare and international trading relations for identifying appropriate offsetting measures for creating proper marketing strategies.
- Extension of the distribution of financial means for young farmers and for investments in agricultural holdings (Baum et al., 2004). Providing subsidies to specialised local processing-companies (local slaughterhouses, diary plants or cheese producers) as long as they have to consider the same hygienic production-restrictions, as big food producers. By strengthening the regional economy the value added chain remains in the region.

- Maintaining small structured family farms and companies which could lead to a decline of ancient and maybe endangered agricultural species and to the loss of traditional know-how, regarding production- and management methods. Support of an economic diversification (SME) and creation of off-farm income possibilities, i.e. investments which 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 benefit from the subsidies due to the CAP. Agriculture will even in the mid term play an important role in most of the rural areas in Central and Eastern Europe, although the importance of agriculture declines relatively regarding to the other economic sectors (Baum et al., 2004).
- The CAP should be seen as an administrative and economic challenge (EU-standards), but it offers huge economic opportunities (export, funds etc.).
- It has to be assumed that the agro-structural change will continue. Hence, a set up of measures mitigating negative social impacts must be created.
- Increasing 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 considering the sustainable, biological cycle friendly and regionally reasonable utilisation of forests. Instruments of a forestry planning should be devised and harmonized transnationally in the framework of the CC to develop and use this unique forestry area of the Carpathians. Putting more attention on sustainability measures and integrative forestry management practices paying attention that the autochthon forest species composition and other environmentally friendly (harvesting) methods will upgrade the forest management guidelines and applied forestry programmes.
- Forests should be regarded as an important economic branch as areas for leisure and tourism activities.
- Integration and coordination between IACS (Integrated Administration and Control System) and SILP (Information system of National Forest) as well as Natura 2000 areas and protected areas.

### **Socio-economy**

#### *Economy:*

- Maintaining and improving infrastructure and public services as one of the key factors behind economic development in rural areas. This includes services of general economic interest which 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 big and medium sized centres. They may represent the regional starting point of sustainable development and may influence with their potential the peripheral areas (job opportunities, public services, training, culture...). The a loss of innovation potential due to "brain drain", could be prevented by creating job opportunities, cultural offers etc. in accessible distance.
- Upgrading of tourism and the valuable historical heritage in the Carpathian regions. Tourism is thereby seen as the most likely income sources in rural areas, with the most positive expectations, followed by manufacturing, specialist food and drink and subsequently information technology (IT). Combining eco-tourism with traditional or organic farming and its promotion offers opportunities for preserving traditional rural landscape and cultural heritage and for gaining economical strength. However, it has to be expected that only certain areas with favourable conditions play an important role for tourism.

- To avoid a further decline of rural areas and negative demographic trends, measures and strategies effort have to be taken to establish alternative sources of income (SME) for those employed in the agricultural sector of mountainous regions. Improving off-farm employment and income sources, which become more and more decisive for the socio-economic well-being in rural areas (BAUM ET AL., 2004). On the 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 predominant small and medium sized enterprises in question that could provide a relevant impact for enforcing the diversification strategy.
- Implementation of a balanced regional policy based on endogenous potentials. However, stimulating the inflow of capital and FDI could boost the economical possibilities, when mobilising the available local economic potentials in the Carpathian regions. Accordingly no new jobs in rural regions can be created, without any investments.
- Mobilizing participative processes and sectoral collaboration which are preconditions to raise the domestic and international demand for culture and eco-tourism, for local products and services.
- Applying multifunctional agriculture, the use of renewable resources and the development of markets for organic and traditional products are appropriate strategies for the application of SARD-M related policies. Due to the outstanding natural potential, GMOs should be prohibited within the production of food stuff and bio fuel plants.
- The industry should consider the 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.
- Maintenance of the ownership and responsiveness of local people is 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 like “over-aged population” are not appropriate (BAUM ET AL., 2004). Consequently, the average data concerning unemployment, age structure or migration don't express the true regional extent. For improving the efficiency of rural development programmes more detailed economic and socioeconomic analyses than just on a NUTS-3 level are required in order to apply concrete policy measures adapted to the peculiarities of the specific 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. This includes documenting activities to preserve the traditional knowledge (toponomastic, cultivation methods, products, animal species, languages...) and the relationship to landscape and cultural heritage. This means to raise the attractiveness and the needs of rural people has to be put forth. The consideration of the relatedness to property and of the responsiveness of local people is essential for launching the SARD-M process successfully.
- Linking policy with practice: sufficient link to rural people and their needs should be made (not only altitudes differ but many other issues, e.g. social and economic challenges) as well.

Ownership and responsiveness of local people should be a key to success of the policies and even for small scale projects. In addition, communication, public participation and cooperation between stakeholders is a valuable factor for SARD.

