12 Searching for extensive livestock governance in inland northwest of Spain

Achievements of two case studies in Castile-León

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Briefing

The centre of Spain, like the whole Iberian Peninsula, holds a wide pastoralist heritage, as a result of the strong economic influence pastoralism has had in its history and the mix of cultures that contributed to develop highly efficient models of husbandry and land management based on extensive grazing. The influence has been so intense that the current processes of abandonment of rural environments and the loss of traditional activity, furthermore than generating unemployment and migration from livestock linked communities, is also leading to a lack of valuable habitats and ecosystems dependent on pastoralist practices.

Starting from this historical perspective (evoking the times of the Islamic occupation and the ‘Mesta’), this chapter unravels the actual state of extensive livestock production in northern central Spain, describing the drivers of a deep crisis that is affecting both the traditional rural way of life and the ecosystems supporting it.

Finally, it focuses on the developing groundswell (partially the inheritance of the transhumance recovery groups from the early 1980s) that is trying to mobilize social, ecological and economic support for pastoralists and extensive farmers. The report also describes some initiatives and new proposals geared by this supporting movement to allow and promote pastoralism and extensive livestock production to improve pastoralists’ livelihoods and their role in land governance, sustainable development and conservation.
The northwestern Iberian pastoralist culture: the extensive livestock farming tradition in Spain

Pastoralism has been anchored in Iberian culture since prehistoric times. The Iberian Peninsula shows a remarkable ecological background where movements and seasonal migrations are boosted by climatic and geological issues. Two key aspects reinforce this statement, the first being the Mediterranean climate forcing animals to move seasonally, looking for better feeding areas. The second is the transverse disposition of mountain chains interrupting the North-South paths but allowing up-down movements along altitudinal gradients.

Many pastoralism experts refer its historical origins to people from the Palaeolithic era following the great herds of wild herbivores along those seasonal migrations (Garzón, 1992). Palaeolithic people followed the great herbivore movements, using the same shelters and surveillance spots over and over, like those found in Atapuerca related to these migratory ways (Santos et al., 2011). Transition to the Neolithic age might have preserved the same ways and infrastructure (shelters, springs, ponds, mountain passes) lying in the origin of the actual network of livestock tracks (Ibarrola, 2008).

Some Celtic/Gaelic tribes present in the North Iberian Peninsula around the fall of the Roman Empire were mobile herders (Montserrat and Fillat, 1990). Thus, the tension between pastoralists and farmers, symbolized by the Celtic and Iberian tribes’ contact, developed a complex mix of production systems (Montserrat, 2007). After the Arab invasion of the eighth century, the cold lands of the north were briefly assigned to Berber tribes; they left behind a deep footprint in the region after heading back to Africa, including land tenure systems that have survived for centuries. Some of those regulations (e.g., the sistema de hojas or ‘patch system’) established the basis for transhumance and transterrinanciation.

After the Reconquest, Alfonso X, known as El Sabio (the Wise) founded La Mesta in 1276, which introduced a key organization for the development of herding in Spain. La Mesta was a core organization of the Castilian Crown (Klein, 1979), that lasted over six centuries and rose to extraordinary levels of power and influence until its dissolution in the nineteenth century. Spanish pastoralism, including transhumance and the network of livestock corridors, was deeply rooted in society under La Mesta’s command. However, it was not a social institution but a powerful tool of political and economic influence. As such, it was controlled by nobility and they forced kings to act at their will and imposed a privilege system that energized conflict throughout the country. Transhumant shepherds were the elite of this system, acquiring several privileges with royal support that made them admired, envied and hated (Valdivielso, 1998).

After the fall of La Mesta in the nineteenth century, the politicians of the Enlightenment Age started to develop agricultural policies to boost agriculture through livestock production (García Sanz, 1994 and 1978). The system of livestock production changed to a more settled one to profit from animal power, until the twentieth century. In the meantime, pastoralists kept on moving their herds following the ancient ways with only a portion of their former influence.
During the 1960s, Spain started to industrialize farming, which significantly changed the agricultural sector by concentrating and intensifying production. Also, intensive livestock production based on external inputs and breeds started to substitute extensive systems (Banco Mundial/FAO, 1966). That also started the process of abandonment and migration (Domínguez, 2001). In 1986, Spain became a member of the European Union and thus joined the Common Agricultural Policy, which is currently the main driver of agriculture and livestock in the country. The consolidation of the new industrial system has brought about a huge increase in production and livestock numbers, providing for the demands of the expanding urban society (Lasanta, 2010) while driving traditional farming to a deep crisis and to the loss of prestige, legitimacy and influence. From the 1960s to the 1990s the extensive livestock breeding sector moved from being highly respected and influential to being a marginal part of the agricultural sector. Extensive farmers were considered to be troublemakers by the newly constituted forest and environmental administration and were accused by environmentalists of being a significant source of land degradation.

Nevertheless, extensive livestock production survived all of these changes and kept its heritage and culture, remaining in the marginal rural areas of the Iberian Peninsula. However, the low costs and marginal distribution contributed to their survival, skipping some of the greatest problems of industrial livestock and keeping active extensive models adapted to local conditions, landscape friendly and able to provide valuable ecosystem services.

Most European countries embody remnants of traditional land-management system, including transhumant shepherds and other extensive farming structures, but Spain hosts a great variety of systems with several species, land-management tools, tenure rights and cultural heritage, which confers this country a special significance in the European context.

