High Nature Value grasslands

Securing the ecosystem services of European farming post 2013

INTERNATIONAL CONFERENCE

7-9 September 2010

Sibiu, Romania

FUNDATIA ADEPT

European Forum on Nature Conservation and Pastoralism

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Reasons for this Conference

This is the 12th European conference on farming and biodiversity organized by EFNCP since 1988. These events always have a strong local focus, which depends very largely on the work of local partners. In this case our thanks go to local partners Fundația ADEPT and Lucian Blaga University. And we take this opportunity to thank also the sponsors of the event, the European Commission DG Environment, and Orange Romania

High Nature Value (HNV) farming has always been our 'core business', so what are the specific aims and themes of this conference?

- To highlight that semi-natural grasslands, taken in their broadest sense (including grazing land with scrub and trees) are a key component of HNV farming. Farmland that is not reseeded or fertilised has fundamentally different values from other farmland.
- To emphasise that these semi-natural grasslands, and the farming systems that created and maintain them, are critical for European biodiversity conservation. They are also highly relevant for climate change adaptation and for other ecosystem services.
- To consider how the EU should conserve these grasslands and associated farming systems, not only through legal protection, but also through incentives to farmers available at a European scale. How should this fit into EU strategies for halting biodiversity decline after 2010?
- To put socio-economic issues at the centre of the debate – should the incomes, hourly wages and economic sustainability of HNV farming be a primary concern of nature conservationists?
- To focus on the particular circumstances of small-scale farming and mosaic landscapes. Should these be regarded as outdated and inefficient? Does their undoubted value for 'public goods' and 'ecosystem services' mean they should be conserved as they are? If evolution is necessary for socio-economic reasons, how can this be steered in a way that maintains existing values?

The conference aims to discuss concrete ideas for the measures – what measures are needed? what measures work in practice? – drawing on proposals of EFNCP and other European NGOs, and local experience of farmers, conservationists and Fundația ADEPT.

The reform of Common Agricultural Policy in this period 2010-13 is a major opportunity for re-targeting CAP resources, so that in the next policy period 2013-2020 they help to secure the future of HNV farming and grasslands, and the ecosystem services they deliver. We are launching a policy discussion paper for support to HNV farming which will be presented and discussed on Day 3.

We are holding this conference in Romania, as a European centre of HNV grasslands which provide not only livelihoods for millions (there are over 4 million farming families in Romania) but also other services vital to our long-term future.

The experiences of Romania in addressing the issues affecting small-scale HNV farmed landscapes are directly relevant to several countries expected to join the EU in future, particularly in the Balkans, but also to other regions of the EU where similar farming landscapes occur.

The conference sessions include:

Day 1: introduction to conference themes and to the area of the field excursions

Day 2: field excursions to the Târnava Mare area, providing case studies to inform the conference discussions

Day 3: presentations and discussions of policy issues for supporting HNV farming and small-scale farming communities.

Contents

Speakers and chairs

Aleksei Lotman is a Member of Riigikogu, the Estonian Parliament, vice-chair of Rural Affairs Committee, and Member of the Parliamentary Assembly of the Council of Europe, chair of the Environment, Agriculture, and Local and Regional Affairs Committee. His activities both in politics and before entering the political life include nature conservation and rural development with special interest on the interface between the two, such as management of seminatural coastal wetlands.

Guy Beaufoy, Executive Committee EFNCP, works as a consultant on agricultural and environmental policies in Europe, specialising in the Mediterranean region. His interest in rural-environmental issues in this region began when living in northern Portugal in the 1980s, which was followed by an MSc in Rural Resources and Environmental Policy at Wye College (London University). Guy has worked for 15 years in Spain through the association IDRiSi, and manages a small farm in Extremadura producing organic olive oil and figs. This has brought him into direct contact with the local farming community, as well as experiencing the complexities of the CAP from the receiving end. He has been closely involved in the development of the High Nature Value farming concept since its inception in the early 1990s, and has worked on this issue in Spain, Turkey, Bulgaria and Romania, as well as at European level.

Vasile Cristea is Director of the Botanic Garden, Cluj Napoca, and former Vice Rector of Babeş-Bolyai University. He is a phytosociologist and specialist in the ecology of cultural landscapes. He is one of Romania's leading grassland ecologists, has been involved in national-scale grassland inventories, and has been a pioneer in promoting the understanding of grasslands from a social and cultural point of view, as well as scientific point of view, in Romania.

László Rákosy is head of Department of Taxonomy and Ecology, Faculty of Biology and Geology, at Babeş-Bolyai University, Cluj Napoca. He is a specialist in the ecology and protection of European Lepidoptera. He was born in nearby Sighisoara, and is a graduate of Babes-Bolyai University. From childhood he has followed his dream – to study butterflies. He is known and appreciated abroad as one of the top specialists in the systematics and ecology of butterflies. He is president of the Romanian Society of Lepidopterology, and editor of the only two specialist journals in the country. In parallel with his scientific

work, he never neglects the important task of popularization of knowledge among nature lovers in the general public. László Rakosy attaches special importance to the protection and conservation of grassland habitats, for which butterflies are key indicator species.

John Akeroyd is a conservationist with a background in university botanical research, including revision of Flora Europaea volume 1. Since 1989 he has been a consultant, editor and writer, and he co-founded and edited Plant Talk magazine. He is the author of The Historic Countryside of the Saxon Villages of Southern Transylvania (2006).

Erika Schneider-Binder holds Professorships at Lucian Blaga University in Sibiu, Romania and KIT-Karlsruhe Institute for Technology – University of Land Baden-Württemberg, Domain WWF-Auen-Institut, Rastatt, Germany. She studied and took her PhD at Babeş-Bolyai University and Romanian Academy of Science, Cluj Napoca, specialising in geobotany and plant ecology. Since 1985 has worked at the WWF Institute for Floodplains Ecology.

Constantin Dragulescu, Professor at University Lucian Blaga Sibiu, Department of Ecology and Environmental Protection, is a phytosociologist with special interest on ethnobotany and biodiversity conservation.

Cristi Gherghiceanu, Director of Fundația ADEPT was raised in Viscri, the field excursion village. Since graduation from Brasov University, he has dedicated himself to the conservation and sustainable development of Transylvania's landscapes and communities. He and his Fundația ADEPT team have carried out a wide but integrated range of activities in the area: grassland and habitat mapping; helping the Ministry of Agriculture with design and testing of agri-environment grassland measures; running farmer advisory services; developing markets for local products including through the simplification nationally of food hygiene regulations for small producers. Cristi is a member of the National Monitoring Committee for Rural Development.

Nat Page, Director of Fundația ADEPT, is a Zoology graduate, a former British diplomat and is now a farmer in southern England, where he manages a 60 ha organic beef farm. He has been working at the interface between biodiversity conservation and agriculture in Romania for over 10 years, where he combines his love of nature with his practical experience of farming.

Jan-Erik Petersen has an undergraduate degree in biology, agro-ecology and public law from the University of Bayreuth, Germany and a PhD in political science from the University of East Anglia, UK. Since 2001 he has worked at the European Environment Agency (EEA) in Copenhagen, the EU body responsible for compiling and assessing information on trends in the environment in Europe. He is currently head of group for 'major integrated assessments' with a particular focus on the 5-yearly EEA report on the 'State of and Outlook for the Environment in Europe' and the European Ecosystem Assessment project. He supervises activities in the area of environment and health, as well as the development of shared indicator sets, at EEA and the EU level. He is involved in implementation of EEA's 'Regional and global assessments' projects linked to the EU's European Neighbourhood Policy, liaising on these with the European Commission.

Peter Veen, Veen Ecology, is a landscape ecologist and for many years involved in the research about High Nature Value Grasslands in Europe. He was also involved in the establishment of ecological networks and nature restoration projects at several locations in Europe. He works as a project leader within the Royal Dutch Society for Nature Conservation.

Alain Peeters is an agronomist and an agro-ecologist (Master and PhD in Agronomy). He was Full Professor at the University of Louvain, Belgium (1990-2007). He is an international Consultant; Collaborator of the Royal Belgian Institute of Natural Sciences (Conservation Biology); Liaison Officer of the FAO/ CIHEAM Research and Development Network on Pastures and Fodder Crops in Europe (mountain and Mediterranean areas).
He played a crucial role in the transposition of the European agri-environmental legislations into the regulations of Wallonie (Belgium). He is a 'bridge' between science and policy. He regularly developed 'win-win' solutions between agricultural production activities and biodiversity issues.

Alvaro Picardo, Consejería de Medio Ambiente, Castilla y León, Spain, is a forester by training (Polytechnic University of Madrid). He has a Master's degree in Natural Resource Management from the University of California in Berkeley. He works for the Regional Government of Castilla y León, in Spain. As a district forester in the Cantabrian mountains he got his experience in pastoralism in public forests. Afterwards he became responsible for forest management for the region and now he is advisor to the Director General on forest policy and innovation.

Karin Robinet, German Federal Agency for Nature Conservation, is also chair of the Interest Group on Sustainable Land Use & Agriculture, European Network of Nature Conservation Agencies.

Szilvia Bõsze is working for the Biodiversity Unit of the Directorate-General for Environment of the European Commission since 2008. She is an agricultural engineer and has always worked in nature conservation at local or regional NGOs, national parks and at the Hungarian Ministry for Environment and Water. At the Commission, she was involved in implementation and follow-up of the current Biodiversity Policy, the EU Biodiversity Action Plan in particular. She followed the implementation of EU nature legislation and nature conservation issues in some Member States and accession countries. She is currently involved in assessment of progress in meeting EU 2010 biodiversity targets, and in the development of the future EU Biodiversity Policy and the strategy to achieve the new, 2020 EU biodiversity targets. Additionally, she is involved in integration of biodiversity concerns into rural development and regional development policies.

Caroline Raes works for the European Commission in the Directorate General for Agriculture and Rural Development in the unit dealing with 'Environment, GMO, and Genetic Resources.' She works on issues related to the integration of environmental concerns into the Common Agricultural Policy.

Mihail Dumitru has been Minister of Agriculture and Rural Development, Romania, since December 2009. From 2006 - 2009 he was Negotiator and Coordonator of Romania's Rural Development Programme for the European Commission, Directorate General for Agriculture and Rural Development, and from 2000-2006 he was Head of Department for Agriculture and Internal Market, EU Commission Delegation in Romania.

