3. SHAPING AND PROTECTION OF HISTORICAL CULTURAL LANDSCAPES

3.1. THEORETICAL AND PRACTICAL ASPECTS OF RURAL LANDSCAPE CREATION

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Landscape constitutes a synthesis of the natural and cultural (anthropogenic) environment and the physiognomy of a given area. Therefore, it embraces the material and the visual content (the form).

The Act on Nature Conservation [Ustawa 2004] states that landscape assets are defined as "ecological, aesthetic, or cultural values of an area along with corresponding relief, nature formations and elements shaped by natural forces or human activity".

The definition of landscape assumed for the needs of the European Landscape Convention [2000] declares that "landscape means an area as perceived by people, whose character is the result of the action and interaction of natural and/or human factors". We can thus talk about natural landscape (primeval) and cultural landscape, that is landscape anthropomorphised to a larger or smaller extent.

Landscape components consist of both natural elements, such as a geological form, soil, relief, water, air, climate, flora and fauna, as well as anthropogenic (cultural) elements, such as buildings, communication routes, etc.

Landscape undergoes constant transformations. The cultural progress of civilisation lies at the root of natural landscape transformations. With the appearance of specific socio-economic formations, on the basis of relevant policies, diverse elements of this development (economic, organisational, or technological) come to sight leading to significant transformations, most often of a revolutionary character [Koreleski 2007a]. A so-called eco-cultural (climax) landscape is sometimes regarded as a perfect form of cultural landscape, the term referring to optimal (rational) functional connection of physiographic and anthropogenic elements.

The Act on Spatial Planning and Spatial Management [Ustawa 2003a] is also an instrument of landscape creation, as it defines the principles of spatial policies and the principles of defining land management directions for particular areas.

The aim of this article is to define theoretical basis and practical principles of rural landscape creation. It presents a system of landscape creation, carries out a review of landscape valorisation methods, and defines instruments (tools) and measures that help to realise the function of purpose.

3.1.1 System of landscape creation

Landscape is a space where people reside or spend time and refers to both urban and rural, degraded and highly valuable areas, areas of significant as well as ordinary aesthetic qualities.

As a part of activities for landscape creation (formation, development stimulation), we can distinguish two tightly connected and interdependent directions: protection and shaping.

Following the lines of the European Landscape Convention [2000], also signed by Poland, landscape protection means actions to conserve and maintain the significant or characteristic features of the landscape so as to guide and harmonise changes brought about by social, economic, and environmental processes.

Landscape shaping, in turn, can be brought down to two fundamental elements: landscape planning and landscape management.

The term *landscape planning* refers to strong forward-looking action to restore or transform landscapes, whilst *landscape management* means activities which rationally harmonise its changes induced by anthropogenic and physiographic factors.

Landscape creation always has at its roots the assumed development paradigm. In the case of Poland, as with many other developed countries of the world, the system is based on the principles of sustainable development – eco-development – and attempts to preserve or ensure spatial order, corresponding to these principles [Koreleski 1999].

An outline of the system of rural landscape creation is presented in Fig. 26. Besides defining the development paradigm and aim, it includes principal guidelines, planning instruments, and implementation activities creating cultural landscape.

Rural landscape is composed of three fundamental components: agricultural areas (agricultural production space), forested areas, and built-up areas; they form as if three subsystems within the frames of the system of rural cultural landscape creation.

Practical functioning of the system of rural cultural landscape creation can be put down to three basic issues:

- landscape valorisation for the needs of landscape creation,
- application of planning tools,
- employment of suitable implementation measures.

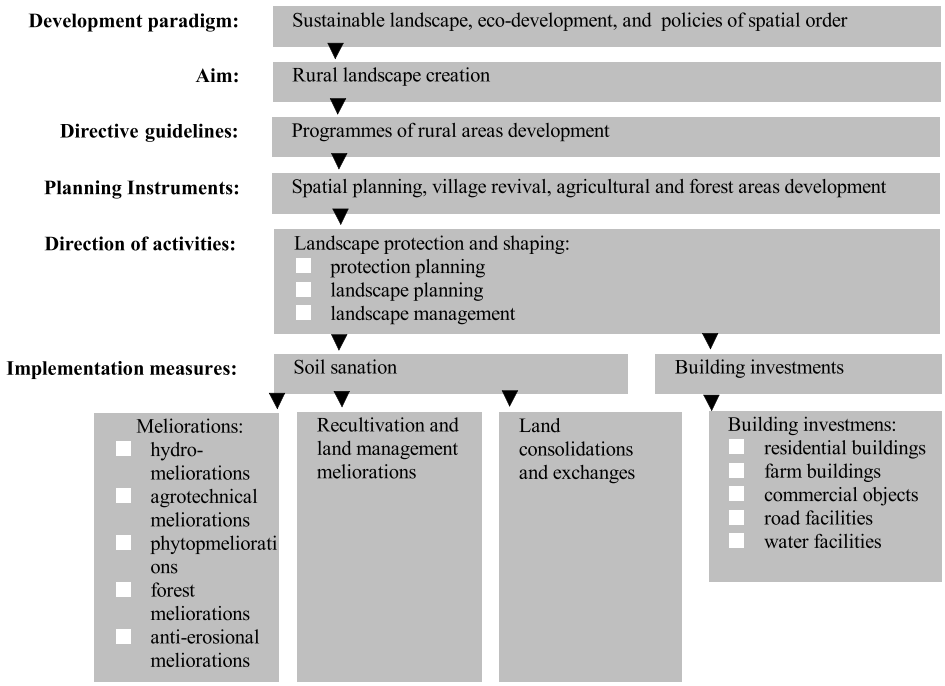


Fig. 26. System of rural landscape creation (author's study)

3.1.2 Rural landscape valorisation for the needs of landscape creation

Apart from operational aims, such as landscape valorisation for the needs of agriculture, forestry, building industry, recreation, etc., we can distinguish general aims, such as valorisation for the needs of landscape use, protection, and shaping. The list below presents several examples of landscape valorisation methods, based on a separate study of the author [Koreleski 2007c].

The LANDEP method (Landscape Ecological Planning), developed in former Czechoslovakia in the 1970s, aims at creating a variant programme of landscape use optimisation. It consists of two elementary stages. First, a landscape is characterised based on an inventory and analysis of abiotic elements (geological structure, soil, land morphology, climate, water), biotic elements (vegetation, animals), and anthropogenic elements. The second stage involves land use optimisation with regards to relatively homogenous spatial units.

The essence of this method is the confrontation of social needs with the possibility of meeting them, by determining (assessing) the following: the degree of ecological feature suitability to the intended land use, the ecological results of

anthropogenic activity, and the state of environmental stability and resilience. Due to the considerable laboriousness of the LANDEP method, at the end of the 1980s, its simplified version appeared, called the Ecological Evaluation of Territory.

The landscape use analysis (AWK) method is based on the analysis of landscape use, and draws on the system of land use within spatial landscape units - treating a landscape map as a database of the natural environment. The valorisation procedure consists of confronting the potential of subsequent units and the present system of land organisation. In Poland, a map of landscape use at a scale of 1:500 000 has been developed, as well as a number of medium-scale and wide-scale maps.

In the concluding stage of this procedure, the map is compared to the actual state and contours of optimal, admissible, inappropriate, and change-demanding land use are drawn. These maps can serve as bases for further landscape planning.

The MENTS method (Man-Economy-Nature-Territorial System) aims at working out a variant prognosis of landscape reaction to anthropogenic influences. The method consists of three stages: the initial stage, a parallel analysis of systems (geoecological, socioecological, and economic), and the stage of modelling a prognostic system. It needs to be remarked that, in the initial stage, a selection of data is carried out with regards to the number of functions essential from the point of view of the aim (significance, indicative power, cognitive and practical utility, and technical possibility of processing).

The study of the geoecological system aims at identifying changes in the way various geocomplexes behave under the influence of human factors – treating the socioeconomic and economic systems as elements of the environment.

The analyses of the socioeconomic and economic systems intend to define the production potential of the natural environment, assess the value of this environment, define natural and social factors determining the management of natural resources, and define the influence of external factors on the system's efficiency.

In the final stage, a prognostic system is modelled, which is intended to prepare MENTS change scenarios (social, economic, and natural consequences), prepare optimisation models for each of these scenarios, and choose the most suitable solutions.

Söhngen's method [1975] was developed in the former Federal Republic of Germany and consists of assigning points to the basic natural elements of the landscape: flora, relief, and waters. Each parameter being assessed can receive from 1 to 5 points. A modified version, which has been adjusted to local conditions in Poland, can be described as follows. The total value for flora (tree sizes, the state and kind of vegetation, phenomenon intensity, spatial-aesthetic properties, and wind protection) is expressed in three classes (I-III) ranging from flora with high ecological assets, to flora with average assets, to flora with few assets requiring transformation and improvement.

Relief is given points for size, state, phenomenon intensity, and spatial features of elements such as gorges, escarpments, grassy areas, waterlogged areas, and bogs and is also expressed in three analogous classes.

Waters are assessed regarding size, state, vegetation, phenomenon intensity, and spatial features of two factors: lentic waters and lotic waters; and the total landscape-ecological value, as previously, is expressed in three classes.

The landscape undergoing assessment is divided into smaller areas with similar natural assets separated from each other by borders (roads, watercourses, etc.).

The outcome of the assessment is the marking off of areas of different assets. These areas are in turn assigned treatment which may positively influence the maintenance of areas with high assets, and improve the areas with the lowest landscape assets.

The method developed by Bogdanowski et al. [1981] concerns landscape assessment based on the analysis of a so-called landscape interior. This valorisation requires taking a stance towards the value of the interior form, the value of the interior, and relations between them. The value of the form depends on the tradition of the place and the maturity of the form. The following criteria are taken into account: aesthetic criteria, localisation suitability, and the purposefulness of use. Landscape elements are assessed with regards to two aspects: significance in terms of utility (economic, scientific, and aesthetic) and in terms of panoramic values.

Bogdanowski suggests categorising surfaces, lines, and points according to a four-stage classification:

– those characterised by high landscape significance (typical or unique forms),
– "protective", surrounding the former and exposing them,
– having minor significance to the landscape,
– undergoing degradation as a result of urban development and industrialisation.

Valorisation, therefore, results in distinguishing the following landscape units: particularly valuable, exposed, less valuable, or degraded.

3.1.3 Rural space development programmes

Directive character of these programmes makes them significantly important regarding the orientation of space transformations.

Certain recommendations and support in regards to rural landscape creation in Poland can be found within the framework of the Plan for Development of Rural Areas, the National Development Plan, the Sector Operational Programme, the Integrated Regional Development Operational Programme).

Developed in 2003 by the Ministry of Agriculture and Rural Development, the Plan for Development of Rural Areas is oriented at social and environmental (ecological) aspects. It is consistent with the Sector Operational Programme: "Reorganisation and modernisation of the food sector and development of rural areas". From the standpoint of landscape shaping, it involves the following significant activities:

– preventing ecological degradation of agricultural areas (soil and water protection), particularly in the case of mountain and foothill areas and in the eastern part of Poland;

– agro-environmental programmes, which, among other things, help to preserve natural assets of agricultural areas, protect biological diversity, increase forestation rate, shape a suitable landscape structure;

– promoting ecological and sustainable agriculture.

Moreover, agro-environmental programmes involve activities such as: changing land use patterns into less profitable ones, managing untended and abandoned lands, protecting soil against erosion, and creating buffer zones at the borderline between agricultural lands and forested areas or open water reservoirs.

The so-called "environmental packages", which comprise a list of diverse activities connected with protecting and shaping cultural landscape in rural areas, involve for example:

– renaturalisation of meadows and increasing the area of permanent grasslands,

– restoring natural and landscape assets (particularly in protected areas),

– protecting soil against erosion (anti-erosion crop rotation),

– restoring open spaces in agricultural landscape (counteracting uncontrolled plant succession),

– protecting old (traditional) orchards, etc.

From the point of view of landscape shaping, the Plan for Development of Rural Areas 2007-2013 envisages activities such as [Koreleski 2007b]:

– improvement and development of the agricultural and forest production space infrastructure (land consolidation and exchange, management of agricultural water resources),

– afforestation of agricultural and other than agricultural lands (by planting trees and making use of natural succession),

– village revival and development (implementing projects aimed at the maintenance, reconstruction and improvement of natural and cultural rural heritage).

Village revival and development projects which gain support must be set within the scope of the village revival scheme, according to the community development strategy or the local spatial development plan.

By defining the development priorities for Poland, the National Development Plan (years 2004-2006 and 2007-2013) provides for, among other things, the revitalisation of cities, towns and villages as well as the acceleration of urbanisation processes in Poland [Koreleski 2007b]. This is linked to the following tasks, which influence the shape of the cultural landscape:

– development of infrastructure (particularly in towns and villages),
– rural re-electrification, development of social infrastructure,
– increase of environment quality in rural areas through preserving their natural and landscape assets.

The Sector Operational Programme (the years 2007-2013) developed by the Ministry of Agriculture is one of the elements of the National Development Plan implementation and in regards to landscape shaping it involves supporting actions, such as:

– consolidations of agricultural lands along with post-consolidation area management,
– management of agricultural water reserves (detailed and basic melioration),
– village revival along with the preservation and protection of cultural heritage,
– development and improvement of technical infrastructure connected with agriculture (roads, water supply system, sewerage system, electricity supply),
– removal of forest damage caused by natural disasters or fires, etc.

The Integrated Regional Development Operational Programme developed in 2004 by the Ministry of Economy, Labour and Social Policy involves documents such as: integrated public transport plans, local development plans, post-industrial, post-military and urban areas revitalization plans.

A local development plan is a document which, since May 2004, is used in development planning at the community level. This plan, created on the basis of regulations set in the Integrated Regional Development Operational Programme is a basic document including objectives and directions for EU fund utilization in the years 2007-2013. The objectives set out in this plan for 2007-2013 are implemented on the basis of Regional Operational Programmes, which have been developed by all voivodeships.

The list of objectives, within the local development plan, referring to the issues of cultural landscape planning, includes, among others:

– principles of shaping rural and forest production space, taking into consideration the modification of the field-forest borderline,
– changes in land use patterns,
– development of the communication system and infrastructure,
– improvement of the natural and cultural environment.

For example, with regards to the improvement of local community infrastructure, the plan defines the following objectives:

– construction and modernisation of sewage channel and treatment facilities,
– construction and modernisation of water supply facilities,
– construction and modernisation of local roads,
– introduction of a comprehensive waste management plan,
– utilisation of renewable energy sources,
– comprehensive development of land for investment.

3.1.4 Planning instruments

Basic instruments of rural landscape creation will include: planning and spatial management, village revival and rural and forest areas development.

As far as landscape issues are concerned, the instruments of planning and spatial management take into consideration, among other things, the following [Ustawa 2003a]:

– need for spatial order in the urban and architectural sense,
– landscape assets,
– need for nature protection, including the management of water resources, protection of agricultural and forest areas,
– need for cultural heritage conservation, protection of monuments and goods of contemporary culture,
– economic assets of space,
– public interest.

The development and revision of the National Spatial Management Scheme, voivodeship development strategies, voivodeship spatial management plans, community studies of the conditions and directions of the spatial management, and local spatial management plans, is all based upon the principles of sustainable development and equal treatment of the economic, social, and cultural sphere.

The principles of spatial order entail the obligation to follow the requirements of urban planning, which involves the principles of urban and rural spatial planning, as well as the requirements of architecture. The term *architecture* refers to the art of designing and raising buildings and their complexes, under investment projects. The facts that planning and spatial management need to take into consideration architectural requirements means that one is under an obligation to follow many regulations of the building law (Rozporządzenie Ministra Infrastruktury 2002).

The need to take into consideration landscape assets (environment aesthetics) is linked with landscape assessment [Koreleski 2006], carried out with a view

of maximum landscape protection. This issue is directly related to the Act on Nature Conservation [Ustawa 2004] and appropriate executory provisions of this Act.

Nature protection is realised on the basis of the Act on Nature Protection [Ustawa 2001a] and special regulations referring to shaping and protection of cultural landscape elements such as water, minerals, areas and objects valuable in terms of nature qualities, rare plants and animals, forests, and arable lands.

Regulations regarding nature protection in Poland involve a principle that communication routes, overhead and underground pipelines and other linear objects should be conducted in such a way as to minimize their impact on the environment, protect aesthetic and landscape assets, and enable the migration of animals. Moreover, it is forbidden to build factories which could threaten human life or health within city administrative boundaries or in areas of compact building development. Such objects can be located only at a safe distance from one another, residential districts, public buildings, protected wildlife areas, or areas protected by the regulations of the Act on Water Law [Ustawa 2001c].

Building complexes which form historic urban plans, works of architecture, buildings, various technological objects, cemeteries, parks, gardens, sites commemorating historical events, archaeological monuments, contemporary cultural goods, and urban patterns, etc. – all these, irrespective of their condition, are set aside for protection, as a part of cultural heritage conservation and protection of cultural goods.

Economic and functional assets of space depend on how useful this space would become for various purposes, taking into consideration investment effectiveness in a given area. This in turn depends on how rational it would be to undertake a particular investment activity, against the background of social and economic relations and the function this particular area plays.

The obligation to take into account public interest refers to expectations regarding spatial management that both the society as a whole and local communities have. As far as the issue of cultural landscape shaping is concerned, this mainly refers to public purpose investments, such as marking off land for road and railway objects, airports, building transmission infrastructure (petroleum, gas, electricity, etc), facilities of water supply network, sewerage infrastructure and waste management, raising administrative buildings, courts of law, schools, etc.

Cultural landscape shaping takes place at a national, voivodeship (regional), and community (local) level.

The National Spatial Development Scheme defines general conditions and directions of sustainable development at a national level, which involve directions of settlement pattern development, nature and monument protection, distribution of technical and transport infrastructure, strategic water resources and water management facilities, problem areas, etc.

A voivodeship spatial development plan takes into consideration, above all, basic elements of the settlement pattern, communication and infrastructure network, the system of protected areas (environment, nature, cultural landscape, health resorts, cultural goods), distribution of public purpose investments of translocal importance, problem and metropolitan areas, flood hazard areas, borderlines of restricted areas, and sites of mineral deposits.

