



This series of eight Information Notes and accompanying video are intended to provide a brief introduction to some of the issues facing pastoralism in Europe today. They were produced as part of the output from the PASTORAL project, an EU-funded Concerted Action which considered the agricultural, socio-economic and ecological characteristics of high nature value pastoral systems in Europe.

The PASTORAL project was steered by a consortium consisting of the Scottish Agricultural College (UK), European Forum on Nature Conservation and Pastoralism, ALTERRA, (The Netherlands),

Institute for European Environmental Policy (UK), Asociacion para el Analisis y Reforma de la Politica Agrícola (Spain), Universidad Autónoma de Madrid (Spain), Escola Superior Agraria de Castelo Branco (Portugal) and Coordination Paysanne Européenne (Belgium).

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Further detailed information on the PASTORAL project and European pastoralism can be found at: www.sac.ac.uk/envsci/external/Pastoral/default.htm

Approaches to the development of a typology

- European high nature value pastoral systems are generally characterised by the grazing of domestic livestock at low densities in large 'unenclosed' areas overwhelmingly dominated by semi-natural vegetation. This semi-natural vegetation provides the vast majority of the livestock's forage requirements throughout the year¹.
- Since these types of systems form only a small proportion of European livestock production systems in general, a logical framework for conceptualising and categorising the full range of variation of systems is needed. Such a framework:
 - Would help in the understanding of which characteristics of the systems are key
 - Would act as a useful tool in the investigation of how these characteristics combine to create high nature value
 - Could form the basis for developing appropriate and targeted agricultural and conservation policies
- Two alternative approaches could be taken to developing such a framework and understanding the key characteristics of high nature value pastoral systems:
 - (1) Individual variables (characteristics) could be investigated and data analysed to look at the relationships or correlation between variables. Correlations could then be interpreted to reflect the objectives of the study.
 - (2) One independent variable could be used as a focus for the framework (with the others being regarded as dependent variables). For example:

¹ PASTORAL (2003) *An introduction to European pastoralism*. PASTORAL Information Note 1

- Livestock management practices, e.g. summer grazing by sheep, winter grazing by cattle
- Habitats/biotopes that are grazed, e.g. alpine grassland, sub-alpine pastures/meadows, permanent *Molinia* grasslands, heath and bog, saltmarsh, etc
- Geographical regions known to contain a lot of pastoralism
- Type of grazing animals, e.g. native breeds of cattle, milking sheep, sheep for meat production, etc
- The distribution and abundance of grazing animals

- However, both of the above approaches are problematic because, in reality, variables do not come together randomly. Not only are they inter-correlated but they only occur in certain combinations and permutations determined largely by economics (as influenced by geography, economics, policy, etc) and the culturally driven and idiosyncratic decisions of the pastoralist.
- Moreover, policy can also be viewed as being delivered by means of a series of choices, each governed by simple yes/no answers. For example:
 - Is the animal a suckler cow?
 - Is it kept on a farm with less than a certain output of dairy products?
 - Is the livestock density below 2 LU/ha?
 - Is it part of a farm where cows form >10% of the total LU figure?
 - Is it on a holding with <10 ha of good quality land?
- At each of these steps there is a different policy application. Thus, to assist in the development of effective and appropriate policy, it is necessary to think in simple dichotomous terms and to find those questions that have real implications.

The need for a typology based on systems

- There is, therefore, a strong case for developing a framework based upon the activity of the pastoralist and the structure of the “livestock farm” because “systems” are formed through the combination and interaction of these variables. The term classification has quantitative and analytical connotations so the term typology is more appropriate for this type of categorisation and framework.
- However, no typology exists in a vacuum – each typology forms an answer to a particular question. Typologies can therefore be generated in many ways depending on the purpose for which they are required. Although the basic information and data remains the same, different typologies group the farms together in different ways.
- At the first main PASTORAL meeting in Spain it was suggested that the following variables, used in a dichotomous key (see Figure 1), could produce groups of farms which reflected the focus of the project on high nature value pastoral systems:
 - The livestock density on the main forage area
 - The percentage self-sufficiency in providing energy deficiency requirements of semi-natural vegetation
 - The percentage of the main forage area that consists of semi-natural vegetation
 - The proportion of the forage deficit produced from conserved fodder or from forage
 - Whether use of the pastures is seasonal or continual
 - Whether the livestock are shepherded, hefted (encouraged to remain within a specific home-range) or free-ranging