Michael Dower is Member of the Core Group of ARC, the Agricultural and Rural Convention , which speaks at European or national level for civil society organisations which represent rural communities, rural enterprises and environmental and heritage interests. ARC offers a coordinated voice though which these organisations can more effectively advocate a sustainable reform of the Common Agricultural and Rural Development policies of the EU. Michael is Professor of European Rural Development at the University of Gloucestershire, UK; former Coordinator of the PREPARE Partnership for Rural Europe; and former President of ECOVAST, the European Council for the Village and Small Town. He has recently served as lead expert for a Thematic Working Group of the European Network for Rural Development and as adviser to the Ministries of Agriculture in Romania and in Croatia on the formation of National Rural Networks in those countries.

Xavier Poux, Executive Committee EFNCP , works at AScA, a consultancy company based in Paris involved in environmental policy analysis and strategy. He is an agro-economist by education and holds a PhD in rural economy. Since 1990, his main field of interest is to analyse how the development of farming systems is linked with the conservation of biodiversity and landscapes and how to better integrate biodiversity in policy making processes at different scales. To this purpose, he has been developing multidisciplinary studies and researches combining farming and agrarian system analysis, socio-economic and policy dimensions. In his activities he brings together public authorities and administration, environmental NGOs, farmer organisations and researchers.

Gwyn Jones, Director, EFNCP, is based on the Isle of Skye in NW Scotland. Now a self-employed consultant, he was a farm advisor for 13 years, giving a range of farm business, agri-environment and CAP paperwork advice. His main interest is the interaction of policy measures with socio-economic realities in marginal areas. Gwyn has been a member of the EFNCP Executive Committee since 1997 and has since then been active in organising and fund-raising for many workshops, seminars and conferences. He has also been involved in a number of research projects and represents the Forum on the DG Agriculture Advisory Group on Agriculture and Environment. At present he takes primary responsibility for the Forum finances and fund-raising.

Gareth Morgan joined the RSPB as Head of Agriculture Policy in Nov 2006, having previously worked on agri-environment issues in English Nature and as Head of Conservation at the Wiltshire Wildlife Trust. He has degrees in Natural Science and European Policy. His team has a particular interest in agri-environment scheme development and delivery both domestically and also working with BirdLife partners, across the European Union. They are also actively engaged on issues of CAP reform, agricultural diffuse pollution, pesticides, biofuels and food chains, and have an active programme of communication with farmers and land managers.

Conference Programme

Tuesday 7 September

From 12.00	Registration
13.00	**Buffet lunch of local products**
14.00	Official welcome remarks *Nat Page, Fundatia ADEPT* *Constantin Oprean, Rector of Lucian Blaga University* *HRH The Prince of Wales* (Video message)
Session 1	**Introduction to the conference and to the case study area** *Chair – Aleksei Lotman, Member of Estonian Parliament*
14.20	Introduction to conference themes and launch of EFNCP-Birdlife discussion document on CAP support for HNV farming *Guy Beaufoy, EFNCP*
1440	The national importance of HNV farming to Romania's environment and people *Vasile Cristea, Director Botanic Garden, Cluj Napoca* *Laszlo Rakosy, Babes-Bolyai University, Cluj Napoca*
1500	Southeast Transylvania: its cultural and biodiversity value from a European and global perspective. *John Akeroyd, ADEPT*
15.10	Southeast Transylvania: the challenges of one of Europe's largest lowland HNV farmland Natura 2000 sites *Erika Schneider-Binder, WWF Institute for Floodplain Ecology, Karlsruhe Institute of Technology, and Constantin Dragulescu, ULB Sibiu*
15.30	Discussion
16.00	**Refreshments break**
16.30	The Târnava Mare rural development project – meeting EU objectives by linking local response to local needs *Cristi Gherghiceanu, ADEPT*
16.50	Discussion
17.10	Introduction to the field excursions to Târnava Mare Natura 2000 site *Nat Page, ADEPT*
17.30	Close of day's formal proceedings
17.30 -18.30	Poster Session
19.30	**Dinner**

Wednesday 8 September

Session 2	**Field excursions to the Târnava Mare HNV farmland area, illustrating the integration of Natura 2000, LIFE Nature, and EAFRD measures**
8.00	Depart in coaches from Piata Mica, Sibiu
11.00	Morning field visits led by grassland and HNV farming specialists
14.00	Light lunch at hill sheepfolds
15.30	Afternoon field visits introducing challenges facing small-scale farming communities
18.30	**Dinner in Saxon barn in Viscri**
20.00	Travel back (arrive approx. 22.30)

Thursday 9th September

Session 3	**Ecosystem services of HNV grassland** *Chair – Jan-Erik Petersen, Head of group, Major Integrated Assessments, European Environment Agency*
9.00	HNV grasslands – why they are important for European biodiversity *Peter Veen, Veen Ecology*
9.20	Ecosystem services of extensive livestock farming *Alain Peeters, Royal Belgian Institute of Natural Sciences (Conservation Biology)*
9.40	The challenge of maintaining and expanding grazing in Mediterranean forest lands – fire prevention and other functions *Alvaro Picardo, Consejería de Medio Ambiente, Castilla y León, Spain*
10.00	Discussion
10.30	**Refreshments break**
Session 4	**EU policy context for supporting HNV farming** *Chair – Karin Robinet, German Federal Agency for Nature Conservation, Chair, Interest Group on Sustainable Land Use & Agriculture, European Network of Nature Conservation Agencies*
11.00	The ecosystem services of HNV grasslands: an environmental perspective *Janez Potočnik, European Commissioner for Environment* (video message)
11.10	The EU's post-2010 biodiversity strategy, and the role of HNV grasslands within it *Szilvia Bosze, DG Environment*
11.30	The importance of HNV grasslands and ecosystem services for agricultural policy *Dacian Cioloş, European Commissioner for Agriculture* (video message)
11.40	Delivery of public goods through agriculture *Caroline Raes, DG Agriculture & Rural Development, Environment Unit*
12.00	HNV grasslands and small-scale farming – how Romania provides public support *Mihail Dumitru, Minister of Agriculture, Romania*
12.20	Discussion
13.00	**Lunch**
Session 5	**The challenge of improving policies to support HNV farming** *Chair – Michael Dower, Professor of European Rural Development, University of Gloucestershire, UK*
14.15	Chairman's introduction
14.30	Redistributing CAP support to favour HNV farming across Europe *Xavier Poux, EFNCP*
15.00	Local socio-economic realities of HNV farming and the critical role of local projects in delivering EU biodiversity and rural development goals *Gwyn Jones, EFNCP*
15.30	Discussion
16.00	**Refreshments break**
16.30	Proposals for the future CAP – local and pan-European support for HNV farming *Guy Beaufoy, EFNCP*
16.50	BirdLife views on CAP support for HNV farming *Gareth Morgan, RSPB, Head of Agriculture Policy*
17.00	Discussion of conference recommendations
18.00	Closing remarks
19.30	**Conference dinner**

Sibiu and the Saxon Villages area

The 'Saxons' arrived in Transylvania in the 12th–13th centuries from Flanders, Luxembourg and the Mosel valleys, then part of the Holy Roman Empire. They were invited by the Kings of Hungary to settle and defend their eastern marches against the Cumans and other invaders from the steppes. For this service, the Hungarian Crown rewarded them with a high level of autonomy and tax privileges.

In southern Transylvania, the Saxons established some 200 villages and seven principal fortified towns, including the city of Sibiu (Hermannstadt), hence the German name Siebenbürgen for Transylvania. The first mention of Sibiu was in 1191, by which time a Saxon community had been established on the River Cibin. The city has a population of 155,000. The Saxon population, dominant until World War II, is now reduced to some 2000. The city has numerous educational institutions, notably Lucian Blaga University, and is home to more than 34,000 students.

All through the Middle Ages, Sibiu was an important regional centre of trade and housed the main Saxon Assembly. In the 18th century, Sibiu was the seat of government in Transylvania.

The spiritual and defensive centre of each Saxon village was the distinctive fortified church (Kirchburg), into which the villagers could retreat at times of threat. The Saxon colonists laid out their villages in a regular pattern, typically with houses along each side of a stream, each with a strip of land to the rear. The villages have remained largely unchanged in layout and size up until the present day, while the houses retain the style of the 18th century.

Each house has a compound with high walls at the front and a large gate, wide enough to admit a loaded hay cart. Within is a cobbled courtyard – the dwelling house on one side (sometimes on both sides), then cattle and pig sheds, perhaps a small vegetable garden and, closing off the courtyard to the rear, a large hay-barn. Behind the barn is a small (c. 0.5 ha) vegetable plot, followed by a 1-2 ha orchard. This is usually the border of the parcel of land attached to the house, often marked by a line of walnut trees, beyond which lies the common pasture or arable land of the village.

Extensive mixed farming in this region has created one of Europe's finest surviving lowland HNV farmed landscapes, and agriculture remains largely traditional. Arable land is divided into narrow strips – each household traditionally had a strip of land in the different areas that were good for the various crops. Each household also owned a larger parcel, typically 5–10 ha, of hay-meadow.

Grazing was, and still is, for the most part communal, on the common pastures maintained by the village neighbourhood systems (Nachbarschaft). Each household was obliged to provide young men to clean springs and wells in the hills upon which the livestock and herders depended during the summer. And each livestock owner was obliged to donate a certain number of days' work, according to how many head of cattle or sheep he owned, clearing scrub from common pastures.

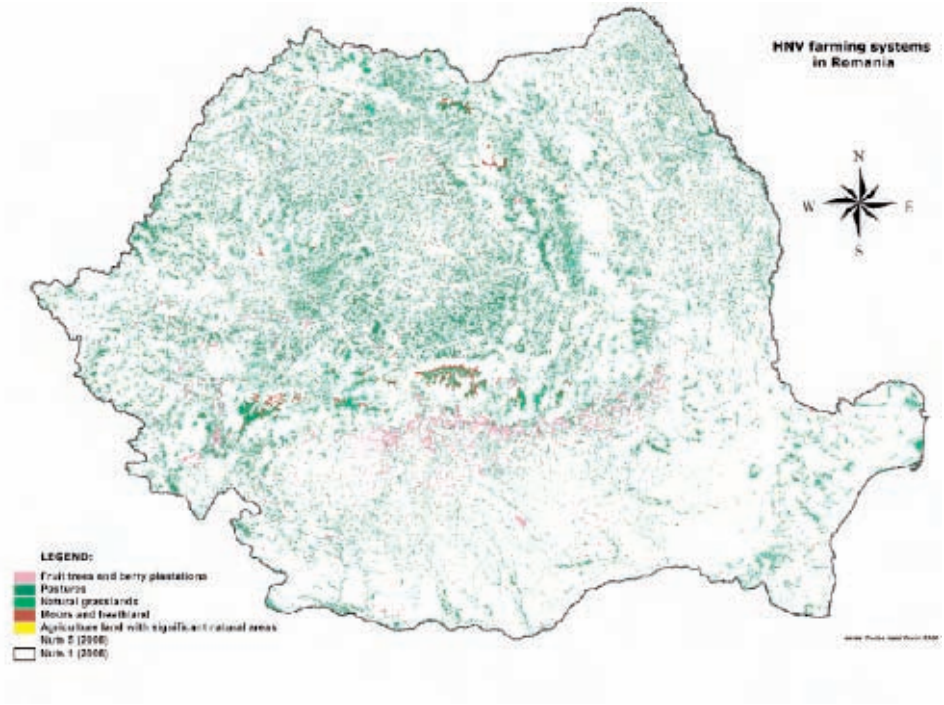
In the early 1990s the majority of Saxons left their Saxon villages and cities and moved 'home' to Germany. This caused a social and economic hiatus, and a shift in the balance of ethnic populations. One result is the depopulation of the area, bringing about land management changes and abandonment.

