ELBARN

European Livestock Breeds Ark and Rescue Net

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ONS STEUNPUNT LEVEND ERFGOED LOKAAL GENETISCH ERFGOED

R.A.R.E.

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Preface

Raising awareness about conservation work taking place all over Europe to ensure that the animals that form part of our (agri-)cultural heritage are safeguarded is an essential part of ELBARN – the European Livestock Breeds Ark and Rescue Net. At the inception of this project in 2006, it was planned to write a report at this juncture detailing the work undertaken in the three years of this European Commission-funded concerted action. The intention was to use the report to promote activities and motivate governments, organizations, institutes and individuals to carry ELBARN into the future. During the series of workshops that have been an integral part of the ELBARN process, it became clear that something slightly different might be more effective – a document that not only records the valuable work that has already taken place but also shows why it is important.

The texts and photos that follow show the variety of ways in which 'agrobiodiversity' can be seen as important. There are also many brief examples, which tell the history behind ELBARN and also show that, all over Europe, people are actively trying to conserve indigenous livestock breeds in many innovative ways. The photos to be found throughout the publication show the variety and beauty of this, often forgotten and neglected, part of biodiversity.

We hope that reading this book will be informative and enjoyable, and encourages you to take part in our conservation work – as a visitor to an Ark Centre, a consumer of fine products, an animal breeder, a project sponsor, or by promoting the work in the media. Comprehensive details of where to find further information and how to make contact with the ELBARN project partners can be found at the back of this publication.

Elli Broxham, editor
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R.A.R.E.

What is ELBARN?

ELBARN is the European Livestock Breeds Ark and Rescue Net. The origin of ELBARN lies in rescue actions undertaken in Switzerland in the 1980s (see page 26 Booted goats). From these early rescue actions a vision emerged of a pan-European network to ensure that valuable livestock can be protected from slaughter in times of crisis. Additionally, a pilot project began, in the German-speaking area of Europe, to create an online 'guidebook' of all centres with rare livestock breeds that are open to the public. This took the form of the Arca-Net website (**www.arca-net.info**), promoting a network of 'Ark Centres'. In 2006, these two ideas were combined to create the concept of the European Livestock Breeds Ark and Rescue Net in a project application to the European Commission. This application was submitted by five non-governmental organizations (NGOs) and the project was chosen for support as a concerted action.

This funding has led to major achievements: five workshops took place, a questionnaire has been conducted and a set of breed descriptions, Guidelines and four Area Action Plans have been published. Alongside this work, the Arca-Net pilot project has been expanded from the German-speaking area and combined with the ELBARN project to include, at the time of writing, over 420 centres in 40 European countries, which makes this a unique collection of farms, open air museums, nature reserves, etc., all conserving the traditional breeds of their region.

Further information and the project's publications can be found on the ELBARN website:

www.elbarn.net

2007	2008	2009	2010
Preparation of the project, identifying suitable participants, planning the detailed work plan	Central Workshop, ELBARN kick off in Kutna Hora, Czech Republic	Publication of the ELBARN Guidelines	List of National Contact people and potential Rescue Centres
	Questionnaire		
	Preparation of the ELBARN Guidelines including: meetings with the OIE, DG SANCO plus Marketing work group meetings	Area Workshops in Gent, Belgium; Roznov, Czech Republic; Legnaro, Italy and Blagoevgrad, Bulgaria; preparation of the Area Action Plans	Publication and Dissemination of Area Action Plans and other promotion materials
Website: web presence ELBARN, extension of database of pilot project, collection of data, breed descriptions			

Agrobiodiversity – a crucial part of biodiversity!

Agricultural biological diversity (agrobiodiversity) is everything – from soil bacteria through to cows and apples, including forests, rivers and wild plants – that provides our food, fibre and fuel resources. Over thousands of years humans have worked together with natural processes, selecting and developing animals and crops to provide food for a growing population.

This extremely successful enterprise has been the basis of all other human endeavours. Agriculture has provided both nutrition and time – time that was previously used on hunting, gathering and constantly moving in search of new food. The increased resources allowed humans to invent new technological processes, develop ways of organizing communities and resources, to build the wonders of the world, to think, to travel, to write music and books, and create great art.

The great diversity within agriculture was perfectly adapted for the part of the world in which it was utilized. Lambing seasons, nutritional needs, grazing technique, type of hoof – these have all been selected by farmers and evolved by nature to provide the optimal balance between production output and quality of life of both farmer and animal. This harmonious-sounding, low input, culture of managing nature – agriculture – has provided us with a vast range of animals and plants: from curly-horned sheep and goats, tiger-striped or belted cows, and pigs with wool to blue potatoes, black tomatoes and other curiosities far removed from the standardized agriculture that many of us know today. These curiosities are not, however, all extinct! Many of them live on today, even in Europe. They are kept by enthusiastic hobby farmers or in areas where traditional farming practices still exist.

This treasure chest of diversity is not only pretty, it also contains genetic resources that can provide us with security in times of uncertainty. As climatic systems change to become hotter or colder, wetter or drier, the vast diversity contained within our genetic resources for food and agriculture – agrobiodiversity – will be needed. Animals that can survive drought or can graze in wetlands whilst still producing high-quality food for human consumption will be valuable. Low input systems that do not place a further strain on already overburdened ecosystems are already being rediscovered and utilized to help protect fragile areas.

Agrobiodiversity is recognized as a crucial part of biodiversity and is protected by international agreement, as well as by European regulations and national laws. At present, plant genetic resources are more clearly regulated on an international level than animal resources. This publication concentrates on the traditional, old-fashioned animal breeds included within the range of animal genetic resources.

Photo: Wilna Boink-Janssens

Dutch Belted (Lakenvelder), an old dairy cattle breed from the Netherlands tracing back directly to the original belted or 'canvassed' cattle which were described in Switzerland and Austria.

International agreements:

Convention on Biodiversity (especially article 2).
Global Plan of Action for Animal Genetic Resources and the Interlaken Declaration.

International Treaty on Plant Genetic Resources for Food and Agriculture.

Agrobiodiversity and nature conservation

Without anthropogenic influence through agriculture, Europe would not have the beautiful and rich landscape we see today. The development of open spaces through crop cultivation and animal husbandry has led to the wide diversity of landscape that exists in Europe. Biologically valuable agro-ecosystems developed within each regional ecosystem with the sustainable use of the natural surroundings. Yield increases, industrialization and over-use in agricultural production have led to destruction of ecosystems and biodiversity. Relicts of once extensive regional ecosystems need to be conserved long-term in both sustainable and economically viable ways.

Traditional cultural landscapes are an integral part of European ecosystems. Many of those worthy of protection are products of the interaction between nature and culture, such as meagre grassland and pastures, terraced or hedgerow landscapes, ravines, alps and meadows on very steep slopes – elements of cultural landscapes that developed through utilization and whose conservation requires utilization. Particularly in extensive and remote nature reserves and nature parks, economically efficient use and management are often impossible. The expense of cutting and removing hay is too cost-intensive. Fallow development, encroachment by invasive plants and thus undesirable loss of species diversity are the result.

There are many fruitful synergies to be found between nature conservation and on farm/in-situ agrobiodiversity conservation. The regional ecosystems worthy of protection can only be preserved in their full diversity with management. Old livestock breeds and cultivated plants, adapted to the locality, offer a low-cost alternative to elaborate technical solutions. Historically authentic agro-ecosystems, in which specifically adapted livestock and cultivated plants are used, conserve the functioning of ecological systems, thus promoting soil fertility, regulation of pests and diseases, and increase pollination. These factors are integrated into a system and subject to the interactions that take place between nature and culture. Practices and techniques were traditionally developed for a sustainable production under difficult environmental conditions.

Successful realization of nature conservation objectives depends on a complex interplay of ecological, economic and social aims. Thus, integrated strategies become increasingly important. The financial compensation paid to farmers for production hurdles or yield losses caused by nature protection measures has become an important nature protection instrument in Central Europe. But traditional ecological and agricultural knowledge are just as threatened by extinction as many animal and plant species. Alongside the extinction of species, this phenomenon can be described as 'extinction of knowledge'. Traditional culture should, in combination with modern scientific findings, be consulted to solve contemporary problems in nature and landscape protection.

Many areas in Central Europe that were once traditionally grazed landscapes are now covered by encroaching scrub and woodland due to change in use leading to natural succession. The application of traditional techniques through the use of traditional domesticated breeds, such as grazing forest pastures, is inseparable from the integral conservation of these landscapes. As can be seen in Croatia, where there are a number of successful projects linking nature conservation with the conservation of animal breeds, the livestock can be used to prevent the spread of invasive plant species.

Photo: Martin Schneider-Jacoby

Free ranging pigs. Domesticated livestock co-exist peacefully in the pastures of Nature Park Lonjsko Polje.

Nature Park Lonjsko Polje, Croatia

Old breeds are protected in Croatia as a part of the biodiversity of the country based on the Convention on Biological Diversity. The definition of breeds in the Nature Protection Act is very important:

- domesticated species means a species whose evolutionary process has been controlled by man for the purpose of meeting his requirements
- indigenous species means a species naturally inhabiting a specific ecosystem of an area.