For the purposes of spatial planning, communities create studies of the conditions and directions of the spatial development along with a local spatial management plan, the latter not being obligatory for the entire area of the community.

A study of conditions defines, among other things, change directions regarding the spatial structure of the community and changes in land use patterns; the principles of environment (nature), landscape and cultural heritage protection, areas where public purpose investments may be localized, areas for which a local plan needs to be developed (areas which require land consolidations or land divisions, large commercial objects, public space, agricultural and forest areas whose designation needs to be changed into non-agricultural or non-forest one), the principles of shaping of the agricultural and forest production space, flood hazard areas, mineral deposits, areas which require rehabilitation measures, and other problem areas.

Local spatial management plan obligatorily defines the following questions, significant in terms of landscape shaping:

– designation of land an boundary lines separating areas of different designation or different management principles,

– principles of spatial order protection and shaping,

– principles of environment, nature and cultural landscape protection,

– principles governing cultural heritage protection and the protection of goods of contemporary culture,

– requirements resulting from the need for public space shaping,

– building development and land management parameters and indices, including building lines, building overall dimensions and floor area ratio,

– borderlines of protected areas as well as principles governing the management of such areas or other protected objects, which are set out for protection on the basis of separate regulations, including mining areas and also areas threatened by floods or landslides,

– detailed principles and conditions of property consolidation or division, embraced by the local spatial management plan,

– special conditions of land management and restrictions regarding their use, including a building ban,

– principles of modernisation, extension and development of communication systems and technical infrastructure.

Depending on needs, a local spatial management plan can also define:

– borderlines of areas requiring property consolidation or division,

– borderlines of areas where the existing building development or infrastructure shall be restored,

– borderlines of areas requiring restructurisation or recultivation,

– borderlines of areas set out for commercial objects,

– borderlines of areas set out for recreation and mass events, etc.,

– borderlines of monuments of mass extermination and their protection zones.

Village revival in Poland is a new form of cultural landscape shaping. Village revival plans (projects) basically aim at creating and modernizing objects of public infrastructure (roads, buildings), strengthening economic potential through local and translocal investments, protecting and renovating objects of material culture, alleviating adverse impacts on cultural landscape both in the physical sense (land, plant, water, air protection) and the physiognomic sense (improving aesthetic values of the landscape).

Development plans are a very significant tool of rural landscape creation. They consist in creating favourable management conditions in agriculture, forestry, improving access to remote lands by eliminating unfavourable layout.

3.1.5 Implementation measures

Rural landscape creation measures involve soil sanation measures and building investments.

Sanation of degraded or defective soil constitutes an important element of cultural landscape shaping. It includes the following activities: hydromeliorations, agrotechnical meliorations (agromeliorations), phytomeliorations, which are subsumed under the following terms: agricultural meliorations, forest meliorations, and anti-erosion meliorations, jointly referred to as special meliorations; recultivation, land consolidation and land exchange (Koreleski 2006b).

Specific hydromeliorations (drainage and irrigation meliorations) introduce a set of elements into the landscape, such as open ditches, small water reservoirs, various irrigation devices (surface, flood, sprinkler, etc.).

Agrotechnical meliorations aim at improving agricultural land properties by melioration ploughing, fertilization, liming, stone clearing, loam addition, etc.

Phytomeliorations, which mainly aim at protecting land from degradation (erosion) or improving ecological conditions (water regime, microclimate), come down to planting woodlots and turfs, particularly on escarpments, slopes, dunes, etc. In landscape, phytomeliorations are visible through afforestation,

planting shrubs, and turfs – all of the following types: mid-field, roadside, anti-erosion, recreational, or ensuring wind protection.

Forest meliorations, which improve silvo-ecosystems, make use of agro melioration, hydro melioration, and phytomeliorations techniques.

Anti-erosion meliorations, as a branch of meliorations adjusted to the specificity of areas with rich landform (water erosion) and areas subjected to Eolian processes (wind erosion), also involve measures such as anti-erosion crop rotation, anti-erosion field patterns (ribbons, terraces), afforestation, mechanical reinforcement of ravine slopes, and escarpments, etc. These measures significantly influence the landscape, its aesthetics and functionality. Particularly significant landscape changes are linked to ravine management and development and they involve:

– biological development (correction of the existing tree species composition, or afforestation from scratch),
– technological and biological development (reinforced concrete, concrete, stone, or fascine constructions) of ravine beds, slopes and mouths,
– eliminating ravines through filling,
– ravine development with silting-up and retention reservoirs,
– ravine management for the needs of recreation (pedestrian areas, car parks, playgrounds),
– creating pastures,
– creating orchards.

In the last case, orchards play the role of woodlots while turf planted on terraces in the form of perpendicular-to-slope strips perfectly protect soil from water erosion and ensures rational land management.

Land recultivation, which helps to restore functional values to areas degraded or devastated as a result of human activity, also shapes landscape in a significant way.

This mainly concerns such recalculation measures as:

– relief reorganisation,
– building access roads to the recultivated object,
– biotechnological reinforcement of escarpments
– drainage or irrigation,
– stone clearing,
– felling trees and removing shrubs,
– removing the remaining elements of engineering constructions,
– removing the humus layer, etc.

The character of landscape transformations depends, to a large extent on the recultivation direction, which determines the system of land management.

The agricultural direction involves relief reorganization (proper vertical shaping), water regime regulation and the creation of biologically active soil.

Recultivation measures within the forest direction are similar to the agricultural direction, yet the requirements regarding the area which shall be afforested are relatively small.

The fishing direction is characterised by the importance of appropriate bed shaping, ensuring suitable slopes and water inflow conditions, etc.

The tasks set out by the infrastructural direction, that is preparing land for future building investments or other technological facilities (roads, factories), require suitable relief, hydrological conditions and bearing capacity of soil.

The water-recreational direction requires measures forming reservoir bed and banks, ensuring flow conditions, and maintaining appropriate water level. Preparing recreation areas, that is creating promenades, bicycle lanes, and parks, requires shaping the relief and creating a layer of soil which would enable suitable development of trees and shrubs.

Land consolidation and exchange constitute yet another significant factor within rural landscape creation processes.

A consolidation process consists in a fundamental reorganisation of land distribution in a given area, within which the former plot layout is substituted by a new one, shaped in such a way that farms taking part in this process receive land in the form of rational layout: larger plots situated closer to the central infrastructural object. As a result of this distribution, the previous shortcomings of agricultural space distribution, such as burdensome field patchwork or excessive number of field borders, are eliminated or significantly limited, as they make rational agrotechnology difficult. On the other hand, properly shaped landscape elements, such as some roads, melioration ditches, or objects of permanent investment are preserved

Land consolidation also involves creating agricultural roads, revising the route of melioration ditches, building culverts, etc. Moreover, land consolidation should help to preserve environment assets as well as typical natural habitats, which takes place particularly in the case of so-called eco-consolidations.

Inappropriate land layout can be also improved through land exchange between particular properties if this would lead to the improvement of organisational and spatial conditions of the agricultural space,

Rural landscape physiognomy and functioning are significantly influenced by building investments involving residential and farm buildings, commercial objects, road and water facilities, etc. As far as residential and farm buildings are concerned, for several past decades, the need for compact development has been emphasised, rightly professing the principle of node and strip settlement structure. This system organises space in a functional and aesthetic way, reduces the costs of technical infrastructure installation (gas, electricity, water), and brings people together.

The system of rural landscape creation in Poland is based upon the policies of sustainable development, also referred to as eco-development. The essence of this paradigm lies in equal treatment of the economic, social, cultural, and ecological spheres reflected in the so-called spatial order. Since rural areas comprise more than 90% of the entire area of Poland, creating this landscape turns out to be a significant goal of social, economic, and spatial policies.

At the moment, basic directions and financial support for rural landscape creation processes come from various programmes of rural development.

Tasks set out within landscape creation, which involves two directions: landscape protection and shaping, can be fulfilled with the help of planning instruments and implementation measures.

Basic instruments of landscape creation include: spatial planning (particularly local planning), village revival, agricultural and forest development plans, which depending on needs can be directed at landscape protection planning, landscape planning, or landscape management. Rural landscape creation processes are mainly carried out by representatives of technical professions (architecture, land surveying, environmental engineering, construction, etc.), agricultural, forest, and biological professions (geographers, ecologists, etc.), as well as lawyers, economists, or management experts.

Landscape protection and shaping activities take the form of implementation measures, which can be boiled down to the issues of widely-understood soil sanation as well as building investments. Soil sanation involves three main fields: various melioration activities, recultivation and land management, as well as the improvement of spatial conditions of land use, realised by means of land consolidation and exchange. On the other hand, the realisation of building investments consists in controlling the development of residential and farm buildings, commercial objects, road and water facilities, according to the assumed landscape development policy.

Polish system of landscape creation is far from perfect, the main reason for this being the lack of consistency between the system of spatial planning, village revival, and agricultural and forest development.

Another problem is that European Union funds designed for rural area development, including the support for village revival, agricultural land consolidations, technical infrastructure development, anti-erosion land protection, preventing uncontrolled plant succession, and river or grassland renaturalisation are still insufficiently utilised. We can particularly observe a dramatic decrease in the number of land consolidation and melioration activities carried out over the last several years. Moreover, rural landscape presents the effects of land use violations. Another serious and still unsolved problem involves unauthorised landfills spoiling the landscape and threatening the environment, insufficiencies regarding proper organisation of water supply and sewerage infrastructure, etc.

After 1989, Poland has certainly made a significant step forward with regards to rational rural landscape creation, in accordance with the idea of sustainable development. This particularly concerns the improvement of roads, pavements, and squares, the use of better technologies in the construction industry, the development of technical infrastructure, the concern about objects of the material culture, as well as the widespread process of marginal land afforestation. However, we are still encountering difficulties, which partly result from imperfect legal regulations, bureaucratic barriers, or the fact the a part of the society does not understand the absolute need to respect rational principles of landscape creation, in the sense of spatial, functional, ecological, and aesthetic order.

3.2. PROTECTION AND VALORISATION OF CULTURAL LANDSCAPES IN TRANSYLVANIA

Wilfried Schreiber, Cocean Pompei, Nicolae Ciangă, Jozsef Benedek

Transylvania is situated at the eastern margin of Central Europe, with powerful influences from South-Eastern and Eastern Europe. Such a geographic location, together with the fact that for a long time Transylvania used to belong to various countries: Hungary, Austria, Austro-Hungary, and Romania, as well as, besides the Romanian majority, the existence of numerous ethnical minorities (Hungarians, Gypsies, Germans, Armenians, Jews, Slovakians, Ukrainians, etc.) have influenced the development of diverse and valuable historical cultural landscapes. At present, they are endangered for several reasons: the decrease in Romania's population, especially in rural areas; emigration of some ethnical groups; uncontrolled and rapid building development of settlements. With a view to protecting and valorising historical cultural landscapes, immediate and energetic measures are required, such as raising awareness of the value of these landscapes in the society and developing rural tourism.

Romania is situated at the intersection of three great European regions: Central Europe, South-Eastern Europe and Eastern Europe. Transylvania, situated inside the Carpathian bow, both from the physical-geographical and from the geographical-ethnical point of view, belongs to Central Europe. However, the influences of the other regions are also strongly felt. There is also a specific mixture of ethnic groups in Transylvania. Besides the Romanian population, which has been the major ethnic group both in the past and at present, numerous ethnic groups, such as Hungarians, Germans, Gypsies, Armenians, Jews, Slovakians, Ukrainians, etc. are also present.

This ethnical structure is also reflected in historical cultural landscapes of Transylvania. Different aspects of these landscapes are still insufficiently researched, but adverse influences are a normal phenomenon. Thus, Romanian villages from the southern part of the Bârsa and the Sibiu depressions, with houses attached to each other forming compact street networks, were born under the influence of Transylvanian Saxon villages. On the other hand, the Bistrița region in eastern Transylvania reveals similar houses to Romanian buildings with respect to colouring and construction plan.

The contribution of ethnic groups has been different in different historical periods. In Antiquity, after the conquest of Dacia by the Roman Empire, a part of Transylvania fell under its influence. In the Middle Ages, the history of Transylvania was extremely restless, after its conquest by the Hungarian Kingdom in the 11th and 13th centuries, a period as autonomous principality (1541-1691),

a period of Austrian suzerainty (1691-1867), and the Austro-Hungarian Monarchy (1867-1918) followed. In 1918, Transylvania became part of Romania. All these historical stages have left their marks upon its cultural landscape. The importance of ethnical specificity died out during socialism, especially in regards to urban constructions and in agrarian landscape, due to the collectivisation of agriculture.

However, except for several towns with medieval centres, historical cultural landscape has been preserved more successfully in rural areas. In the Transylvanian and Carpathian rural space, a great number of rural settlements have individualised and maintained their original form over time. These areas managed to preserve elements of traditional civilization and culture which mark their evolution and define the specific features of certain communities belonging to certain geographical areas perceived as "lands - mental spaces" with a particular personality.

At the level of rural settlements or groups of rural settlements, several components can be mentioned. They define certain rural cultural landscapes developed as a result of long specific activity of some ethnic communities or religious denominations that have left their mark upon them.

3.2.1 The rural religious objectives

Rural religious objects reflect features of rural communities to the greatest extent. They mark out central points of settlements, having inherited their age, dimensions, monumentality, and style from certain Christian religious denominations, Christian inventory objects, libraries or documentary institutions, and Christian art patrimony (woodcarving, religious glass, canvas painting, etc.).

Wooden churches are characteristic for several hundreds of rural settlements inhabited by Romanian communities. Within these settlements, the villages with wooden churches from Maramureş stand out as reflections of the unique and original character of the Carpathian civilization of wood, being represented especially by the steeple tower several dozens of metres high, built in the authentic Maramureş rural Gothic style. Their impact has led to the inclusion of some of the churches in the UNESCO World Patrimony. The best-known churches from Maramureş are those from Ieud, Dragomireşti, Hărniceşti, Bogdan Vodă, and Surdeşti. This category of religious objects also appears, on a small scale and with slightly different characteristics, in the Someş Plateau (in Sălaj and Cluj counties: Fildu de Sus, Sânmihaiu Almaşului, etc.), or in the Apuseni Mountains – the Land of the Moți (Alba and Bihor counties). Having small dimensions, these churches became too narrow in the 19th century, which is the reason why they were abandoned and replaced by bigger churches, made of brick or stone. As they ceased to be used, a part of them underwent a process of degradation and disappeared, their

exceptional value being discovered only in the 20th century, when many of them were saved.

Fortified churches are characteristic architectonic components within more than 200 rural settlements inhabited, until the middle of the previous century, by the population of predominantly German origin (Transylvanian Saxons), of Evangelic denomination, from the southern and eastern part of Transylvania (the Târnave Hills, the Sibiu, Făgăraş, Braşov, and Bistriţa depressions). They are monumental and massive wall edifices, in Romanesque style, more often in Gothic style, surrounded by bulwark walls, even several series of walls (as in the case of the church from Biertan which played the role of bishop's headquarters for about three centuries). These buildings obviously had a defensive role for local rural communities. They occupy central or dominant positions within settlements and they are easy to defend. Particularly remarkable objects of this kind can be found in Biertan, Viscri, Cisnădie, Cincu, Caţa, Prejmer, or Hărman. Some of the most representative fortified churches have been included in the UNESCO World Patrimony.

Religious objects belonging to rural communities of the Szekler ethnic community stand out through their monumentality. They bear the features of the Gothic style, as in the case of the church from Ditrău; of Baroque, as in the case of the church from Şumuleu; or of composite styles, specific for the churches from Ilieni or Ghelinţa.

3.2.2 Households

Households define rural settlements as relatively unitary ensembles of elementary habitats, with regional differences related to the features of communities characterized by certain location. Settlements may differ with respect to the degree of dispersion, concentration, or even agglomeration (such as in the case of compact rural settlements specific for the German communities from Transylvania). Depending on the geographical position of a village and, especially, on its functional profile, households may differ with respect to used building materials (wood for traditional households from the Carpathian space), architectonical styles, particular components and their placement (a house with a certain number of rooms and with a certain succession, furniture and utilities, annexes and animal shelters). From this point of view, the villages from the Maramureş, Oaş, Lăpuş, and Giurgeu-Ciuc depressions, from the Apuseni Mountains (the Land of the Moţi), the Târnave region, etc. stand out. The diversity and originality of traditional households are encountered in a convincingly natural environment within open-air sections of the ethnographical museums of Transylvania from Cluj Napoca, Sibiu, and Sighetu Marmaţiei.

An element of remarkable visibility within the elementary habitat – household – is the gate, with a reflection of authentic folk art level, with symbolism related to ancestral, even pre-Christian, traditions and philosophy. The gates from Maramureş, from the Mara, Cosău, and Iza valleys (Mara, Budeşti, Vadu Izei, Bogdan Vodă, Ieud, etc.) can serve as examples here. The gates with pigeons from the Harghita and Covasna counties, or carved gates of Magyar households from the Someş Plateau can be included in the same context.

Traditional activities of processing agriculture-related products led to the accomplishment, over time, of real mastery of devices for processing cereals, at different stages (e.g. water mills), oil plants (traditional oil mills), textile plants and wool (whirlpools, looms, etc.), or dairy products obtained by using traditional methods in the sheepfold from the mountainous space.

Evidently, for tourists, it is cultural landscape as a whole that is important and not some of its elements. Cultural landscape also includes elements outside settlements, related to traditional economic activities (agricultural terraces or mining landscapes), to transport and means of communication (alleys, paths, canals, railway stations, etc.), or to local traditions (folklore, law customs, religion, etc.).

It is exactly this traditional landscape that is at risk of disappearing or of being modified rapidly and uncontrollably. In fact, the degradation of traditional rural landscape began as early as in the socialist period, as a result of the regime's attempt to modernise traditional villages and to standardise agriculture, ignoring traditions and real ecological conditions.

At present, rural landscape is threatened by three trends:

– the decrease of Romanian population, especially in rural areas, which causes the abandonment of households with low potential of settlement, especially in the mountainous space;

– the emigration of some ethnic groups (started as early as the socialist period: Germans and Jews) and, therefore, the difficulty or impossibility to preserve the cultural historical landscape they have already created;

– the increasing infusion of capital gained by people working abroad, which accompanied by misunderstanding of democracy leads to uncontrolled building development (multi-storey villa-type houses, Gypsy palaces, asbestos sheet or sheet iron-covered houses, concrete walls, etc.).