The Romanian agricultural context

Romanian farm sizes cover a wide spectrum. Very large corporate farms are concentrated mostly in flatter, arable and more intensively farmed areas such as the Danube plain in the south of the country. In Braila County in the south-east, 88% of agricultural land is currently arable (with some of the largest arable units in the EU), while only 9% is under permanent pasture and 6% forest. Compare this with Sibiu County, which has under 20% arable, and about 50% permanent grassland and 30% forest.

Semi-natural grasslands in Romania cover an estimated 2.3 million ha, 20% of the total agricultural area (average in EU member states is 12%, EEA 2002). In these mainly HNV areas, the farms are highly fragmented in structure. The smaller farms are concentrated in the uplands, linked with livestock farming and HNV permanent grasslands (Fig 1).

Figure 1: Map of area of Romania showing first estimate of semi-natural land cover types used by agriculture (HNV farmland).



The fragmented land structure of Romania has persisted through the last 20 years, despite the expectations of many land consolidation experts. This is largely due to the important role of subsistence and semi-subsistence farming in providing livelihoods where pension and welfare payments are extremely low, food prices are similar to those of Western Europe, and access to credit is difficult.

Nearly half of Romania's 4.2 million farm holdings are under 1 ha in size:

- 45% (1.9 million), are under 1ha, and therefore not listed in the Farm Register or EUROSTAT, nor are they eligible for area-based payments (SAPS, agri-environment). Many of these lack status as legal entities.
- 19% of farms are 1–2ha (Eurostat 2009)

Over 90% of holdings and 55% of Romania's agricultural area are made up of subsistence and semi-subsistence farms:

- 91% (3.8 million), covering about 45% of Romania's total UAA, are under 2 ESU[2] and classed as subsistence farms.
- 8% (336,000 holdings), about 10% of UAA, are 2–8 ESU and classed as semi-subsistence farms. They have an average area of 4.9 ha for the 2–4 ESU group and 9.4 ha for the 4–8 ESU group (NRDP).

[1]Figures vary from different sources, depending on the methodology used to define 'farmer'.

[2] The economic size of farms in the EU is defined as Economic Size Units (ESU), where 1 ESU = an annual turnover of approximately 1,200 EUR

Table 1: Distribution of farm sizes in Romania per age of owner-operator.Older farmers are associated with smaller farms (Eurostat 2009)

	Size of Farm (average)			
Age of farmer	Under 20 ha (4.5)	20–50 ha (30)	50–100 ha (69.3)	Over 100 ha (530.8)
Under 35	2.9	4.5	7.9	6.3
35-44	10.3	16.1	23.0	28.4
42-54	15.1	23.9	28.0	28.0
55-64	25.3	28.3	21.8	27.4
Over 65	46.4	27.5	19.3	10.0

How should this be viewed? This preponderance of small-scale farms – mostly HNV landscapes with semi-natural grasslands – has until now has been seen as a weakness in Romania's agriculture, a barrier to competitiveness that needs to be rectified. However, the concept of public goods has prompted a re-appraisal of the social and economic value of semi-natural grasslands and small-scale farming.

The Târnava Mare Natura 2000 site – a case study for Europe's High Nature Value farmed landscapes

Târnava Mare, at the heard of the Saxon Villages area, was declared a Natura 2000 site (SPA and SCI) under the Birds and Habitats Directives in 2008. The area includes an astonishing 8 EU Habitats Directive Annex 1 grassland habitats, of which 4 are priority habitats. 23 EU Habitats Directive Annex 2 species, and 32 EU Birds Directive bird species, have been identified associated with these grassland habitats – figures remarkable at a European scale.

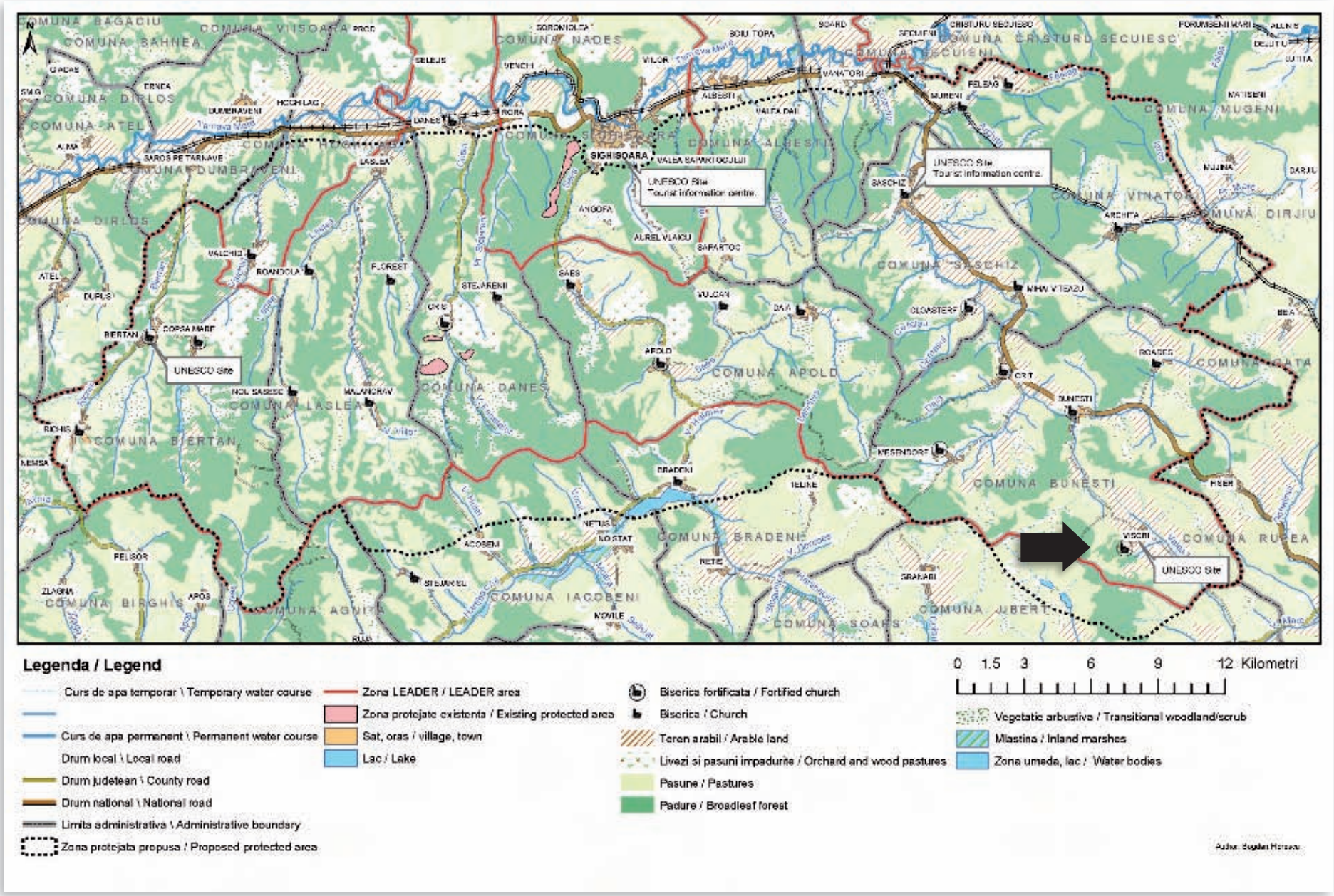
As the map below shows, the Târnava Mare SCI is one of the few lowland farming SCIs in Romania – other sites are predominantly in montane areas or the Danube Delta.

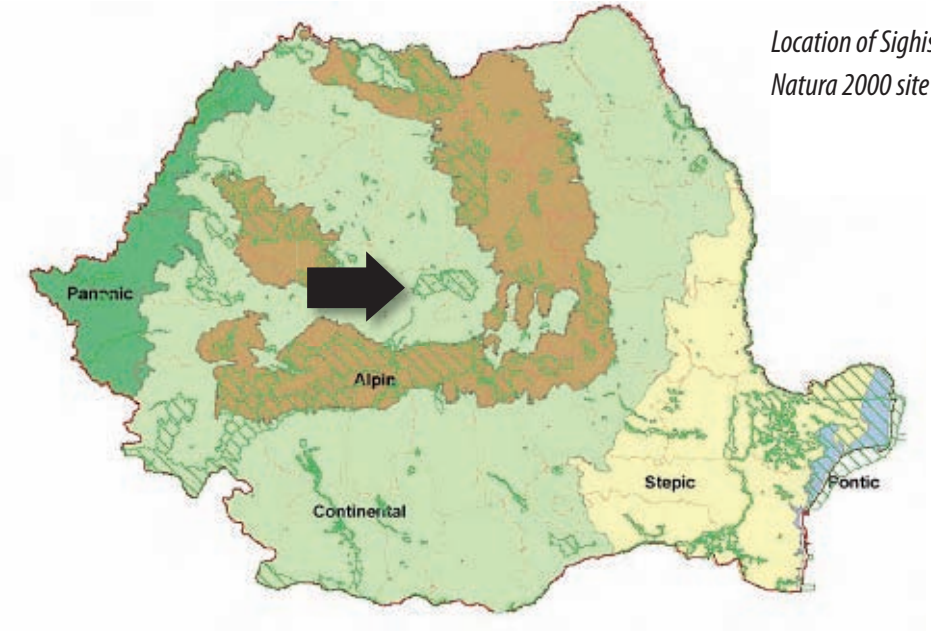
In the Târnava Mare area, Fundația ADEPT, a local initiative, is combining EU support measures, and commercial development measures, in an innovative way that could present models for other HNV farmed andscapes:

1. Natura 2000: the Târnava Mare area SCI has been approved for a LIFE+ Nature project, Tarnava Mare SCI: Saving Transylvania's Important Pastoral Ecosystems, of which Fundația ADEPT is coordinating beneficiary, for concrete conservation actions for Habitats Directive priority grasslands 2010-2013.
2. LEADER: Târnava Mare area is also a Local Action Group, so that local sustainable development initiatives linked to the Natura 2000 site can be stimulated through the LEADER process
3. Farm Advisory Services: Fundația ADEPT regards farm and wildlife advisory services as the main tool for biodiversity conservation, as well as for local prosperity, in the area. The effectiveness of ADEPT's Farm Advisory Service will be increased by the recently approved LIFE+ Nature project.
4. Agrienvironment: the area has been the location of grassland HNV pilot agri-environment measures, influential in Romania's design and application of agri-environment measures after accession
5. In parallel with the above EU Environment and Rural Development measures, the area has also developed branding and marketing of local products, and economic diversication, that have brought concrete local benefits building on the Natura 2000 / HNV image.