According the Nature Protection Act, the designation of a protected indigenous domesticated taxon shall be granted to the endangered autochtonous breed developed as a result of traditional breeding and shall constitute an integral part of Croatian natural heritage.

A good example of an ark reserve, where the natural heritage and the use of indigenous domestic breeds form a unique cultural landscape is the Nature Park Lonjsko Polje. The traditional land use system is linked to the alluvial dynamics of the Sava River forming a large area of flooded forests, wet grassland and freshwater habitats. The Nature Park and the adjacent buffer zone in the Central Sava Basin floodplains cover over 100,000 ha. The pastoralism is an exceptional example of in-situ conservation of endangered indigenous domestic breeds, since it represents the genus loci of two breeds: the Turopolje pig and the Posavina horse. Both species have a long breeding tradition and are still raised in the traditional way by the villagers. The Turopolje pig is still critically endangered and was rescued after the civil war in 1993 with support of SAVE Foundation and EuroNatur Foundation. As in medieval times the pigs are herded in the flooded oak forest, while the Posavina horses together with a special variety of Simmen-taler cows are grazed in the open pastures. The Nature Park has also bought a nucleus herd of the grey Podolac cattle as they are the best measure to control invasive plant species (e.g. Amorpha fructicosa) in the pastures.

The Posavina horse grazes on the flood plains of the Sava river in Croatia.

Photo: Kerstin Sauer

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Sometimes, however, animals are introduced to landscapes to which they are not particularly suited (such as Scottish Highland cattle in southern Europe). These attempts are doomed to failure if an animal species or breed does not adapt rapidly to the new environment, thus causing numerous husbandry problems. Modern high-performance breeds can cause devastating trampling damage to farmland at sensitive sites.

Autochthonous traditional livestock breeds have, if managed correctly with traditional techniques, many advantages:

- They are adapted to the regional ecosystem.
- They are smaller and lighter than modern high-performance breeds. Trampling damage is infrequent.
- Being kept outside throughout the whole year, they need a shelter but not necessarily a stable.
- In most traditional husbandry systems, different animal species are managed together on a relatively large area (on traditional alps, cattle and goats graze together). Pigs were fed with whey from cheese production, but also grazed. In southwest Europe it is common in many remote areas to graze different species together. This develops a park-like landscape, including a mosaic of different habitats.

Nature protection that strives for new approaches, more communication and the support of quality of life for animals, plants and humans is becoming more and more important as 'integrated nature protection'. Qualitative characteristics of integrated nature protection include the following aspects:

- Socio-economic: realization of nature protection objectives with other land users and the population
- Time: search for long-term sustainable solutions
- Functional: consideration of aspects of abiotic resource protection
- Spatial: sustainable and environmentally friendly development of entire spatial entities.

Nature conservation and agrobiodiversity are complementary factors. It is possible to create a form of agriculture that conserves rural environments and landscapes as well as traditional cultures, based on sustainable management of resources using traditional knowledge of an area.

Agrobiodiversity and rural development

Rural development in Europe is an important focus of EU policy because rural areas represent 92% of the EU landmass and 56% of the population of the 27 countries live in rural areas. In the past, spatial development has often been left for market forces to regulate. Investments were only made, if any, into large-scale infrastructure, such as access for transport. The neglect of rural development finally led to an increased exodus of the population. Both within and outside the EU migration is occurring away from the remote mountainous areas and other disadvantaged regions. This process has dramatic proportions, especially in the underdeveloped regions of eastern and southeastern Europe, due to the lack of training and jobs for the migrant workers. Often, traditional agricultural practices and land will be abandoned in favour of a perceived better life as a worker in the urban areas. This means that entire villages can be depopulated and large areas lie fallow. Previously cultivated areas such as small grain fields, overgrown gardens and orchards thus lose their open structure. In such situations, animals are most often slaughtered without consideration of their genetic importance. Animals are sometimes even released into the wild to go feral and are then at the mercy of the elements, disease and predators. Unique ecosystems, which existed in harmony with agriculture, can be lost and areas with an exceptionally high biological diversity are mismanaged through neglect.
Depending on the geographical features of the different rural areas agricultural practices and usages evolved and adapted over generations. Today this constitutes a valuable cultural asset, as well as representing an important genetic resource for agriculture. Through migration and land abandonment, breeds and crops, techniques and practices will be lost to future generations.

The conservation of agrobiodiversity and the diversity of agricultural uses can play a key role in rural development, particularly in areas that are economically depressed and isolated but have still have authentic agro-ecosystems in place. Using sustainable structures based on modern knowledge and technology, a new efficiency can be brought to the old traditions: the historically low-input, heterogeneous agriculture with adapted varieties and breeds is often proving to be more economically viable than the import of modern homogenized and standardized practices. Markets for niche products and adapted economies to secure sustainable employment through service provision, such as to tourists, can all help to make rural life and rural areas an attractive living, working and holiday location.

Milina Project, Serbia:

The Milina project is the result of an initiative started in October 2008 and primarily planned only as a generous act for conservation of Serbian traditional heritage in agriculture, without a commercial component. Two Belgrade financial experts Mr Milutin Nikolic and Mr Pavle Kavran were interested in investing financially to help breeding of local endangered breeds in a traditional way on small farms. After two meetings with farmers from the 'Natura Balkanika' Nature Society, they decided to buy two medium-sized farms in the area of Stara Planina Nature Park where the Serbian Ministry of Agriculture and 'Natura Balkanika' Nature Society had started the first agrobiodiversity conservation steps in Central Serbia in 2002. At the same time, this new agrobiodiversity conservation group started with identification of animals belonging to the Busha cattle, Balkan donkey, Pirot Zackel and Karakachan sheep, and Balkan goat breeds. 'Natura Balkanika' activists and their associates from Dimitrovgrad, Pirot, Babusnica, Trgoviste, Bosilegrad and Bujanovac municipality discovered many individuals of these breeds at the last moment – some of them were even intended to be sold for slaughter. These animals were purchased and then transported to the Milina farms in the villages of Gornji Krivodol and Smilovci. Shortly after that 'Milina Organic' d.o.o. company was established, dedicated to ensuring financial sustainability for farmers breeding rare local breeds and for farmers developing small-scale organic production based on local breeds and local plant varieties. Today, the so-called Milina project is the most important initiative in Central Serbia in the field of agrobiodiversity conservation (in terms of number of animals and breeds involved)

Milina Organic owns two farms (Mojinsko farm and Rudina farm, Dimitrovgrad municipality) and works with a few others, which are Milina partners. Milina Organic owns 23 ha of arable land, 10 ha of meadows, 4 ha of pastures, and rents 167 ha.

Rudina farm is situated 30 km from Dimitrovgrad, near Gornji Krivodol village, in the Stara Planina Nature Park – the biggest Serbian nature protected territory, 2km from the border between Serbia and Bulgaria. The village has just 14 inhabitants and only 50 years ago it was one of the principle Serbian sheep breeding centres, with more than 12,000 sheep. Rudina farm breeds Busha cattle – its herd consists of more than 90 mother cows and more than 30 calves, which is 20% of the breed's population in Serbia. The farm has almost all varieties of this breed: black, brown, red, grey, yellow, white and tiger (which is the rarest). All farm facilities were built 60 years ago, but were renovated in the traditional style in 2009 (using local, natural materials – clay, straw, stone and wood). A converted farm building will be used for accommodation of farm guests and groups wishing to know more about traditional farming and Balkan rare breeds. Milina Organic is planning to set up a rural tourism product based on autochthonous breeds and their typical products as an additional tool for adding value to these endangered animals.

Mojinsko farm is situated 14 km from Dimitrovgrad, near Smilovci village and near the Stara Planina Nature Park. This used to be a state-owned cooperative farm for sheep breeding, built in 1983. There are four endangered breeds on this farm: Balkan donkey, Karakachan and Pirot Zackel sheep, and Balkan goat. Today this location has 75 donkeys of the Balkan donkey breed, which is the second largest Serbian population after the Zasavica Special Nature Reserve. It also has the biggest flock of Karakachan sheep in Serbia, representing 90% of all identified Karakachan sheep in Serbia. The Karakachan sheep is the most primitive sheep breed of southeast Europe; it is very small and originated with the Karakachan nomads and pastoralists who used the Central Balkan pastures for their flocks during the summer up to the first World War. The Pirot Zackel sheep is the most endangered strain of Zackel sheep in Serbia, originating around the Pirot and Dimitrovgrad area. This is the only flock of this sheep strain in Serbia.

The farm also breeds the Balkan goat and keeps red, black and grey varieties of Balkan goat – 30% of officially registered Balkan goats in Serbia.