Moreover, the cultural landscape has been enriched, after 1990, with numerous churches and monasteries. Thus after 1990, more than 1 000 Orthodox churches have been built in Romania, and the number of Orthodox churches has increased from about 120 to 600 [Henkel 2008].

How can the cultural landscapes of Transylvania be protected and valorised? Interest for these landscapes was aroused after the European Landscape Convention was signed on 20th October 2000, in Florence (Italy) [ELC 2000]. In Romania, the act for the ratification of this convention came into force in July 2002.

However, the Convention still awaits proper implementation in Romania, whilst the degradation of cultural historical landscapes continues in a quick manner. The country still lacks an adequate strategy for sustainable development, which should also include significant considerations regarding landscape protection. A strategy for mental and material incentives for inhabitants of villages with valuable landscape potential is also non-existent. Strategies are rather developed by non-governmental organizations (NGOs), sometimes for other purposes than the protection and valorisation of cultural landscapes.

The maintenance of the main elements of these landscapes costs more than the state can afford. That is why there is a real network of actors, who, nevertheless, often act separately. The maintenance of wooden churches is supported by the government (Ministry of Culture and Cults), by rural communities, or private

Phot. 86. Wooden church in Belis (Apuseni-Mountains) (photo: L. Muntean)

Phot. 87. Fortified church in Biertan, Sibiu County (photo: L. Muntean)

Phot. 88. Church with surrounding walls in Sancraiu, Cluj County (photo: W. Schreiber)

Phot. 89. Peasant houses and well in Sincraiu, Cluj County (photo: W. Schreiber)

foundations. Foundations and organizations from Germany and Austria often take action in the case of fortified churches and Transylvanian Saxon villages (Messerschmitt and Niermann foundations, Transylvanian Saxon Culture Council, the organizations of Transylvanian Saxon emigrants at the local level, the so-called Heimatortsgemeinschaften, etc.). The Eminescu Trust has restored several Transylvanian Saxon houses with traditional materials.

Ethnographical museums bring an important contribution to the population's education. Local and regional authorities should pay more attention to research, inventory, and protection of cultural landscapes and their elements. The strategy of communities from Germany, based on developing local organizations and custodians for each district, seems to be a solution worthy of adoption. Moreover, the most efficient valorisation of the potential of cultural historical landscapes is through tourism. For this, rural tourism is extremely well suited.

Rural tourism represents a special category of tourism, with a complex character, generally having specific characteristics, with a varied offer of services at relatively low costs, a high degree of service adaptability to the tourist market demand, high variety, and territorial dispersion of primary and secondary tourist resources, which form the profile offer, concentrated especially in the mountainous space. Rural tourism combines proper tourist elements (including accommodation, pension, tourist circulation, basic and auxiliary services) with activities of agricultural profile involving the participation or assistance in a series of household traditional activities, with the aim of initiating tourist into rural way of life.

Thus, rural tourism, within the concept of sustainable development, becomes the factor that assures the preservation of rural lifestyle, traditions and customs, in a word, of the original culture that it gives at tourists' disposal. This tourism, already conceived in the socialist era, but blocked afterwards for foreign tourists, has developed, especially after 1990, in the Maramureş Depression, in the southern part of the Braşov Depression, at the border of the Sibiu Depression, and in the Apuseni Mountains (the Arieş Valley, the border of the Huedin Depression, etc.).

The village of Sâncraiu from Cluj County serves as an example here. The village, which is also the community administrative centre, lies in the Huedin Depression, two kilometres from the Huedin-Beliş road. Besides beautiful houses, the village has a Gothic church, surrounded by a single wall, attractive because of its interior decorations, some made of straw. After 1990, a real tourist network has come into being in this community, comprising about 50 adjusted tourist agro bed and breakfasts, with 130 beds. The beginnings of local tourism are related to the "Folk Dance and Music Camp", organized annually since 1991, with an average participation of 400-500 persons, who, at first, used to stay mainly in tents. Afterwards, the village has developed with the help of the local public administration.

At present, the ways and means of advertising tourist offer are diverse: besides the Internet, all the necessary tools for selling tourist products are used, such

as the participation in tourism fairs, attracting new tourists through an agency of former visitors, promotion materials, etc.

The tourist offer of traditional rural landscape, is supplemented by visits to different attraction points from the region, such as the Beliş Reservoir, the Răchițele Waterfall, churches and the monuments of the surrounding areas, among which, the fortified Reformed church from Văleni has a special place. Foreign tourists mainly arrive from Hungary, followed by Finland, Denmark, Austria, Germany, Holland, Great Britain, the Czech Republic, Poland, Canada, the USA, and Japan.

A similar situation can be observed in the village of Râmetea, where German and Magyar cultural elements overlap each other. The ethnographical museum, which also has mining objects, the ruins of the Colțești fortress from the neighbouring village, and the beauty of the surrounding calcareous massifs attract numerous foreign tourists.

Of course, the delimitation of new areas of landscape interest, with high potential, would be of great interest. As a result, tourist infrastructure would develop here, also, with a view to valorising traditional cultural landscape.

3.3. THE TIR GOFAL AGRI-ENVIRONMENT SCHEME AND ITS CONTRIBUTION TO ENHANCING CULTURAL LANDSCAPES AND BIODIVERSITY IN WALES

Gareth Roberts

3.3.1 Cultural landscape and European heritage

The diversity of our cultural landscapes is what makes Europe a special place. It is reflected in the character of our rural landscapes, historic towns and cities, is the manifest expression of our identity and recognized as a resource of global importance. More than half of the World's 851 World Heritage Sites are to be found in Europe [UNESCO 2008], and almost a quarter (22%) of all the UNESCO World Heritage registered rural landscapes are also European.

In 1992, the Landscape Research Group, in the UK and its counterpart Paysage & Amenagement in France organised a conference in Blois, France to discuss the future of "Landscapes in a New Europe". The conference theme – "unity in diversity" – was chosen because there was a growing concern that more needed to be done to check the loss of both culture and bio-diversity in European landscapes brought about by the Common Agricultural Policy. The Blois conference ended with a call for "a convention for the conservation of the rural landscapes of Europe" [Phillips 1992], and, in turn, led to the Council of Europe taking up this cause and launching the European Landscape Convention in Florence in October 2000. The preamble to the Convention states that "the quality and diversity of European landscapes constitute a common resource and that it is important that we all cooperate in its planning, management and protection." [ELC 2000].

The natural and cultural diversity of our landscape heritage is under constant threat. Although strict protection measures are sometimes justified, evidence suggests that it is usually better to integrate the protection and management of threatened areas into spatial development strategies for larger areas. The rigorous protection methods commonly adopted to conserve nature conservation sites, historic monuments and buildings of outstanding architectural merit are less suited to conserve our wider landscapes and cultural heritage. The conclusions of the Council of Ministers of the European Union meeting in Potsdam in 1999 was

that "creative approach is required for the conservation of the greater part of our cultural heritage in order to reverse the predominant trend of neglect, damage and destruction now being experienced". [European Commission 1999].

3.3.2. Conserving cultural landscapes in Wales

Wales is a small country (c. 2 000 000 ha) with a wonderful variety of diverse and distinctive landscapes. Its cultural character is further enhanced by the fact that almost 20% of its 2.9 million people speak Welsh as their first language. Wales is a popular tourist destination primarily because visitors know of, and are attracted by, the strong cultural character of its landscapes, traditions, and people. The aim of the Welsh Assembly Government is to conserve and raise the quality and character of landscapes throughout Wales in keeping with objectives of the European Landscape Convention [2000].

Traditional farming practices, some uniquely distinctive to Wales, have had a profound influence on the character of the Welsh countryside. The vulnerability of these landscapes to the changing pressures of modern agriculture and economic forces is highlighted by the large number of statutory designations that have been introduced to control and regulate change. The earliest of these date from the 1950s after legislation providing for the designation of national parks in England and Wales was enacted in 1949. Since then, three National Parks, six Areas of Outstanding Natural Beauty, sixty-seven National Nature Reserves and over 1200 Sites of Special Scientific Interest have been created. More recently, European Union Directives have widened the range and scope of designations and brought with them increasing controls over the development and use of these areas. Approximately 80% of Wales is the subject of some environmental designation or other. Many of these designations affect agricultural and to a lesser extent forested land; and most have been fiercely resisted by local communities and landowners.

In 1991, the Countryside Council for Wales (CCW), was established as an adviser to the UK and Welsh Government on all aspects of the conservation and enhancement of nature and landscape and the provision of public access and enjoyment of the Welsh countryside. CCW effectively bridged the gap that had existed between the conservation of our cultural and natural landscapes in Wales for over 50 years and brought together, for the first time, responsibility for the conservation of nature and landscape within the remit of a unified agency of Government [Roberts 1988].

There was growing body of evidence to show that this "fortress mentality" to conservation was failing [Wildlife and Countryside Link 1999] and that it was alienating landowners against conservation bodies into the bargain. In response, CCW decided to invest proportionately more time in securing voluntary agree-

ments with landowners and encouraging them to take a more active "stewardship" role in managing the countryside for its nature and cultural conservation interest.

CCWs research remit allowed it to develop experimental programmes and these powers were first used in the mid 1990s to develop and pilot in three areas in Wales an agri-environmental scheme (Tir Cymen). The Tir Cymen scheme proved popular in large part because it was voluntary, allowed farmers to pick and choose from a range of options and compensated them for any profits foregone by farming less intensively. It won critical acclaim and influenced the European Commission in its decision to strengthen the agri-environment element in the Common Agricultural Policy. It led to the development and launch of Tir Gofal in 1999 as Wales' first country wide agri-environment scheme.

3.3.3 The Tir Gofal Agri-environment scheme

Tir Gofal was managed by CCW until October 2006 but is now run by the Welsh Assembly Government. It is a voluntary scheme made available to farmers throughout Wales, which rewards them for caring for the environment, historical and cultural features on their land. Tir Gofal built on the experience of Tir Cymen and was designed to support the farming community in helping to protect the rich natural and cultural heritage of rural Wales. The scheme reflects the Welsh Assembly Government's priorities for promoting sustainable farming coupled with improving opportunities for public enjoyment of the countryside. Farmers are invited to enter the scheme voluntarily and agreements with them last for 10 years with a break clause after five years.

Fig. 27 is an illustration, taken from the cover of the Tir Gofal handbook. The drawing shows many of the landscape (cultural) features and habitats to be found on a typical hill farm in Wales.

The foreground shows a species rich hay meadow . Meadows (*dol*) are often the fields adjacent to rivers that are allowed to flood periodically in winter months and where the grass would be left to grow until flowers had seeded before being scythed in late spring to provide hay crop for winter feed.

Wooden gates historically made of hardwood (oak, ash, or chestnut) and distinctively designed to reflect local traditional styles are characteristic features adding to the "sense of place".

Well maintained hedges, usually comprising thorns (*Crategus spp* and *prunus spinosa*) and periodically layered provide effective stock-proof barriers allowing farmers to better manage their pasture. Hedge-rowed fields are a widespread feature of farmland in the UK and France (*les bocages*) but comparatively rare elsewhere in Europe [Noirfalise A 1988]. Older hedges will mark historic boundaries and contain many species which can help date them. Some can date

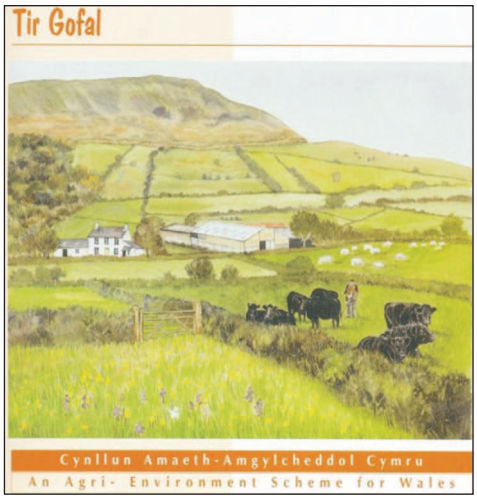


Fig. 27. The cover of the Tir Gofal handbook

back hundreds of years and represent important habitats for nesting birds and small mammals. It is estimated that some 25% of hedgerows in Wales predate the enclosure acts (1720-1840) and are species rich.

A few hedgerow trees traditionally allowed to grow tall to provide timber for building or fuel. Occasionally some trees, notably willow (*Salix spp*) will be pollarded to provide sticks for weaving into then plastered with a lime and horse-hair mixture (*wattle and daub*) to form internal house walls.

Remnant broadleaved woodland predominantly sessile oak (*Quercus petraea*) on base-poor to acidic soils under conditions of high rainfall is the most common woodland type in Wales. The woodland under-storey if it exists would consist of hazel (*Corylus avellana*) holly (*Ilex aquifolium*) and rowan *(Sorbus aucuparia*). These may be remnant ancient woodlands left un-cleared on slopes too steep or otherwise inconvenient to plough and or difficult to graze. The coppicing of woodland was also a traditional method of cropping trees to supply poles for fences or charcoal [Linnard 2000].

The house – traditionally stone-built (in north and west Wales) with an integral byre and more likely to be half timbered in the south and east where better trees grew, with a slate roof (originally thatch) and stone outbuildings, most now abandoned in favour of ubiquitous portal frame steel and steel clad sheds [Smith 1975].

The ffridd (plural *ffriddoedd*) in Welsh are the more open fields below the mountain. Often bounded with stone walls and infrequently ploughed or treated with lime, they provide pasture for stock for most of the year.

The mountain, usually bounded around its circumference with a stone wall, and comprising land that several farms situated below the mountain might share rights to graze in common. Common land makes up almost 10% of the land area of Wales. Rights to graze this common land were traditionally registered to farms and could not be sold independently. Flocks of sheep which shared the mountain would be hefted and keep to their own territory (*cynefin*) and for this reason "hefted flocks" would be sold with the farm when ownership changed. Mountain land will be characterised by heath and moorland species such as heather (*Calluna vulgaris*) or bilberry (*Vacinium myrtillus*) gorse (*Ulex gallii*) contain important habitats for wildlife including birds of prey like the buzzard (*Buteo buteo*) and peregrine falcon (*Falco peregrinus*). More that one third of all common land in Wales is registered as sites of special scientific interest and or historic landscapes – with archaeological interest.

Finally, the farmer and his stock. The cattle are "Welsh Blacks" – beef cattle and sheep are traditional hardy breeds able to withstand harsh winters outdoors. The farmer, today, is likely to be in his sixties possibly unable to afford to retire and with little prospect of finding a successor to buy him out. This is the dilemma of farming in Wales today. Wales has an agricultural environment of significant cultural and wildlife interest that is in decline in large part because there are fewer people than ever before working on farmland to help maintain these qualities [Roberts and Kelly 1994].

The Tir Gofal agri-environment scheme is important because it provides some opportunity to encourage farmers to continue maintain these cultural landscapes.

The objectives of the scheme are:

– to protect and enhance habitats of importance to wildlife,
– to protect and enhance the qualities of these "cultural" landscapes,
– to protect and enhance historic and archaeological features,
– to provide opportunities for people to gain access to agricultural land and to have the opportunity to enjoy these qualities.

The *Tir Gofal* scheme is part funded by the European Union and run in accordance with the rules governing the Rural Development Plan regulations [European Commission 2005].

The scheme is delivered in partnership with a number of organisations including the Countryside Council for Wales, the Environment Agency, the Forestry Commission, Cadw: Welsh Historic Monuments and the Local and National Park Authorities.

There is minimum threshold for entry into the Tir Gofal scheme. If this is met then a Management Plan (and map) is prepared by a project officer which if agreed will form part of the agreement with the landowner lasting 10 years. The Management Plan will specify a number of requirements and commitments for all wildlife habitats and explain how these and other specific features on the farm should be managed.

A key feature of the Tir Gofal agri-environment scheme is that **all** agreement holders have to adhere to a compulsory Whole Farm Section. These are a list of prescriptions applying to the entire holding. They can additionally agree to do further capital works for which they are paid extra.

There are a number of elements within the compulsory Whole Farm Section section of the scheme that help support the protection and management of the cultural landscape . They include the need to:

– retain all existing traditional field boundaries (e.g. stone walls, earth banks, hedges, and slate fences) and maintaining those that are stock proof;

– retain individual trees and small groups of trees and replace them where necessary;

– retain and safeguard any archaeological or historic features and maintain them in good repair;

– safeguard rock features and geological sites by avoiding physical disturbance and protect ponds, streams, and rivers with 1-metre wide buffer strips;

– comply with legal responsibilities relating to rights of way and public access over their land;

– retain a buffer strip on field boundaries uncultivated and without using fertilizers, lime, herbicides, or other pesticides.

Supporting traditional methods of managing certain habitats is also important in that it enhances the "cultural character" of our landscapes. Maintaining such skills is crucial. They help strengthen the "sense of place" and reinforce local identities that are important to local communities.

The following are habits which require very specific skills to maintain them in traditional ways:

– broadleaved wood land, where the aim is to increase the composition of broad-leaved trees and possibly manage them in traditional ways (e.g. coppice) and to reduce the stock allowed to graze them;

– traditional orchards and parkland, to maintain the historic and wildlife value of these habitats;

– heathland, a habitat that has declined considerably in the 20th century and is a key habitat in the Natura 2000 series in Wales; its management requires careful controlled burning and grazing;

– unimproved or semi-improved grassland, where the aim is to safeguard the native plants and mange using traditional methods which add greatly to the diversity and character of much of upland Wales;

– wetlands, where the aim is to maintain the distinctive flora and fauna of these areas;

– coastal habitats including saltmarshes, sand dunes, and coastal cliffs and slopes under severe pressure.

There is also scope in Tir Gofal to enhance the character of cultural landscapes by creating new features in a traditional style and to take measures which

will prevent damage to historic or archaeological features which might otherwise occur through natural processes and neglect.

Capital payments are available for creating boundaries in traditional ways or where historic or archaeological features have been identified then financial support can be made available to help preserve such remains by, for example, converting arable land to lightly grazed grassland, reducing grazing levels, increasing water levels to create traditional water meadows and wetlands and removing scrub from around ancient monuments and earthworks.