- Facilitating the access to learning and training processes for the vast public in rural areas. This means, to intensify the human resource development as a core capacity for building, transferring and acquiring knowledge (trainings, interactive learning and knowledge networks). Special attention must be paid to the experience of the indigenous mountain people according to the motto: “scan globally – reinvent and implement locally”. There by it is the aim to apply educational measures adapted to the age structures of the regions (BAUM ET AL., 2004).
- Using the synergies between the countries of the Carpathian regions in the framework of the Carpathian Convention and the exchange of resources may lead to an additional benefit.
- Preservation and development of some unique Carpathian phenomena including the preservation of material and nonmaterial goods such as craft techniques, buildings with historical value, settlement traditions and regional languages including dialects etc. This means maintaining the cultural particularities of the Carpathians as well as developing a common Carpathian identity and awareness. Thereby it would be desirable to create pan-Carpathian programmes.

#### **5.4 Recommendations: Institutions' Perspectives**

- A better cooperation and coordination among ministries and stakeholders and a more advanced and systematically structured collaboration should be attained. Cooperation should not only be fostered between the competent regional and local authorities on the horizontal floor or on the vertical level with national institutions or ministries. Due to the lack of budget and available personal capacities and due to overlapping competences the tensions between ministries and institutions are partly attaining a level, where no reasonable collaboration is possible anymore. Hence, participatory and communication processes of all layers of stakeholders should be intensified and supported, whereby the proposed recommendations should be implemented in a transparent process. This means also to move away from pure sectoral initiatives and promote a more multidisciplinary approach that fosters horizontal and vertical coordination regarding sustainable and rural development. To attain more efficiency modern IT-techniques (e.g. data banks, GIS...) could be stronger introduced. These initiatives need to be enlarged beyond the country systems and between the counterparts. Mainly an international multi-sectoral cooperation approach would be required that emphasizes the collaboration between competent regional and local authorities across the Carpathian countries. Furthermore it's necessary to improve the decision making systems for enhancing Government functions in policies, and for coordinating information management and monitoring/evaluation tools, would be required to compensate the current lacks.
- Improving on the national floor decisions that are sometimes made without any participative or democratic processes. These theoretical decisions are not related and coordinated with the requirements of particular applications and could hence become a national barrier for rural or local initiatives. This affects the regional and local authorities which should get the ability to participate in the preparation and implementation process of policies and measures within their competences and within the existing institutional framework. Hence, transparency as wide as possible within the relations between administration and population based on the recognition of the relevant role of civil society. This vertical coordination is often not given. It

may even happen that national restrictions are a barrier for realising local or regional initiatives.

- It's necessary to improve the decision making systems for enhancing Government functions in policies, and for coordinating information management and monitoring/evaluation tools, would be required to compensate the current lacks.
- Research and training institutes, universities, agricultural and environmental organizations, and media of all Carpathian countries should be considered for building cooperation. The integration and assessment of their demands/needs confirms the attempt of a demand driven approach.
- The existing national and regional networks of stakeholders associated with SARD could be brought together with support of the Governments and joint into a formal platform, such as internet network for sharing experiences, information and best practices examples, lessons learned.
- To establish advisory bodies, consisting of representatives from the Carpathian Framework Convention, for supervising the mechanisms of communication and public participation. Their main tasks are the coordination and harmonisation of interventions as well as the intensification and support of participative processes between stakeholder-ministries, agencies and civil society as well as inter-organizational partnership including public-civil and public-private partnerships at the vertical, horizontal and inter-sectoral level. Thereby, each Carpathian country should define the best level of coordination and cooperation between the national, regional and local authorities (net works) directly involved in the SARD-M process to encourage responsibility, accountability and solidarity.
- Integrate many relevant national and international organizations and institutions interested in the Carpathian SARD-M process. Stimulating the collaboration of various governmental agencies and ministries. For ensuring and organising inter- and trans-disciplinary collaboration, qualified human resources and the allocation of sufficient financial means are required.
- To design, extent, implement and evaluate new national policies and measures for sustainable agriculture and rural development in mountain regions. This means incorporating environmental considerations into economic activities taking into consideration the essential links between mountain and lowland populations.
- To undertake regional consultations prior to adopting and implementing major decisions on SARD policies. It would be their task for the purpose of coherent actions to support the farmers applying for the agricultural supply-contract, to give them production-information on the latest development and to give them advice regarding financing and investments.
- Enlarging the capacities of local institutions for applying rural planning and for developing effective participatory planning methods.
- The dissemination of the financial means in the budget planning has to guarantee that all programs which have already formulated an action plan can be realized.