In contrast to much of Europe, this part of south-east Transylvania represents a functioning historic landscape, with the fauna, flora and complement of soil micro-organisms of an intact ancient ecosystem, in which extensive wildflower meadows and traditional pastures retain their role in agriculture. Such areas are rare in lowland Europe, and are therefore extremely valuable for conservation research and interpretation. They are also cultural treasures. And in addition, such low-input grasslands deliver a broad range of environmental benefits: locking up of carbon, protection of water-courses, reduction of soil erosion, and protection of archaeological sites.

The Târnava Mare site showing (arrow) Scroafa Valley field excursion location





Location of Sighisoara-Târnava Mare Natura 2000 site (SCI and SPA)

Nature values of the Târnava Mare Natura 2000 site

The grassland habitats and species of the Târnava Mare pSCI are of European importance. They are particularly rich in Dacio-Pannonic, Pontic-Sarmatian and Mediterranean floristic elements. These habitats have contracted or disappeared over much of Europe through agricultural intensification, but are widespread in this area. The dry grasslands of Transylvania have some of the highest floristic diversity recorded, and support substantial populations of vertebrate and invertebrate fauna that are increasingly rare over much of Europe. The damp grasslands, critically threatened in western Europe through drainage and intensification, are also widespread and largely intact.

Habitats:
An estimated 29% of the SCI is comprised of priority habitat types under the EU Habitats Directive: 12% priority grassland habitats, 10% priority scrub habitat, and 7% priority forest habitat.

Table 2: major Habitats Directive Annex I habitat types in the Târnava Mare pSCI

Natura 2000 Annex 1 code	Estimated % of total area	Description
40A0*	10%	Sub-continental Peripannonic scrub
62C0*	1%	Ponto-Sarmatic steppes
6210*	8%	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) with important orchid sites
6240*	4%	Sub-pannonic steppic grasslands
6440	3%	Alluvial meadows of river valleys of the Cnidion dubii class
6510	4%	Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis)
6520	5%	Mountain hay meadows
91Y0	5%	Dacian oak-hornbeam forests
91E0*	1%	Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion Alnion incanae Salicion albae)
92A0	0.5%	Salix alba and Populus alba galleries

* indicates priority habitats according to Annex I of Habitats Directive.

Flora

Diverse and species-rich habitats support more than 1100 plant taxa, over 30% of the Romanian flora. This richness is a result of geographical position, diversity of relief, varied climatic conditions and soils, and above all traditional land-use with a mosaic of woodland, grassland and arable cultivation. Of these taxa, 87 are listed for protection and conservation at national and international level, and 12 are threatened in Europe and included in Annex II of the EU Habitats Directive. A further 77 taxa are threatened at national level and included in Romanian Red Lists. Just over half occur in meadow-steppe grassland communities. Several are rare and decreasing in Europe. Some 60 native plants are related to cultivated or crop plants and constitute a potential resource for plant breeding, notably distinctive variants of forage legumes such as Sainfoin (Onobrychis viciifolia) and Red Clover (Trifolium pratense). Some village fruit trees may represent old varieties or cultivars, especially plums and pears, and the wild pears too are a natural gene-pool.

6210 priority grassland habitat seen from Stelica's sheepfold*

The most obvious manifestation of Transylvania's astounding richness of plant and animal diversity is the wildflowers of the traditionally managed grasslands. These are probably the best lowland hay-meadows and pastures left in Europe; so extensive that you can walk through them for hours on end. The colourful and varied flora of these grasslands comprises a rich mix of western and central European plants, but with a significant element of steppic species such as Crambe tataria and Iris aphylla, both listed on Annex II, and as many as 30-40 species of leguminous plants.

One of the most significant factors is the low nutrient status of the soils. Generations of villagers have transferred nutrients to the valleys as hay or animal dung with almost no input of nutrients to the upper hay-meadows. This correlates with the great species diversity, with often over 40 species per 0.5 m^2 relevé). In other parts of Europe, nutrient enrichment has done untold damage to similar ancient grasslands.

Fauna

Animals associated with the diverse habitats and flora include the last significant populations of wolf and brown bear in lowland Europe; a rich bird population including rare species such as lesser-spotted eagle and corncrake; and 1300 lepidoptera species, including many rare and threatened taxa.

EU Habitats Directive Annex II species present in the Târnava Mare pSCI

Group	Species	Group	Species
Plants	*Echium russicum*	Lepidoptera	*Callimorpha quadripunctaria* (Jersey Tiger)*
	Crambe tataria		*Catopta thrips*
	Cypripedium calceolus		*Eriogaster catax*
	Angelica palustris		*Euphydryas aurinia* (Marsh Fritillary)
	Iris aphylla		*Euphydryas maturna* (Scarce Fritillary)
	Adenophora liliifolia		*Leptidea morsei* (Fenton's Wood White)
Also:	*Cephalaria radiata* (endemic)		*Lycaena dispar* (Large Copper)
	Salvia transsylvanica (end.)		*Maculinea teleius* (Scarce Large Blue)
Mammals	*Canis lupus* *		
	Ursus arctos *	**Lepidoptera species protected under Berne Convention:**	
	Lutra lutra		
	Myotis myotis		*Maculinea arion* (Large Blue)
	Barbastella barbastellus		*Aricia eumedon* (Geranium Argus)
Some grassland bird species protected under EU Birds Directive:			*Brenthis ino* (Lesser Marbled Fritillary)
			Brenthis daphne (Marbled Fritillary)
Lullula arborea (Woodlark)			*Brenthis euphrosyne* (Pearl Bordered Fritillary)
Crex crex (Corncrake)			*Lycaena alciphron* (Purple Shot Copper)
Anthus campestris (Tawny pipit)			*Lycaena helle* (Violet Copper) ? possible
Lanius collurio (Red-backed Shrike)			*Maculinea alcon* (Alcon Blue)
Aquila pomarina (Lesser Spotted Eagle)			*Plebeius argus* (Silver Studded Blue)
Ciconia ciconia (White Stork)			
Falco vespertinus (Red-footed Falcon)			

* indicates priority species according to Annex II of Habitats Directive.

Farming systems in Târnava Mare

The farming systems of Târnava Mare are typical of the Carpathian Lowlands: predominantly small, semi-subsistence farms, with income derived mostly from sale of sheep cheese and milk, and cow milk, to milk-processing companies. Crops are grown on the arable valley floors, and the valley slopes are given over to hay-meadows and large expanses of communal grazing land, for both sheep and cattle which are managed separately.

Small-scale dairy production is the key to the survival of many of the HNV landscapes of Romania. In the Târnava Mare area, 52% of registered holdings (those of over 1 ha) have fewer than 5 cows. If holdings smaller than 1 ha were included, this figure would be around 90% of holdings. The average size of holding of farmers who have applied for agri-environment payments in the area is 8.2 ha, a figure which also excludes all holdings of under 1 ha. The small-scale farmers, who have created these landscapes, depend mainly on cow or ewe milk or milk products for their income. Small producers all deliver to one or two milk collection points in villages, from which the processors take delivery. It is key to survival of the HNV farmed landscape that these milk collection points remain in profitable operation.

Farmer ages, farm sizes and types in the area

The average age of farmers surveyed was 57, a figure comparable to most other European and to North American farming populations. 55% of farm holdings are below 5 ha in size, and have fewer than 5 cows. However, this figure excludes pastures, which in this area are communally owned and grazed. Individual holdings generally only indicate ownership of arable land and hay meadows. This makes it difficult to characterize farms by ESU. 60% of farm holdings have fewer than 5 cows.

Over 50% of holdings sell less than half their products on the commercial market, and so may be classed as subsistence farms. However, subsistence farming can also include the informal networks that supply food products to family members in nearby towns and cities, due to the high prices of food in Romania. Larger, commercial farms, either arable or dairy, have a different working system, with private pastures.

Hay-meadows

About 20% of the land in the Târnava Mare area is hay-meadow. The lower, more level hayfields are typically cut twice a year, in June and July, and again in September. The steeper upland meadows, difficult to cut by machine, are cut once a year by scythe, in July or August. After drying in the fields, hay is brought in to the villages by horse and cart or tractor. A Saxon farmer will store hay in his barn, a Romanian in a beehive-shaped stack outside. After mowing, owners put their own cattle on to their parcels of land for aftermath grazing. Local farmers regard this rich flora as beneficial for their cows' milk production and general health.

'One haycart for each leg' – one cow is said to eat 4 cartloads over the winter

Hay is cut throughout summer months, leading to effective seed dispersal. Flower richness and diversity benefits from a late hay cut, after seeding, at least once every few years. EU conservation regulations specify a late cut every year, but under traditional management seeding probably occurred once every few years, when weather conditions prevented earlier cutting. Hay-meadow plants will also tend to evolve earlier flowering ecotypic variants in response to mowing.

Pasture

About 25% of the land is communal grazing land divided between cattle and sheep. Usually the land nearer the village, lower down and with richer grass, is reserved for the cattle since they return to the villages every evening for milking. The sheep remain on the upper pastures for the whole summer. This grazing land is owned by the Town Halls and the right to graze is rented out each year to the villages and – if land is not all taken up – to outsiders.

The common grazing is arranged as follows. Cattle and sheep are kept inside during the winter months and fed on hay. In December or January of each year auctions are held at which villagers bid to take care of the village herds and flocks. The cattle owners pay a fee per head to the herdsman. For sheep-owners, the shepherds offer a certain number of kilos of cheese per ewe per summer in exchange for the right to keep them (typically, 8 kg of full fat cheese *(caş)* and 1 kg of whey cheese *(urda)* per year per head), milk them in the hills and sell excess milk and cheese for their own profit.

Sheep systems

Most households in the valley own 6–20 sheep. With a few exceptions, these sheep are kept on communal pastures, in large flocks managed by locally elected shepherds. Sheep pastures are usually located a few kilometres from the village, on the higher ground. Sheep are taken up to the pasture in early May or before, and returned to their neighbours in November, a system known as 'long swing' pastoralism. Flocks vary in size between 200 and 700 head, a mixture of villagers' and the shepherd's own sheep.