**Current challenges for extensive livestock farmers and pastoralists**

Extensive farming models promote sustainable livestock management while maintaining high natural value areas, contributing to biodiversity, conserving habitats of interest, preventing wildfires, conserving infrastructures, restoring ecosystems, improving rangeland richness and maturity, and providing other environmental services that extensive farmers are not actually being rewarded for (García and Entretantos Foundation, 2012). Numerous high natural value habitats, ecosystems and corridors in Spain, widely distributed throughout the country, are sustained by extensive farming (Oppermann et al., 2012). Moreover, research during the last decade has shown a significant relationship between extensive livestock farming, biodiversity and environmental quality (Lasanta, 2010). Herding activities such as grazing, irrigating meadows and mowing have developed a mosaic landscape, contributed to maintaining woods or preventing wildfires. Moreover, this extensive livestock produces healthy food, raw materials and manure that contribute to agricultural soils’ fertility.
Extensive livestock farming in Spain shows a complex mix of different systems and orientations (Mantecón et al., 1994), including sheep systems (transhumants, transitory and stubble fields grazing), cattle systems (meat, dairy, semi-extensive, dehesa), and mixed species systems (with goats, horses, pigs, etc.). Northern regions, such as Catalonia, the Basque Country, the Pyrenees, Cantabria and Asturias, practise mountain-based pastoralism and southern regions like Andalusia, Murcia, Extremadura and the Canary Islands also use the dehesa and other semi-arid systems, along with mountain rangelands (Ferrer et al., 2001). Most systems actually use semi-extensive tools adapted to local conditions, feeding livestock in barns temporarily during scarcity seasons when livestock is not able to graze directly. These periods are also variable and are getting shorter to reduce costs. The feed supplied during the indoor season may also vary from locally collected hay to fodder bought in markets.

Challenges and problems livestock farmers currently face are similar to those confronting the entire country, but territorial characteristics individualize each Spanish region. Both political distribution of territorial power across the different levels of government and diverse systems of land ownership have led to territorial variability. To help interpret the case studies at the end of this chapter, the challenges and problems described hereafter are examined at the national level and contextualized to Northwest Spain and specifically the Castile-León Autonomous Community, since in Spain Autonomous Communities (regional governments) hold most of the territorial, agricultural and environmental powers.
Governance: between nature conservation and abandonment

In recent years many factors have strongly affected land governance in Spain, but, in relation to livestock production two of them need to be highlighted. The first is nature conservation policies, especially those applied between the 1980s and 1990s. The lack of legitimacy experienced by herders and the perception of livestock as a negative agent in conservation led the environmental administration to consider livestock as an enemy and ban their activity in the most valued protected lands. This policy is currently under revision, but it has strongly affected citizens' perception of livestock and contributed to marginalization of this activity. In terms of governance, the rights of land use moved from local farming communities to the environmental administration which was more interested in reforestation or fire-fighting than in preserving traditional land uses that are often seen as harmful to conservation.

The second driving factor is abandonment and depopulation. The crisis, which has been affecting the traditional rural environment from the second half of the twentieth century, has shown a progressive lack of population and the loss of traditional agricultural activities that used to maintain rural environments. Abandonment is also related to a loss of governance due to the lack of capacity of local institutions to manage their own lands, the lack of political power in poorly populated municipalities in regional and national politics, the low capacity of performing communal work, masculinization and especially in those lands where property is small and fragmented, ownership is also abandoned by migrants leading to difficulties in land management.

The environmental consequences of declining rural activity are changes to the vegetation cover composition and structure (Corbellí and Crecencio, 2008). Once abandoned, the former agricultural lands are colonized by spontaneous vegetation following a process of succession that leads, in the absence of disturbance from poor pastures, to woodlands (Prévosto et al., 2006). However, if disturbance continues, the ecosystem keeps degrading, even if exploitation stops. The speed of such successional processes depends on soil characteristics, climate, neighbouring seed sources and the kind of agricultural activity formerly developed (Sluiter, 2005). Sometimes, this process has been accelerated by seeding forest species directly on agricultural lands with similar results. The growing vegetation cover increases habitat availability, species richness and landscape quality, but the effects may strongly differ from the structural pattern of previous activity. The loss of extensive farming landscape is considered to be globally negative because it implies the loss of semi-natural habitats of high ecological value and linked to human land use. The elimination of livestock leaves landscapes under-grazed (Lasanta, 2010) allowing dense shrub colonization, homogenization of landscape structure, retiring primary production, loss of diversity and increasing wildfire risks (Naveh and Kutiel, 1990; Lasanta et al., 2005; Beguería et al., 2003; Laiolo et al., 2004). When wildfires make their appearance the degradation intensifies, the ecosystem simplifies and water cycle regulation diminishes, thereby damaging the support capacity. Some authors have stated that the consequences of under-
grazing are significantly more serious than those of over-grazing (Ferrer and Broca 1999).

Two key ecological consequences of abandonment are erosion and wildfires. The intensification of erosive processes depends on geographical characteristics (e.g. slope and climate). Abandonment of moderate slope landscapes and Atlantic climates should reduce erosive processes and protect soils (Cammeraat and Ineson, 1999; Tasser, 2007) while in Mediterranean climates, with lower rates of vegetation growth, abandonment usually leads to an increase in erosive processes, especially in steeply sloped areas where infrastructures like walls and terraces built up to retain soils are also abandoned (Cerdà, 2003; Beguería, 2006). Even if some areas are regenerating after abandonment, this argument cannot contradict the fact that rich semi-natural habitats, which are ecologically diverse and able to shelter uncommon species, are disappearing driven by the loss of extensive production (Corbelle and Crecente, 2008). Landscape quality is also affected, with complex cultural landscapes built throughout centuries being substituted by younger forest ecosystems.

Finally, abandonment is not only about economy or ecology. The hardest consequence of this situation is a general feeling of lack of future expectations constraining the whole rural society. Women were the first to feel this, and masculinization of rural areas has also become a great issue linked to depopulation and abandonment.