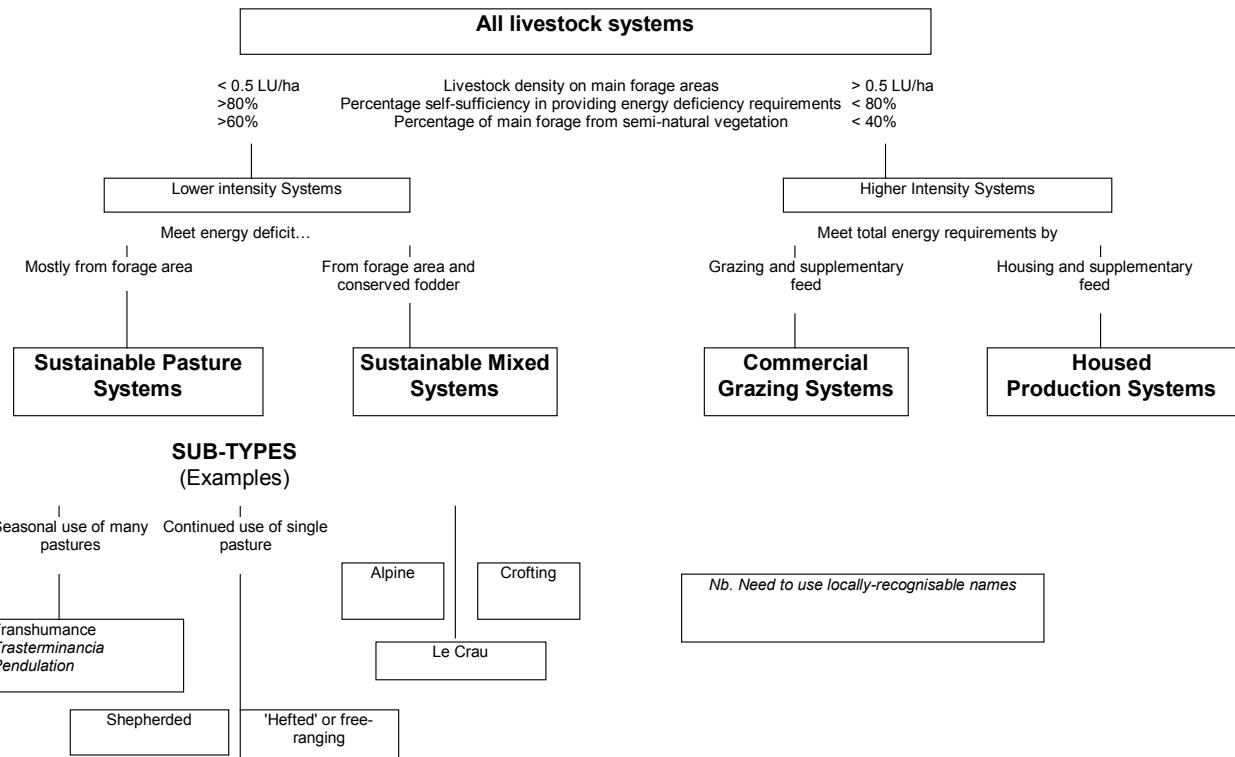


Figure 1: An approach to producing a typology of EU and central and eastern European Livestock Systems

- With the groups of farms defined on this basis, there is both a rationale for selecting certain farm-types for further investigation, and a structure for investigating how much is understood about them. For instance, it is possible to ask questions about how these farms interact with the environment, their dynamics, their history, their future response to policy and the relative importance of a wide range of other factors such as age of farmer, market effects, social pressures etc.
- Importantly, the potential range of variation has been reduced significantly and in a way that is justifiable. Arguments about the details of the typology are rather unimportant because there is no “right or wrong” typology and its only purpose is to help disparate groups of experts (farmers, policy makers, socio-economists, nature conservationists etc) to think in a consistent way.
- The typology thus simply becomes the framework for selecting examples (from existing information) to *illustrate* the problems to be highlighted. Then, for example, schematic diagrams (Figure 2) can be used to illustrate the way the production systems function – from a management, biological and grazing animal perspective. Questions can then also be asked about issues such as associated habitats, Natura 2000 sites, livestock types, age of farmers, nature conservation value and location.
- None of these attributes have been used in the definition of the groups so we are not in danger of creating circular arguments. The next stage might be to go out into the field and collect data about the farms in the “pastoral” groups, produce descriptions from analyses, make predictions and test these.