Milina Organic is in the early stages of increasing flock/herd size, but has already delivered some quantity of products during 2009. The most important products from the Milina farms are:

- Meat products from: Karakachan and Pirot Zackel lambs and sheep; Busha cattle; Balkan goat kid;
- Mangalitza and Moravka pigs, and Balkan donkey sausages
- Milk products: white cheese made from sheep and goat milk; donkey milk for cosmetics and ethno medical uses
- Wool products: wool hand-knitted socks, jackets, etc.
- Services: planned use of donkeys in zootherapy; planned use of sheep flocks in maintaining the Stara Planina Nature Park mountain grasslands.

Milina is preparing to open a special shop in the centre of Belgrade where these and products of other Serbian farms breeding rare breeds will be on sale.

In a successful marketing exercise, arranged in co-operation with Belgrade's Slow Food movement, Milina made a presentation of autochthonous breed products at the Zaplet Restaurant, Belgrade – the first public event championing Slow Food in Serbia. The SVA Belgrade Marketing Agency was engaged to promote the event. Many leading individuals representing Serbian financial, food and media sectors were invited to this special dinner. More than 80 participants were given the opportunity to taste for the first time more than 10 dishes prepared from rare breeds products, cooked by the Zaplet Restaurant's own highly skilled chef.

Every guest was given a menu map showing the food on offer, descriptions of every breed with a product on the table and the origin of production on a map of Serbia. In addition, guests were asked to evaluate every meal on a simple form. It is noteworthy that meals made with Busha beef received the highest mark. The event was covered widely in magazine and newspaper articles demonstrating how the media can help promote this kind of event and rare breeds conservation.

The Milina project recommends the Zaplet Restaurant to all visitors to Belgrade as a place where they can enjoy delicious meals made from autochonous breeds products and also welcomes visitors to its farms where they can see how the food is produced.

Busha Cattle at the Milina Project farm.

Photo: Hape Grunenfelder

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Why are traditional breeds endangered?

Traditional breeds are endangered because many have been replaced on farms by modern high-performance breeds, which produce more meat, eggs or milk – this is why they are preferred. However, these breeds require high-quality fodder input to achieve a high output. This type of animal has been considered economically necessary to feed a growing global population, but its success has led to the critical endangerment of many traditional breeds. Some breeds have become extinct; others have only a few living examples still in existence. Even though many of the old breeds are not as productive as their modern counterparts, they possess qualities such as high fertility, hardiness and resistance against harsh weather conditions and disease.

Often, the qualities that old breeds and varieties possess are not valued very highly because of some of the perceived negative aspects, such as their horns, which get in the way or their slower growth rates, which imply a slower turnover. Modern breeds of dairy cow give more than twice as much milk per year as traditional breeds. In some countries with modernized farming structures, it is possible to see that the number of cows kept per farm is decreasing whilst milk production is increasing. It would seem reasonable for a farmer to choose a cow that will produce a large volume of milk over a cow that produces only half as much – after all, he will have just as much work to do with the animal, however much milk it produces. This kind of thinking has been promoted by governments around the world for over 50 years and has lead to the decline in traditional breeds. It has also contibuted to a decline in overall biodiversity as flowers, insects and songbirds have disappeared from our countryside. Significantly, it has also led to a decline in our culture in general as the diversity of local products – cheeses, cured meat, wool products and cuts of meat – has become standardized to fit the new production methods. Local folklore and customs, often tightly bound to the agricultural systems, have also been neglected and forgotten.

What is often ignored is the fact that traditional breeds, whilst not giving much milk compared to modern breeds, have some other important points in their favour, for example:

- They are strong and hardy and flourish in extensive, nature-friendly farming systems.
- They are frugal and need only a simple diet – not imported grains and high protein supplements.
- They live a long time – much longer than modern breeds – therefore, their production over a lifetime is good when compared to modern breeds.

- They are very fertile, producing more off-spring than modern breeds.
- They give birth easily and look after their young well – there is no need to supplement diets of the young animals with expensive, bought in milk powders.
- They do not get ill so easily and are resistant to some diseases, leading to reduced veterinary costs.
- They are perfectly adapted to the place of origin (climate, landscape, type of food).
- Products made with their milk or meat are often of particularly high quality and can be sold at a premium price – these days, many consumers are looking out for exactly such 'authentic' products.

When farmers lose interest in keeping the old breeds, they have nowhere left to go. Farm animals have accompanied human development for 10,000 years, since the beginning of agriculture and settled human society. If a farm animal becomes 'useless' to the farmer, it has no chance of survival. This is how breeds become rare or even extinct. The only way to keep these very valuable breeds alive is to keep them, on farm, in the place where they belong.

Photo: Jakob Kortegaard

Blackpied Jutland Dairy Cattle (Sortbroget Jydsk Malkekvæg) grazing the protected Natura 2000 heathland in Himmerland northwestern Jutland, Denmark. The well adapted breed, native and indigenous for Jutland was earlier a traditional milking cow and known for centuries in northwestern Europe for its excellent meat quality. Today plans are made for niche production specialities based on meat and milk (cheese) from Blackpied Jutland Diary Cattle living in their native habitat heathland and poor grassland.

The importance of non-governmental organizations

NGOs have played an important part in both international discussions and local action for over two centuries. Many ground-breaking international agreements, such as the Marine Pollution Treaties, have been based on NGO activity, as well as many small-scale projects which have significantly improved the situation on the ground.

NGOs do not enjoy vast power or resources, but are generally small, fast moving, innovative and unbureaucratic. This leads to decisions that are based on the probability of success, the resources available for implementation and are clearly based on agreed goals.

NGOs generally gain their legitimacy from the people they represent – the membership of the organization, the 'grassroots'. This sector of society is very often distrusting of what they see as 'state-level interference' – NGOs can bridge a communication gap between these two stakeholder groups. An NGO often has wide-ranging interests, which tackle many aspects of an issue and leads to NGOs being very well informed on a range of subjects. However, they are often weakened by poor financial resources to address issues.

NGOs do not wait until States think up a task for them, instead they act to improve situations and constantly and consistently challenge behavioural and cultural norms. They inhabit a special place in conservation work, with roots that go back over 100 years; from this point of view they carry a body of experience with them that can be made use of. NGOs do the work that States cannot usually do: they acknowledge, listen to and move the grassroots. In the case of conservation of agrobiodiversity, they motivate and persuade others that on farm conservation, when possible in-situ, is right and must be supported. NGOs undertake tangible fieldwork, with visible results.

The ELBARN project: a partnership of five NGOs

EuroNatur:

The European Nature Heritage Fund – EuroNatur – is a non-profit foundation which advocates for the conservation of Europe's natural heritage. EuroNatur runs long-term, and often cross-border, projects aiming not only at the protection of nature, but also at ecological development of the respective rural areas. Without considering the needs of the people, long-term protection of natural resources is not possible. Agrobiodiversity has been a significant part of the work programme since the establishment of EuroNatur in 1987. The first project EuroNatur implemented was in the Sava Wetlands, Croatia. To preserve the pasture land and the habitats of storks and spoonbills, the Turopolje pig was rescued together in collaboration with SAVE Foundation and the Lonjsko Polje Nature Park immediately after the war in 1992. In many other projects old breeds play an important role in the habitat preservation. Protection of the Dehesa de Extremadura, one of the most valuable habitats for birds in Europe, is aided by the Iberian pig, which produces a valuable product, Serrano ham. Old breeds are also important for the survival of wolves and bears. For example, the Karakachan dog in Bulgaria helps to guard the sheep and by doing so mitigates conflicts between large carnivores and people.

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The ELBARN project: a partnership of five NGOs

SAVE Foundation:

In many countries in Europe, there are organizations supporting and promoting the conservation of agrobiodiversity. The SAVE Foundation, founded in 1993, acts as a European umbrella organization for these groups. It promotes and coordinates activities to conserve endangered breeds of domestic animals and cultivated plant varieties. The SAVE Foundation also acts practically in areas where there is, as yet, no national organization in existence. The SAVE Foundation and its Partners make up the European SAVE Network. With board members from 11 European countries and network partners from 15, SAVE Foundation is broadly based with a good overview of the situation in Europe. SAVE Foundation is a member of the IUCN and has special consultative status at the FAO.

The SAVE-Monitoring Institute was founded in 1995 with the aim of providing a scientific foundation for the work of SAVE. The Institute collects data, both historical and from the present. It also assesses conservation work, raises the alarm where conservation work is lacking and facilitates cross-border monitoring of old and endangered rare breeds and cultivated plant varieties.

www.save-foundation.net

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The ELBARN project: a partnership of five NGOs

Steunpunt Levend Erfgoed (SLE):

Steunpunt Levend Erfgoed (SLE) has been dedicated, for almost 20 years, to the preservation of the original and now often rare local breeds of agricultural animals and poultry. SLE is the only organization in Flanders that works for the preservation of old and local breeds of all species, and for the retention of variety in our genetic legacy. In partnership with the Province of East Flanders, SLE has developed the Levend Erfgoed Park (Living Heritage Park) in the Puyenbroeck provincial domain in Wachtebeke. Almost all the local breeds can be found there: horses, cattle, sheep and goats, as well as a broad selection of poultry. The Levend Erfgoed Expo (Living Heritage Expo) takes place on the domain in the second half of August every year and draws thousands of visitors. SLE acts as the registration authority for the local breeds of sheep and goats in Belgium, and is in the process of setting up a herd book for the Kempens cattle. All this activity is supplemented by the quarterly publication of De ARK and of course by the SLE website www.sle.be. The magazine of SLE not only is a source of information for its 1200 members, but it has also become a reference work in Belgium on ‚living heritage'.

www.sle.be

The ELBARN project: a partnership of five NGOs

The Society for the Conservation of Old and Endangered Livestock Breeds in Germany (GEH)

The GEH is a non-profit organization acting at a national level. In 1981, the GEH was founded in Bavaria with the objective to conserve old and endangered breeds of farm animals as a living population in practical agriculture. Today, more than 2200 members are scattered all over Germany. They support the tasks of the society with active animal breeding, participation in regional fairs, events and farm days.