Wildfires, abandonment and governance

Forest fires are a major problem in Castilian mountains and other Spanish and Mediterranean regions. There is a strong link between abandonment and the prevalence of wildfires in Spain (Reinhardt et al., 2008). This relationship is not only due to accumulation of biomass after abandonment, but also to the simplification of landscape structure and the lack of discontinuities, allowing fire to affect large surfaces of uniform shrub lands (Moreira et al., 2001; Romero and Perry, 2004; FAO, 2006a; Millington, 2007).

The incidence of fires involving human activities is much higher in some regions of the Castile-León Community than in others, highly increasing in the peripheral mountainous areas in the northwest (the provinces of León and Zamora) and in the South. These areas share the same socioeconomic problems and environmental management questions over the causes and where solutions should be sought.

An initial analysis suggests that a strong tradition of using fire as a scrubland management tool remains in these areas (Molinero, 2008). This widespread use of fire prevents the development of new economic activities based on the exploitation of natural resources, boosting degradation linked to the abandonment of unprofitable activities (Izquierdo, 2005; Rey-Benayas et al., 2007). Among other reasons, the use of fire to regenerate pasture for use by livestock is the first and foremost frequent cause (GEA, 2005). Elderly people remember cleared areas near villages as a defence against other potentially threatening wildfires and the preservation of a classic cultivated and exploited landscape.
Moreover, the 'need for cleaning' is one of the key subjective factors about human causality of wildfires. Local people feel the landscape is 'dirty' when invaded by scrub, and try to 'clean' it in the traditional way; discontinuities and infrastructure that allowed their ancestors to control and use fire as an agricultural tool are no longer available. It is significant that local people do not consider the the burning of scrub as causing wildfires, but as a means of cleansing. Traditional use of fire has become a serious problem for these territories that are progressively impoverished, not only in terms of landscape or biodiversity, but also from an economic, social and cultural point of view (García and Entretantos Foundation, 2011).

Figure 12.2 represents some details of the diagnosis in a cloud of concepts trying to reflect some of the most outstanding and widespread ideas involving the issue of wildfires and their close relationship to land governance. Each component is related to the others and, therefore, influences and is influenced by other components of the situation. The organization of the chart has grouped most governance related issues in the upper left-hand circle, but there are other related topics. Wildfires are located in the centre of the diagram (according to their original purpose), but any of the other items displayed could be occupying this position.
Market and Common Agricultural Policy issues

The Common Agricultural Policy (CAP) of the European Union is intended to protect agricultural production and make farming systems more sustainable. The choice between extensive and intensive farming is not always clear, and most farmers operate in the grey area between the two. However, farmers often make difficult decisions about their facilities depending on the CAP measures and development. They rely on subsidies and grants to plan and execute their business activities.

Some authors have related the return of livestock to mountains to the CAP and its ‘greening measures’ (Lasanta, 2010) but it is difficult to promote an authentic return of pastoralists. However, extensive farming is able to reduce inputs, lower costs and be more efficient and sustainable, which deals with some problems and with a legal regulation framework that is clearly oriented to industrial production. Moreover, it shows a great capacity to improve biodiversity and ecosystem stability (Hesse and McGregor, 2006; Montserrat and Fillat, 2004). Thus, European policies should take into account all these services and provide a friendly extensive livestock farming framework as part of their CAP.

The challenge is to maintain livestock facilities and their environmental and social services, but this is difficult without economic incentives. Instead of asking farmers to act as environmental stewards (as attempted by the CAP) it is necessary to set up a solid economic framework for extensive farming. This framework should ensure economic, ecological and social profitability by means of improving payoff, working conditions and compensation for environmental benefits. Such a framework could create a window of opportunity, in terms of organic and high quality food production in the near future.

Many farmers believe that a specific strategy to support pastoralism and extensive farming is still needed. CAP grants are oriented to compensate rents but they need to focus on the entire contribution of extensive livestock. Nevertheless, agro-environmental measures and animal welfare subsidies are converging as a powerful tool to enhance livestock sustainability to improve both environmental conditions and competitiveness, but they are used below their potential. Farmers should help to develop a new model of high quality production. Until now, however, the rigidity of CAP rules has interfered with the ability of farmers to market their products by imposing high costs and requirements.

In summary, extensive farmers feel that they are not properly acknowledged in the new CAP and they demand an explicit recognition of extensive livestock farming and rangelands and a specific set of rules to develop this activity, clearly differentiated from intensive livestock production. The CAP should adjust to land managed, ecosystem services provided, and high natural value areas conserved, analysing and considering regional and local features.

Other problems with rangeland governance

The best way to summarize the big picture about extensive livestock and pastoralism in Spain is the loss of land control, including its ability to support livelihoods.
The mountains and rangelands of Northwest Spain have experienced a land-management focus which has been derived from a local level (linked to widespread small-scale agricultural activity supporting a lot of people) to a regional level (linked to forest and environment management developed by regional governments). The main role in this change has been held by environmental and forest policies that used to regard any traditional uses as counter to conservation. Protected areas have demonstrated that the point of conservation policies is to show improvements both in nature conservation and in local welfare, but they always need local support from people and municipalities. Regional governments are recently trying to incorporate local institutions and population in the planning and management tools of protected areas, but environmental budgets have suffered severe cuts from the start of the crisis and nowadays most of these policies have been abandoned.

Mountain livestock farming is closely related to this kind of protected area in the Spanish inland north. The first form of political support extensive farmers have experienced came from civil servants and politicians linked to forest and environmental management, changing the way herders were regarded. Nevertheless, this political support is an incipient movement inside the regional administration and it is not enough to really change the role of extensive livestock farming.

According to farmers and supporters, the trend in extensive livestock production and pastoralism shows a regressive scenario driven by several socioeconomic, market and technical causes, including agricultural policies, environmental issues and rural development projects that are not properly addressing extensive livestock issues. This scenario means that the first lands to be abandoned are isolated and marginalized territories hosting high natural value areas.