3.3.4. Tir Gofal achievements

These photographs show examples of the types of habitats and feature that the Tir Gofal scheme is helping to conserve and manage.

By the time the Tir Gofal scheme had been brought into the Welsh Assembly Government (October 2006) over 3 000 schemes had been signed. It has already proved itself to be very popular with landowners and widely recognised as "the best agri-environment scheme in Europe" [CCW 2007]. The first 5 application "windows" alone generated a total of 5815 applications and the latest (November 2006) attracted 1 444 applicants. Due to the popularity of the scheme there is currently a considerable waiting list and a new entry level scheme has been introduced to stem the backlog.

The environmental gains have been considerable, too. Tir Gofal is making a significant contribution towards the achievement of the Wales' Biodiversity Action Plan targets [Jones et al. 2003]. Priority habitats identified by the UK Biodiversity Action Plan account for over 18% of the land area of Wales [CCW 1997] with, for example over 34 000 hectares of high mountain and upland heath, one of Wales' most extensive contributory habitats, is now included in Tir Gofal.

Further details of the Tir Gofal outputs to January 2007 are given in Table 21 and presented graphically in Fig. 28.

Fig. 29 shows the distributions of the take up of Tir Gofal schemes up to 2006. 43% of the successful applications were from small holdings (< 50 ha) and to date the majority of successful entrants into Tir Gofal were from farms in west and north-west Wales 54% reflecting the richer cultural and bio-diversity to be found in these landscapes.

The Tir Gofal scheme is subject to periodic review. Further information about the scheme and the payment rates are kept under review by the Welsh Assembly Government.

Table 21. Tir Gofal Outputs to January 2007 [Welsh Assembly Government 2008]

Description	Amount
Mandatory habitat under agreement	
Semi-natural broadleaved woodland	16 792 ha
Scrub	1 977 ha
Orchards	138 ha
Parkland	3 517 ha
High mountain and upland heath	35 423 ha
Lowland heath	2 567 ha
Unimproved acid grassland	42 214 ha
Unimproved neutral grassland	1 711 ha
Unimproved limestone grassland	167 ha
Semi-improved grassland	30 563 ha
Marshy grassland	18 785 ha
Bog	18 384 ha
Reed bed, swamp, and fen	7 101 ha
Coastal grazing marsh and floodplain	3 499 ha
Salt marsh	544 ha
Coastal cliff and slope	534 ha
Sand dune	341 ha
Voluntary options	
Hedgerow management	3 739 245.0 m
Stone walls/slate fences/earth Banks	477 931.0 m
Arable options	11 890.0 ha
Buffer zones	368.0 ha
Management of improved grassland for breeding birds	1 112.0 ha
Establishment of new broadleaved woodland	1 255.2 ha
Stream-side corridors	368.0 ha
New permissive access routes	516.0 km
Total farm area covered by active agreements	339 291 ha
Public rights of way maintained	4 187.0 km
Historic features under agreement	19 940.0 (including buildings)

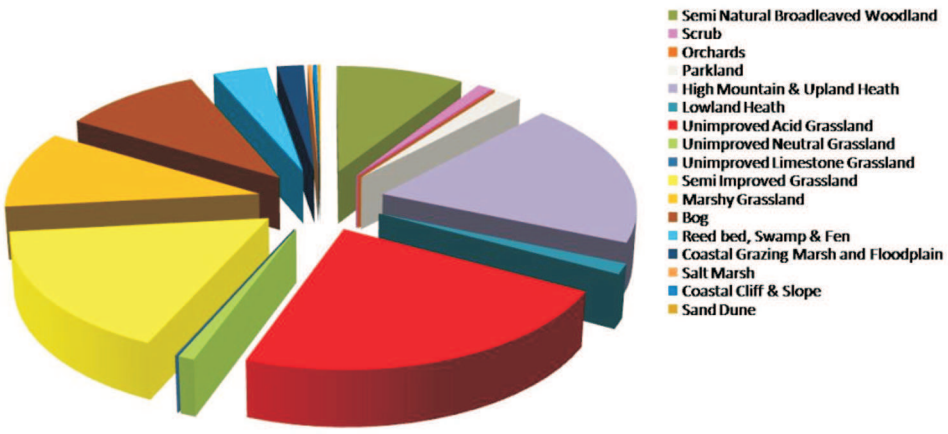


Fig. 28. Tir Gofal Outputs to January 2007 [Welsh Assembly Government 2008]

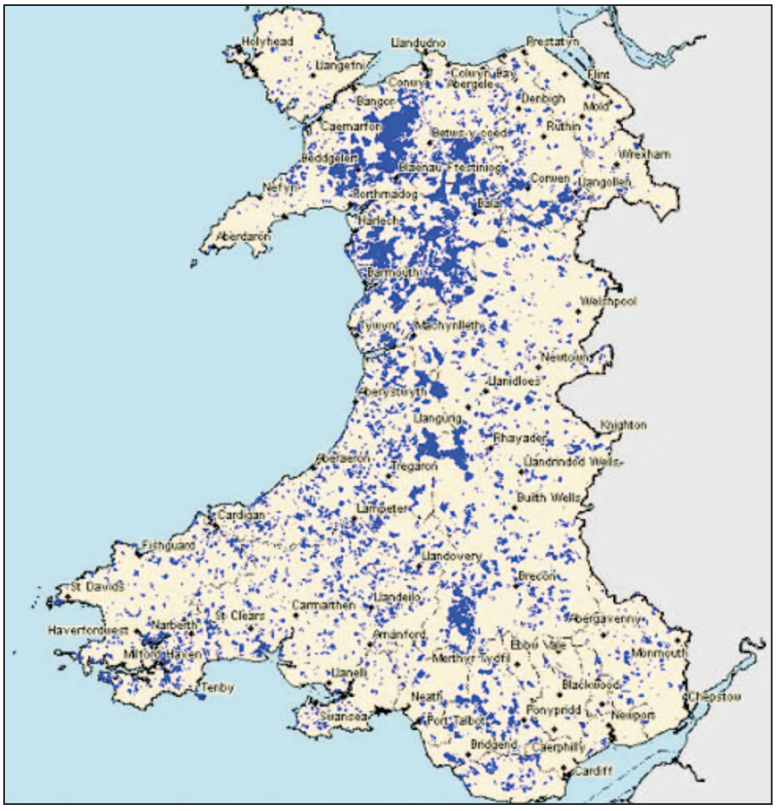


Fig. 29. The distributions of the take up of Tir Gofal schemes up to 2006

The experience of Tir Gofal suggests that agri-environment schemes offer the opportunity to be creative in the planning, management and protection of our cultural landscapes. Agriculture is the predominant land use in Europe and the National Strategic Plans for Rural Development (RDP) require that every EU country has to design an agri-environmental component in their Plan. Italy is a good example of a country that has integrated landscape policies well into its RDP [Agnoletti 2007]. The next round of RD Plans have to be prepared in 2013.

There are other opportunities to support the planning and management of the cultural landscape arising from EU Directives, too. The requirement in the Water Framework Directive to prepare River Basin Management Plans (by 2009) looks to offer excellent opportunities to configure cultural landscape objectives into these Plans. They will bring with them significant funds, too. Similar opportunities might arise from the Directive (2007/60/EC) on the management and assessment of flood risk that came into force in November 2007.

It is necessary to share views and think creatively as to how to make the "cultural connections" with these Directives and EU policies and programmes so that our cultural heritage is properly accounted for and plays its full role in social and spatial planning in the future.

3.4. CULTURAL LANDSCAPE POTENTIAL IN THE COMMUNITY OF WIŚNIOWA

Marek Możdżeń, Maciej Brożek

Cultural landscape is a result of long-lasting human activity and interference into the natural environment. This activity has often led to landscape degradation which resulted in disturbed culture-landscape relationships. It was frequently the case that cultural heritage of previous generations was destroyed due to irresponsible management.

Therefore, all activities aiming at reordering space should take into consideration not only natural but also cultural landscape.

3.4.1 General Description

The foothill area, where the community of Wiśniowa is situated, is characterized by above-average landscape qualities which can act as a precondition helping to develop it as a holiday region of health qualities. A detailed definition of its natural, economic, and cultural conditions acts as a prerequisite for proper utilization and protection of the area's natural assets.

The community of Wiśniowa is situated in the western part of the Małopolskie voivodeship, in the *powiat* of Myślenice, about 45 km south of the city of Krakow. It covers the area of 67.3 km^2 and embraces 7 villages: Lipnik (17.6 km^2), Wiśniowa (16.6 km^2), Węglówka (14.1 km^2), Wierzbanowa (7.9 km^2), Kobielnik (4.9 km^2), Glichów (3.5 km^2), and Poznachowice Dolne (2.8 km^2). Neighbouring communities involve: Myślenice, Dobczyce, Raciechowice, and Pcim (from the *powiat* of Myślenice), Jodłownik, Dobra, Mszana Dolna (from the *powiat* of Limanowa); while the closest towns are Dobczyce and Myślenice, located 12 km to the north and 15 km to the north-east of Wiśniowa, respectively.

According to data from the year 2005, the population of Wiśniowa amounts to 6 761 persons, including 1 801 inhabitants in the pre-working age, 4 019 in the working age, and 941 persons in the post-working age. Natural increase rate per 1 000 population equals 1,36 and is the lowest for the entire *powiat* of Myślenice, with the average for the *powiat* being 3.78, while for the Małopolskie voivodeship 1,61. This influences population density, which in the community of Wiśniowa is 99 per km^2, with 169 per km^2 in the *powiat* of Myślenice and 214 per km^2 in the Małopolskie voivodeship (data from 2002).

3.4.2 Geographical Description

Geographical description of the community of Wiśniowa involves basic information regarding its topography, morphology, and land use patterns.

As far as its geographical features are concerned, almost the entire area of the community of Wiśniowa (except for Węglówka) is situated in the Kotlinka Wiśniowej (Wiśniowa Valley), surrounded by mountains on all sides, where three geomorphologic units of the Beskid Żywiecki Mountains (the part of it belonging to the Beskid Makowiecki), the Beskid Wyspowy, and the Pogórze Wielicke meet. The valley bottom is situated at the height of 400-500 m above sea level; its lowest point being the part of the Krzyworzeka's riverbed situated at the community's borderline (300 m AMSL), while the highest point is situated at the peak of Lubomir (904.2 m AMSL). The lower part of the valley slightly undulates which enables land cultivation, while the slopes are relatively steep (40^{o}-50^{o}), rocky, and overgrown with forest, unsuitable for land cultivation.

The peak of Ciecień (829.2 m AMSL), situated in the eastern part of Wiśniowa, provides a panorama of the Beskid Wyspowy and the Gorce Mountains with the eminent mountain of Turbacz (1 310 m AMSL). Similarly beautiful views can be obtained from the peak of Wierzbanowska Góra (778 m AMSL), situated in the southern part of the community. On sunny days, spectacular panoramas of the Podhale region and the Tatras can be seen from the ranges of Łysina (891 m AMSL), Lubomir (904.2 m AMSL), which is at the same time is the highest peak of the Beskid Wyspowy, and the western part of Kamiennik (818 m AMSL). Towards the west, one may admire the majestic peak of Babia Góra (1 725 m AMSL), called "the queen of the Beskidy Mountains", sometimes snow-capped till the beginning of summer, while towards the east also blue waters of the Dobczyckie Lake can be seen.

The community of Wiśniowa is an agricultural and tourist area with the majority of inhabitants working on small farms satisfying individual and local needs, including agrotourism-related services. Low crop yields obtained by farmers are caused by low valuation classes of arable soil. Agricultural production in this area requires larger intensification due to highland climate unfavourable for agriculture and difficult relief conditions. Farms are mainly 2 to 5 ha large, with the average farm size of 2.79 ha. A significant part of Wiśniowa is covered by forests (38.7%), 40% of which are state forests and 60% constitute private property. Northern slopes are mainly overgrown with fir trees, while slopes of the southern exposure are dominated by beech. In order to ensure anti-erosion protection and increase retention, the community of Wiśniowa protects compact forest areas. Small forests and woodlots are similarly protected due to their anti-erosion and ecological role. The 1990s, which followed political transformations and economic breakdown, were noticeably a period of rapacious forest management particularly in areas belonging to private owners.

3.4.3 Cultural landscape analysis

The area of the community of Wiśniowa has been inhabited by man since prehistoric times. Archaeological investigations (Poznachowice Dolne, Wiśniowa, Glichów) revealed 11 archaeological sites dating 5-7 thousand years back and earlier with elements of the influence of Roman culture (sites in Poznachowice Dolne and Wiśniowa). First documented records about Wiśniowa and its surroundings come from the 13th and 14th centuries. Already in 1264, the documents of Jan Prandota, the Bishop of Krakow, contained a remark that Cistercians received properties in Poznachowice and Glichów. In 1349, Jan Bodzanta, the Bishop of Krakow, incorporated the villages of Poznachowice Dolne, Kobielnik, Wierzbanowa, and Lipnik into the already existing parish of Wiśniowa, which had 192 inhabitants at that time. The parish chronicle provides information about pestilence which broke out in the area in 1652 or a locust plague in 1749.

Wiśniowa was built in a "chain" settlement pattern and belonged to the county and town of Dobczyce. In the middle of the 14th century, this area was leased by Mikołaj Wierzynek, citizen of the city of Krakow and court officer of the city of Sandomierz. This was also the time when Wiśniowa was often visited by Krakow's and Dobczyce's resident owners because of abounding game. During the rule of Cassimir the Great, the village of Wiśniowa and its surroundings were often taken as pledge by financiers, representatives of the feudal world, for money lent to aristocracy. In the first half of the 15th century, the area of the present community of Wiśniowa and its neighbourhood started to be used for hop cultivation, in which the village of Poznachowice particularly specialized. From 1772, when Wiśniowa went under Austrian rule, the village became a part of former Polish royal properties managed by the National Bank in Vienna. At the beginning of the 20th century, Wiśniowa, together with the manor house, had 244 houses inhabited by 1602 people, including 60 Jews. Marching armies of the First World War caused significant damages and losses to the community. Also during the Second World War, German occupation brought another turn of repressions, with strongly developed guerrilla groups operating within the area of Wiśniowa.

Landscape transformations through land cultivation, conducted as a result of human activity and connected with human existence throughout the centuries, have had principal influence on the shape of agricultural landscape. Nowadays, due to increasing technological possibilities allowing for unlimited transformation of the natural human environment, it is more and more necessary to protect natural landscape which has developed over the ages. In the case of landscape containing historical cultural values, these should be placed under special protection and revalorised because of their great significance for regional and national history and culture. Unquestionable influence of human economic activity through field cultivation, including the exploitation of natural resources, suggests

that man should be regarded as a significant factor shaping the environment taking into consideration cultural co-relations, which determine human relationship towards natural and geographical environment. Thus, cultural landscape would be influenced by the following factors: transformed natural environment, material goods as the results of direct human activity and products of human mind (spiritual values). If we narrow down the concept of landscape to the material part of the environment (natural and cultural) then it undergoes constant transformations. However, because of permanent values that landscape contains and their significance to man, all its forms require attention and protection.

Activities aiming at identifying agricultural landscape elements in the community of Wiśniowa took into account the region's history, tradition, and culture. That is why the analysis and assessment of cultural elements in the agricultural landscape of the community of Wiśniowa are influenced by its administrative location in the Małopolskie voivodeship, historically former Galicia.

Significant part of the community, except for the central part of Poznachowice Dolne, Wiśniowa, Glichów, and Lipnik lies within the zone of protected landscape. This involves forested mountain ranges, meadows, and pastures with diversified vegetation and exceptionally valuable relief in terms of landscape features. The area of the community is a part of the national ecological corridor of the Beskid Makowski and Beskid Wyspowy Mountains, belonging to the national ecological network ECONET-PL. Besides, the valley of the Raba River is an ecological corridor of regional and local importance. Since the community of Wiśniowa is the agricultural area, the most popular settlement form for this region is a farmstead with a characteristic layout of buildings within the plot. A house, sometimes inhabited by many families, is a dominating element in this farmstead pattern, accompanied by a various number of farm buildings. Plot shapes and sizes are diversified, yet most often they have a form of polygon (square, rectangle). It is possible to discern a characteristic farmstead pattern with a centrally located farmyard, a vegetable garden (variously located), a small garden in front of the house and an orchard. Most farmsteads provide an open view towards fields and meadows, more rarely towards crop fields. In the 1970s, most villages built houses in a simple form with a gable, symmetrical roof, while houses raised in the recent years possess more diversified architectural styles. At the moment, houses are most often inhabited by one family; bigger objects appear in larger villages or in places where small production plants are localized.

The community of Wiśniowa offers arriving tourists the possibility of stopping by both for a short rest and for a longer period of several days. Accommodation in the community is mainly provided by private houses, bed and breakfasts, larger tourist facilities and agrotourist farms. The most popular pattern here involves big houses with facilities for tourists, especially in attractive areas. Such buildings usually have numerous separate rooms and permanent recreational

objects, such as barbecues, ponds, pools, or playgrounds for children. Half of the almost two hundred houses in Kobielnik itself constitute tourist-adapted facilities. Besides agrotourist farms, guests can also find accommodation in tourist resorts in Wiśniowa, a youth hostel in Poznachowice Dolne and various inns.

3.4.4 Religious and historical objects

The area of the community boasts objects and object complexes which have the status of cultural goods placed under conservatory protection and listed in the monument register:

– In the western part of Poznachowice Dolne, at the peak of Grodzisko one can find remnants of the former rampart dating back to the 6th and 7th centuries;

– The village of Wiśniowa boasts the Church of St Martin (raised at the site of the former object which burnt down in 1720) built of larch wood with an altar of St Mary of Wiśniowa with Jesus and a bell cast in 1726 placed in a free-standing belfry;

– Cemeteries: of the victims of cholera in Wiśniowa (in the vicinity of Jurki) and another one from the First World War located in Wiśniowa at the hamlet of Dziadkówka;

– Wiśniowa, just as the majority of Galicia's villages was inhabited by a Jewish minority, exterminated by the Nazis during the Second World War. The only object which remained after this minority is a wooden synagogue from the beginning of the 20th century. The building is located in the central part of the village and is one of the three preserved objects of this type in southern Poland;

– The village of Węglówka possesses two brick churches: the Church of St Mary of the Angels, raised at the end of the 19th century and rebuilt in 1905; and the Church of St Mary of Perpetual Help built in the years 1933-1939;

– Throughout the entire area of the community, in various places but mostly along the roads one can perceive several shrines, crosses, monuments of saints coming from the 19th century and also from the present day, raised to express thanks, gratitude, or commemorate various events, for example disasters or fights;

– Remnants of the astronomical observatory erected at the peak of Lubomir (904.2 m AMSL) in 1922; at the moment the former observatory is being rebuilt. In the future, it will be used by scientists from the Jagiellonian University and Pedagogical University in Krakow. It will also play an educational role for children and teenagers.