In early April the sheep are let out to graze during the day, and return in the evening – they have not begun to be milked because they still have their lambs with them. From about 1 May the lambs are weaned, and the ewes taken up to the hills for the summer. They are kept in sheepfolds (stâne), which consist of a fenced-off enclosure that hold the sheep before milking, little hutches through which the sheep are driven during milking time, a hut in which the shepherds sleep, and a hut for cheese-making. The sheep are brought together in a group at night and the shepherds sleep at spaces around them because of threat of attack by bears, which take three times as many sheep in Romania as do wolves. Electric fences – combined with solar panels in inaccessible areas – can cut ewe mortality and reduce the shepherds' inclination to kill bears and wolves.

The sheep are hand-milked three times a day, at dawn, midday and late evening. Shepherds use some milk – often the midday milk – to make cheese, which is then delivered back to the owners. The morning and evening milk is taken to the milk collection point in the village where it is bought by a milk processing company to make into feta for the Greek market. Lambs are also sold or eaten by the owners. There is no market for sheep wool, which is discarded or burned, but the market for sheep milk has remained stable and therefore sheep numbers are increasing. The price for sheep milk is about 2 RON (€0.50)/litre, which compares very favourably with cow milk 0.6 RON (€0.14)/litre.

Grazing intensity is approximately 4-6 sheep/ha, although this varies over the pasture due to the grazing regime. During collectivization, pastures carried to up to 10 sheep/ha, but this was acknowledged as significant overgrazing. Pasture quality and grazing intensity is now monitored by a town hall 'pasture committee', responsible for ensuring that the pasture is grazed evenly and within acceptable limits. The surface area over which the sheep roam each day is limited by how far the sheep can walk in the periods between milking – shepherds estimate within a 5 km radius of the stâna.

Farming sheep for milk, with this system of grazing and penning, has created a distinctive grazing pattern and an uneven distribution of nitrogen over the surface of the sheep pastures. This creates nutrient heterogeneity across the pasture, observable in the early succession of plants on to the former pens, nitrogen 'hotspots' and nutrient leaching from these areas, resulting in increased floral diversity. The rest of the pasture is relatively nutrient-poor, due to this grazing pattern.

Cow systems

The cattle are let out for daily grazing from early May. Each villager milks his cow or cows, and pushes them out of his gate at first light. The cowherd, a villager elected by the owners according to his terms and his reputation, drives the herd out of the village and grazes them in communal pastures until evening. There is no rigorous rotation of grazing areas: this is left up to the herdsman. This is known as 'short swing' pastoralism.

Towards dusk, the cowherd brings the herd back to the village. Each cow knows the way into its own yard, where it is milked again by hand. Milk is taken twice a day in buckets or churns to the village milk collection points, each with a bulk storage tank. The administrator of the milk collection point randomly tests milk quality, especially fat content, to prevent people earning more by adding water. Milk is collected once a day, or twice at peak production in the summer, usually by tanker or sometimes simply by horse and cart loaded with churns, and taken to the milk processor who may be 20-30 km away. Cows' milk is also for producers' own consumption, but its sale is often a household's sole source of income.

Since EU accession, milk prices have fallen to 0.6RON (€0.14)/litre, leading to many owners selling their cows. Stocking rate has fallen on cattle pastures from 2 L.U./ha 20 years ago to 0.5 L.U./ha today. Stocking rate is hard to calculate: areas furthest from the entrance to the pasture are grazed least, those closest the most. The grazing pattern also depends on the activity of the herder – when he moves the cattle to nearby water, they rarely move from this area, leading to comparative overgrazing.

As, unlike in the sheep system, the cattle are returned from pasture every night, manure is collected within the home stables and removed to fertilise arable fields. Thus there is a net removal of nitrogen from cattle pasture, such as that found on the traditional British heath system, unlike the redistribution in the sheep pasture. There does not appear to be a difference in species composition between the two pastures.s.

Arable land

In the Târnava Mare area, about 15% of land is arable. This figure has fallen from nearer 30% under the more intensive management under communism up to 1989: the 15% abandoned arable land is now permanent hay meadow or pasture. In the 20 years since the fall of communism, much of this former arable land has reverted naturally to grassland of very high floristic diversity: surveys indicate that floristic diversity peaks during succession and is higher than in grasslands that have never been ploughed.

Under communism, each village had a state farm (sometimes several), and a cooperative farm. Their distinctive farmyard complexes can be seen dotted over the countryside. After the fall of communism in 1989, much meadow and some arable land was redistributed in small parcels to former owners (up to a limit in area for each family) and to incomers. The farmyard complexes and surrounding arable land was often bought by individuals with money or connections: these are typically the sites of more intensive arable farming in the area, more commercially viable than smaller farms. Many of them have benefitted from farm investment grants under SAPARD pre-accession funding: a source of funding not available to most farmers because of small farm size and lack of ability to raise co-financing.

Larger arable cultivations are for cattle feed: maize, lucerne, beet and clover leys for hay or silage, especially on the mechanised former state farms. Smaller arable patches are for beans, potatoes, wheat and barley for home consumption. In traditional hay-meadow areas, small parcels are often ploughed for a year or two, and then allowed to revert to hay-meadow. Succession to flower-rich meadow is rapid owing to the rich surrounding seed bank.

Artificial fertilisers and pesticides are used little in the area, mainly because of the cost. There is some use of pesticides on potatoes. Arable areas and in-bye haymeadows are fertilised with farmyard manure. Pastures, and the more distant hay meadows, are not fertilised in Târnava Mare.

A few large-scale conventional arable farms have become established in the area, who are putting back into cultivation some abandoned arable fields. This is not regarded as a threat to the area, since they are not permitted to plough permanent grassland; fertilizers and pesticides, if used responsibly, will not have a wide impact on neighbouring permanent grasslands or on biodiversity.

Forest

30-40% of the land belonging to each village is forest. The villagers rely on wood for heating and cooking. This appears to be sustainable and well managed. Heavy fines are imposed on anybody caught felling without permission.

The mainly hornbeam and oak timber trees are typically thinned gradually in the first 100 years, natural regeneration allowed or promoted by planting of seeds/acorns, and clear-felled at a 100–120 years old once there is a majority undergrowth of young trees up to c.1 m high. Timber is sold at auction, organised until now by the NFA.

The forests yield a rich crop of non-timber forest products – edible fungi, wild berries and game. Red deer, roe deer, wild pig, wolf and bear are attractive to Romanian hunting associations, and to tourists armed with gun or camera. The riparian forests yield withies for basket-making and reinforcing water-channels in the villages.

Ecosystem services provided by Târnava Mare

The very high estimated value of these ecosystem services suggests that we should give priority to supporting them: the economic, social and environmental costs of losing them far outweigh the costs of support. Ecosystem services provided by the Târnava Mare landscape include:

a. Regulating services: Biodiversity – HNV grasslands represent a major part of European biodiversity. Agro-biodiversity is an important aspect of biodiversity. The Târnava Mare area contains some 60 wild crop relatives, especially fodder plants, an important reserve of germplasm for future plant breeding. The mosaic nature of small-scale farming landscapes often contains greater species as well as habitat diversity than wilderness areas.

b. Air quality and climate regulation: The large expanses of natural woodland and permanent semi-natural grassland both act as substantial carbon sinks. Coupled with the low energy use of traditional agriculture, this makes these landscapes valuable for mitigation of climate change.

c. Erosion and natural hazard protection: Erosion is a significant problem in some parts of the Târnava Mare, but can be prevented by avoiding disturbance to ground cover by forest felling or over-grazing. Extensive forest and vegetation cover delays run-off of rainwater, replenishing groundwater supplies and moderating extreme floods.

d. Water purification and flow regulation: Almost all households in the area draw water from underground wells and springs for drinking and household use, thus relying completely on the purification services of soil structures and micro-organisms.

e. Disease and pest regulation, pollination services: Healthy communities of insect pollinators and natural predators of agricultural pests and diseases are vital for good yields and high agricultural production. These depend on structurally diverse and semi-natural habitats such as those found in traditional agricultural systems.

f. Cultural services: heritage and tourism– The long habitation of the region by the Saxon communities has created a cultural landscape of high heritage value for Romania and Europe, and a potential soucrce of income from tourism.

Scroafa Valley: the field excursion area

The field excursion to the Scroafa River Valley will visit the two communes of Saschiz and Buneşti. **Saschiz commune** has a population of 2048, in 780 households, and straddles one of the main roads in Romania, which cuts through the centre of the village. **Buneşti commune** is similar in size, with a population of 2,600. The people are mostly Romanian and Roma, but the population was larger and had a Saxon majority until 1989 (when most of this ethnic group emigrated to Germany).

The region was collectivised under Communism, with the land divided up into a number of state and cooperative farms dedicated to different specialities, including intensive livestock farms (for milk and meat production) and large-scale hop production. The hop poles can still be seen today, and some active hop gardens remain. There was also large-scale arable production where possible, with inputs and mechanisation depending on the finances of the farm (state farms having more access to money and inputs than cooperatives). The agriculture of the last 20 years has seen a return to more traditional farming methods. The majority of farming in the region is extensive, low input and high labour, with an end-result being high levels of biodiversity.