The main governance and management problems were difficulties in accessing and managing rangelands in these areas. Market issues and progressive narrowing of profits are preventing herders from investing and developing essential infrastructures (e.g. access, water sources, paths and fences). However, if there is a lack of infrastructure exploitation, costs increase affecting efficiency and profit, creating a negative feedback loop. Some abandoned lands are also unavailable for grazing due to ownership issues and cañadas y vías pecuarias (livestock tracks) are fragmented and in poor condition.

**Recovering governance in extensive farming: the background of pastoral and extensive livestock supporting in Spain**

The severity of the scenario for pastoralism and extensive farming has mobilized support within Spanish society particularly from environmental related institutions and NGOs. Aware of the dramatic consequences of abandonment of extensive livestock activity, ecology researchers, universities, environmentalists and other concerned stakeholders have publicly supported extensive farmers as a key to maintaining natural heritage and rural society. However, there are some conflicts between pastoralists and environmentalists that need to be addressed.
Supporters of extensive livestock have emerged throughout Spain but have not yet constituted a true lobby platform. In the past 10 years, some pastoralists and farmers’ organizations are increasing and developing an incipient network of extensive farming, led by national organizations, like the Spanish Federation of Pastoralist Associations. It is currently unclear how this situation may evolve to a supporting network with two types of organizations involved: one focusing on advocacy and the other giving more technical and professional support. Professional organizations should be led by and consist of farmers, defending their interests and conditions while the rest visualize the social support and try to improve the ecological, social and cultural benefits of pastoralism and extensive livestock, helping professional organizations to enhance their capacities by providing technical assistance when needed.

The transhumant movement

One of the most significant supportive movements for pastoralism has been established to sustain transhumance. It is not main the aim of this report, but its current influence in support of pastoralism demands a brief commentary. It is also the first example of a state-level support movement and also shows an interesting role played by government, transhumance being the pastoralist activity that suffers most from limitations imposed by the transfer of powers to regional governments.

By the third quarter of the twentieth century transhumance in Spain still existed while undergoing profound changes: abandonment of wool production, breeding intensification, crossing local breeds with meat producing ones, use of transport to move herds and substitution of sheep for cattle. The changes imposed by the CAP and the intensification of farming make it more difficult to maintain mobility and the ‘Transhumance and Pastoralism Symposium’ held during EXPO 92, concluded that Spanish transhumance was fading.

Nevertheless, there were still resistant pastoralists in some Spanish regions. In 1993, Jesús Garzón organized his first demonstration of transhumance, in collaboration with the Spanish Merino Breeders Association, and mobilized more than 2,600 sheep along 1,000 km of the vias pecuarias network from Extremadura to Zamora in Castile-León. This demonstration of transhumance recovered the annual movement of livestock, mostly sheep, up and down Spain. Herds crossed big cities following the ancient paths and awakened a social interest in transhumance that had been lost over the past years.

The Vías Pecuarias Act was updated in 1995, being one of the most significant laws protecting livestock tracks in the world. This law safeguards up to 125,000 km of paths covering 400,000 ha and gives support to the most important framework of public lands in Spain, providing the infrastructure needed to recover transhumant ways (Hernández, 1996). In 2005, the first National Congress on Vías Pecuarias (Manzano, 2006) opened the debate about their conservation among politicians, environmentalists, livestock breeders and researchers. The second National Congress took place in 2010. Pastoralists and environmentalists,
nevertheless, are still complaining about the state of some of these ways and the illegitimate appropriation by private and public interests.

The Transhumance and Extensive Livestock Working Group held at the Agriculture and Environment Ministry was created in 2009, with the participation of several directorates of the Ministry, regional governments and organizations linked to extensive livestock. That group has held several meetings and activities trying to diagnose the actual situation of transhumance in Spain and has promoted the drafting and approval of the ‘White Paper on Transhumance in Spain’, published in the Boletín Oficial del Estado in 2012 (SGAA, 2011), establishing the actual strategic framework to protect and develop transhumance in Spain. This book marks a turning point in Spanish transhumance.

One thing about this support movement is the low profile kept by pastoralists, who have remained hidden while all these achievements were attained and sometimes they had been forgotten by the same people supporting them. In July 2013, the National Association of Transhumant Pastoralists gathered in León to introduce their new association and claim a more active role for pastoralists. This association intends to make visible the problems and difficulties experienced by transhumants, trying to become genuine interlocutors with government agencies and to give transhumance a higher profile.

Transhumant support has not been the only state-wide movement supporting pastoralists. There have been greater efforts in research and management of the dehesa system, uniting several universities and regional governments in western Spain and other projects related to extensive farming. Transhumance is the most significant and the only system outside regional power. There are people and organizations linking transhumant pastoralists with social support, but there needs to be a stronger social network and more committed consultation and assistance for transhumants and pastoralists.

**Linking pastoralism with environmental protection**

As stated, most environmental responsibilities (including rangelands and forestry) are under the aegis of regional governments. Accordingly, most projects supporting extensive livestock are also managed at a regional level. Andalusia has been in the vanguard with supported extensive livestock, with some people within the regional government sensitive to pastoralist issues. Also, Andalusia has a stimulating intellectual climate with public universities and research centres, a lively social network and a set of well-funded projects. This has resulted in offering a degree of support to pastoralists uncommon in Spain, with the possible exceptions of Catalonia (before the crisis), the Basque Country (with very different population and land-use conditions) and some of the Canary Islands.

Since 2003, the regional government of Andalusia has funded much research on possibilities and managing extensive livestock related to fire prevention. Livestock grazing was considered to be a powerful tool to maintain fuel breaks (RCC, 2006) and contribute to improving benefits derived from the correct management of extensive livestock breeding. In 2006, the government of Andalusia extended this
fire prevention system from trial areas to many other Natural Parks in the region resulting in the Grazed Fuel Break Network of Andalusia (RAPCA). This network has expanded progressively and currently encompasses over 200 livestock farmers grazing their animals in more than 15,000 acres of fuel breaks (Ruiz-Mirazo, 2011). The more interesting goal of this project in relation to local governance is the change in the relationship between environmental administration and extensive farmers. Extensive farmers have regained access to prohibited forest and rangelands and have become part of wildfire prevention actions so they feel supported by the administration as positive contributors to the prevention of wildfires.