3.4.5 Potential of the community of Wiśniowa

People have possibility of changing their environment during their life and they do it; while with passing time also the environment's structure and shape undergo changes. Particular landscapes exert influence on each other and overlap. The scope of differences and similarities between landscapes can be different even in the same region. However, they constitute complete entities of great natural and cultural significance. Even though their borderlines are rarely sharp, their existence is unquestionable. For the village of Wiśniowa, it is actually its location as well as landscape, historical, and cultural assets that constitute its largest value and potential that should be protected. Furthermore, all investments and development directions should be analysed well.

Apart from agriculture, tourist infrastructure is constantly developing and, for the last several years, also agrotourist farms that constitute significant elements of local inhabitants' existence. There are several tourist objects operating within the community, while gastronomic places are open all year round. Holidaymakers and tourists have the following facilities at their disposal: a library, football field, gym, tennis court, swimming pools (in the vicinity of tourist resorts and in the Krzyworzeka River), and hiking trails with overlook platforms at the peaks of Lubomir and Księżna Góra (green hiking trail running from Limanowa through Tymbark, Jodłownik, Szczyrzyc, Wiśniowa to the mountain of Ciecień), and gastronomic places. In winter, tourist can use a ski lift and a ski slope in Wierzbanowa.

It would be recommended that with unfavourable conditions for agriculture, the community of Wiśniowa should intensify activities stimulating the growth of tourism, protecting the existing landscape, natural, historical, and cultural resources through activating:

– Economic elements: enabling income generation, extension of the agricultural production particularly with regards to ecological farming, planned sustainable development of the community including accommodation base for tourists, and motivating the young generation to remain or return to the countryside;

– Social elements: raising standards of life in rural areas, popularising agrotourism in the community as an element of gaining knowledge about the history of the region, propagating the philosophy of return to nature and ecological lifestyle, developing the so-called eco-consumerism, which involves people guided by ecological principles;

– Cultural elements: promoting folk culture and tradition, preserving and cultivating regional customs, costumes, and meals so as to preserve the authenticity of the region; teaching about the history, monuments and legends of the region, preserving characteristic landscape elements, such as shrines or roadside crosses, monuments of nature (e.g. old single trees) and special objects possessing

cultural, historical or architectural values (e.g. monuments, plaques commemorating historical events); preserving cultural identity of the region, including the return and maintenance of regional traditions through cultivating folk customs and crafts, such as traditional songs, dances, old designs of table cloths, ribbons, pots, or other decorative elements;

Ecological elements: observing and monitoring the natural environment to increase the attractiveness of the community, maintaining and restoring biological diversity in protected areas, protecting natural relief configuration, protecting the quality of surface and groundwater against contamination exceeding the level of water's self-purifying ability, limiting the level of pollution produced by vehicles (nitrogen dioxide, carbon monoxide, benzo[a]pyrene) in built-up areas and along main communication routes; protecting water against contamination is the factor which influences further development of the community, particularly when taking into consideration tourism development, including the establishment of agrotourist farms.

3.5. TYPES OF GEO-FACETS - TYPES OF CULTURAL LANDSCAPES IN THE CENTRAL PART OF TRANSYLVANIA

Nicolae Baciu, Eduard Schuster, Octavian-Liviu Muntean, Simona Creța, Titus Man

The research on the concept of geo-systems reveals similarities between specific geographic components and socio-economic and historic elements of cultural landscapes. Geo-systems are strongly related to natural components; however, they also contain some unsubstantial but relevant human (anthropic) elements. The geo-systems analysed through an ecological perspective show a series of geo-facets as their subcomponents.

Subsequent to several analyses and researches realised in the Transylvanian Plain (the central part of Transylvania), the following two important conclusions have been reached:

– Geographic landscape facets may become conceptual foundations for cultural landscape elements.

– Both natural and anthropizated landscapes are relevant for the Transylvanian Plain.

Therefore, this chapter is an attempt at pointing out the importance of (geo)-facets for defining cultural landscape elements.

3.5.1 Geo-facets of the palimpsest forest in southern Transylvanian Plain

Oak forests form the forest belt on the watershed and the upper part of the hills (Pădurenii - Papiu Ilarian - Grebenişu de Câmpie - Şincai - Bozed - Valea Stejărişului; Phot. 90) are considered as palimpsest forests because they have been witnesses to former deforestation activities and pastoral land use. They have a form of a fragmentised forest assembly strongly affected by the current agricultural practices on small patches.

Subsequent to an analysis regarding the correlation between soil and forestry vegetation, it has been concluded that the process of deforestation has begun two centuries ago and that phaeoziomic soils pre-existed in this area. Thus, there is a historical proof of the following land use change process: natural meadows - forest - agricultural (mainly arable) practices - secondary meadows.

Phot. 90. Palimpsest forests and transformation of hills view (photo: N. Baciu)

3.5.2 Geo-facets of anti erosion curtains

The 1960s represented a period of major anti-erosion works, mostly against highly accelerating erosion processes on steep slopes. It was a period of the implementation of autochthonous landscapes, anti-erosion curtains being their first example. These works focused on sunny slopes (southern or south-eastern exposure), in the Transylvanian Plain associated with *cuesta* type slopes. The specific land use involved natural or secondary meadows, with relevant agro-pastoral activities (flocks of sheep or cattle herds) causing evident threats of releasing slope processes [Resmerita et al. 1968]. The benefits of anti-erosion works quickly vanished due to severe consequences on ecosystems. While most riparian areas were transformed into arable land, well-protected by erosion curtains, several xeric-mesophyte steppe species disappeared and the entire slope ecosystems were affected. Nowadays, these curtains suffer from strong anthropic interventions, such as sheep overgrazing and the emergence of animal paths. Bush species mainly involve *Corylus avellana*, *Ligustrum vulgarae*, *Cornus sanguinea*, and *Prunus chamaecerasus*.

3.5.3 Geo-facets of meadows from sunny hillsides

Geo-facets of meadows from the sunny hillsides of the Southern Transylvanian Plain, with secondary meadows partially degraded through overgrazing. Overgrazing, as a negative aspect of the anthropic activities, is a complex phenomena. On the one hand it is an answer to human economic needs, on the other hand, it results from inertial agricultural practices in the Transylvanian Plain (especially in its southern part).

The gradual transition from cattle to sheep grazing after the Second World War resulted in an accelerated degradation of secondary meadows, which still preserved steppe associations, especially on the sunny *cuesta* slopes. Xerophilic plant phylums, such as *Stipetum lessingianae* and *St. Pulcherrimae*, which dominated the upper part of sunny slopes, were eliminated because of their high sensibility to grazing and replaced by *Festuca sulcata* and *Carex humilis*, more resistant to grazing and able to grow on eroded or eroding terrains.

Sagebrush (*Artemisia campestris*), in association with *Agropyrum intermedum* and *Calamagrostis epigeios,* acts as an indicator of degradation. Grazing-resistant plants, such as *Dorycnium herbaceum* and *Medicago falcata*, as well as dicotyledons, have replaced grass. Sectors dominated by this type of facet are common in the basins of the Valea Largă, Frata, Ranta, or Pârâul de Câmpie.

3.5.4 Geo-facets of *cuesta* back meadows

Geo-facets of *cuesta* back meadows from the Northern Transylvanian Plain contain plant groups with a strong mesophilic character, also including relict forest species, which indicates recent deforestations (from the past decades): *Mercurialis ovata*, *Anemone silvestris*, *Campanula persicifolia,* etc. [Resmeriță et al. 1968]. Other mesophilic plant groups involve mesophilic and meso-hygrophilic species, such as: *Danthonia calycina* and *Agrostis canina*, found in landslide micro-depressions; *Poa trivialis*, *Carex distans*, *C. Gracilis*, and *Agrostis alba*. A remarkable landscape transition from the southern to the northern sector of the Plain is made by *Festuca rubra*, a species which occurs northwards once the Mureş-Someşul Mare watershed and the phaeozomic-fluvisoil pedological border are passed.

3.5.5 Geo-facets of pseudo-riparian vegetation

Geo-facets of pseudo-riparian vegetation are unstable. They are suitable for crop rotation (even if this is not a common agricultural practice on the Plain) and

exposed to floods. Gleic soils and fluvisoils support species of osier and white willow, in the phylum *Salicetum albae - fragilis*, *Agrostis phragmites* (in poorly drained valleys), and *Poa pratense*, *Dactylis glomerata* (in drained valleys), the latter showing superior green mass productivity (18-25 000 kg/ha), yet modest quality.

3.5.6 Geo-facets of protected natural reservations in national patrimony

The status of a reservation in national patrimony allows for the maintenance of superior balance between the ecologic potential and biological exploitation. The establishment of these reservations in the Plain (Table 22) resulted in the creation of natural vegetation "bastions", guiding principles in scientific analyses.

As far as the reservation from Săbed/Bozed is concerned, the condition of its embryonic biostasis, obtained through scientific and anti-erosion plantations from 1892, is endangered because of the post-WW2 deforestations, which reduced the number of species from 130 to 40. The rapid reinstitution of balance between biologic exploitation and ecologic potential after the inclusion of Săbed/Bozed into the category of protected areas, as well as the elimination of all forms of anthropic intervention, entitles us to keep considering the Săbed/Bozed reservation as a biostatic facet character.

Table 22. The natural reservations in national patrimony in the Transylvanian Plain [Baciu 2004, after Ielenicz 2000]

Reservation	Commune	Type	Area (ha)
Suatu I hayfields	Suatu	Floristic; xeric steppe vegetation (the endemism Astragalus peterfii)	9.2
Suatu II hayfields		Floristic; the xeric gymnosperm Ephedra distachya	
Ştiucilor (Pikes) Lake	Fizeşu Gherlii	Ornithological	26.0
Legiilor Valley	Geaca	Ornithological	13.5
The rushes from Sic	Sic	Ornithological	2.0
The Peony Reservation (two areas)	Zau de Câmpie	Floristic; preservation of the pratosteppe associations with Paeonia tenuifolia	3.1
The forest from Săbed/ Bozed	Ceuaşu de Câmpie	Forestry; anti-erosion plantation with 40 species (nowadays)	59.0
The Fărăgău I Lake	Fărăgău	Ornithological	35.0

3.5.7 Geo-facets of scientific reservations

This category includes the Hădărenilor hillside (The Butterfly Hill), situated in the south-western extremity, administrated by the Romanian Society for Lepidopterology. It preserves butterfly species, such as *Filatima transsilvanella*, along with the following species of xeric plants: *Salvia transsilvanica*, *Stipa lessingiana*, and *S. pulcherrima* [Schreiber et al. 2003].

3.5.8 Geo-facets of Pinus nigra and P. silvestris plantation

Although *Robinia pseudacacia* constituted the preferred species for plantation operations in the interwar period, after the Second World War *Pinus nigra*, *P. silvestris*, and *P. rubra* were widely used. This initiative created "the illusion" of reforestations through a comparison between the areas occupied by forest in 1897, which amounted to 9.5%, and 2003, when it reached 11,9% on the entire Transylvanian Plain.

The reason why people planted pine during the 1960s - 1 433 ha - is complex: on the one hand, this involved an antierosion action on the slopes with important areas occupied by erodisoils; on the other hand it had contributed to the levelling of slopes, which protected the arable land in pseudo-riparian areas that had expanded to the disadvantage of riparian eco-systems.

Xerophyle, natural meadows characteristic for sunny slopes can be no longer reconstituted but the present geo-morphological equilibrium, the lack of anthropic intervention and the emergence of new cycles of evolution at the eco-system level are creating the image of a biostasic system, in an embryonic state. This geo-facet is common to *cuesta* slopes, often developed in a semicircle, and the river drainage areas in the Northern and Central sector of the Transylvanian Plain.

3.5.9 Northern orchards geo-facets

The Ciresoaia orchard area, with one southern extension to Chiochis, represents a good example of efficient land use, long time after the changes in biological exploitation. Cherry and apple (connected with plum) orchards create the distinctive landscape of the Transylvanian Plain. Though soils are not longer fertile (fluviosoils, often gleic, and typical gleic prefluviosoils), there is a clear balance between geo-ecological components.

3.5.10 Cereals geo-facets on pseudo-riparian areas

These are facets dominating in pseudo-riparian areas which have developed due to the process of the transformation of riparian areas into arable land in the 1960s (Phot. 91). This was a period when another new systemic disequilibrium was created, after less than one century, especially in the Comlod River basin (a process following lake drainage).

Phot. 91. Agriculture and landscape mixture as result of riparian changes (the Comlod River) (photo: N. Baciu)

Agricultural land use is represented by maize (predominant), wheat, barley, rye (secondary) cultivation, for which gleic soils and fluviosoils create the pedologic support.

3.5.11 Geo-facets of agro-terraces

Because of agricultural practices as well as anti-erosion reasons, agro-terraces belong to the category of abandoned lands or land diverted from its initial land use pattern. They are of a complex type and involve different land uses,

such as vineyards or orchards. As a result, they are often included in the superior systemic geo-system category. The development of vineyards in the northern part of the Transylvanian Plain following the German influences in Lechinta-Teaca sector, or more recently, as a consequence of "efficient agricultural land use" policies in the central-northern part, was accompanied by the process of agro-terracing on sunny *cuesta* slopes with erodosoils. In addition, bush plantations as anti-erosion curtains from the middle of the 20th century were realized at the same time with the terracing works.

3.5.12 Geo-facets of viable lakes

These involve strongly anthropizated facets, found inside the basins of great rivers within the Transylvanian Plain (the Fizes, Paraul de Campie, Sarul, or Sesul) and coincide with lacustrine units used for fishing (recreation or economy). They represent an example of man's systemic arbitrage, through lake management and avoidance of anatomisation processes, widely spread in the present climatic, but also land use conditions.

Regarding ichthyofauna, we may suppose that a significant part of the species have been introduced by man, the autochthonous ichthyofauna from the Transylvanian Plain being poor. Thus, dominant species involve the following: *Cyprinus carpio*, *Lota lota,* and *Ctenopharingodon idellus*, less often *Stizostedion lucioperca*. Anthropic management and fish colonisation determine the character of the unbalanced, rhexistasic facet.

As a result of long lasting research in the Transylvanian Plain, we can conclude that these 12 types of (geo)-facets represent the main categories of cultural landscapes, and their important and relevant elements are the relevant elements of cultural landscapes in the central part of Transylvania region.

3.6. CULTURAL LANDSCAPE ELEMENTS IN THE APUSENI MOUNTAINS: MONUMENTS OF FOLK ARCHITECTURE

Ioan Toşa

Until the beginning of the 19th century, over 50% of Romania's surface was occupied by forests, wood being the cheapest and easiest raw material to obtain. Due to the modernization of tools and instruments of wood processing, forest area reduced significantly over the century, reaching 7 248 895[19] ha at the beginning of the 20th century (24.5% of the country's surface), 3 792 927 ha of which remained in Transylvania.

In these conditions, a genuine civilization of wood developed in Romania, as it became the raw material used for building lay constructions (houses and farm buildings) and clerical ones. Wood was also used for making traditional tools and technical installations.

The main tree species used over the centuries for making these objects were the following: hazel (*Corylus avellana L*), alder (*Almus incana*), fir (*Abies alba Mill*), beech (*Fagus silvatica L*), ash (*Fraxinus excelsior L*), birch (*Betula verucosa L*), sycamore maple (*Acer platanoides*), acacia (*Rubinia pseudocacia L*) and oak (*Quercus robur L*).

Hazel trees were appreciated for their soft wood that was used especially for making fences, baskets and circles used to join stave vessels. Hazel wood was also used for making handles of various tools, bats, distaffs, and flutes. Moreover, hazelnuts, which contain oil and sugar, were picked up in autumn and kept during wintertime, when they were eaten or used as ingredients for preparing some medications.

Alder trees have soft wood and they rot easily. That is why they could not be used as a construction material very extensively. Alder wood was used for arranging ponds, barrages, or chairs for waterpower wheels of the mills. Alder bark was used for obtaining natural pigments.

Fir trees were used in mountain areas for making all elements of building constructions, both the supporting elements (soles, walls, coronets, etc.) and the carried elements (the ones which are supported: roofs, shingles, garret beams and boards, doors and windows, etc.). In hilly areas, fir wood was used only for making roofs and garret elements. It was also used for its bark and resin. Fir trees can be found in mountain areas, from the altitude of 1200 m AMSL in *bradete* (arboreal compact reservations) (Phot. 92).

[19] Tree species distribution was as follows: 1 614 719 ha coniferous trees; 2 452 751 ha beech; 1 548 774 ha; 84 901 ha elm tree, ash tree, 459 387 ha failing leaf trees (with hard wood), 287 943 ha failing leaf trees (with soft wood).

Beech wood was not as popular as a construction material in higher areas. It was mainly used for making furniture (for houses and churches).

Ash wood was used for making certain pieces of furniture (chairs, tables, etc.), means of transport, home objects, and musical instruments [Braica C. and Tosa I. 2007].

People used birch wood for making rafters and laths at straw roofs and also some elements of means of transport [Braica C. and Tosa I. 2007]. Birch bark, on the other hand, was used for obtaining tar: black oil, which smells like coal, for treating sores [Simionescu 1971].