## 5.5 Future Prospects and Challenges

### *Climate Change*

Global warming represents a challenge not even for the world but also for mountainous regions. In Central and Eastern Europe summer precipitation decreases causing higher water stress. Health

risks due to heat waves increase. Forest productivity declines and the frequency of peat land fires increases. Hence, the Carpathian countries should reach the national thresholds of greenhouse gases regarding the Kyoto agreement and EU limits. This means e.g., diminishing air pollution (SO<sub>2</sub> and nitrogen oxide emissions of the heavy industry) concentrated in the Western and North-western Carpathians, in the Czech and Polish parts of the Silesia region. This also requires a need for adjustments to improve adaptation strategies.

### ***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. At present there is 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, and production costs are much lower than in Western European countries. If this potential would be realized, these countries could contribute to EU targets on bio energy and renewable energy sources. The management concepts have to be formulated strategically twofold: sustainability has to be guaranteed and the value added of the renewable energy sector has to be kept in the region. Thereby it should not be forgotten that the primary vocation of European's agriculture will continue to be the production of food and feed.

### ***Water management***

In the Carpathians, water resources are a key factor for development, in particular for agriculture, fisheries, industry and power generation, tourism and direct human consumption. Favourable climatic and hydro-geological conditions offer plentiful fresh water resources supporting fundamental needs of human wellbeing and natural life in the Carpathian region, as well as in adjacent areas. Freshwater is still abundantly available, particularly in the mountain areas. In all Carpathian countries, water management will face great challenges due to economic transition and privatization of the public sector, as well as current socioeconomic developments and human lifestyle tendencies in the Carpathians.

Measures for sustainable water management (based on KEO-report, UNEP/DEWA, 2007):

- to maintain the water infrastructure, and improve public awareness through education and advertisement of the necessity to rationalize consumption,
- adequate management of water resources and the corresponding policy should be based on ensuring safe drinking water supply;
- preventing the further deterioration of water sources;
- protecting freshwater ecosystems; and
- using both ground and surface waters, artificially regulated in a sustainable manner.

Cross boarder collaboration regarding 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, due to imperfect and often fragmented knowledge on the exact number of species and each one's abundance, along with their precise distribution and range. As the Carpathian region encompasses broad foothill areas and river valleys, one needs to include in the list many species that represent lowland ecosystems, only marginally inhabiting 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 the key role to play in protecting biodiversity.

Based on the results of the KEO-report (UNEP/DEWA, 2007) the key challenges and respectively main measures are:

- The climate change which is likely to result in changed habitats, a regression in the range of some species and expansion in the spatial distribution of others (invasive alien species).
- To manage mass tourism (rethinking the proposal to organise the Winter Olympic Games in Poprad/Slovakia, and Zakopane/Poland).
- A more sustainable management of hydro-electric investments and the construction of large dams and reservoirs.
- Planning and construction of trans-Carpathian highways and motorways.
- Changes in agriculture and forestry and an abandonment of traditional agriculture and forestry methods, such as pasturage or coppicing, is common in the Carpathians.

## 5.6 SARD-M strategies in line with the 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. Particularly Article 7 of the Convention emphasizes sustainable agriculture and forestry in the Carpathian Mountains. Besides the agricultural focal point, the Convention emphasizes diverse environmentally and economically relevant issues concerning the Carpathian Mountains. Recently all seven of the Carpathian member states have ratified the Carpathian Framework Convention.

The worldwide operating SARD-M project is a unique opportunity for all concerned stakeholders governments, international communities and civil societies to develop joint initiatives in favour of sustainable and rural development and 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 are still lacking a voice for political influence as they are physically isolated and socially marginalized. They are far from decision centres, on the wrong side of the digital divide and often do not represent a critical mass to impact political decisions. Consequently mountain people are among the poorest and hungriest (FAO, 2007c). Hence the improvement of life quality and standards 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).

However mountains are crucial for human life in general. They provide fresh water and are storehouses of genetic diversity. As their ecosystems are fragile they suffer from threats due to climate change, globalization and population dynamics (FAO, 2007E). As the impact on mountainous 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 mountain people's livelihoods. A vital mountainous agriculture assures the provision of environmental services (external effects) for humanity (FAO, 2007E). 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 regarding SARD and forestry within the framework of the Carpathian Convention, the fragility of mountain ecosystems regarding the local surrounding and specificities of the Carpathians should be treated respectively.
- As a result of the cooperation regarding SARD in the mountain regions of the Carpathians the collaboration between research institutions, international organizations, NGOs and other

groups of the Carpathians has to be enhanced for identifying 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 the cooperation with other mountain regions, mainly with the Alpine Convention countries, is of great relevancy for building up a knowledge base on 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, when 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 national, regional and global levels.

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