In addition to being the region with one of the most advanced land management and environmentally focused programs for pastoralists, Andalusia is credited with the foundation of a school for shepherds 2010. The pastoralist schools are now spreading and have formed a pastoralist school network co-ordinated by the local development group Altiplano in Granada, but with a nationwide range of activities. Several groups of rural developments are involved in this project, including pastoralist schools in Asturias, Castile-León, Catalonia and Basque Country. Andalusia also held the last stakeholder meeting to agree on a global pastoralist position regarding the new Common Agricultural Policy and has started to develop a regional supporting network, following the previously described system.

**Castile-León: two case studies**

The Castile-León region occupies the inland area of northwestern Spain. Geographically, this region includes the central plateau (from 700 to 1,000 metres high), mostly under cultivation, surrounded by a mountainous belt, where extensive farming is distributed. The region experiences a Mediterranean climate, with an Atlantic influence higher in the northern mountains that maintains hydration during summer, establishing a high variability of local and regional microclimates. The social and economic weight of rural areas of Castile-León has been decreasing due to abandonment, depopulation and urban polarization with some devastating consequences (Molina, 2012). Castile-León has a population of 2.5 million people, 670,000 of whom live in each of the 2,500 municipalities with less than 2,000 inhabitants. Towns have increased their population five times in the twentieth century, while rural areas show a very low population density and lack considerable political influence.

Abandonment is key to understanding landscape changes (García de Celis, 2011). The lack of livestock production in rangelands has lowered the grazing load and allowed a woodland recovery process with landscapes evolving from agricultural to forestry land covers (Corbelle and Crecenite, 2008). Also, abandonment is leading to a significant loss of biodiversity (formerly associated with the mosaic of rangelands, meadows, orchards, pastures and hedges that is now suffering a deep homogenization). Moreover, inhabitants have expressed a feeling of powerlessness in dealing with problems such as wildfires (Montserrat and Villar, 1999; Aldezabal et al., 2002; García Trujillo, 2004; Molinero, 2008; Cassinello, 2012).
Some of the highest natural value areas of the region have been able to maintain a high rate of biodiversity characteristic of the region (Gómez, 2008) and they are trying to develop a sustainable economy model based on quality products and tourism. However, these areas are experiencing almost the same difficulties as the rest of rural Castile (Junta de Castilla y León, 2000). Rural culture harmed and deprived of social consideration and legitimacy has been diminishing throughout the twentieth century and is currently facing extinction (Izquierdo, 2005).

**Extensive livestock in Castile-León**

Castile-León is also an important extensive farming region (Girià, 2008), showing one of the most interesting heritages in terms of pastoralism and livestock production (Sail and Pascual, 1992). The most common pastoralist management system in Castile-León is valley-mountains, with herds kept in the lowlands during the hardest part of the winter and migrating locally up to high altitude pastures (Montserrat, 2004) staying there until winter starts.

Ruminants, especially cattle and sheep are the main stock of Castile-León extensive farming. The evolution of livestock in Castile-León is showing a significant reduction over the past few years, more noticeable in sheep. This situation is not exclusive to Castile-León, but given the importance this sector has in the local economy, it is critical (Rodríguez Ruiz, 2013).

Experts point to several technical causes including decreasing consumption of lamb (MARM, 2011). Transhumant shepherds also cite low-profile conflicts for access to and control of the mountain rangelands. Cattle owners maintain the idea of ‘one village-one farmer’ to improve their capacity to claim enough land surface for GAP subsidies. The consequence is to use rangeland surface area for sheep and goats, which are better managers of mountain rangelands. In these kinds of conflicts, mobile pastoralists tend to be worse off, unable to compete with economic power and social relationships of locally settled farmers.

*Figure 12.3 Evolution of main livestock in Castile-León in numbers of animals (Junta de Castilla y León, 2005 and 2009)*
There are enough rangelands for all active extensive farmers and the impact of under-grazing is more damaging than overgrazing (Ferrer and Broca, 1999). Moreover, many territories of the mountainous belt of Castile-León are composed of communal lands, legally owned by local councils and protected by Public Domain status. The opportunity to set communally managed systems to improve pastoralism and extensive farming in those areas is evident, while these lands are being abandoned (Agencia de Gestión Agraria y Pesquera de Andalucía, 2011a).

Finally, it is necessary to address the role played by women in extensive farming. Masculinization of the rural world is having also consequences for farming work, not only for the traditional related roles of women but also depriving extensive farming of professional capacity, initiative and knowledge.

**Governance and land-management aspects**

The nature conservation administration and farmers coincide over wide territories, in Protected and High Value Natural Areas. Some declarations of protected areas (showing a lack of participation, severe deficiencies in planning and management tools and diminished resources), have created local confrontations between farmers and the regional government, generating land-use conflicts. Even if the role of pastoralists is improved, the challenge is how to engage their contribution to land planning and management. This engagement is proving to be difficult, even when the regional government supervises land uses, including grazing. Farmers’ communication with government is actually channelled through environmental institutions instead of agricultural ones which are more concerned with industrial meat production. In the current situation, there are too few professional farmers in the field and many villages do not own sufficient livestock to properly maintain their territory, even the lowland pastures.