Sycamore maple tree is regarded as a tree blessed by God. As people believed, it did not allow any wrongdoing to be committed in front of it or in its shadow. Acacia trees were used as a construction material in flat areas. People used them for making pillars and forks of lay buildings with the walls of interlacing rods. Oak wood was the most resistant construction material, used for building supporting elements (soles, walls, coronets, etc.) and carried elements (garret beams and boards, doors and windows, etc.). The term oak is a generic term given to the all trees of hardest and most lasting wood, as it is the best wood for work (Phot. 93).

Good wood that could be used for building lasting objects was obtained from trees which grew in the middle of a forest not at its edge because they had stuffed fibres. People preferred trees which grew in arid, stony areas and trees which had thicker rings of growing (Phot. 94) and tougher fibre. Trees which grew in wet places had softer fibres and their rings grew more rarely (Phot. 95).

To avoid the etching of decays and xylophage's fungus, trees were cut late in autumn or winter (in November, December, January, or February), during the full moon and in the decreasing moon phase when the amount of water, due to capillary action, was reduced to minimum (Phot. 96).

Cutting and carving were the simplest and most widespread techniques of wood processing, both as methods of technical execution and as stage of individualization of that as useful objects.

By simply cutting and carving trees with certain physical features people could make pieces of furniture such as chairs, benches and household tools (a hook for carrying a bundle and for hauling hay or straw from hayracks, bats, fences and vine poles).

Bending was a technique of processing wood, usually green wood, thanks to which the produced object took a certain shape and it could have been used easier. The process of bending was use to produce distaffs, hay and straw wooden forks, yokes for carrying water, circles for joining, etc. The bent was gradually made by twisting green wood and catching it into a "yoke" in which it was let to dry. Nowadays in the furniture industry, wood is bent by keeping it in hot steam (Phot. 97).

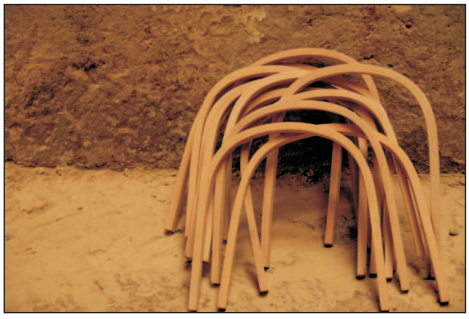
Phot. 92. Fir tree forest in the Somesul Cald Valley

Phot. 93. Oak pillar and coronet at a house veranda

Phot. 94. Rings of a fir tree

Phot. 95. Rings of a beech tree

Phot. 96. Tree cutting in the forest



Phot. 97. Bending beech wood in hot steam

Knitting is a symmetrical distribution of wood sticks (hazel, birch, switch, or willow) around a skeleton. Knitting was used for making certain household objects, baskets of various shapes for picking and transporting (Fig. 30), fishing (Fig. 31), or storing the farming products (Fig. 32), and household annexes (Phot. 98).

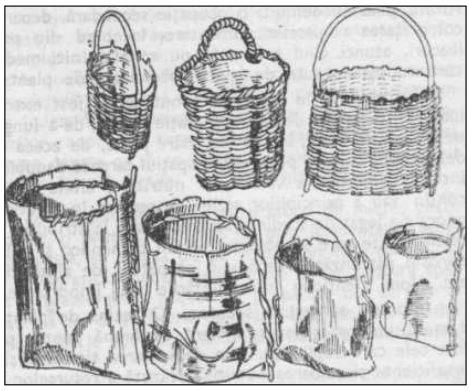


Fig. 30. Knitted baskets of wattle and bark

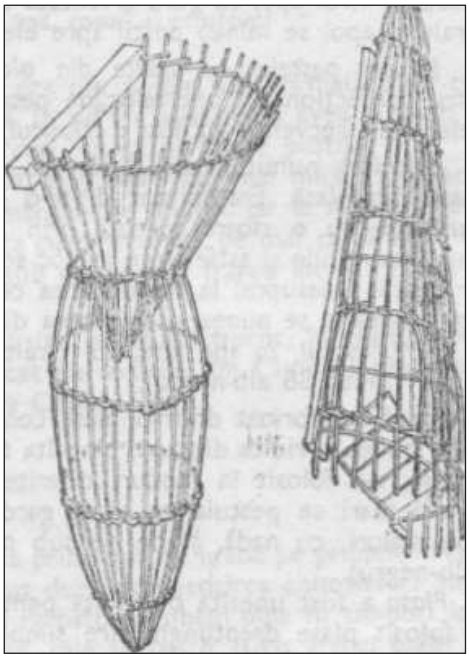


Fig. 31. Fish baskets for fishing

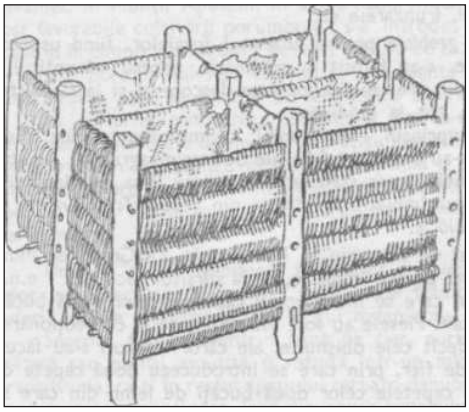


Fig. 32. Basket for storing farm products

Phot. 98. Shelter for sheep

3.6.1 Techniques of wood decoration

Techniques of wood decoration varied from the simplest ones (cutting, carving, knitting, or bending), which could be done by everyone who possessed certain skills, even by children, to the most complicated ones, which required both skills and technical knowledge.

Peeling was a technique of wood decoration that consisted in making certain decorative motifs (triangles, rhombi, spirals etc.) by removing bark from certain parts. This technique of decoration was especially used by children in springtime, when wood was full of sap and bark could be detached easily.

The technique of making bark strips consisted of covering unpeeled pieces if wood with bark strips of cherry or birch wood. Then the wood was smoked. The covered parts of the wood remained white while the uncovered ones became black. This technique was used for making certain objects used by children at Christmas time for carolling, such as shepherds' clubs or for making distaffs.

Incision was the technique of wood decoration by which lines were made on wood surface at a sharp angle, without removing the wooden mass. This technique was used for decorating distaffs, clubs, and musical instruments. Combined with other techniques, incision was used for decorating dowry chests, salt and pepper cellars, pillars for construction, etc.

Notching is a well known technique of decorating wood by taking off a part of the wooden mass. Notching was used for creating some decorative motifs on door frames, windows, and verandas (Fig. 33 and Phot. 99).

Sculpture is a decoration technique in which a significant part of the wooden mass is taken out of the wooden surface producing distinctive shapes, which can be viewed from all around and which are not completely detached from the wooden piece. This technique was used for making Eastern Catholic road crosses (Phot. 100), the pillars of verandas, houses, and wooden churches (Phot. 101). The technique of sculpture was used for decorating gate pillars in the Gorj, Maramures, and Szekler regions.

Carving is a technique of making wood thinner in order to obtain certain building elements with different geometrical shapes or to finish it later. Some types wood (oak, fir tree, and acacia) had to be carved before processing in order to remove laburnum, the outer part of the wood which damages sooner under the influence of natural factors (humidity) or bacteria (decay).

By using the technique of fretwork some elements inside the wooden material are removed in order to obtain decorative motifs. This technique was used for making decorative motifs on house banisters (Phot. 102), house frontons (Phot. 103), or churches (Fig. 34).

After felling, trees were cut, cleared of branches, and taken home where the bark was taken off in order to prevent decays. Then, they were let to dry before processing.

Wood as a construction material could be used in the round shape or processed in the form of carved beams. Construction techniques varied depending on elements that to be made.

Fig. 33. Wooden church door from 1782

Phot. 99. One-wing door of a church from 1715

Phot. 100. Wooden sculpture of Jesus on the Cross

Phot. 101. Veranda pillow

The sole of the construction is the element that supports the whole building and ensures building stability. To ensure building stability, soles were monolithic, made of beams of the same length and strongly joined in a straight button-hole.

The button-hole is a system of joining beams from wall coronets. Button-holes were round, straight, and in swallow tail.

The round button-hole was used for round beams and the straight button-hole was used for carved beams. The disadvantage of using the round and straight button-hole was that the beams of coronets could not be cut at the wall level. They extended outside in order to ensure stability (Phot. 104). The swallow tail button-hole allowed cutting beams at the wall level (Phot. 105).

The technique of horizontal coronets using only beams of the same length required large amounts of wood, which is why it was replaced by the technique *in căţei*, which allowed using shorter beams.

When the walls were raised to the desired height, the coronet was fixed on them. It was a solid frame of beams similar to the sole of the building (Fig. 35).

Garret beams were fixed on the coronet. There were three types of garrets in traditional architecture, these involved garrets with seeming beams, ceilings, and arched roofs. Garrets with seeming beams and the ceiling were found in lay buildings, arched roofs and ceilings were common in clerical buildings, while ceilings were found in Romanian and protestant churches.

Roof is the element that finishes the building. Raising the roof posed some technical problems because it was necessary to find such a system of covering which best corresponded with requirements of the space to be protected. On the other hand, it had to be made in such a way as not to affect the stability of the construction by its weight.

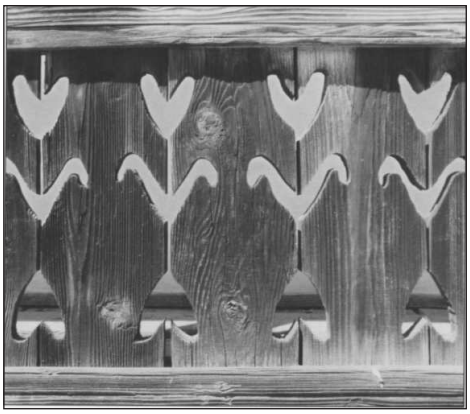
Traditional Romanian architecture features two characteristic roof types: roof-coronet and roof with a rafter.

In regions rich in wood, the roof-coronet is the oldest system of covering constructions with walls of horizontal coronets. The roof is made by a gradual withdrawal of the coronets of beams towards the interior, from a certain height, resulting in certain pyramidal or semi-cylindrical shapes.

The pyramidal shape resulted from the withdrawal and gradual shortening of the beams from the front walls as these rose up. Within Romanian architecture, the frame the pyramidal roof-coronet has been preserved only in some wooden churches in Moldavia [Vătăşianu 1931] and in a wine cellar in Gorj [Petrescu and Mironescu 1967-1968]. In Moldavia, the pyramidal roof was transposed in stone and brick architecture, bringing forth the well-known Moldavian arched church roofs of 15th-17th centuries.

The semi-cylindrical shapes were made by gradual withdrawal of the coronets of the long walls towards the interior and by gradual shortening of the coronets of the short walls. The semi-cylindrical roof-coronet was kept as a system of covering the interior space of the *naos* in all the wooden churches and sheepfolds in Călimani (Phot. 106).

The roof with rafters is made of a net of joined and paired rafters at the sharp angle at the thin extremity (Phot. 107), which were fixed with the thick extremity



Phot. 102. Fretwork decoration at a house veranda in Manastireni

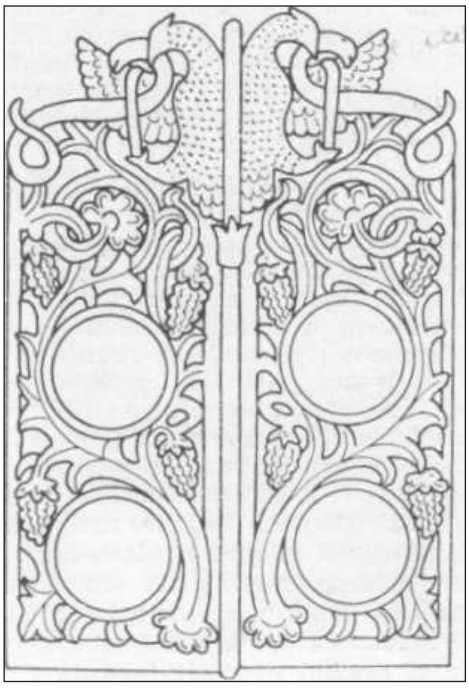
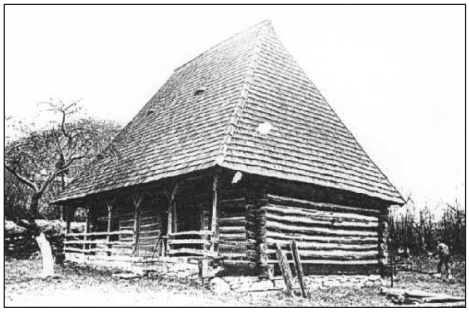


Fig. 34. Altar doors

Phot. 103. House gable with fretwork motifs in Manastireni



Phot. 104. House of joining beams - rounded button-hole

Phot. 105. Button-hole in swallow tale at a church in Bucea

on the coronet of the walls. The roof with rafters could be in *four waters*; in this case the roof had the shape of a pyramid.

The way of building roofs of wooden buildings made the water from the shingle roof fall very close to the walls, which resulted in the putrefaction of the building's sole. In order to avoid this phenomenon, people built verandas around the walls - a clay and stone veranda that had to be kept in good condition all year round and could be also used for other purposes. That is why the carpenters tried to enlarge this space by putting pieces of wood in the inferior side of the rafters, pieces called 'water pushers' in some areas [Godea 1972].

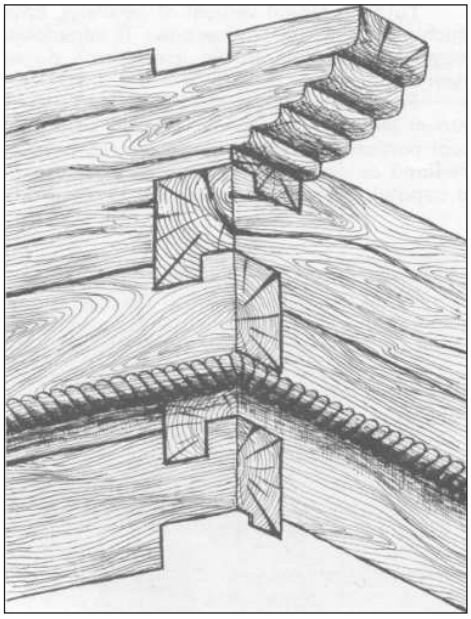


Fig. 35. Fixing the coronet on the walls

Phot. 106. Semi-cylindrical coronet roof in a sheepfold

Phot. 107. Roof with rafter

3.6.2 Categories of wooden architecture

There are relatively few categories of wooden architecture in Romania, which could be grouped in four essential types: dwellings, churches, household annexes, and technical installations. The following paragraphs will present the first two categories (dwellings and churches) because they have been best preserved till nowadays and they show the main moments of wooden architecture evolution, from ancient times till now.

The oldest and most numerous buildings consist of one or more rooms, in a unitary plan, square or rectangular, included by specialists into the first type of wooden building plans [Vătăşianu 1960].

The oldest buildings used as dwelling for a family could be of two types (from the point of view of planimetric forms and functions within the frame of the family and social life): a house with a hall and a house with a pantry. The buildings consisted of two rooms: a room for everyday life and a hall or a pantry, all inscribed into a rectangular plan. For both house types, the room for living was large enough to meet the requirements of a dwelling. Also, it was placed near the second room (a hall or a pantry) which completed it functionally.

The house with a hall was found in all rural settlements in Transylvania. The hall was smaller than the room for living, without windows and without a garret which also served as a storing place for certain food products as well as vessels and homemade tools. The hall of old buildings could be a warm room when it had an oven for bread baking or a fireplace for cooking or it could be a cold room without any stove.

From the second half of the 18th century, people began to enlarge the house space by adding one room with garret, without windows - the pantry - with the entrance from the hall, which was used for storing farming products (flour and cereal chests) and household objects. In the houses built after the second half of the 19th century, the pantry was replaced by a room for living, the old dwelling being transformed into a "clean" room used only on holidays and special events.

The house with pantry - "the oldest and less influenced type of house in Romania" [Vuia 1926] - is the ancient dwelling type for the inhabitants in some settlements of the Apuseni Mountains.

The house consists of two rooms without joints between them, with separate entrances, directly from the outside (from the veranda): a room for living, and a pantry. The pantry is a cold room without windows used for storing cereals obtained through product exchange with the inhabitants of farming areas.

The house with a pantry also could be also developed in length by building a new room near the pantry. The house with this plan has the pantry placed between the two rooms, with an entrance between the three rooms.

The houses from mountainous areas were built on a stone foundation. To ensure stable position, two rooms were arranged in the foundation: one used as a cellar and the second one as a pantry.

The plan of the peasant house underwent important changes with the popularisation of the building technique in *catei* due to the fact that this technique allowed lifting up a construction also with walls arranged at a straight angle.

3.6.3 Organization of the inner space of the house

To ensure thermal comfort, especially in the cold periods, houses were beplastered and wooden wedges were fixed in the beams (Phot. 108).

The rooms for living were organized on corners: the fireplace corner, the bed corner, the table corner, the door corner. It this way, everyday needs of the family were satisfied.

The fireplace corner was in the left side of the entrance door and it occupied almost a quarter of the room are when the bread oven was placed there. The hearth corner had a very important role within the peasant dwelling till the end of the 19th century because the fire on hearth gave heat and light necessary for the inner space of the room and for doing household activities, such as preparing food, weaving, or spinning.

The bed corner occupied the space limited by the back and side wall of the house. It was the space for resting. Textile and pieces of folk costumes, that did not go in the dowry were arranged on the *ruda* (a traditional wooden beam above the bed for textile arrangement) along the bed.

The table corner was the space limited by the front and the side wall. It encompassed long benches and a table between them situated along the walls. The table corner was the honour place of the house because honoured guests were invited to the table and the most important events of the family life took place at the table (festive dinners, engagements, weddings, and funerals). The table corner was the most illuminated place of the house, being placed between two windows.

The door corner was placed in the right side from the entrance and was used for storing vessels.

Churches were the most important buildings within a settlement because they were community buildings that had to respect Christian conservatory programs and on the other hand reflect the cultural and material level of the community members. In Transylvania, where ethnic groups of different religions cohabited (Roman-Catholic, Protestant, Orthodox, and Eastern Catholic) some differences appeared during the centuries, especially between the Protestant, Catholic and Orthodox churches.

