The features of sustainably managed biocultural landscapes in Europe and their benefits for biodiversity conservation and well-being

Urbano Fra Paleo
University of Santiago de Compostela

Global Workshop on the Satoyama Initiative

Ministry of the Environment of Japan
United Nations University-Institute of Advanced Studies (UNU-IAS)
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The Pan-European Biological and Landscape Diversity Strategy (PEBLDS)

• Conference of the environment ministers of the UN/ECE countries

• Endorsed by the third ministerial conference Environment for Europe. Sofia, Bulgaria (1995)

• Goals
  – European response to support implementation of the UN Convention on Biological Diversity (CBD)
  – Conserve biodiversity and landscapes of European importance
  – Promote coordinated action in a fragmented political framework
  – Integrate biodiversity conservation and sustainability into the activities of economic sectors

• Identifies additional actions that need to be taken over the next two decades (1996-2016), structured into four 5-year Action Plans
The Pan-European Biological and Landscape Diversity Strategy (PEBLDS)

- 11 action-themes were defined
  - Action-theme 4
    - Establishment of a Pan-European Landscape Map
    - Development of landscape assessment criteria
    - SWOT analysis of European landscapes
  - Tool for European policy implementation
Landscapes of Europe (LANMAP2)

- Pan-European Landscape Database
- Alterra. 2002
- Scale 1:2M
- Pan-European landscape classification
  - Climate
  - Relief
  - Substrate (geology and soil)
  - Land use and land cover
- Hierarchical classification
  - First level (climate): 8 classes
  - Second level (climate and relief): 31 classes
  - Third level (climate, relief and substrate): 76 classes
  - Fourth level: 350 classes
The European Landscape Convention (ELC)

• Florence Convention
• Adopted 20 October 2000, came into force on 1 March 2004
• Council of Europe
• Goals
  – Identification and assessment of European landscapes
  – Definition of landscape quality objectives
    • Result of a dialogue between decision-makers and citizens
    • Public participation in the design and implementation of policies
  – Protection, planning and management
  – Facilitate cooperation to enhance the effectiveness of the measures taken
    • Europe-wide, transboundary
    • Exchange of expertise - scientific and technical- and information
    • Education and training
Dominant landscape types of Europe

- European Environment Agency
- 11 Nov 2008
- Based on Corine Land Cover 2000
Cultural Landscapes and Cultural Landscape Ecosystems in Europe

- PAN European Thematic Network on Cultural Landscapes and their Ecosystems
Landscape Types

- Arable land
  - Field systems
  - Garden systems
  - Shifting cultivation systems
  - Vineyards

- Cultural grassland
  - Alvar grassland vegetation
  - Grazed grassland
  - Mown and/or grazed fen land
  - Mown and/or grazed orchards
  - Mown grassland (or mixed mown and grazed)
  - Steppic grassland

- Managed mires
  - Blanket bogs
  - Raised bogs

- Managed scrublands and heathlands
  - Broom fields
  - Dry heathlands
  - Garrigue
  - Maquis, macchia
  - Wet heathlands

- Managed woodlands
  - Coppice, coppice with standards, coppice for fruit production
  - Dehesa, montado
  - Grazed woodlands
  - Managed alder carrs
Landscape associations

- Environmental zones
  - Alpine north (ALN)
  - Alpine south (ALS)
  - Atlantic central (ATC)
  - Atlantic north (ATN)
  - Boreal (BOR)
  - Continental (CON)
  - Lusitanean (LUS)
  - Mediterranean mountains (MDM)
  - Mediterranean north (MDN)
  - Mediterranean south (MDS)
  - Nemoral (NEM)
  - Pannonic-Pontic (PAN)

- Land management
  - Burning
  - Clearing
  - Coppicing
  - Fertilizing
  - Field cultivation
  - Grazing
  - Mowing
  - Orchard cultivation
  - Pollarding
  - Thinning
Common Agricultural Policy (CAP)

- A key policy that has made progress in its environmental dimension
  - 50% of EU land is farmed

- Helsinki European Council (December 1999)
  - Adopted a strategy for integrating the environmental dimension into the CAP
  - Multifunctional character of agriculture