Transhumant, mobile or non-resident herders find themselves in an uncertain situation and are reluctant to make proper investments in rangelands, losing influence and capacity. Often landowners make bad decisions about livestock driven by short term-income: changing contractors, assigning cattle grazing to rangelands better managed by seasonal shepherds, promoting reforestation in livestock managed mountains, etc. Furthermore, extensive farmers are not represented in government decisions. Even resident herders, with more secure access, are powerless to properly maintain the lands to which they have access. As a consequence, they focus on the lowlands and meadows, leaving most of the mountains under-grazed. They also choose to breed cattle exclusively instead of mixed livestock. Herders aspire to have access to private lands for grazing and for involvement in a legal framework that allows extensive livestock grazing in private unattended lands; however, this is quite an unpopular demand among local politicians.

Finally, as forest and environmental administration is responsible for land use, most of forest and environmental budgets are committed to fire extinction and reforestation plans. Those government agencies which are sensitive to pastoralism have tried to develop some supportive projects but they do not have the influence to promote wide-ranging measures to improve extensive farming.
Thus, the situation has evolved to a conscious precariousness where a weak but persistent social fabric linked to extensive farming tries to survive in very difficult circumstances.

The 42 Plan and the organization of an extensive farmers network

The regional government of Castile-León, set up Plan 42 in 2002, a broad strategy of intervention formally designed to address the wildfire problem in the most affected districts. Plan 42 meant, from the very beginning, a shift in perspective about preventing wildfires.

While using a large set of measures related to classic or indirect prevention techniques – such as firebreaks, infrastructure and preventive silviculture, Plan 42 was focused on the use of social tools as instruments to change habits. They also introduced approaches to intervention in rural areas, including the relationships between professionals and the population, restoring sentimental links between people and their environment, networking, a long-term focus and the role of local activists (Junta de Castilla y León, 2005).

The participatory work with local people typified by Plan 42 allowed a wildfire prevention approach that focused on governance, development and sustainability. Those factors were shown to be inseparable from the social context where wildfires spread. As a result of these works a great number of proposals were gathered from participatory activities.

Figure 12.4 shows how these proposals were clearly oriented to reclaiming the role of citizens in land management and recovering their control over territory. Wildfires, and by extension rural degradation, demand the improvement of local governance by empowered people interacting wisely with their territory. The proposed lines of work drew intervention options from a variety of cultural, structural, economic and social issues linked to complex scenarios such as land ownership, markets, administrative organization and social fabric.

The use of participatory tools led to a better understanding between professional and herders. When they began to meet, herders envisaged a more active role in fire prevention and professional developed a better understanding of the herders’ background. An unexpected benefit of Plan 42 was its influence on the organization of extensive livestock farmers. Early in the participatory processes, some groups of extensive livestock farmers started to ask for separate meetings and social organization began to emerge.

The first works with local herders started with clearing. Herders and professionals negotiated funding from the regional government to clear scrub and create new rangelands in exchange for farmers’ explicit renunciation of fire to control land. That embryonic relationship between herders and the regional government started to cement a sense of shared responsibility in rangeland management. Herders felt that they were listened to by the administration for possibly the first time.

Though, the most interesting work of Plan 42 regarding local governance was developed by the central governance of the Aravalle (in the province of Ávila), where
participatory land planning for grazing sites was agreed to between landowners and herders. Figure 12.5 shows the participatory map that led to signing the arrangement where up to 500 people were involved (Picardo, 2011). That was the first time participation was used in Castile-León to form a public arrangement between herders and landowners, resulting in extensive work on both public and private land.

Extensive farmers also realized that they were not being consulted about their role in conservation and land use. They felt unable to talk directly to government agencies and powerless in negotiations and lobbying. Therefore, farmers started to strengthen social links and create new local associations to represent them. Under by Plan 42 they started occasional ‘Herder’s Meetings’ that helped to establish contact with related national and international networks and organizations. These associations led a regional federation and were incorporated to the nationwide organization. They established workshops and debates focusing on building capacities to improve communication. As a result, local associations initiated some governance proposals (e.g. rangeland use plans, clearing or common infrastructure). Plan 42 was in force through the entire process, providing farmers with specialized consultation, establishing contacts, networking with government agencies, encouraging communication and helping them to improve social skills and group dynamics.
Plan 42 ended on 31 December 2011, but its decline had begun years before with a lack of political support and resource assignment. Its prolonged downfall involved people (technicians, professionals and participants) who were in conflict. In 2010 all contracts involving technical assistance were interrupted and in 2011 all staff were dismissed and the program was unofficially closed. However, some new groups, like the Entretantos Foundation, have resulted from Plan 42. Focused on social participation as a tool for land management, that entity is trying to preserve the participatory processes from Plan 42 and continue supporting and advocating the farmers’ network.

**The Ancares Leoneses Biosphere Reserve (ALEBR) work with extensive livestock**

Ancares Leoneses is a mountainous area in the northwest of Spain, recognized as a biosphere reserve in 2006. Their municipalities (Candin, Peranzanes, Vega de Espinareda and Villafranca del Bierzo, are all part of the province of León) manage this reserve along with the CIUDEN Foundation. The biosphere reserve focuses on participatory planning and management, which have become one of its main assets.6
Participation in Ancares Leoneses Biosphere Reserve

The participatory process envisaged the local population obtaining a key role in the development of diagnostic and planning tools for the biosphere reserve. The main result of this process was the set up and approval of two key documents, the Strategic Plan and the Action Plan 2011-2013 (RBALE, 2011).

Social participation also led to the establishment of a Council of Participation with representatives of local stakeholders. The ruling, representation and composition of this group were also established by participation, being agreed within the decision-making process of the reserve. It is now working with rotating quarterly meetings acting as a representative for local population, both advising and being involved in the management and specific actions of the biosphere reserve.

Another key group inside the reserve is the Scientific Committee. This consists of six researchers from three universities in the region that voluntarily advise the reserve. The Scientific Committee is not only leading projects and acting as a consultant but also enforcing the way the reserve deals with local people, from peer to peer, sharing wisdom and decision-making capacity (Alonso and Herrera, 2013).