The GEH initiates conservation measures, coordinates animal keepers, maintains contact with the governmental animal breeding organizations, ministries and research institutions as well as nature conservation and environmental protection associations. The demands of conservation breeding on the cooperation are fairly high. In order to raise public awareness for the loss of agricultural diversity, the GEH publishes a yearly revised 'Red list of endangered breeds of animals' for Germany, where more than 90 breeds of cattle, sheep, horse, pig, goat, donkey, dog, rabbit, chicken, duck, goose, turkey and bee are mentioned.

www.g-e-h.de

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The ELBARN project: a partnership of five NGOs

Associazione Italiana 'RAZZE AUTOCTONE A RISCHIO DI ESTINZIONE' (RARE):

RARE is the first non-profit association for the safeguarding and the valorization of Italian local breeds threatened with extinction. Founded in Turin in 2002, RARE has been affiliated to the European SAVE-Foundation since 2004. Members of RARE are mainly farmers and breeders, but many experts and researchers from Italian Universities cooperate with the Association on a voluntary basis giving free information to farmers on management, reproduction and nutrition of endangered breeds. The main objective of RARE is the conservation of endangered breeds on farm/in-situ. The promotion of products from these breeds, whether food products or services such as grazing for environmental management, is the most effective strategy for this goal. Another objective of RARE is sharing knowledge held by the owners of endangered breeds and encouraging collaboration between farmers wishing to conserve Italian animal genetic resources. RARE has successfully helped the rescue of the Mora Romagnola and the Casertana pig breeds as well as the two cattle breeds Varzese-Tortonese and Agerolese. For other breeds RARE is trying to build up nucleus herds using 'breed custodians' (allevatori custodi) within the ELBARN and Arca-Net projects of SAVE Foundation.

www.associazionerare.it

Solving the problem

People concerned with in-situ or live conservation of rare breeds are often faced with the danger of losing important stock in cases of, for example, increased age or changed priorities of keepers or, even, epidemics. ELBARN, the European Livestock Breeds Ark and Rescue Net, is a pan-European project which focuses on solving some of the problems facing livestock keepers within a network of so-called 'Ark and Rescue Centres' (A&RCs).

The ELBARN Network will be spread throughout Europe to share knowledge and encourage collaboration between organizations and institutes wishing to conserve European animal genetic resources for food and agriculture (AnGRFA). Additionally, the promotion of the products of these livestock breeds, whether this is as a food product or as a service such as grazing for environmental management, is a central theme of the project. The project documents, in the form of an online database, all sites that already exist and can be used as A&RCs, and will also encourage the founding of new A&RCs.

These Centres will:

- Keep core breeding groups
- Offer breeding help for livestock keepers
- Offer a place for the public to see the livestock of Europe
- Offer emergency places for endangered genetically important livestock.

ELBARN was not intended as a project that buys property or animals, nor does it have any finances available for helping in the upkeep of A&RCs. However, through Work Groups, ELBARN is able to make concrete suggestions on how A&RCs can maximize the marketing potential of the rare livestock breeds in their care, thus rendering them profitable. It is also hoped that, through the existence of an international network sponsored by the EU, smaller projects related to fulfilling the wider goals of ELBARN will find funding to achieve their goals.

ELBARN was launched with a 'Central Workshop' in February 2008, where working groups discussed rescue and quarantine, the characterization of A&RCs, breeding programmes and the marketing of rare breed products. The results of these discussions were published as ELBARN Guidelines in 2009 and can be downloaded from the ELBARN website **www.elbarn.net.**

In early 2009, four ‚Area Workshops' were held in Gent, Belgium, in Roznov, Czech Republic, in Legnaro, Italy and in Blagoevgrad, Bulgaria. Each workshop was a meeting of a wide range of stakeholders from the area, each of whom has a special interest and expertise in the field of in-situ conservation of agrobiodiversity. For each area an 'Area Action Plan' has been developed and tailored to perceived local needs.

On the following pages, there are examples of centres that offer the chance to experience the traditional breeds of Europe. Other examples can be found on ELBARN website **www.elbarn.net**

Rescue actions: Booted goat (Stiefelgeiss)

The Booted goat is a special breed of the Alpine goat type, found in the east of Switzerland. Its 'boots' are the black legs, the rest of the goat is a sandy-brown colour recognizable by its 'coat' and 'trousers', which refers to longer hair on its back and hindquarters. The breed was first officially recognized in 1909. During a phase of breed rationalization in 1938, some breeds were no longer kept but were crossbred with other, more productive breeds. The Booted goat was crossbred with two other local breeds and, supposedly, disappeared. However, the breed survived in marginal and cut off areas that were not reachable by road.

Research in the early 1980s by the Swiss rare breed organization ProSpecieRara showed that there was a large group of Booted goats in existence, on the far side of Lake Walen that was only reachable by boat. This cumbersome approach to the farm is exactly what kept the goats purebred – to load a new and valuable stud male onto a boat was too much effort, so the goats were protected from the drive towards high production.

ProSpecieRara made contact with the last remaining goatherd, an elderly lady. It was agreed that a few suitable breeding animals would be bought from her in spring 1984, to be placed in herds that appeared to have a large proportion of Booted goat blood in them. However, shortly before Christmas 1983, the goatherd suffered a stroke and was no longer able to work. Her relatives offered to, immediately, collect together the most suitable animals and have them ready to be moved within 72 hours – there was no way that they could look after the herd of goats for longer. Within two days the evacuation had been organised. Fourteen animals, eight of which were still kids, were taken in two boats across Lake Walen and to the temporary 'rescue centres'. These 'rescue centres' were prepared by enthusiastic members of ProSpecieRara who were, at the time, looking for suitable animals for their farms and, luckily, had free places for the Booted goats.

Within a month of the 'rescue action', the animals had been split into four groups in order to prevent in-breeding and to prevent the risk of disease or other disaster affecting them. They were then placed with farmers who were interested in breeding the Booted goats into the future.

This scenario was a key experience for Hape Grunenfelder, who was the person responsible at ProSpecieRara for the rescue of the Booted goats. He went on to set up a network of stations in Switzerland that would be prepared to take on animals at short notice – a rescue net for rare breeds. Thus, it was possible that all interesting and endangered animals that were henceforth found in Switzerland could be adequately 'rescued' and secured for the future. Only one breed of sheep could not be saved – the Schwyzer Langohrschaf – due to the fact that there were no free places at the beginning of winter 1986.

The story of the Booted goat is not only a story for Switzerland – with the establishment of the SAVE Foundation, Hape Grunenfelder and his colleagues have worked towards the safeguarding of breeds throughout Europe. ELBARN is a challenging and effective attempt to spread the rescue net throughout Europe and ensure that the goal of long-term conservation of the rural diversity of Europe is secured.

The rescue of the Booted Goat in 1983 secured the breed for the future.

Photo: SAVE Foundation

StiefelGeissen-Züchterverein
Schweiz SGS

info@stiefelgeiss.ch
www.stiefelgeiss.ch

Rescue actions: Carpathian buffalo

Buffaloes have been a part of the agricultural scenery in the Danubian basin and the southern Carpathians for thousands of years. They are the most northerly representatives of their species. Their hooves are hard, adapted to the stony ground of the mountains. Their coat is long, to protect them in the harsh winters. A compact and bulky body makes the Carpathian buffalo a robust survival act. These features clearly differentiate it from its southern colleagues. The Carpathian Buffalo has enormous stamina as a draft animal and the milk and meat produced are delicious.

The break up of the Soviet Union led to the collapse of a coordinated breeding strategy for the animals in Transcarpathia, the stock numbers declined rapidly and they were in danger of extinction. The main problems faced were, as with other species, the old age of the farmers and the difficulty of finding suitable breeding animals, in this case bulls, to ensure future generations of stock.

Representatives of the SAVE Foundation have been keeping a careful eye on stock numbers in Transcarpathia since 1998. Then, they were still to be found at four locations with, between them, 65 animals. Ten years later there were only 38 animals in three places. In 2009, together with local partners it was possible, inspired by the ELBARN project, to build up an Ark and Rescue Centre in Transcarpathia in a disused collective farm and, thus, create a conservation programme for Carpathian Buffaloes. That the project met an urgent need can be seen in the rapidity of its development:

Phase 1:
four breeding bulls were chosen and bought. These were put to use for interested farmers to service their female animals.