- Göteborg European Council (June 2001)
  - Adopted the EU Sustainable Development Strategy
Common Agricultural Policy (CAP)

- Two environmental pillars
  - Cross compliance
  - Agri-environment measures

- Cross compliance
  - Mechanism that links direct payments to compliance by farmers with basic standards concerning the environment, food safety, animal and plant health and animal welfare, as well as the requirement of maintaining land in good agricultural and environmental conditions
  - Compulsory
  - Reference level for agri-environment measures

- Agri-environment measures
  - Encourage farmers to protect and enhance the environment on their farmland
    - adopt environmentally-friendly farming techniques
    - compensation for additional costs and income loss (co-financed by Member States)
  - Engage voluntarily in action beyond the mandatory requirements
  - Measures
    - Extensification and low-intensity pasture systems
    - Diversification
    - Integrated farm management and organic agriculture
    - Preservation of landscape and their historical features
    - Conservation of high-value habitats and their associated biodiversity
Two examples of fragile cultural landscapes

Ribeira Sacra

Bardenas Reales
European Spatial Development Perspective (ESDP)

- Council of Ministers responsible for Spatial Planning in Potsdam, 1999
- Goals
  - Balanced development
    - Mitigating spatial disparities
    - Growing importance of EU sectoral policies with spatial impact: Common Agricultural Policy
  - Sustainable development
    - Agriculture as a main factor of landscape transformation
      - Uniformization of landscapes
    - New functions of rural areas
      - Pressure of mass tourism over fragile environments and landscapes
European Spatial Development Perspective (ESDP)

- Strategies
  - Coordination of development measures
  - Partnership between towns and their countryside: the rural-urban partnership
  - Natural and cultural heritage as a development asset: cultural landscapes and historical paths
  - Intervention in landscape restoration and where human management is neglected
  - Transboundary coordination: INTERREG Initiative
European Spatial Development Perspective (ESDP)
Some key factors of change at the EU scale
Population growth and urbanization processes

- Urban growth/sprawl
- Suburbanization (primarily second homes)
- Transportation networks
Agriculture intensification

• Landscape standardization
• Loss of biodiversity
• Increased pollution levels
• Soil erosion
Afforestation

- Landscape standardization
- Exotic species

(Schuck et al 2002)
Desertification vulnerability

Source: U.S. Department of Agriculture
Europe: Acid Rain

Key:
- High risk
- Medium risk
- Low risk

0 km 500

[Map showing the distribution of acid rain risk across Europe]
Wild fires

The classification of the forest fire hazard is based on a combination of the numbers of observed fires per 1000 sq. km 1997-2003 (ESI) and the biogeographic regions map of Europe (EEA).

The number of observed fire per 1000 sq.km 1997-2003:
1 = No fires fires
2 = <1 observed fire
3 = 1-5 fires
4 = 6-10 fires
5 = >10 fires

Biogeographic regions:
1 = Alpine and Arctic,
2 = Atlantic,
3 = Boreal,
4 = Continental, Black sea, Pannonian and Steppic,
5 = Mediterranean
Absolute change in mean annual temperature and precipitation between control period 1961-1990 and 2071-2100, under the IPCC SRES scenario A2 (EC JRC/IES)
Challenges

• Understand the landscape both as a system and as the outcome of a historical process
  – Sometimes mixed land uses
  – Material and inmaterial components (particularly practices)
  – Macro and micro elements (not easily mappable)
• The whole landscape system needs to be managed
  – Not only individual components
  – Environmental protection does not fit well
    • Landscapes are the result of land use change
  – Spatial planning can contribute significantly
    • Help to define desirable land uses
    • Preclude other land uses that might change its nature
• Balance between new functions and landscape protection
  – Mass tourism may become a threat
Challenges

• Farming has contributed and should continue to creating and maintaining unique countrysides

• Public participation
  – Local residents have been the builders and agents of change and will continue to be
  – Identify their knowledge, needs and multiple interests
    • Communicate the multiple values of the landscape
    • Help to build a regional identity
    • Involve them in the processes of inventory, planning and decision-making
    • Recognise residents as stewards of the landscape

• Internal processes: Marginalization
  – Ageing
  – Out migration
  – Lack of services
  – Lack of opportunities
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