Therefore, the reserve has already begun to 'plant' synergies between those groups which collaborate with each other in various projects and commissions. The idea is to develop networking and social cohesion among interested sectors and progressively incorporate them into the working of the reserve, encouraging interested groups to run sectorial projects and initiate ideas (always accomplishing principles).

The position of AGARBALE in the biosphere reserve

The formation extensive livestock farming association (AGARBALE) was a significant milestone in the participatory dynamics of ALEBR. The need for an extensive farmers' organization led to the establishment of a farming group to demand help in establishing permanent support. Their first objectives were to improve extensive livestock activity, to dignify the profession and to enhance their role over territory, thereby making visible the environmental services they provide to society (Alonso and Herrera, 2013).

Cattle are the most important livestock in the biosphere reserve. The composition of livestock means that grazing is essentially homogeneous, requiring good pastures and playing an incomplete role in land management. The exploitation system of cattle is extensive, with the mountains being cattle free for almost the entire year. If there is little or no snow, even during the winter, cattle remain outdoors, supplemented when fodder is scarce or for fattening. Mountain and under-canopy rangelands demand a diversified livestock grazing, but there are no goat or sheep herders in Ancares, so most slopes and scrublands remain ungrazed. This results in heathland scrub invasion (boosted by wildfires) and woodland colonization from the lowlands to the slopes. Herders experience this landscape change as a significant patrimonial and cultural loss.
Nowadays extensive farmers are important agents in land management but are not the only ones. The biosphere reserve is under the protection of several conservation bodies: it is a protected area under the Castilla y León Act, but without leadership, planning or management tools; it also belongs to Natura 2000 network under the same conditions. The situation may be described as the superimposition of several figures and agents un-coordinated and without a common framework. Thus, local governance is complicated but, to be fair, this negative picture is balanced by the support of the public system and the viability of some activities developed in the area, especially hunting and extensive farming.

The ALEBR work with extensive farmers is attempting to improve, via local participation, their governance and land-management activities. However, business must be profitable, so farmers can invest in and promote better practices. Herders need to appreciate that their involvement implies improvements in their livelihood, not only in land management. The work with specialists included in the Scientific Committee of ALEBR, assessing with farmers directly the reproduction, feeding and management situation has clearly reinforced the process and kept farmers involved.

The second step has always been to strengthen social links. Extensive farmers created their association and linked it to the reserve territory. The role of reserve has always been to connect local farmers with other herders and their networks. They started to visit other farmers and encourage them to go to meetings and to think about being joining the networks. They also established links to other herder organizations and organized the 2012 ‘Herders’ Meeting’.

One other way to involve herders in local governance is to establish synergies among them and other activities. The ALEBR collaborates with an association of tourism professionals, so both organizations gain from strengthening links. For example, tourist facilities could sell high quality fresh meat produced in the reserve and farmers could acquire new clients sharing a common interest. That also could be the first step to new opportunities. The marketable organoleptic characteristics of extensive meat could be offered to highly demanding consumers and proximity to markets (Aldai and Mantecón, 2012) boosted by an exclusive biosphere reserve label.

The reserve has attempted to empower herders but it has proven to be indirect and slow, even though some steps in the right direction have been taken. Recently, the farmer’s association AGARBALE has been incorporated into a new land stewardship project linked to a project conserving the habitat of capercaillie (Tetrao urogallus cantabricus). The reserve and AGARBALE are entering into land stewardship contracts with local councils to address some habitat improvements maintained by extensive farmers. This is the first land-management project led by this association and it is important because the final objective is not to improve farming but to preserve the capercaillie’s habitat. Overall, herders confirm the important role they play in land management and how their activity could be used as a tool for improving land, recovering habitats and ecosystems and conserving natural heritage by sending a clear message not only to government agencies in charge but also to themselves.
This is an on-going pilot project, but its development and first results are encouraging. Herders are interested and they have moved from their first reluctant positions to a more active role, even when forest work has been scheduled for late 2013.

Needs, trends and lines of future

Spain is currently undergoing a profound change in local administration, recentralizing and concentrating decision-making. In addition, social and economic indicators show how the factors that had led to abandonment and depopulation are still active, heading toward a breaking point. Therefore, new models of rural intervention are needed, especially in rangelands, forests and mountains. Castile-León is a good site to explore new ways to manage extensive territories and extensive production is proved to be one of the most efficient tools of intervention (Serrano and Mantecón, 2003).

Projects related to governance and participatory land uses are just beginning, but are already producing good results. It is important to continue strengthening networks and social fabric among extensive farmers to gain communication and lobbying capacity. Furthermore, it essential to establish a common strategy to develop pastoralism and extensive farming, through the consensus and participation of all agents involved, in order to create a participatory legal framework. Social support for pastoralism and extensive livestock is emerging, and it is necessary to organize and co-ordinate it by boosting its visibility and influencing dialogue without interfering in pastoralists' social organization.

Another line of work has begun to focus on high calibre products generated by pastoralists that explains their quality and health properties to consumers. It is necessary to differentiate extensive production and to offer their products to new and conscientious markets that will be able to provide funding.

Pastoralism and extensive farming are experiencing real improvements in their production methods to face new challenges, but they need to incorporate sustainability and efficiency issues to target those new markets. This strategy implies reducing external dependence and improving the use of local resources. Farmers should enhance control over their entire production process in order to sell their products directly. They are unlikely to remain farmers once they begin to sell and market their products. This would be much more difficult for mobile pastoralists than for settled ones, so the challenge is to articulate those markets and adjust to specific transhumants and mobile characteristics.