Phase 2:
female animals were bought that would have otherwise been sold away from the breeding area or even sold for slaughter.

Phase 3:
animals could be returned that were sold years ago to a zoo outside the area. These animals and their off-spring provide a valuable expansion to the genetic basis of the breeding group.

By the end of 2009, the Rescue Centre Saldobosh in Steblivka reached the substantial number of 19 animals – without endangering but supporting the breeding activity in the surrounding area.

The Ark and Rescue Centre Saldobosh can be seen as a perfect example of how the rescue of endangered breeds can take place. The project was a success because a few highly motivated people and organizations collaborated with ideas and strengths and, also, found adequate funds in time to finance the purchase of animals that would have otherwise been lost.

In autumn the Carpathian buffalo grows its thick winter coat.

Photo: Michel Jacobi

Saldobosh Rescue Centre
Vul. Druschba, nr. 4
90451 Steblivka
(Chust district)
Ukraine

info@karpaten-bueffel.eu
www.karpaten-bueffel.eu

Ark Centres:
Saving endangered livestock in Galicia:

The main function of the Animal Genetic Resources Centre of Galicia (CRZG) is the conservation breeding of endangered native Galician livestock breeds in an on-farm setting of 60 ha. The centre has the largest farm in the province of Ourense. Breeding activities to conserve the cattle breeds Cachena, Caldelas, Frieiresa and Limi Vianesa were extended to other species to varying degrees: a complete programme for the Mos chicken, some activities to conserve Galician sheep or partial involvement in the programmes for the Celta pig, purebred Galician horse and Galician breeds of dogs.

Basic activities:

- Foundation flocks of the Mos chicken
- Genetic material bank of semen and embryos of cattle
- Collaboration in the management of herd books
- Maintenance of genetic diversity available to breeders: breeding bulls, semen specimens of poultry
- Review and analysis of breed production
- Rescue – If a breeder has to stop farming and does not find somebody to take over his herd, he can place it temporarily at Pazo de Fontefiz. The centre will then relocate the animals. Thus it can be seen that the ideas behind ELBARN are already being practised in some centres.

Other activities:

- The CRZG seeks the widest possible dissemination of knowledge in their field, both professionally and academically. That is why the centre participates in or organizes a series of activities:
- Information for farmers interested in working for the conservation of indigenous breeds
- Participation in congresses, conferences and symposiums to solicit their cooperation
- Paying attention to the various points of view that groups visiting Fontefiz hold (universities, colleges, courses and livestock associations, among others).

Young bulls at the Pazo de Fontefiz stud centre.

Photo: Hape Grunenfelder

Pazo de Fontefiz
Castor José Rivero Martinez
Centro de Recursos Zooxenéticos de Galicia
32152 Coles - Ourense
Spain

An Ark farm with an educational ethos

The Ark farm near the city of Kaiserslautern in the southwest of Germany was founded in 1980. The land includes 30 ha of organically farmed grassland and an area of about 20 ha in a nature reserve. These 20 ha are managed according to an environmental contract using mainly 140 sheep to graze the area. Livestock on the farm include autochthonous and endangered breeds from different species: Rhön sheep, Poitou donkeys, Husumer pigs, Thuringian Forest goats, Meissner rabbits, Sundheimer chickens and Leine geese.

Alongside breeding for conservation aspects, the farm offers opportunities for groups of adults to gain experience of agriculture and animal welfare. Participants can learn special tasks that protect the environment, and this experience supports their practical and personal development. There is a two-day programme offering the chance to improve self-awareness and team working ability.

The programme includes contact with the farm animals, working in different areas of the farm, assistance at animal feeding and animal care, and helping with food preparation.

For their work with children and adults the farm received an award from the ministry of Rheinland-Pfalz in 2001.

Up to 2009 the farm also offered half-day or full-day courses for kindergarten groups and school classes. These courses were harmonized to the different age groups and were based on practical experience on the farm. These courses can now be arranged with 45 other farms in the area that are taking part in the project 'Lernort Bauernhof' – the classroom on the farm. The farm also has a shop for visitors to buy products from in-house production. On special days such as Easter, people are invited to see sheep shearing.

The Rhön sheep are integrated into landscape conservation programmes and are the largest animal group to be found on the Storrer Ark Farm.

Photo: Beate Milerski (GEH)

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Steunpunt Levend Erfgoed: Living Heritage Park and Expo

Steunpunt Levend Erfgoed (SLE; Focal point Living Heritage) is recognized by both the Federal and the Regional Belgian Governments as the representative organization with regard to old breeds. All these local breeds can be observed by the public in the Living Heritage Park. Indeed, in 2004 in partnership with the Province of East Flanders, SLE developed the Levend Erfgoed Park in the Puyenbroeck provincial domain in Wachtebeke near Gent. Besides being a place where visitors can get acquainted with the old breeds of draught horses, cattle, sheep and goats, and a selection of poultry, the park is an important breeding centre for poultry, sheep and goats. Especially for the two remaining old goat breeds, the park is essential as it harbours a pool of male Flemish and Kempens goats, where breeders can 'borrow' a breeding male for their flock.

SLE has been fundamental in the safeguarding of the old Belgian breeds of sheep and goats. After having identified in the late nineties the remaining old breeds of small ruminants and having registered breeders and animals, SLE was officially recognized as a breeding organization and entrusted with the establishment of the flock books. Today, SLE is in the process of setting up a herd book for the Kempens cattle, a local breed that according to official records has disappeared, but where enough animals are still available to revive it. SLE closely observes the situation of the red West-Flanders and white-red East-Flanders cattle that are in danger of extinction because of massive cross-breeding with Holstein cattle. The situation is especially critical for the red Flanders cow, known in Northern France as 'la vache flamande'.

It appears that the sturdy Belgian and Ardennes carthorses, with all their wealth of history, have now been saved from extinction. The Flemish horse is the third breed of this remarkable animal. At the end of the 20th century, it was reintroduced from the US and Canada where it survived after having crossed the ocean at the end of the 19th century together with emigrating Flemish peasants. Partly at the instigation of SLE, these horses are now once again receiving the respect they deserve from the government and the people.

SLE has given the Brabant hen 'la Brabançonne' a new lease of life when it launched a breeding programme for this poultry breed. For the Huttegems, Kortrijks and Zingems hens it is probably too late. The poultry breeds we still have deserve a future.

Once a year in the second half of august, SLE organises its Living Heritage Expo in the Provincial domain. It is a feast day for Living Heritage and has become a crossroads where breeders sell and buy or simply exchange breeding animals. It draws thousands of breeders and visitors.

Flemish goat at the SLE Expo 2009.

Photo: Waltraud Kugler

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Belgium

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www.sle.be

Jakobson's Farmstead Museum in Estonia

Carl Robert Jakobson (1841–1882) was an Estonian farmer, a politician, a mentor and one of the most beloved leaders of the Estonian national movement. He became a landowner in 1874. He wished to set a good example and educate farmers, thus he planned to build up a model farm in Kurgja. He dreamed about founding a dairy school that would later develop into a full agricultural model school. A barn that consisted of a stable, a pigsty, a cowshed, a sheepfold, a kitchen and a dairy was the first building erected in 1875. After Jakobson's death, his family took care of the farm and his legacy. In 1948, C. R. Jakobson's Farmstead Museum was established and his eldest daughter Linda was appointed as the director.

Today, the area of the museum is 82.5 ha and buildings that needed partial or full repairs have been renovated. There is an exhibition of Jakobson's life and activities in the main museum building. In addition, a barn for threshing and drying grain was erected according to Jakobson's design. The museum is unique as it continues to operate as a farm, raising cattle and growing crops. Visitors watch Estonian indigenous cattle, white-headed sheep, Tori horses, poultry and bees. There are also many cultural activities taking place for adults and children – from tours of the museum through folkmusic to special events for schools.

C. R. Jakobson's Farmstead Museum
Kurgja village
87701 Vändra commune
Pärnu County
Estonia

www.kurgja.ee

Vlahi Eco-Centre, Bulgaria

The highlight of the South Eastern Europe ELBARN workshop was the field visit to Vlahi village near Kresna, where the Bulgarian NGO Semperviva Society has built up an Ark Centre for endangered breeds in Bulgaria. The Semperviva project in Vlahi fulfils the basic conditions for an Ark Centre:

- Collection or permanent exhibition of rare livestock breeds open to the public.
- The animals are pure bred and in a breeding programme.
- Information about the breeds is available on display boards and there is also an information centre and brochures.
- They have a processing point, part of a Slow Food presidium, which produces a traditional and artisan sheep's milk cheese. The objective of Slow Food is to bring attention to and preserve the traditional breeds of sheep.
- Breeding groups in Vlahi are from three species which represent the Karachachan culture: horses, sheep and dogs. The three Karakachan breeds are an integral part of the Bulgarian culture and customs.