Table 4: Land use 2003 and 2010

	2003 Land use (ha)					
Localities	**Arable**	**Meadow**	**Pasture**	**Orchards**	**Forest**	**Total**
Total Buneşti & Saschiz	6513	4182	4667	440	8033	23835
Percentage	27.33	17.55	19.58	1.85	33.70	100

	2010 Land use (ha)							
Localities	**Arable**	**Meadow**	**Meadow aband/scrub**	**Pasture/scrub**	**Orcahards**	**Orchards aband.**	**Forest**	**Total**
Total Buneşti & Saschiz	3412	5032	1100	5817	310	130	8033	23835
Percentage	14.31	21.11	4.62	24.41	1.30	0.55	33.70	100

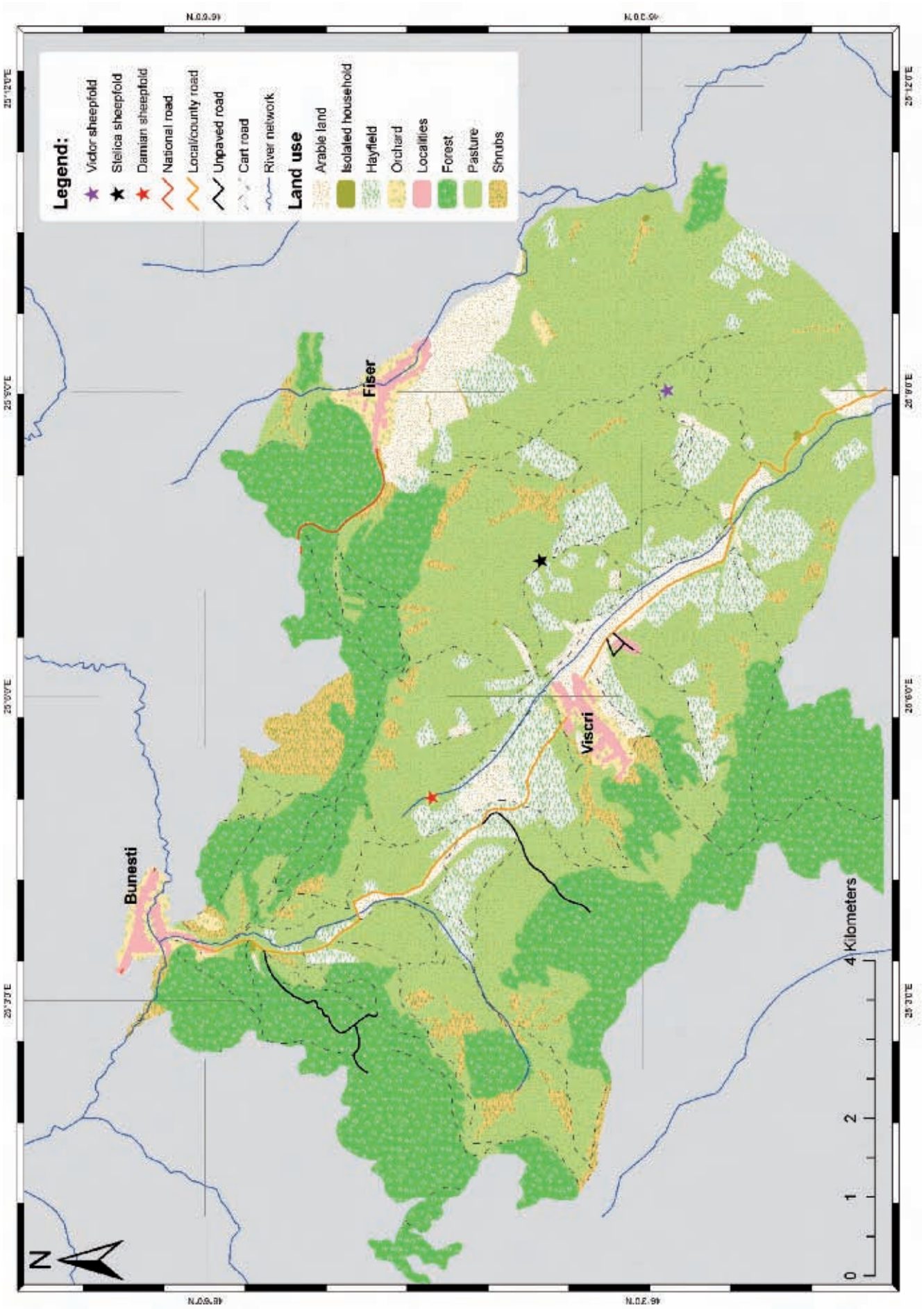
The above shows how 13% of the arable area of these communes has reverted to pasture or meadow. Of the 26% total land coverage represented by meadow, one fifth is abandoned. Forest area remains stable. One third of orchards have been abandoned.

The map opposite shows land use in the Scroafa Valley itself. In this specific area, current land use is as follows;

- arable 5%
- hay meadow 10%
- forest 30%
- pasture 46%
- scrub 5%

This is a clear demonstration of the trend from hay meadows to pasture, precipitated by poor market for cow milk and fall in cattle numbers.

Land use in the Scroafa Valley



Field Excursion Programme

The excursions involve several kilometers of easy walking. Please bring walking shoes and suitable clothing in case it rains.

The field trip is to Scroafa Valley area, which is a typical small-scale HNV landscape, lying within the Târnava Mare Natura 2000 site. The remarkable range of habitats and species for which the site is designated depend to a large extent on the continuation of small-scale HNV farming.

The aim of the field excursion is to present the Scroafa Valley as a case study, demonstrating many of the generic problems facing Romania's HNV grassland landscapes today, issues that are also common in many other parts of Europe. Active participation (questions and debate) during the field excursion is encouraged, in order to stimulate ideas for the policy targeting and delivery discussions on the following day.

Detailed Programme

0800 Three coaches will depart from Piața Mică, Sibiu, near the hotels. See separate map.

Note: each coach will have specialists to interpret the landscape and answer questions.

The journey will be 2½ -3 hours along the Hârtibaciu (Harbach) Valley, a relatively pristine agricultural area. The road follows the line of a disused narrow-gauge railway that used the connect Sibiu with Sighişoara, mainly for transport of wood and milk to the city of Sibiu in the 19th century. The route passes by the ancient city of Sighişoara (Schassburg), then through the village of Saschiz (location of the office of Fundația ADEPT, and on to the Scroafa Valley.

11.00 Field excursion led by grassland and HNV farming specialists. The walks will allow participants to see important elements of HNV farm management. See map below.

14.00 The morning walks will end at lunch time at one of 3 hill sheepfolds, where buffet lunch will be served and discussion stimulated on all aspects of farm management and biodiversity conservation. See pages 23 and 24 introducing the three sheepfolds.

15.30 In the afternoon, participants will walk (30-60 minutes), or board the coaches and drive as preferred, into the village of Viscri (Deutschweisskirch). In Viscri, there are several points, indicated by conference posters on the gates, that will be interesting to visit in order to build up a picture of village agricultural economy: open farm courtyards (interpreters will be available), milk collection point, and the medieval Saxon fortified church and museum. See pages 25-27 introducing these farmers and courtyards..

As evening falls the village herd of cattle will come back into the village.

18.30 Dinner will be held in the Saxon barn in the Priest's House, opposite the fortified church.

20.00 Board the buses for the drive back to Sibiu. Approximate arrival time: 23.00.

Damian sheepfold: 1400 sheep and lambs, 212 ha

Damian manages sheep in summer months for a total of seven small-scale owners.

Family members working on the farm: father, his wife (in their 40s), 2 sons and two daughters aged 19-23. They have three employees, 34, 49 and 60 years old. The Damian family hope to continue sheep farming, especially the boys

They have 700 milking sheep, of which 100 belong to villagers, 100 belong to the three shepherd employees and 500 belong to Damian. They also have 700 lambs from last year and from this year, 50 from the village, 100 belong to the 3 shepherds and 550 belong to Damian.

They own 6 ha of hay meadows, on which they get Pillar 1 and agri-environment payments. Of the remaining land, they rent 70 ha from the Town Hall, on which they get subsidies and pay a small rent (€12/ha), 130 ha from Town Hall, for which they pay no rent and receive no subsidies, and 6 ha rented from people from village, €12-20/ha, for hay making, for which they do not get subsidies.

Economics of the unit under current situation

- income from production €20240 / year
- Pillar 1: €6035
- agri-environment: €14790
- costs: €12700
- net income (per Annual Work Unit): €28365 for 4 full time and 2 part time family members (€5673 / AWU)

Stelica sheepfold: 1300 sheep and lambs, 197 ha

Stelica manages sheep for a total of 23 owners from two villages, Viscri and Bunești

Stelica manages a flock of 750 milking sheep, of which 100 are his own and 600 belong to villagers. He also manages 550 are lambs from the last year and from this year, of which 50 are his and 500 belong to the villagers. He has also 4 cows and 5 horses.

Family members working on farm: Stelica, plus his wife part-time: she is also a teacher at Viscri kindergarden. They have two young children. They are in their 30s. They have four employees: three in their 20s, and one of 49. Stelica would like to have at least one boy, to make him a shepherd, but because he has two daughters, he is keen to offer to them a good education, to have an easier life. Stelica really takes pride in his work.

Stelica owns 7 ha of hay meadow, on which he gets subsidies. He has 100 ha rent free from the Town Hall, in recognition of the fact that he has sheep from the village, on which he does not receive subsidies. He has also rented 20 ha from the town hall (€12/ha) on which he receives subsidies, and he has also cleaned the scrub on this pasture. He has another 70 ha, rent free from 2 villagers in exchange for looking after their sheep.

Like Damian, he sells his milk at €0.45/l , and he also sells cheese privately at €3.1/kg. Stelica would like to have a place to make cheese.

Economics of the unit under current situation

- income from production €20874 / year
- Pillar 1: €1917
- agri-environment: €4914
- costs: €12300
- net income (per Annual Work Unit): €15405 for 1 full time and one part time (€10270 / AWU)

Victor sheepfold: 1400 sheep and lambs, 212 ha

Victor's flock is almost entirely his own, so he is nearer a conventional west-European sheep systems

Family members working on the farm: father, mother (in their 50s), and 2 sons in their 20s. They have 3 employees. The two boys want to continue with farming, they enjoy their work. They want to improve efficiency in the future and to buy more land. They have 14 employees: the oldest shepherd is 62, the youngest 35.

They milk 1100 sheep, 1000 of their own and 100 from other villagers. They have 1700 lambs from this year and from last year, of which just 50 from the village. They own also 110 cows, 10 horses and around 25 donkeys. Victor has not used the horses or the donkeys for the last 3-4 years, since the work is done by car and tractors, but he enjoys seeing them free in the pasture.

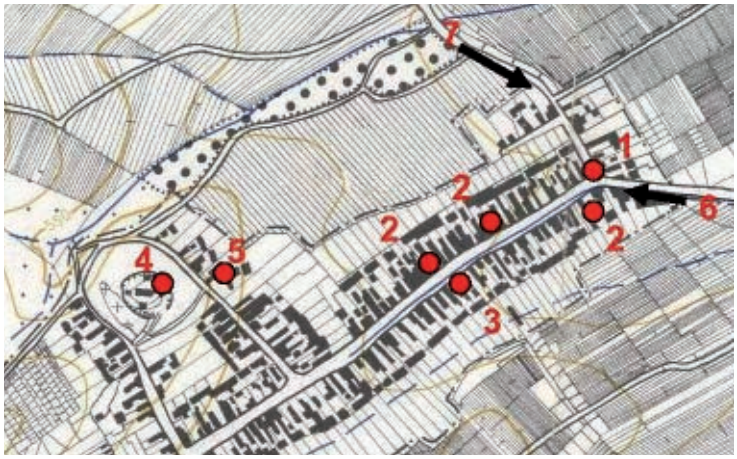
They own 75 ha, on which they claim subsidies. In addition, they rent 100 ha from Town Hall, from which they have cleared scrub, but the Town hall (a different Town Hall from Damian and Stelica) refused to give them a contract, so they cannot reveive a subsidy. They also rent 250 ha from villagers, at about €36/ha/year, on some of which they claim subsidies but generally the subsidiies are taken by the owners.