The oldest Orthodox churches were built of wood because for a long period of time social situation of the believers did not allow them to build stone or brick buildings, and on the other hand they were not allowed to build such monuments because of their Orthodox religion.

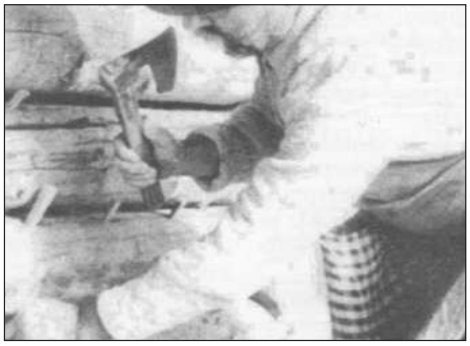
The origin of a wooden church was found in the sphere of profane architecture: a traditional house that was adapted to liturgical necessities. The oldest

wooden churches had the layout of a peasant house with three rooms in a unitary rectangular space.

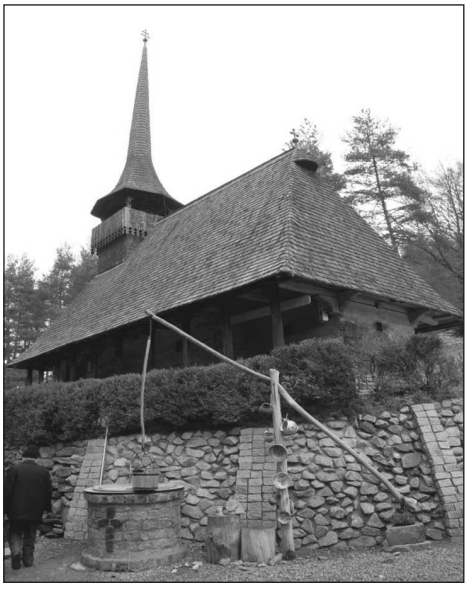
The differences between the church and the traditional house consisted room sizes (which were determined by the size of the religious community) and the system of covering the inner space, which was the semi-cylindrical arch at the church for all three rooms. To distinguish the church from the traditional house, a new type of plan was devised: it consisted of two rooms in a rectangular plan and, in the eastern part, a room with forth walls, the altar, and the belfry tower (Phot. 109).

An important moment in the planimetric evolution of wooden churches was the introduction of the polygonal shape for some rooms of the building, bringing forth to a new type of plan - the one formed by two polygonal rooms (pronaos and altar) and between them a rectangular room (naos).

In the traditional wooden architecture in Transylvania, polygonal shapes were also found in some farm buildings: sheds for threshing cereals with flails, built within the settlement boundary (Phot. 110).



Phot. 108. Fixing the plaster



Phot. 109. Church in Ciucea

Phot. 110. Polygonal shed for threshing cereals with flails in Vidra

3.7. MENTALITIES AND CULTURAL LANDSCAPES IN THE LAND OF MOȚI (ROMANIA). CASE STUDY: WOOD PROCESSING IN GHEȚAR VILLAGE (GÂRDA DE SUS COMMUNITY)

Cristian Nicolae Boțan

3.7.1 The Land of Moți - regional geographical system

Among the necessary attributes to define a regional geographical system, the following should be taken into account: the existence of clear-cut boundaries; the spatial range (the size), which should be large enough to allow certain generalizations; the existence of exclusive features (which impose personal ethos for the region); the existence of functional inter-relations between constitutive elements (which induce the character of development); sufficient complexity (to adapt periodically to newly appearing conditions); the existence of inter-relations with other neighbouring regional systems; the capacity to inhibit the process of manifestation of certain negative phenomena, which may introduce a discordant note in the functioning of the system; etc.

The Land of Moți is located in the central part of the Apuseni Mountains, in the upper basin of the Arieş River. It is limited, in most cases, by the watershed line of the high mountains surrounding it, comprising in its area the slopes oriented towards the centre of the region, the town of Câmpeni (Fig. 36). "Having permanent relations with neighbouring units but also with farther regions, the Land of Moți presents a series of strengths regarding its definition as a functional geographical system (it occupies a clearly delimited space, it has an economic specificity and its own certain spiritual features, it has a main attraction centre: Câmpeni, and a secondary attraction centre: Abrud)" [Botan 2005].

There are two subsystems individualized around these centres, each having a different functionality. The "forestry subsystem" is located on the upper streams of the Arieşul Mare, Arieşul Mic, Albac, and Gârda Seacă. It is relatively more important, as it conveys a larger amount of mass and energy within the main system. The "mining subsystem" is located in the Abrud basin. It is undergoing a certain decline at present, but its importance may increase significantly in the future, with the revitalization of gold mining, a fact that would involve a substantial contribution of capital.

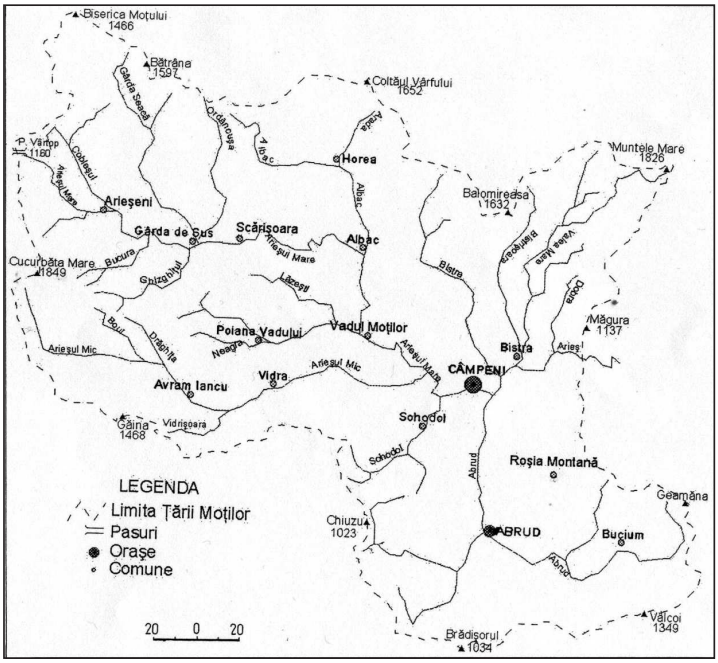


Fig. 36. The regional system of the Land of Moți [Boțan 2005]

3.7.2 The features of the mental space of the Land of Moți

The analysis of issues related to the interpretation of the mental space of the Land of Moți is not quite an easy task to conduct. This difficulty derives from the singularity of the region, located in the mountainous area, without a base in a large mountain depression, as in the case of most "lands" in Romania. The existence of the Land of Moți in the centre of the Apuseni Mountains (some works define the region as the Arieş Mountains), where levelling platforms play an essential part in the location of settlements, imposed the shaping of a special mental space of its inhabitants. The lack of agricultural products, the abundance of wood resources, gold ores, the morphological opening towards the south-east (along the Arieş valley) and the north-west (through the Vârtop Pass), and the social and historical conditions constitute several essential elements in the shaping of the Moți mental space.

The difficulty to analyse the mental space of the region comes from its essential feature of "an open mental space". This has determined that the culture and behaviour of the Moți has been influenced by features of inhabitants from the regions they have crossed in order to satisfy their existential needs. It is also true that the Moți conveyed, on the other hand, many of their features to human communities from other regions of the country, with whom they came into contact.

The logic compels us to analyse the most important intimacies of the "Moți mental space" by a synthetic discussion related to the "extension" and the "issue" of its "limits". If the limits of the regional system are obvious (established as a consequence of a thorough field investigation), one cannot state the same about the limits of the "Moți mental space". Largely, it is a product of inner feelings, fondness, experiences, etc., which cannot be precisely quantified.

The difficulty of the issue stems from the fact that any mental space represents the "product" of thought of several human categories. Thus, the inhabitants of the region (for many generations) have shaped a "living mental space", where they have developed their entire activity. The ones coming from other places (established in the Land of Moți) created an "assumed mental space" (they have also developed their entire activity in its core, but cannot perceive it entirely). The inhabitants of neighbouring areas have shaped a "perceived mental space", and they often ascribe other than real contents to it. To all these, one should add the contribution of scientists (especially geographers), who have also shaped mental spaces of several regions. However, the validity of their conclusions is often doubtful (for instance, in many geographical works, the Land of Moți embraces the entire area of the Apuseni Mountains).

Each of the above-mentioned categories assigns a certain extension to the mental space of the Moți. Of course, some are closer to the truth than others. We consider that he actual inhabitants of the region are most authorized to shape the mental space of it, to which those living in the neighbouring regions may add some elements.

3.7.3 The structure of the mental space of the Moți

"Two major vectors, the real and the imaginary, compete in the process of shaping a mental space. By an organic interdependence, they determine the establishment of a unique, unmistakable entity. The functionality and the evolutionary character of this entity is materialized by means of the human factor, which becomes both product and producer, cause and effect of all the phenomena and processes that appeared and developed within that geosphere. The mental space partly overlaps the geographical space and elevates it with new values derived by adding the spiritual elements, bearing special transforming energies" [Cocean 2005].

The foundation of the mental space of the Moți is represented by the "native land". Within it, there are two components of special significance: "the morphology" (which, due to its difficult attributes, inculcated a series of features in the physical and psychical characteristics of the Moți) and "the forest" (which generated a special type of behaviour regarding the intensity of its defence and the

establishment of the obvious economic specialization, that made the community of Moți become a famous human community).

Another essential element of the creation of the mental space of the Land of Moți is "the house" and "the surrounding nature". The manner of household location in the Land of Moți, the swarming-type migration, the high density of rural settlements comprise some of the many variables involved in the process of interpretation of the mental issue in the region, as they highlight a series of unique features. The concept of "the house" in the Land of Moți is strictly related to the concept of "kin" (a group of individuals that belong to the same descent). The fact that the Moți belong to a certain genealogical descent is obvious if one remarks several of their exclusive features, such as family names, the process of village swarming, which have determined the establishment of many hamlets, the manner of speech - rhoticism, the origins of the Moți, etc. All these components require a series of interesting interpretations, which induce the classification of Moți as a group that is different from the rest of the Romanian population. For instance, human settlements established by members of the same kin are illustrative from the point of view of the passage from demographic to settlement entity, but also as an interrelation between the material (the newly established human settlement) and the spiritual (the maintenance and conveyance of the same values from generation to generation).

The "custom", the unwritten law is the element immediately above the kin, in the shaping process of the mental space of the Land of Moți. It is most clearly represented in habits, traditions, and folklore. All these custom manifestations may be integrated in a wider concept, that of "ethnographical values" specific for the region.

The passage from custom to "myth" is made almost imperceptibly, as numerous traditions and habits are nothing else but a transition bridge between the real and the imaginary. The forms of myth manifestations in the Land of Moți are represented by *vâlve*. The base for their identification is the nature of the place, dominated by dark forests, mysterious caves, dizzy precipices, etc. Other myths of the Land of Moți are related to dragons, werewolves and ghosts.

Eventually, the uppermost integrating element is "the Divine". The Moți are a Christian (Orthodox) community. This involves higher homogeneity regarding the way they relate to God and the Church. The involvement of the Divine in the structure of the mental space of the Moți ascribes a certain universal dimension to it. "It appears thus an obvious phenomenon of passage from material to immaterial, from perishable to eternity, from peculiar to universal" [Cocean 2005].

3.7.4 The significance of wood in the mentality of Moți

The forest is one of the physical geographical elements which decisively influenced the existence of Moți, and of Romanians generally, throughout the centuries. In the first place, it meant "shelter" in the Dark Ages of migrations, when "… the Asian tribes, accustomed to the unlimited steppe, were afraid to enter the large woods that covered Dacia, starting from the Danube and Nistru and ending on the peaks of the Carpathians" [Giurescu 1975]. A good example is also the retreat of Horea and Cloşca in the forest at the end of the 1784 uprising. When the fires were set on the heights and their smoke raised up in the air, warning throughout the country that the invaders are getting closer, the Romanian ploughmen and shepherds gathered their children and the few household assets in the cart and, droving their cattle and sheep from behind, hid in the forests where no one could follow their trace. This is what they did when the Romanian territory was invaded in succession by the Goths, Gepids, Huns, Avars, Slavs, Bulgarians, Hungarians, Pechenegs, Cumans, Tartars, but also after the establishment of the Romanian states.

Most of the historians accept the statement that "… due to its forests, the Romanian people could resist in the Carpathian-Danubian-Pontian space during the migrations and could continue living in this land" [Giurescu 1975]. Probably, the phrase "retreat to the mountains" should be replaced, at least in the case of the analysed space, by "retreat to the forest". Without the forest, which provided shelter and opportunities for living (wood for building and heating, game, fish, etc.), one could not live in the mountains.

During calm periods, the forest conditioned the Moți daily existence. Their dwellings, sheepfolds, mills, churches of the ancient type, furniture, tools and weapons, means of communication, as well as many of their customs, their spiritual lives, their literary and artistic creation are all related to the forest. They have all been influenced by it and they bear its mark. Therefore, one may speak of a "wood civilization of Moți" (Phot. 111), which has developed its specific forms for about a millennium and a half, since the Romans left Dacia until now.

Regarding its economic value, either in a more or less raw state or processed in different forms, one should notice that wood has always increased in price. In the Early Middle Ages, when the population was relatively small and forests were never-ending, the value of wood was very small. That is why anyone could cut wood from the forest for their household needs and could even deforest large areas to gain agricultural land for crops, grazing, or hay cultivation. However, the value of wood has gradually increased with the increase of population and the degree of processing. Moreover, the Moți have been famous for the products they created in the past (the phenomenon has drastically reduced at present), which has influenced the defining vectors of their wanderings. It should be indicated that, for the


Phot. 111. Traditional forms of wood processing in the Land of Moți [Boțan et al 2007]

Land of Moți, wood was the main source for the satisfaction of needs, "an existential monopoly", as it was processed into valuable forms and products, which were transported to the lowlands and exchanged for cereals and other food products.

Therefore, it should not be a surprise for anyone that the forest, so much linked to the soul of the Moți throughout the centuries, has influenced the folklore, culture, and literature of the region. Also, the artistic sensibility of the Romanian people has been influenced more by wood, this noble material easy to shape, than by stone. Houses, wooden churches, numerous household tools and objects of the Moți stand witness to that in the first place. This statement becomes even more convincing if we realize that one of the leaders of the 1784 uprising, Horea, was a wooden church builder.

The forest also influenced place and human names in the Land of Moți.

Moreover, the forest and the sense of property over it has been the most important element of social cohesion which influenced the uniformity in thinking and the manner of reaction of the Moți.

The community of the Moți is first associated with the activity of forestry, wood exploitation and processing in different forms, to which one may add mining. In the central part of the Apuseni Mountains, there is an ancient and diversified household-based wood industry, determined by the abundance of raw material and insufficient income from other secondary activities (crops and breeding). Therefore, the Moți has become very skilful in the creation of all wood products. Not long ago (the phenomenon has constantly reduced and it is now almost extinct), the area abounded with coopers, boarders, shinglers, carvers, house builders, charcoalers, and creators of household and agricultural tools (carts, furniture, peasant chests, looms, shoulders, sieves, bee baskets, as well as rakes, forks, scythe handles). They were known much beyond the area of the Apuseni Mountains. This ancient activity led to the identification of Moți with their forests and therefore, at times, even the perspective of better living could not persuade them to give up their profession.

The types of wood processing are diverse, even within the Land of Moți, and all villages have certain features, which are enumerated below:

– ”tubbing” - is the most developed branch of the household industry and it is the main activity of the Moți from the upper stream of the Arieș (upstream from Câmpeni): Vidra, Avram Iancu, Ponorel, Vadu Moților, Albac, Scărișoara, Gârda, Arieșeni, etc. In the past, their products were distributed even abroad. Unfortunately for them, nowadays these products are limited to this area. In the past, there were several types of tubbers: “itinerating tubbers (holoangări), craft tubbers working at home, tubbers owning horses and carts, tub merchants (sfârnari)” [Giurescu 1975], etc.;

– ”timber industry” - represented mainly by numerous peasant water saws (frame saws), developed in high quantities after World War II, which significantly reduced of the volume of wood. Subsequently, a series of specialized factories were established. Today, most of them are run by private capital;

– ”shinglering” - used to be a basic activity for many inhabitants of the region. Today, it has reduced significantly as other materials than wood are used as roof covering for household buildings;

– ”carving” - always represented the easiest activity, in which the less experienced were involved, such as apprentices or younger members of the family.

– The way the Moți reacted when they faced the possibility of losing their most valuable asset - the forest - also constitutes a defining element in the establishment of their own “land”. The true Moți are those who defended this important resource with the price of their lives. The forest has been always perceived by the population of Moți as a sacred property. The potential loss of it in favour of some foreigners generated large social movements having the nature of uprisings (in 1784 and 1848), a model for the entire Romanian people at that times. The defence of the forest induced special social cohesion within the community of Moți.

3.7.5 Wood processing in the Ghețar village (Gârda de Sus commune)

Cutting down of wood for building household objects largely widespread in the past is nowadays replaced by the production of timber and other specific products of the wood processing industry (furniture, wooden chipboards, fibre boards, etc).

There are two different types of wood processing. The first concerns private frame saws, which are very numerous throughout the Land of Moți. They produce timber and process wood to a semi-raw state. They are a private property of local inhabitants and small investors and they have directly replaced ancient processing tools. The second type involves companies of complex wood processing, located mainly at Câmpeni.

This chapter is aimed to present synthetically but completely the manner in which legal owners of saw-type installations for wood processing from the Moți village of Gheţar (Gheţari), belonging to the community of Gârda de Sus, process the mass of wood exploited from their private forests and from state-owned forests. It is justifiable to focus our attention upon only one site of primary wood processing, instead of analysing the entire region, as this will make it possible to capture the details of the phenomenon. Also, there is no precise data regarding the volume of the mass of wood exploited and processed in the small local industry throughout the Land of Moți. Unfortunately, there is no authority to manage and quantify the whole phenomenon. It has been already mentioned that Romsilva Alba owns only 60% of the forest-covered area of the region, while the rest remains a private property.

The opportunity of noticing the way of life, the daily work of the Moți in the exploitation and primary processing of wood has been provided by accompanying (only as an observer) a group of researchers from the Faculty of Forestry and Forest Operations of the "Transilvania" University of Braşov. Together with a group of foreign experts from the University of Freiburg (Germany), they studied the issue of wood in this region in all its aspects, within a multinational research project.