Transhumance has been addressed to solve some critical problems in their development (Rodríguez Pascual, 2011), including the need to improve professionalization and generational renewal, training, developing of social structure, improvement of scientific and technical basis, more control over productive processes, more focus on elaboration and transformation and incorporation of extensive farming to research, innovation and development projects. Their representatives also demand the establishment of better co-ordination mechanisms among administrations involved in pastoralism, rescue the
main role played by pastoralist women and to improve the protection of livestock corridors (Casas, 2013).

However, extensive farmers are trying to develop these goals in hostile environments and with little support from public institutions that consider pastoralists as marginal in rural policies. Despite the stability and protection provided by the social system and Common Agricultural Policy, extensive farmers and pastoralists have great difficulties making a living from an activity that is valuable for everybody.

Additionally, there are territorial issues that should be solved. Pastoralism and extensive farming are necessary to manage rangelands, shrublands and woodlands in a way to favour ecosystem services. The experiences developed until now show good results, but more ambitious designs and approaches are needed. Land management is an immediate challenge for environmental and agricultural policies and pastoralists are a critical part of this. Arrangements must be made to improve governance in rangelands and marginal areas but they have to be addressed from consensus and a participatory basis that incorporates local populations from the beginning. Participatory planning tools should be established to adjust grazing and ecosystem needs. Traditional breeds and land-use systems need to be recovered and upgraded and the only way to arrange that is from a wide social consensus about how and at what cost society should manage and conserve their valuable natural lands.

**Conclusions and lessons**

The above case studies show the beginning of a huge task shared with pastoralists and extensive farmers. The overall aim implies the need for citizens to regain control over territory as a way to improve the sustainability of rural areas, especially in commonly owned lands. This sustainability requires improved governance of rural lands to enhance both natural heritage and livelihoods of local populations.

The first steps taken show hopeful results and validate the participative approach with rural populations, particularly in terms of governance and initiative. Herders and farmers have demonstrated an immediate interest in participating in land-use projects and a latent demand for consulting and assessment of their activity. The active incorporation of extensive farmers into these projects has led to the assumption of new responsibilities and the beginning of self-developing social processes that, when adequately promoted, obtained effective results using available resources.

Some projects show how pastoralists and extensive farmers could manage land for fire prevention or ecosystem management with the support of minimal investments and resources, in a way more efficient than traditional land intervention related to nature and forest management.

Local groups of pastoralists and extensive farmers have started, with the help of professional and academics, to develop social and political structures and organizations to improve their interlocution and relevance in governance. They are trying to fight for their interests and profitability, but they are also accounting for
their usefulness facing new models of land management, especially in rangelands and marginal ecosystems. They are developing an incipient social support network willing to preserve the positive effects pastoralists have providing ecological services and conserving biodiversity and ecosystem functionality. Most of these projects have tried to empower pastoralists and extensive farmers in terms of governance, but also to enhance their business in terms of efficiency and sustainability, being aware of the ecological and social services lent by pastoralism. This is a complex task demanding more active involvement of society, which should be the next challenge for Spanish pastoralists.

The case studies show advances in developing farmer networks as a way to improve their influence and visibility and their active role in land planning. Land management is a major challenge in terms of global change but many of the intervention strategies are actually failing. The use of extensive livestock production as a land-management tool suitable to intervene in nature conservation, ecosystem restoration, fire prevention and biodiversity improvement is showing hopeful results. This strategy, however, demands that pastoralists and extensive farmers take a prominent role, which requires that pastoralists reach better levels of knowledge and capacity and the deployment of better human and financial resources.

Notes
1 Small-scale mobility up and down a mountainous area maintaining the same residence.
2 An agrosylvopastoral system typical of the Iberian Peninsula consisting of a mix of oak species and pastures and used primarily for grazing with cattle, pigs, goats and sheep.
3 Local councils (juntas vecinales) are the political bodies in municipalities of Castile-León that encompass more than one village. Each of the villages forms a local council with participation of all neighbours. Local councils have one representative elected to the municipality (the President of the Local Council) who also represent the council’s property, including common forest lands.
4 Spain has an influential ‘Forest Act’ that regulates forest heritage. Among other regulations, this Act establishes the Forest Public Domain that includes the areas categorized as Public Utility Forests. The Catalogue of Public Utility Forests is held by Regional Governments and protects large swathes of common land. The uses of these lands are subject to administrative discretion and to land management plans undertaken by regional forest agencies. Regional governments, with the participation of local owners (usually municipalities or local councils) are in charge of improvement, protection and exploitation of those forests, including grazing regulations.
5 Participatory works with people on Plan 42 were formerly begun by professional strying to mobilize local population into fire prevention. Coordinators of the program started to hire a little cluster of small companies with experience in mediation and facilitation of participatory processes. The collaborative work between participation professionals and local professionals was successful in terms of social involvement, developing some new ideas (e.g. participatory-designed clearance cutting around populations). However, even if these projects were, at the beginning just for wildfire prevention, participatory processes determined that wildfires were not the disease, but just a symptom of a deeper sickness related to the way land is used.
6 The improvements made at this point by the CIUDEN Foundation incorporated a technical staff (consisting of a Head Manager and an environmentalist) and the
consultation of a small technical assistance, GAMA SL, with wide experience in participation) to develop ALEBR planning tools. That team agreed to use participatory methodologies as a basis for reserve decision-making, following the main principles and documents governing the reserve. They built up a powerful dynamic process based on stakeholder participation to develop the main instruments governing the reserve and involving local population in the decision-making process.

7 Hunting, for example, is organized by a Regional Hunting Reserve that co-ordinates game in the whole reserve distributing hunting fees between municipalities through a reserve council integrating municipalities and government that has not met lately. Forest management is also undertaken by the Regional Government Environmental Department, with the participation of local councils.

8 The Spanish government is leading a Capercaillie Conservation Project founded by EU’s LIFE Program with participation of several national and regional governments and institutions. This project holds a Land Stewardship line of work that is granting habitat improvements for this species.