They sell almost all their product as milk, only making cheese for rent or for their own consumption. They make more profit from selling lambs than from selling milk. They have started to build a room in one of their stables, for making cheese.

Economics of the unit under current situation

- income from production €41750 / year
- Pillar 1: €5680
- agri-environment: €13920
- costs: €18500
- net income (per Annual Work Unit): €40850 4 full time family members (€10212 / AWU)

The map below shows approximate locations of coach drop-off and pick-up points, of open courtyards where interpreters will be available to show participants farmyard management, including the courtyard housing the milk collection point, and also the medieval fortified church and barn where dinner will be served. The 19th century map that we have used shows land parcels at that time: village layout has not changed since medieval times.



1 Coach drop-off point

2 Open courtyards with interpreters

3 Village milk pick-up point

4 Saxon fortified church

5 Saxon Barn in Priest's house – dinner

6 Direction of arrival from Stelica and Victor sheepfolds

7 Direction of arrival from Damian sheepfold

Emil: small-scale mixed farmer, 5 cows, 15 sheep, 9 ha hay meadow

Emil is a semi-subsistence farmer by Romanian standards, 2-8 ESU.

Emil keeps 5 milking cows, one heifer, and 15 sheep who managed by Stelica during the summer. He has 9 ha, a mixture of arable and hay meadow in the past, but he now uses it all as hay meadow, on which he receives direct payments and agri-environment payments as it is all declared as permanent pasture (more than 5 years pasture). He owns a small tractor. He estimates his work as 0.5 AWU: 3 hours per day plus haymaking extra time in the summer.

Emil is 51 years old, his wife Eli is 48. Eli makes a better income from agro-tourism than Emil does as a farmer (they have two bedrooms for guests and Eli is a very good cook). He has two daughters who go to university in Sibiu, not studying agriculture or interested in continuing in agriculture. His cows produce 3,000 litres of milk/year average, for which he receives €0.16/litre. He is happy to get subsidies, but is concerned that the higher rate subsidies require a hay cutting date after 1 July, which is too late for these lowland areas. Emil hopes to give up farming in the future.

Economics of the unit under current situation

- income from production €3100 / year
- Pillar 1: €639
- agri-environment: €1080
- costs: €1850
- net income (per Annual Work Unit): €2969 part time (€5938 / AWU)

Martin: medium-sized dairy, 30 cows, 10 followers, 69 ha hay meadow

Martin is one of the biggest farmers in the village. He is one of the few Saxons who have remained in the village.

Martin keeps 40 milking cow and followers, and has no sheep. He has his own rented grazing, so his herd is not grazed communally with the village herd. He owns 5 ha arable, half with corn and half with lucerne. He owns 20 ha of hay meadow; some of this land was arable in the past, but he gets agri-environment grassland payments as it has been grassland more than 5 years. He owns 19 ha, which was also arable in the past, but now he's using this land as pasture: for which he also received subsidies. He has rented 20 ha from grazing from Buneşti Town Hall, €12/ha, and also 5 ha from other villagers, €31/ha, on which he also receives direct and a-e payments. He has 2 tractors, a mower and a baler. He hires 2 farm labourers, part time all the year round, at a total cost of €5,900/year. They help with milking and hay-making. He is unmarried, 36 years old: his employees are 32 and 23 years old. In spite of a-e payments he does not see a future for dairy farming if milk prices remain depressed (€0.16/litre).

Economics of the unit under current situation

- income from production €11500 / year
- Pillar 1: €4900
- agri-environment: €7680
- costs: €9700
- net income (per Annual Work Unit): €14380 part time (€14380 / AWU)

Casaru family: subsistence dairy, 1 cow, 5 ha arable and hay meadow

Gheorghe & Simioana Casaru keep a house cow from which they sell to neighbours ,15 sheep at Damian sheepfold, and a pig for home use.

Gheorghe Casaru has a total 5 ha, on which he receives Pillar 1 payments. Of this, 1 ha of arable for maize, and 1 ha of arable for lucerne, for livestock feeding. He owns 3 ha of hay meadow for which he also receives higher level (non-mechanized) agri-environment payments. Equipment: a horse and cart. He hires labour only for hay-making, for which he pays €35/ha. He works on the farm 4 hours/day: 2 hours a day milking, cleaning, feeding the pigs; plus 1-2 hours a day making the hay during the summer, and looking after sheep during the winter. They have one son, Dan, a local builder who helps also with farm work. The cow produces 3200 litres/year, which he sells for €0.5 to neighbours as they know his milk is good. They also sell lamb to neighbours. Gheorghe is 65 years old, Simioana 67 years old. They are happy with things as they are – it's enough for them with the actual size of their farm, and they will continue to keep one cow as long they are healthy.

Economics of the unit under current situation

- income from production €2523 / year
- Pillar 1: €355
- agri-environment: €540
- costs: €500
- net income (per Annual Work Unit): €2918 part time (€5836 / AWU)

Bebe: dairy, 4 cows, 47 sheep, 2 ha arable and 1 ha hay meadow owned, 20 ha pasture rented

Bebe (Marin Spiridon) also runs one of the milk collection points in the village

Bebe has 4 milking cows, no followers, and 47 sheep kept at the Damian sheepfold. He owns 2 ha of arable and one of hay meadow. He also rents 20 Ha of pasture from Buneşti Town Hall, for which he also receives subsidies. He has a tractor and trailer, and hires Martin's mower and baler. He works full time. His only employed labour is for collecting hay bales, for which he pays about €12/ day. He is 51 years old. He likes the EU: he receives the subsidies for land thanks to the EU. He wants to keep more cows in the future and to continue with the milk collection point.

Economics of the unit under current situation

- income from production €2857 / year
- Pillar 1: €1633
- agri-environment: €2640
- costs: €700
- net income (per Annual Work Unit): €6,430 part time (€6430 / AWU)

Milk collection point: collects 350.000 l/year, of which 300.000 cow milk and 50.000 sheep milk, from Stelica, Damian and another sheepfold.

The farmers, who bring the milk to the collection point, are paid €0.17/litre for cow milk.

The processing company brings all the materials for cleaning, and pays for the electricity.

Bebe is paid 0,02 lei/litre (€0.005/litre) of all milk collected, for managing the milk collection point. He earns on average €130/month from the milk collection point.

Managing change

The HNV farmers of the Scroafa valley face many problems including:

1. Market failures. Lack of markets for the goods they produce, owing to cheap imports and tighter regulations on informal sale of smallholder produce. Hygiene regulations have damaged local small-scale production by imposing unrealistic standards on small producers. Small-scale farmers cannot make an income that meets expectations of the next generation of farmers.

2. Breakdown of the common grazing system: until recently, grazing was effectively managed by village grazing committees, with pasture /meadow distinctions honoured. This system is increasingly abused and mayors do not have the power or incentive to take action.

3. Lack of a common voice, at national scale, and lack of access to information – the many agencies which they need to contact for variety of assistance measures are poorly coordinated and hard to access.

4. Wider economic failures. Economic migrations have led to a shortage of seasonal labour in villages: summer hand-mowers of hay meadows, for example. Diversification of income is poorly developed because of lack of opportunities. Support measures are not easily accessible. The focus of NRDP investment measures is on the 8% of holdings of 2-8 ESU, not the 91% of holdings under 2ESU.

Changes are inevitable, and the following trends are already obvious:

a. Decreasing cattle numbers: in the Scroafa Valley, as in all of Transylvania, there is a collapse in the market for milk and therefore a collapse in cow numbers. Many villages have been left without any milk collection by processors, because small farmers cannot guarantee the quality and quantity necessary to attract the milk processors, who can import good quality milk at a competitive price from neighbouring countries. Cow numbers have fallen 25% in the last year alone. Without a market for milk, agri-environment payments will not be sufficient to halt this collapse. In similar situations in the EU15 during the 1980s and 1990s, small dairy farms in many areas converted to suckler beef, which requires less labour and was well-supported by CAP subsidies. Could similar trends occur here?

b. Increasing sheep numbers: unlike cow dairy farming, sheep dairy farming is profitable owing to high demand and prices for sheep milk. Although a balanced number of sheep is traditional in this landscape, the influx of sheep to fill the vacuum left by falling cow numbers represents a threat to this HNV landscape. If the landscape becomes dominated by sheep, this will create a more monotonous land use pattern. Hay meadows, mosaic mowing patterns and landscape heterogeneity will be lost. These are the source of many of the ecosystem services associated with this region.

c. Abandonment and intensification: abandonment of traditional arable cropping and hay-meadows has affected nearly 20% of the Scroafa Valley.

   This process will continue unless measures are successful in offering an economic future to current land use patterns, or alternative and more viable patterns become established.

How can changes be managed so that benefits to local communities and wider ecosystem services are maintained?

Some evolution to more economically-viable farming types must be expected – can this be managed in such a way as to conserve environmental values? Without targeted support, these HNVF landscapes will disappear, as they have across much of Europe. Stabilising factors reducing the rate of change in farm ownership and land use in the Scroafa valley include:

a. the importance of farming for the subsistence of its inhabitants, in the current global and national financial crisis acting as a support system for those on low wages or unemployed

b. poorly developed land market. Much land has no clear title; many deeds are in the names of long-dead grandparents or great-grandparents, and of Saxons who have emigrated to Germany. This currently inhibits sale or rent to outside investors.

c. the existence of the Natura 2000 site, and the efforts of various NGOs working at small-scale farming community level.

These stabilizing factors, which can be seen as negative from a socio-economic point of view, will certainly decrease in the future. The future direction of land ownership will undoubtedly be towards consolidation into larger more competitive holdings, with a more homogeneous/less mosaic landscape. This may be preferable to abandonment. Some medium-sized family farms in the area hope to expand, but unless small farmers' access to credit is improved, future investors are likely to be large scale, and from the outside the area.

The pressure to increase competitiveness in the agricultural sector will of course continue in the European Union. However, in parallel, the Public Goods approach to policy analysis suggests that more action is justified to support the continued traditional activities of HNV farmers, often small scale and less competitive. This is because these traditional management systems deliver a range of vital public goods – water quality, flood prevention, resistance to effects of climate change, water and food security – which have a large economic value that the market does not reward.

The HNV concept argues that high farmland biodiversity should be recognised and protected by wider, flexible tools in addition to targeting areas with strict boundaries and formal designation.

Many Natura 2000 sites are actually managed by farmers who need to earn a living. Natura 2000 can help to channel support to the farmers within these semi-natural agricultural landscapes, which are so important for public goods including biodiversity,. But very similar situations also exist outside designated sites, on large areas of countryside. Therefore support for semi-natural landscapes within Natura 2000 sites must be complemented by efforts to work with HNV farmers outside these sites.