Wood exploitation and processing constitutes the main labour activity in the village of Gheţar, belonging to the community of Gârda de Susthe. It is certain that the local community depends on wood resources. Secondly, the inhabitants are also involved in horse, cattle, and pig breeding. As far as the animals are concerned, horses play the most important role among them, as almost the entire activity of wood exploitation is performed with their help.

The exploitation and processing of wood by the peasants of Gheţar is quite an interesting phenomenon. The forest ward opens up a cut, and certain days (called forest days) are established during the week, when the inhabitants are allowed to buy from the forester a mass of wood of a volume no more than 5 m^3 / family member. The amount calculation is done by writing on a typical bill-format document. The forester enters in the forest together with the local buyer and points out the wood that may be cut, as the trees are marked in advance. Wood felling is usually performed with a mechanical saw; the cleaning of branches is done with an axe, while the transport of wood to the place of loading and from there to the place of processing is conducted with the help of horses.

There are three types of sawing installations: "a circular saw", "a vertical band saw" and "a horizontal band saw". The main products obtained as a result of the sawing process involve the following: boards, planks, laths, and beams. Saws are operated by Diesel engines. All the enumerated products are indented for the market (Phot. 112).

Wooden products are sold in two ways: either to buyers who arrive to the village and transport the products individually, or the provider is in charge of transport. Therefore, five richer inhabitants of Gheţar have large trucks used for transport.

The activity of wood exploitation and processing takes place exclusively in an area called the Călineasa Grassland, a part of the estate of Gheţar village, for approximately four months of a year (May-June and September-October) when people live permanently there in small seasonal huts. At present, there are 35 sawing installations (28 circular saws and 7 vertical or horizontal band saws) in the Călineasa Grassland.

There is a strong specific social behaviour involving mutual help between all the inhabitants, irrespective of their social condition and wealth, so that each of them benefits from this activity. For instance, not all inhabitants have their own sawing installations. In this case, they may use these of other inhabitants, and the price for use is calculated for each m^3 of wood, or 4 days of work for the one with a saw mill, in exchange for using sawing installation for one day.

The exploitation of wood is focused on forest trees in normal condition. Between 2002 and 2005 (the study presented here was conducted in 2005), there were frequent tree felling in the area of Gheţar village, because of very powerful winds. The volume of affected wood reached about 3000 m^3, which imposed tendency towards massive capitalization of this wood (Phot. 113).

Wood exploitation, transport, processing and selling are all complex procedures, which consume physical and material energies. The following part will try to describe the process in an explanatory manner, in the way it was perceived and analysed, during three weeks of study.

3.7.5.1 Selection of wood

Selection of wood is the first stage of the complex process of forest exploitation. It has been already presented above how the local inhabitants buy wood. At the time when the study was conducted (2005), the price of wood to be bought and processed was the following: "thin working wood (diameter of less than 20 cm at the base) cost 5.70 Euro/m^3; average working wood (between 20 and 34 cm at the base) 8.10 Euro/m^3; thick working wood (more than 34 cm at the base) 13.43 Euro/m^3; resinous wood for fire (1,90 Euro/m^3). Trees with a diameter of more than 40 cm at their base are not intended for sale. Foresters decide on a workday when the local inhabitants select wood for exploitation. Practically, there is a kind of bargaining to get as many high quality trees as possible (Phot. 114).

After the trees are bought, people go to the forest to cut them. This is done with the help of saws (Phot. 115) or axes in the case of poorer people, in rather harsh and dangerous conditions. After that, the trees are taken out of the forest to

Phot. 112. Timber directed for the market [Boțan 2005]

Phot. 113. Wind-felled trees d [Boțan 2005]

Phot. 114. The purchasing of trees [Boțan 2005]

Phot. 115. The operation of tree felling [Boțan 2005]

the place of loading with the help of horses, by using chains called *cioflânge*. The most time-consuming operation is branch clearing, which done from the base of the trunk towards the top exclusively with an axe. Then, the trunk is measured from the point of view of the products which are to be provided by each segment of the tree. The measurement is made with a stick one meter long or even with an axe.

In this case, efficiency and work productivity is assessed by local inhabitants in terms of time necessary for a vertical tree to be loaded on the transportation vehicle. This time has been calculated for a tree with a base diameter of 33 cm (about 1 m^3 of wood). Calculations have yielded the following results: the whole operation took 26 minutes, out of which 5% was spent on felling the tree, 22% on sectioning the tree and the rest of 73% one the cutting off branches.

3.7.5.2 Loading and transporting wood

Trees are dragged with the help of horses (usually just one horse, for safety reasons) to the loading point, which in this case is located 500 m from the place where trees are felled. Before that, people superficially clean the route, by removing branches lying on the ground, rotten stumps, etc (Phot. 116). Firstly, all logs are taken out from the forest to the loading point, and only then they are loaded and transported (Phot. 117).

Logs are transported to the place of sawing in carts, but this time two horses are used for each cart. The process is the same: the entire amount of wood is transported first, and only then comes the sawing process (Phot. 118). The wood is stored in the vicinity of the sawing installation, as it is easier to handle it afterwards (Phot. 119).

Also in this case, labour efficiency is computed according to time necessary for transport. On average, the amount of wood transported by one cart is of about 1 m^3. In the analysed case, the distance from the loading point near the forest and the storage point near the frame saw amounts to about 3.5 km. A complete tour, starting from the frame saw, loading, and back to the sawing installation, takes about one hour. The efficiency of this action is satisfactory, taking into account that animal power is used.

3.7.5.3 The sawing process

Logs are sowed and transformed mainly into boards and beams with three types of saws: a circular saw, a vertical band saw, and a horizontal band saw. The latter has appeared recently in the village of Gheţar and generally in the Land of Moți. However, it is more efficient regarding labour productivity and the need for human resources. In 2005, when the area was studied, there were 28 circular saws and 6 band saws in the village. The following products are obtained when the wood is sawn with a circular saw: boards, planks, beams, slats, and slabs. The drawback of this method is that the diameter of the circular saw is not large enough for the processing of large diameter logs. In these situations, these logs have to be turned on the other side, which demands considerable effort. At least four workers are needed then to saw one log (Phot. 120).

The same product types are obtained in the case of vertical band saws (Phot. 121). This method, however, requires much less effort. A working teams consist of two workers at the most. A frequent problem in the case of these saws, according to local inhabitants, is that some boards have a waved surface, due to the high speed of sawing. This is a negative fact which results in the low value of these products.

Phot. 116. Horses transporting logs [Boțan 2005]

Phot. 118. Logs being transported the sawing installation [Boțan 2005]

Phot. 120. Sawing of logs with a circular saw [Boțan 2005]

Phot. 122. Sawing of logs with a horizontal band saw [Boțan 2005]

Phot. 117. Log storage at the loading point [Boțan 2005]

Phot. 119. Logs being downloaded in the vicinity of the sawing installation [Boțan 2005]

Phot. 121. Sawing of logs with a vertical band saw [Boțan 2005]

In the case of the horizontal band saw, the efficiency of work is the same as in the case of the vertical band saw. However, it requires even less effort and practically it can be used for sawing by only one person. The second person is needed only when the wood is climbed on the installation. The analysed saw possesses (like most of these types of saws) suitable equipment to adjust the thickness of the products to be obtained (Phot. 122).

The products obtained are the same. Laths, boards, and planks are directed to the market, while slabs and beams are used in the household. Sawdust and other insignificant leftovers are burned near the sawing installation.

The process analysed in this paper is valid for the entire activity of wood processing, developed locally throughout the entire Land of Moți. Mainly the same products are obtained and the manners of exploitation, transport, and sawing are identical, so this case study may be considered as a model analysis.

The primary products that come out as a result of wood sawing represent a raw material directed to the market and lay the foundation for the creation of a relatively large range of final products. There are several types of interpretations concerning the ways of capitalization and selling of boards, planks, beams, obtained by the inhabitants of the Land of Moți who are involved in the exploitation and primary processing of wood. Approximately 80% of the amount of wood processed in the above mentioned manner is marketed in Romania and abroad. The main beneficiaries of the primary processed wood from the region are specialized companies from the large cities of Transylvania and the west part of Romania: Alba Iulia, Cluj-Napoca, Oradea, Arad, etc. There are also foreign companies that buy large amounts of timber, and one should mention specialized companies from Hungary, Austria, the Czech Republic, Italy, etc.

The other 20% of the primary processed wood is directed to final processing, yielding products such as furniture, paper, chipboards, fibre boards, etc. In this case, there are a number of companies located in the Land of Moți that provide a large range of final products, such as the ones in Câmpeni, Arieşeni, Gârda de Sus, etc. For instance, the company "Forest" of Arieşeni has an exclusive contract with a company from Lyon (France) to which it delivers traditionally designed ecological wooden chalets, made of round wood. They also sell all necessary accessories for chalet assembling. The Moți specialists go to France to supervise the assembling process when a higher amount is sent.

As a consequence, we can conclude that the statement "the forest plays a part of existential monopoly in the Land of Moți" is utterly true, perfectly justified and proved by territorial realities. Wood is an element supporting everyday existence and a way of life. Both for objective investigators from the outside and for the Moți, the way of life, daily development of activities without the main element for living, the forest, is unconceivable. The statement uttered by an inhabitant of the village of Ghețari is more than conclusive: " … Sir, I love wood, I love it from all my heart, because it helped me build my house, send my child to school and bury my parents" [Mateş 2005]. It should be said that his son is a Ph.D. and lecturer at the Faculty of Sociology of the University of Bucharest. Facing such an orally expressed reality, that any other words are needless.

3.8. THE STATE OF THE AGRO-PASTORAL LANDSCAPES IN THE TRANSYLVANIAN PLAIN AS A BASIS OF CULTURAL LANDSCAPES

Nicolae Baciu, Eduard Schuster, Simona Creța, Maria Isip, Wilfried Schreiber

The idea of "biorhexistasy", developed by H. Erhart [1967], reveals the path of the evolution of geographic systems - progressive, regressive or stable - and the state of landscape evolution related to the "climax" stage. According to Tudoran's theory [Tudoran 1983], geographic systems ("geo-systems") may be grouped in two dynamic subassemblies: "geo-systems in biostasy" and "geo-systems in rhexistasy". He also considered it necessary to add a third subassembly referring to completely anthropizated systems, which he called "geo-systems in parastasy". This classification is interesting as it may reveal a clear relationship between potential landscape use and resource preservation. The three dynamic subassemblies describe a state of equilibrium between the ecologic potential, biological exploitation, and human activities. This equilibrium has proved to be fragile, as nature conservation and human activities represent antagonistic interests. Moreover, the classification becomes the starting point for antagonist analyses: e.g. the exploitation vs. the management of resources; the exploitation of resources vs. landscape ecology interests [Baciu 2004].

This chapter intends to underline the main reasons for a regional disequilibrium on the Transylvanian Plain. Thus, it focuses on the following factors:

- historical deforestation on the Transylvanian Plain,
- continuous land use changes,
- demographic changes over the past century,
- ageing population,
- the role of these factors in analysing anthropopressure.

In addition, these factors represent premises for research on cultural landscape and help to stress the importance and the state of cultural landscape elements.

Regional decision makers have a crucial role in implementing activities regarding cultural landscape elements, their preservation and valorisation. Furthermore, they must assert the management of other resources, such as vineyards or orchards (e.g. in Lechinta or Teaca), that may constitute valuable elements of cultural landscapes. These may be threatened by the (re)occurrence of slope erosion processes all over the Transylvanian Plain caused by the abandonment of old anti-erosion areas and return to small-scale agricultural practices.

Table 23. Analysis scenarios of different types of landscapes
(N. Baciu 2004, after an idea of J.D. Tenhunen, 2001)

Types of landscapes	Landscape elements	Spatial heterogeneity	Diversity studies	Management of the disturbances
Agricultural and lacustrine landscape in the Zau de Câmpie area	- Xerophyl and xeromezophyl meadows; - Xero-mezophyl and xerophyl oak forests; - Maize, wheat and sun-flower plantations; - Lake systems.	At landscape level: - Meadows differentiate productivity on opposite slope orientations; - Different ecosystems; - Fauna heterogeneity.	Observations: - At the level of plant community; - Lake phytoplankton; - Effects of changes in landscape's structure; - Effects of changes in human habitat.	- Rill wash; - Nitrogen transport / transfer; - Lake eutrophication; - Overgrazing; - Climate variation; - Economic incentive.
Agricultural and lacustrine landscape in the Fărăgău - Păingeni area	- Xeromezophyte meadows; - Xeromezophyl oak forests; - Conifer plantations; - Maize and wheat growing; - Lake systems.	At landscape level: - Different retention potential of nitrogen; - Fauna heterogeneity.	Observations: - At the level of plant community; - Lake phytoplankton.	- Gully erosion; - Landslide; - Lake eutrophication; - Lake clogging; - Effects of land-use changes; - Economic incentive.
Orchard and vineyard landscape in the Lechința - Teaca area	- Mezophyle and xeromezophyle meadows; - Mezophyle and xeromezophyle oak forests; - Orchards and vineyards; - Maize, wheat and barley growing; - Incidence of saliferous structures; - Anti-erosion shrub curtains.	At landscape level: - Pedologic heterogeneity; - Saliferous structures; - Short-term fluctuating agriculture.	Observations: - At the level of plant community; - Geomorphologic and vegetal effects caused by the presence of NaCl; - Effects caused by the demographic change.	- Consequences of abandoning the agricultural land; - Effects of land-use changes; - Economic incentive.
Thermonemoral landscape in the north-western part of the Plain	- Mezophyle and xeromezophyle meadows; -Xerophyl oak forests (south-western exposure); - Mezophyle oak and beech forests; - Conifer plantations; - Maize growing; - Incidence of saliferous structures; - Lake systems.	At landscape level: - Non-uniform physiological density; - Saliferous structures; - Vegetal heterogeneity; - Faunistic heterogeneity; - Different retention potential of nitrogen.	Observations: - At the level of plant community; - Lake phytoplankton; - Geomorphologic and vegetal effects caused by the presence of NaCl; - At the level of bird population; - Historical changes at the vegetation level.	- Lake eutrophication; - Land use changes; - Nitrogen transport / transfer; - Economic incentive.

Studies and research conducted by different geo-ecological European schools developed in the 20th century have facilitated the understanding of space and time changes in geo-system structure. The disturbances resulting from land use changes, the spread and appearance of new residential areas, or even climate changes were all taken into account in the comparative calculus analysing landscape heterogeneity or biodiversity [Schmithüsen 1968, Walter 1976, Odum 1983, Tenhunen 2001]. Deforestation processes on the Transylvanian Plain may be placed in the category of activities which exert direct impact on natural resources; these, besides the problems described above, create some important premises for developing a research scenario on the actual state of geo-ecological components (Table 23).

These scenarios, regarding the four areas of our study, are closely related to geo-ecological trends of the German school and we may observe some uniformity given by the morphological, climatic, and phyto-pedological features of habitats and human activities. However, after a detailed analysis, the uniformity and repetition disappear; the analysis imposed in this scenario may set new landmarks. Besides, this purely geo-ecological presentation of landscape components from the four areas takes into account models of landscape or geo-ecological analysis set out by the Anglo-Saxon school. Efficient selection of scenario elements is possible through a correlation of natural and anthropic elements from the region.

The aim of this research was to describe the main features of geo-systems in their direct relation with the state of equilibrium of their natural and anthropic elements, which makes it possible to stress the common elements of agro-pastoral landscapes and cultural landscapes. To what extent some types of agro-pastoral landscapes may be perceived as cultural landscapes?

3.8.1 Geo-Systems in biostasy

These systems are characteristic for their stable ecological potential and the state of equilibrium with biological exploitation. Human intervention may be involved, temporary regressive dynamics, without threatening the balance between components. This will allow for a relatively rapid return to the initial state. The evolution of these geo-systems is dominated by biochemical agents and processes [Erhart 1967, Tudoran 1983]. This category may also include geo-facets of forest geo-systems and geo-systems of protected areas.

3.8.2 Geo-Systems in embryonic biostasy

This type refers to those areas, which, after a range of anthropic or climatic changes and imbalances, have reached a state of new equilibrium and they are currently at the moment zero of the connection between ecological potential and biological exploitation. By adopting this type of systems we try to replace paraclimaxic systems and degraded systems with regressive dynamics that G. Bertrand [1968] associated with systems in biostasy.

Geo-facets in embryonic biostasy include agricultural geo-systems and, partly, human habitat and plantation geo-systems (*Pinus sp*.).

3.8.3 Geo-Systems in rhexistasy

This category embraces landscapes whose equilibrium has been disturbed due to fundamental changes in the ecologic potential, caused by natural or anthropic factors. The evolution of these landscapes is regressive and, sometimes, irreversible in regards to the initial climax state [H. Erhart 1967, Tudoran 1983]. Geo-systems in rhexistasy involve parts of forest, lake, and agricultural geo-systems.

3.8.4 Geo-systems in parastasy (completely anthropizated)

This type corresponds to geographic landscapes in which the structures of elements and relationships between them have been dramatically modified by human activities. Abiotic and biotic elements (excluding human beings) are not in conformity with the natural potential; and, in case of anthropopressure termination, they may become places of progressive evolution. However, the return to the initial or similar state may be produced only in the course of centuries; possibly not at all [Tudoran 1983].

The analysis of geo-systems and geo-facets characteristic for this type follows a general pattern of forest-meadow succession. Nevertheless, the usual phenomenon of vertical vegetation succession is not observed on the Transylvanian Plain, due to its morphological uniformity. Phyto-geographic differences have been generated by slope exposure, relief fragmentation, and pluviometric differences between northern and southern areas.

The state of agro-pastoral landscapes on the Transylvanian Plain, based on the existence of the three subassemblies described above, creates the premises for the designation of some landscapes characteristic for the hilly region of Transylvania. In this case, we can observe a mixture of anthropic and natural features of this region as described in Table 23. Classifying these landscape types into geo-system states will help local decision makers to harmonize the relationships between local communities and protected areas and allocate funds for less privileged areas.