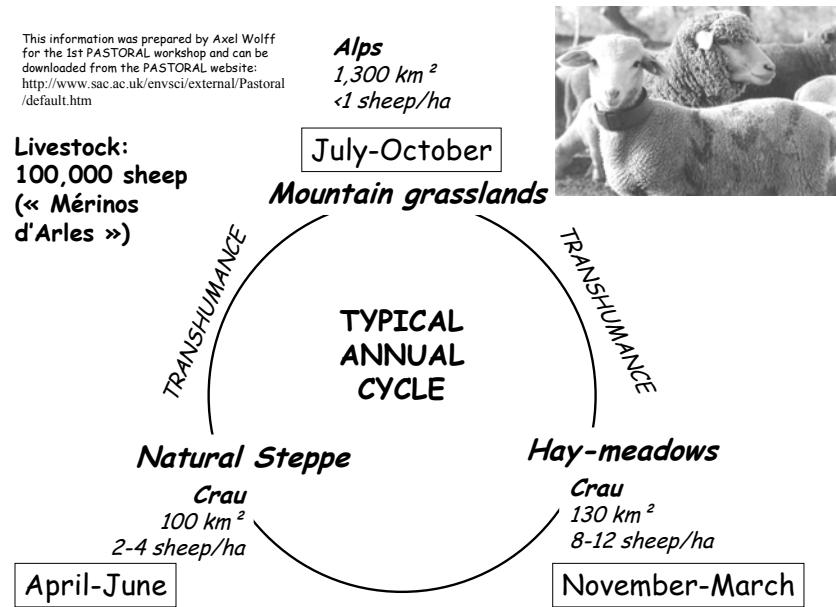


Figure 2: Schematic diagram showing typical annual cycle of sheep system practised in La Crau, France

The strength of a typology based on systems

- The strength of this approach is that it does not try to make the systems geographically discrete. Geography is but one factor in determining the location of production systems. Particularly away from mountains and similar severe environments, the interplay of tradition, infrastructure, policy and markets exert at least as important an influence. Where different systems are equally financially attractive or where cultural factors are very strong, farmers' own decisions, whether rational or irrational, may dominate the farming pattern.
- Using the framework of the typology, it is also possible to look at things like the dynamics within the system (e.g. changes to stocking rates or livestock breeds, shift to part-time farming) to begin to understand which changes are simply perturbations, which are long-term trends and where limits of tolerance of change might lie. With this information, it is then possible to begin to answer question about the actual and potential importance of existing and future policy, or indeed the potential impact of existing policy on systems not currently affected (e.g. in the Accession countries of central and eastern Europe).
- The real world is very complex. Typologies are a subtle and effective way of studying this complexity. One of the beauties of a good typology is that it really is a reflection of the real world - it has a robustness that belies the simplicity of the questions within it. For example, a dairy systems typology² derived for environmental reasons turns out to reflect socio-economic and cultural patterns rather well, and also relates back to the real world.
- A typology could act as a tool for raising the visibility of pastoral systems amongst European decision makers and would allow greater targeting of policies to this group. The development of such a typology is, therefore, an urgent priority.

² CEAS & EFNCP (2000) *The environmental impact of dairy production within the EU: practical options for the improvement of the environmental impact*. Report to DG Environment available at: <http://europa.eu.int/comm/environment/agriculture/pdf/dairy.pdf>

A total of eight Information Notes have been produced from the PASTORAL project:

- 1: *An introduction to European pastoralism*
- 2: *The need for a typology of European pastoral systems*
- 3: *The nature of European pastoralism*
- 4: *Examples of European pastoral systems*
- 5: *Trends and threats to the viability of European pastoral systems*
- 6: *Potential policy approaches to support European pastoralism*
- 7: *Gaps in the understanding of European pastoralism*
- 8: *European pastoralism: farming with nature*

Many of the points in these Information Notes are illustrated by examples taken from the location of the four main workshops held during the course of the project, Sierra de Guadarrama Mountains (Spain), Transylvania (Romanian Carpathians), Isle of Islay (Scotland) and the plain of La Crau (south-east France).

These Information Notes were compiled by Sally Huband (the dedicated officer employed by SAC on the PASTORAL project) with additional input from the other members of the project steering group: Davy McCracken and Gwyn Jones (SAC), Eric Bignal (EFNCP), Berien Elbersen (ALTERRA), David Baldock and Harriet Bennett (IEEP), Guy Beaufoy (Spain), Begoña Peco (UAM), Luis Pinto de Andrade (ESA-CB) and Gerard Choplin, Isabel Bermejo and Jesús Garzón (CPE). The project meetings enabled us to consider and discuss the future of pastoral systems with many colleagues drawn from our own institutes and elsewhere throughout Europe, and we offer our thanks to them for their useful contributions towards the development of many of the views presented here.