The Vlahi Ark Centre also preserves some other breeds and demonstrates the integration of nature protection and landscape preservation. A good example is the long-haired Kalofer goat. From very old times the coats of these goats have been used for making masks and costumes for a Bulgarian traditional carnival. Bulgaria is now striving to save its natural and historical heritage which the socialist regime almost destroyed.

The conservation of semi-natural habitats such as high mountain pastures is an integral part of traditional livestock breeding and the conservation of local breeds. The local goat breeds are effective regulators against succession of mountain pastures, the habitat of IUCN Red list species, such as Ground Squirrel (Citelus citelus) and Imperial Eagle (Aquila heliaca).

In addition the Karakachan dog has been the only effective and the most suitable traditional protection against the wolves and bears. Together with the Bulgarian NGO Green Balkans these dogs are used to solve the predator – human conflicts. The Vlahi project is an excellent example of the rehabilitation of depopulated villages and an impressive entry point to the Pirin National Park.

The Vlahi project is an excellent example of the rehabilitation of de-populated villages and an impressive entry point to the Pirin National Park.

Photo: Elli Broxham

Semperviva
Sider Sedefchev,
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2300 Pernik
Bulgaria

bbps.semperviva@gmail.com
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What does our living heritage tell us?

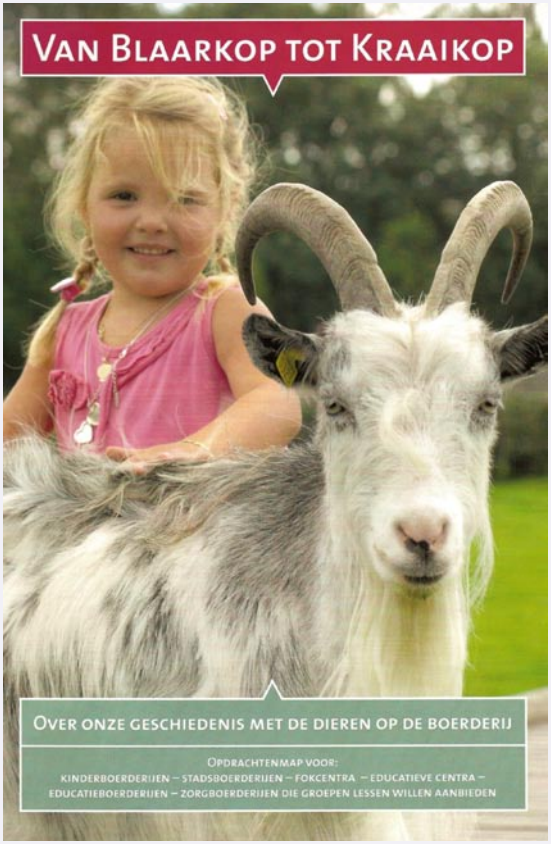
At City Farms in the Netherlands schoolchildren can discover rare breeds with the schools information pack 'Van Blaarkop tot Kraaikop'.

This information pack has assignments for different age groups. Pupils can discover the differences between the breeds whilst they groom a goat, collect an egg or feed the ducks, etc. All these activities are opportunities to discover the breeds and their special qualities.

In a typical lesson, the class is divided in to small groups. For 4–6-year-old children the teacher/parent reads the assignments (written on cards; on the flipside is some information – and answers to the questions) about smelling, hearing, seeing and touching the different animals. For 7–9-year-old children, assignments help them discover the differences between species and breeds (sometimes by making sketches). The 10–14-year olds try to find out about the different purposes of keeping breeds and the story which the traditional breeds tell us about farming methods, what was important for people and why. At the end of a lesson, children can play a game based on what they have learned.

At school, teachers can use the brochure 'It takes all sorts to make a world' or go on excursions, such as visiting a local museum (with an exhibition of traditional farming, paintings of cattle, etc.), an Ark centre or a working farm with rare breeds. The information pack contains also cards 'find this breed', so that pupils can try to recognize the breeds.

If you have any questions about the information pack or method please contact
Ank Zegwaard
ank.zegwaard@szh.nl
www.szh.nl
(from May 2010 also an English version).



Conservation breeding

Managing the breeding of endangered traditional livestock breeds is the most important tool for safeguarding genetic variety, especially if the population is a small one. The ELBARN A&RCs can provide a framework for this management where there is none already in place. By keeping nucleus herds and coordinating breeding with other farms and A&RCs, an essential part of the work for in-situ conservation will be achieved.

Good monitoring is an important preliminary condition for conservation work and begins with an initial population census. The initial results can be used to determine the breed's status on the basis of objective criteria. Regular updating of the data is essential and, for severely endangered breeds, must be carried out every year.

The monitoring procedure can be summarized schematically:

Inventory of former diversity (regional or national):
- Evaluation of old agricultural literature
- Search for old veterinary dissertations and other special reports
- Interviews with specialists, old farmers, chroniclers etc. (use photos and/or illustrations found in old literature).

Specific search:
- In former locations (according to research)
- Indications from interviews
- In places where other relict populations have been found

Random search:
- With ethnic minorities within countries who may have different agricultural systems and traditions
- In remote, inaccessible regions
- In marginal locations (altitude, topography, exposed localities, etc.).

The need for action can then be assessed based on the results of 'scouting trips' in the area. If there is little need for action, monitoring has to be established or institutionalized for a longer time period. In the case of greater need for action a conservation programme has to be set up. In case of urgent need a rapid 'rescue action' may be necessary.

On-farm conservation requires the mobilisation of all stakeholders: farmers, organizations, government agencies and research institutes. These stakeholders need to create a coordinated breeding programme. This programme should begin with population census and recording of basic data and move on to create a procedure for long-term monitoring, develop breeding goals and also provide on the ground, practical action for successful conservation. Below is an overview of the phases of such a programme:

1st phase:
Monitoring: census, methods of husbandry and usage, breed characteristics
Result: assessment of needs

2nd phase:
Securing all of remnant population through purchase or support at present location.
Securing or creating at least 10 male lines
Building up of nucleus herds and sperm banks.
Creation of an NGO herd book or at least a register including minimum data
Scientific research (e.g. distance analysis)
Founding of management group for breed, if not already in existence

3rd phase:
Development of a long-term conservation plan for the breed, taking into account potential to integrate breed into agricultural production and/or other uses

4th phase:
Integration of the breed in agricultural production /usage

Conservation programmes: Mora Romagnola pig, Italy

RARE, the Italian Association for local breeds conservation, is convinced that lovers of good food will enjoy the meat from the Mora Romagnola pig, a rare breed that almost disappeared 15 years ago.

The distinctive Mora Romagnola is an authocthonous pig breed of Ravenna province (Emilia Romagna, Italy). The name 'Mora' ('blackberry', or 'mulberry' or 'moor') was adopted in 1942 in reference to its colouring, very dark brown with a coppery hue; boars have ridge of thicker, longer bristles along the back. The Mora Romagnola has a typical long body with average height of 80 cm (sows are taller than boars) and average mature weight of 250–300 kg; the head is long with straight profile and forward-growing ears that cover a long, tapering snout.

In mid 1950s there were more than 22,000 animals, and several varieties at one time: the widespread Forlivese, the light red Faentina and the darker Riminese. All varieties were crossed with local inbred strains of English Yorkshire pigs (the San Lazzaro and Bastianella); the hybrid offspring was known as Fumati (smoky).

By 1997 only 13 animals survived in the farm of Mr Mario Lazzari, near Faenza. The revival of the Mora Romagnola has been the mission of Riccardo Fortina, the president of RARE, who purchased seven pigs from Mr Lazzari. Since then, intense breeding of the Mora Romagnola population has now increased the herd size to more than 800 animals.

Like most old-fashioned breeds, this breed is quite prone to becoming fat, grows slowly and cannot be kept in closed quarters; therefore, it is poorly suited to modern industrial pig farms. Today the Mora is kept in semi free-range, and the consumers appreciate the characteristics of meat and fat that clearly differ from those of pigs raised in sheds and fed with concentrates.

The revival of the Mora Romagnola has become a matter of pride for RARE and for small pig breeders of Ravenna province, where there is now a special label for its hams, salamis and sausages. From 2005 a group of breeders have requested the PDO qualification for some Mora Romagnola meat products. As befits a high-quality product, these speciality products are more expensive than standard meats. Saving endangered creatures by eating them is, in most situations, a counter-intuitive idea. But at least in this case, it seems to have worked.

When the rescue programme of the Mora Romagnola pig started in 1997, there were only 13 animals.

Photo: Riccardo Fortina

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www.associazionerare.it

The Walachian Museum in Roznov

The Walachian Museum (Valašské muzeum v přírodě) is located in Rožnov pod Radhoštěm in the Czech Republic, 22 km away from the Slovakian border. Parts of the museum date to 1925 and give a good impression of the traditional agriculture and handicrafts of the region. The museum is divided into three parts: the little wooden town, the water mill valley and the Walachian village.

At weekends there are presentations in the little wooden town which show traditional ways of farming. In the water mill valley, mills are in working order and used for tasks like wool spinning, sawing and oil crushing and for working like the hammer mill. The Walachian village shows typical human dwellings from the countryside. Horses, cattles, poultry and sheep graze on the wide pastures.