Agri-environment is one measure that needs to be made full use of. Others need to be developed, including HNV support payments targeted through Pillar 1 and local initiatives to steer farming towards an ecologically and environmentally sustainable future.

Questions

1. Does the loss of HNV farmed landscapes matter? We think that it does matter, because of the unacceptable social and environmental costs if the trend continues. Is the loss of small-scale farms associated with these landscapes inevitable? It is not inevitable if the value of these landscapes is recognised and targeted measures are designed to support them. Payments should not be seen as grants, but as payment for the services provided by these farmers.

2. What is the most effective use of CAP funding post 2013, in terms of supporting farmers to continue to provide what European citizens WANT their taxes to be spend on?

3. Many small farmers are not supported by Pillar 1 and agri-environment measures, because they are below threshold size. This applies to the approximately 55% of small-scale farms in Romania that are under 1 ha. Other investment measures such as *Setting up of Young Farmers* exclude 95% of farmers in Romania because of insufficient farm turnover to qualify. Could eligibility be enlarged in Romania? Can the formation of associations be made more attractive for small farmers, so that associations can apply for grants, thus simplifying the process for the member states and for the farmers themselves?

4. Local initiatives, with project staff taking a proactive approach to supporting and advising HNV farmers, have been shown to improve significantly the effectiveness of policies. Can such innovative projects be mainstreamed and financed throughthe EU rural development fund, perhaps by using LEADER as a model, but in this case creating Local Action Groups specifically for farmers and conservationists to work together.

5. Land consolidation is inevitable, whether by farmers owning larger holdings, or simply by bringing together of scattered ownership of small blocks that is common in Romania and other new member states. This should be encouraged, when the alternative may be abandonment. Can motivation, by targeted grants, be given to farmers to consolidate in a manner that does not seriously diminish delivery of public goods?

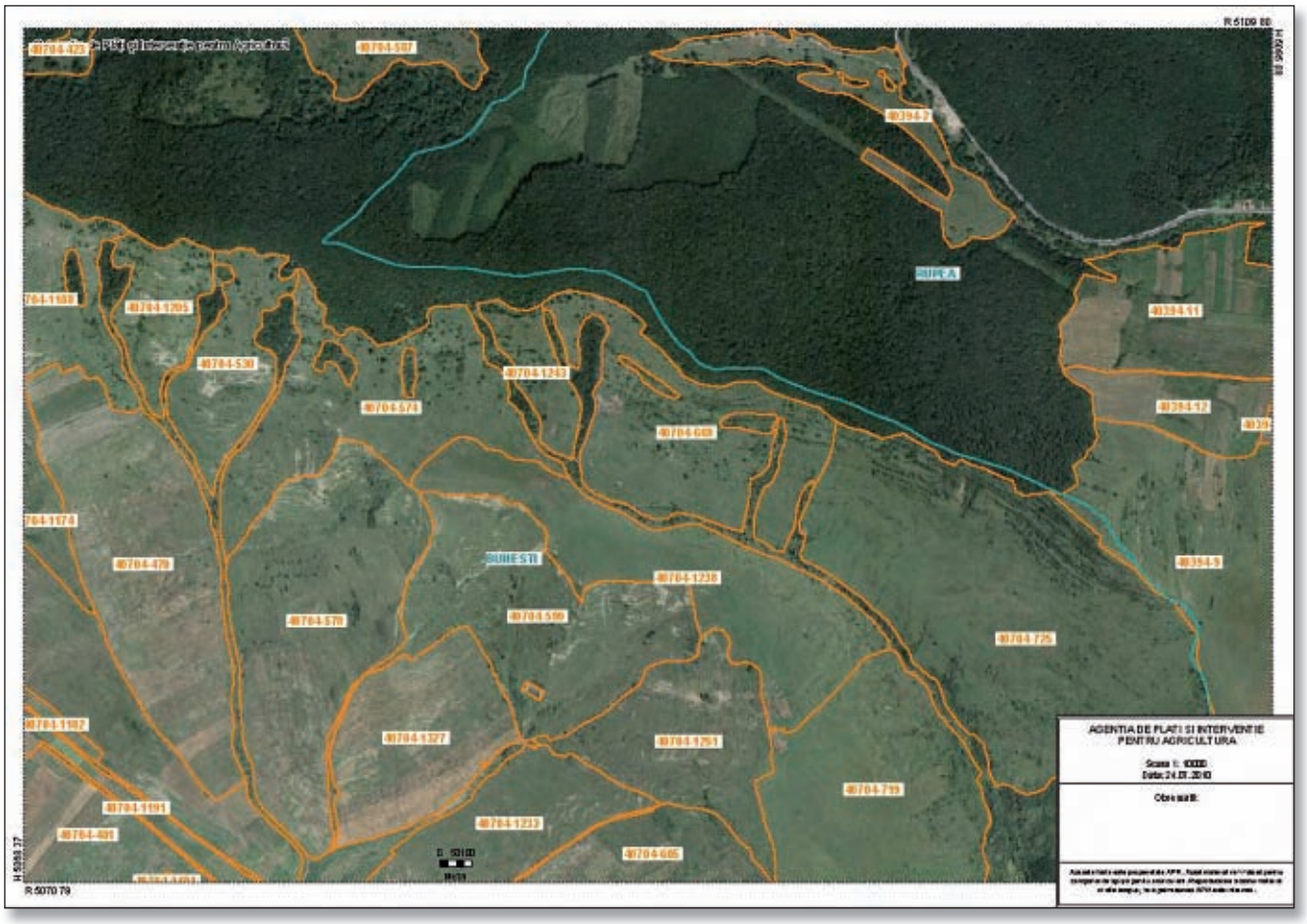
ADEPT activities 2008-2010

Fundația ADEPT has been funded since 2005 by the UK Darwin Initiative and Orange Romania, and since 2009 by Norway Grants/ Innovation Norway. Relevant aspects of Fundația ADEPT activities in the Târnava Mare area include:

1. Integrated Management

ADEPT and Daphne Insitute of Applied Ecology Bratislava are managing the process of creating an inventory of flora and habitats in the Târnava Mare area using LPIS land parcel maps. The resulting database will be immediately reconcilable with land management and agri-environment schemes, in order to monitor trends in land use and biodiversity. In this we are working in close cooperation with the Romanian Ministry of Agriculture and Rural Development.

The preparation of an Integrated Management Plan for the area, 2010-2012, is being funded by the UK government's Darwin Initiative.



2. ADEPT Farm Advisory Service and agri-environment payments

In 2005-6, ADEPT Farm Advisory Services carried out Romania's only pilot agri-environment programme, SAPARD 3.3, in cooperation with the Ministry of Agriculture & Rural Development (MARD). As a result of lessons learned under the pilot project, MARD simplified the application process for the equivalent national-level grassland agri-environment scheme launched in 2008, Measure 214. Under Measure 214, farmers receive €124-182/ha. Frmer participation in Measure 214 in Târnava Mare area, where ADEPT Farm Advisory Service was active, was five times higher than national average; in addition, in the ADEPT area, more small-scale farmers participated.

3. Dairy sector

Small-scale dairy production is key to the survival of these HNV landscapes. Small-scale farmers depend on milk sales for their income, and deliver to one or two milk collection points in villages, from which the processors take delivery. In 2009, many milk processors stopped collecting milk from these village milk collection points, since milk quality and quantity was not sufficient. Cow numbers fell by 25% in the last year alone. In a project funded by Innovation Norway, and with project partner Norges Vel, ADEPT has helped several villages to improve their milk collection points, and to improve milk hygiene generally, significantly benefitting village economies.

4. Supporting common grazing through agri-environment payments

Continued common grazing is essential to the survival of small-scale dairy producers in the region. However, it is threatened by the fact that access to agri-environment payments for common grazing is a problem. ADEPT has pioneered a project in one commune under which 1000 ha of communal grazing land has been leased to the village grazing association, unlocking access to agri-environment payments, and securing the future of over 30 cattle, sheep and goat farmers.

5. Adding value to agricultural products, and diversification

In 2005 ADEPT began a processing and marketing programme in the Târnava Mare area. ADEPT and Innovation Norway/Norges Vel have helped small-scale farmers produce and sell high-quality products, including through the establishment of a producer association. Through this joint project ADEPT also promotes local branding and labelling, farmers' markets, local sales to hotels and restaurants. ADEPT worked with the State Food Hygiene Agency to clarify that a flexible approach should be applied to direct sales by small-scale producers in marginal areas. This was essential to the development of farmers' markets.

ADEPT has also promoted rural tourism in the area, with agro-tourism training courses, and development of a local Tourism Association. Tourists are attracted by guest houses offering a variety of cultural and nature-watching pursuits including meeting local producers, guided nature walks.

Fundația ADEPT team

Pajişti cu Înaltă Valoare Naturală

asigurarea serviciilor ecosistemice ale agriculturii europene post 2013

Ecosistemel HNV (de Înaltă Valoare Naturală) furniza o gama larga de servicii ecosistemice, esențiale pentru viitorul nostru pe termen lung, cum ar fi

- conservarea biodiversității
- rezistența la schimbările climatice
- stocarea carbonului
- rezistența la incendii și inundații
- calitatea și siguranța apei și alimentelor

Peisajele agricole HNV sunt dominate de pajiști semi-naturale în care se practică agricultura tradițională la scară mică și ale căror servicii ecosistemice le conferă o importanță globală. Pășunile și fânețele semi-naturale cu Înaltă Valoare Naturală sunt esențiale pentru serviciile ecosistemice ale agriculturii europene și în același timp reprezintă o parte majoră a biodiversității continentului nostru.

Cu toate acestea, atât pajiștile, cât și sistemele agricole care le exploatează sunt în pericol.

Conferința va propune strategii europene pentru conservarea lor – dezbaterea privind reforma Politicii Agricolă Comună (PAC) din perioada 2010-1013 este o ocazie majoră pentru redefinirea resurselor PAC, astfel încât ele să contribuie atât la asigurarea viitorului pajiștilor HNV cât și a serviciilor ecosistemice pe care acestea le oferă.

FUNDATIA ADEPT

Fundația ADEPT Transilvania is an NGO dedicated to protecting Romania's unique high-biodiversity farmed landscapes and the small-scale farming communities that have created them.
For more information, see www.fundatia-adept.org

European Forum on Nature Conservation and Pastoralism

The European Forum on Nature Conservation and Pastoralism brings together ecologists, nature conservationists, farmers and policy makers. This non-profit network exists to increase understanding of the nature-conservation and cultural value of certain farming systems, and to inform work on their maintenance.
For more information, see www.efncp.org

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