The authochtonous sheep breed of the region is the 'Valaška' (Walachian sheep). The flock in the museum is the main gene pool for the breed in the Czech Republic. For several years the Walachian sheep survived only in this museum and with a single breeder. The sheep are recorded in the Book of the European gene pool and they are the highlight of the animal attractions. In the Walachian village the visitor can attend a specialized programme, which deals mainly with agricultural work. The museum offers a varied programme with attractions such as the butchers' annual competition for 'the best Walachian Sausage' or shearing of the Walachian sheep.

For many years the Walachian sheep have been kept as a gene pool in the open air museum in Roznov.

Photo: Feldmann (GEH)

Valašské muzeum v přírodě
Palackého 147
756 61 Rožnov pod Radhoštěm
Czech Republic

www.vmp.cz

Conservation of local breeds in France

Foreign observers may have difficulty in understanding the situation of endangered domestic breeds in France, simply because there is no national institution safeguarding these breeds. However, for about 30 years, the 'Instituts Techniques Professionnels' played a major role in conserving cattle, pig, sheep and goat breeds, and still maintain herd books for endangered bovine and pig breeds.

The National Studs and breeding associations have been crucial in maintaining local horse breeds. Local institutions and professional and hobby breeders cared for local poultry breeds.

Initially, most conservation efforts were financed by the Ministry of Agriculture. Gradually the Ministry concentrated on funding technical institutes while geographical collectives, Regions and Departments, local communities, regional parks and artificial insemination centres have become more important in financing conservation initiatives. However important the official contribution has been, conservation in practice would not have been possible without well-motivated professional and hobby breeders. Together they succeeded in saving local breeds that once were endangered.

Most of the local cattle breeds that were 'abandoned' by the authorities after the Second World War have survived although in very small numbers. L'Institut de l'Elevage, the official breeding organisation, has played a major role in describing and registering the breeds. Additionally, it collected semen, facilitated breeding and promoted the breeds. Today, France has 15 cattle breeds with only 1000 females left but numbers are growing. Five more regional breeds have 1000–5000 females left.

Goat breeds suffered most from the lack of government interest. During the 1960s, only the Poitevine breed was officially recognized. Afterwards, ten more local goat breeds were identified. Breeds such as du Rove, des Fossées and the Pyrénéenne now prosper, but others remain in a very poor state.

Most of the 50 local French sheep breeds have survived and are doing well. Some breeds are still endangered but by contrast breeds, such as the Landes de Bretagne, that were supposed extinct have been rediscovered and now prosper.

The six autochthonous pig breeds were greatly endangered, until, from 1981, they were gradually rediscovered by the 'Institut technique du porc' (today IFIP). Thanks to the Institute's support, the breeds survived and developed so that today the products of breeds such as the Gasconne and the Basque are labelled and sold as premium products.

France has nine breeds of draught horses but few warm blood horse breeds. There are eight donkey breeds today. Until some years ago only the Baudet de Poitou – at that time at the brink of extinction – was officially recognized, but since then seven more donkey breeds have been recognized.

Villard de Lans

Chèvres des Fossés à la Bintinais survive today thanks to the official recognition of the breed.

Photos: Laurent Avon

Institut de l'Elevage
149, rue de Bercy
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France

www.inst-elevage.asso.fr

Chillingham Wild Cattle

For several centuries a herd of cattle has inhabited Chillingham Park, in northern England. Their early history is unknown; written records begin in 1646. They are white, with red ears, and are small in stature, with the general conformation of medieval British cattle. All have horns.

Management is minimal. There is no culling or castration, and the herd is fed hay in the winter. Currently the herd numbers 90 in total, with approximately equal numbers of males and females, and their range is 134 ha of relatively infertile grassland and woodland. Social life in the herd is very eventful. Cows breed all year round and bulls compete vigorously for matings. The animals are not handled.

Their history has been linked with that of the White Park breed. Several other herds of cattle, historically associated with parks and large country houses, and white in colour with horns, have existed in Britain, though all have received introgression from other breeds. In the early 20th century these were grouped together into the White Park breed, though the specific affinities of herds and individuals are respected. In the past bulls from Chillingham were used in some of these herds, but there is no record of genetic contributions from any other breed into the Chillingham herd. Along with the Soay sheep of St. Kilda, they are the only British breed to have escaped improvement during the last 250 years.

During the foot and mouth disease outbreak of 2001, a special biosecurity programme was put into effect. There was a confirmed outbreak only 10 km from Chillingham and if the herd had been affected it would have been destroyed. Since then, biosecurity has been enhanced by the removal of the sheep flock (which was under separate ownership) which used to graze the Park. There is a reserve herd in the northeast of Scotland, and some semen is stored. An embryo cryoconservation programme is planned but has not yet been put into effect. Animals are not sold and no others of this breed exist apart from these two herds.

Worldwide, remarkably few feral herds of cattle exist. Most free-ranging herds are managed to some extent (usually by castration and occasional gathering for inspection and culling) and, provided the limitations of their confined state are appreciated, the Chillingham herd can provide useful insights into the behaviour of cattle when free of husbandry. Though customarily termed 'wild', in biological terms they are feral, and no individuals are tamed. Visitors are welcome (see website), and are given a conducted tour by the warden.

As Chillingham cattle do not enter the food chain, and because of the UK Government's commitments to biodiversity, the cattle are not subject to legal requirements such as eartagging or routine testing. However, ten animals in the herd received BTV-8 injections (by remote darting) during 2008, without adverse effects. This was the first time animals in the herd had been vaccinated. Suspicious deaths are investigated by autopsy, but there has been no evidence of the notifiable cattle diseases. The herd is highly inbred and this could mean their resistance to disease might be relatively low.

There is a considerable body of scientific and historic literature about the cattle (for references see website http://www.chillinghamwildcattle.com). The herd is owned, along with its range and the surrounding woodland, by a charity (Chillingham Wild Cattle Association) and support is received from several sources including charitable donations and through the UK Higher Level Stewardship scheme (ultimately, Common Agricultural Policy conservation funding).

Chillingham cow feeding her calf.

Photo: Stephen J.G. Hall

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University of Lincoln
Riseholme Park
Lincoln LN2 2LG
UK

www.chillinghamwildcattle.com

Oulokeros goat, Greece

The Oulokeros is a critically endangered goat from Lokris, on the Greek mainland. Some sources view it as historical ancestor of the Girgentana goat in Sicily and Cabra Blanca de Rasquera in Catalonia, brought to Greece via Greek colonization of west Mediterranean during 7–8th centuries BC.

It has unique wreath-like horns in three variations: vertical, sideways or to the front. It is mainly bred for meat. The breed is now largely abandoned and replaced by other native goats. Traditional breeders formerly considered the horns as a source of pride but now view them as unsafe for free grazing. Lack of official recognition and subsidies intensifies problems. Traditional breeders may refuse to sell stock and do not wish to selectively breed their last Oulokeros. The best males are often castrated before reproducing and are then used as lead animals in herds. Only a few relics remain in large, mixed herds. Numerous local sources repeatedly testified to earlier herds of relative uniformity.

Up to now, studies of the Oulokeros goat have been inconclusive. Blood testing showed no substantial difference to the main Vlach type of Greece but failed to account for the lack of such horns among mainstream Vlach goats. References in 1950s Greek literature are superficial, lack descriptions and fail to differentiate between goats of adjacent areas. A questionable early source is quoted by later authors. A certain resemblance to Euceratherium, an extinct horned animal of the early Pleistocene is notable.

Four small private nucleus herds and one funded by the SAVE Foundation are struggling to save the breed from extinction. Breeding has suffered several setbacks. The mixed origin of foundation animals requires careful selection, and identifying suitable host breeders is problematic.

Oulokeros goats urgently require further recognition and support to secure their future.

Photo: Vasilis Lekkas

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The Danish Ertebølle Landrace sheep

The Ertebølle Landrace sheep is a subpopulation of Danish Landrace sheep. The conservation and breeding of these sheep started in 1993. The Ertebølle Landrace sheep originates from the original old landrace sheep in Denmark that were probably crossed with English Southdowns in the 18th century. The Ertebølle Landrace sheep represents therefore a typical, undemanding, robust Danish Landrace sheep from the beginning of the 19th century. Sheep of this type were used to produce both meat and wool, and they were very common on the widespread heaths and other meagre sandy soils in western Jutland.

The Ertebølle Landrace sheep are of small to medium size with a mean live adult weight of 70–80 kg (rams) and 50–60 kg (ewes). They thrive on marginal land and low-energy fodder and are, therefore, very useful in modern nature conservation of open landscapes, such as heaths, meadows and coastal areas, in Denmark. Utilized in the right way the sheep can actively contribute to the preservation of botanically unique areas.

The largest population (120 ewes) of Ertebølle Landrace sheep is situated on Engdal organic farm in Northern Jutland, a few km from Ertebølle. The production at Engdal is focused on producing lamb meat and this meat is mainly sold locally via personal contacts but, gradually, other types of sale such as organic farmers' markets are becoming more and more important. The customers mainly focus on good meat quality, the history and the animal-friendly production. The production set-up is driven by the hardy, extensive nature of this breed, and is an example of traditional methods supporting the genetic preservation of the original characteristics of the Ertebølle Landrace sheep.

The Ertebølle Landrace sheep is a subpopulation of Danish Landrace sheep.

Photo: Jakob Kortegaard

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Marketing

Marketing is an essential part of the process to find ways to finance the conservation of traditional breeds. Unless animals are seen as being profitable, there will be no reason for farmers to keep them or to take part in conservation breeding. Selling the products and services of these animals also raises their public profile and makes people aware of their existence. Through this method, the importance of conservation can be publicized. If a breed is seen as important to the general public, this creates an impetus to ensure its survival.

ELBARN A&RCs should be as self-sufficient as possible – dependence on state subsidies can be dangerous in times of cutbacks. Besides marketing the actual products from rare breeds like milk, meat and wool, it is possible to market services such as landscape management through extensive grazing, promoting tourism and education. The marketing strategies strongly depend on the type of A&RC, its location and market potential, end customers and outlets.

The various European countries have vast differences in marketing, culture, income, purchasing parity and consumer behaviour, which results in a complex and diverse starting point for setting out generally accepted marketing guidelines. In spite of this it is possible to isolate general consumer requirements and general marketing tools for the producer.

To promote product marketing, SAVE Foundation is, as a consequence of ELBARN, developing a trademark as a general tool to support rare breeds. As certification is too time and labour intensive for a small organization, the new trademark will be used as an add-on to labels already in use. The trademark will have the following requirements for use:

Basic conditions (all must be fulfilled):

- The livestock must belong to an autochthonous breed (or breed traditional to that region).
- Livestock must be kept in a free range, extensive environment.
- The production must be local, extensive and small scale.
- Livestock must be a valuable part of the cultural heritage.
- European specifications for animal welfare must be respected.
- Participating A&RCs should run a herd book or should be a member of a breeding organization which runs a herd book.

Additional conditions (at least half must be fulfilled):

- The livestock should be pure breeds and this should be documented.
- Quality should be guaranteed (seasonal fluctuations are accepted for natural products but feeding guidelines have to be respected).
- Traditional artisan processing should be used.
- The distribution should respect rules of fair trade.
- Manufacturing should regard as minimum EU organic regulations.

(These are divided into 'Basic' and 'Additional' conditions so that regional differences can be allowed for)

Marketing meat from traditional breeds

Conservation of rare breeds of farm livestock depends very much on finding practical applications for them. Commercial farmers have to make a living and are far more likely to adopt rare breeds if they can see a profit in the enterprise.

Thus in the UK where the movement to conserve rare breeds had already put in place secure breed societies to record and maintain pedigree status, numbers continued at dangerous levels until the Rare Breeds Survival Trust (RBST) adopted a scheme in 1994 to market the meat from rare breeds of cattle, sheep and pigs which gave a reasonable price premium to the producer. This was helped very much by the fact that virtually all the breeds concerned had much higher levels of eating quality of the produce than commercial hybrids that were used to supply the mass market.

Since then, 7 out of 16 rare cattle breeds; 13 out of 30 rare sheep breeds and 1 out of 8 rare British pig breeds have all left the RBST Priority Lists and almost all others have improved significantly. Compare this with equines which are not eaten in the UK, where all 12 breeds of horses and ponies recognized as rare remain resolutely in the most endangered categories.

This success was achieved by creating a niche market selling through artisan butchers and ignoring the supermarkets which account for over 70% of the meat market in the UK. Publicity was low key to begin with but increased as leading chefs and food writers 'discovered' the wonderful qualities of such meats and generated articles in both the written and broadcast media. The policy of 'Conservation Through Consumption' has been far more successful in the UK in raising numbers and awareness of rare breeds than any other and continues to do so 16 years after it began.

It should be possible to replicate the policy in almost any developed market today. Most meat is selected on appearance and low visible fat content and is often mediocre in terms of flavour and succulence as a consequence. Meat from traditional breeds offers the consumer a far better return on their money!

Traditional Hereford beef. Beef such as this would be classed ‚poor quality' in the commercial sector for having too much fat but in the hands of a skilled butcher, the resulting joints are valued for the excellent eating quality. Note the certificate that guarantees its authenticity.

Photo: Richard Lutwyche

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Quality products from Mangalitsa pigs in Hungary

Hungary is one of the leading countries when it comes to preserving traditional breeds. One of the traditional Hungarian breeds is the so called Mangalitsa pig, a fat-type hog. The Mangalitsa pig exists in three variations of colour and breeding history: the blonde, red and swallow-bellied types. In former times, there was also a black hog, characteristic of southern Hungary, but they disappeared in the first part of the 20th century.

The market for Mangalitsa products is currently growing due to the rising popularity of eco-farming and organic food. The actual renaissance of the Mangalitsa breed can be observed, even if the breeding of traditional animals is still unprofitable.

The Hungarian meat research institute compared the meat from Mangalitsa and the Hungarian Large White (which is the dominant pig in Hungary). The analysis showed no difference in the protein content. The fat content of Mangalitsa meat is twice as high as in the meat of the Large White, but the cholesterol level is no higher. Because of the prolonged fattening period, vitamins and minerals have a long time to accumulate in Mangalitsa tissue. The minerals are important for human health, so they represent an additional benefit from Mangalitsa meat. Mangalitsa meat is more tender and softer, and the loss of mass during cooking is smaller.

At present, mainly regional or local products are manufactured with Mangalitsa meat. These local, traditional meat products are just a minor part of the Hungarian food market, because there is a high price difference between the traditional and mass market products. Even so, there is a noticeable trend for customers to buy special, high-quality food products, especially from the Mangalitsa pig.

The Mangalitsa pig farm in the small village of Kozard in Hungary is a good example of the production of high-quality meat products at a regional level.

Photo: Riccardo Fortina

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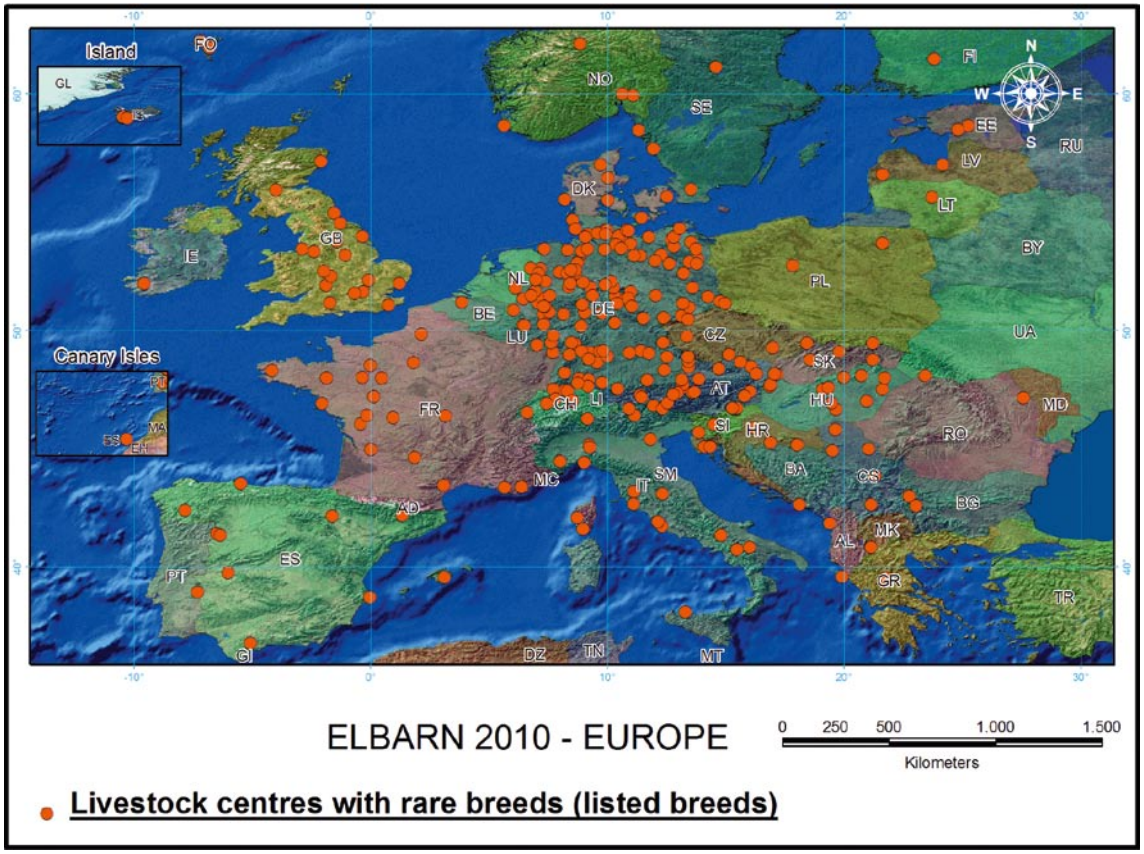
Geographical information



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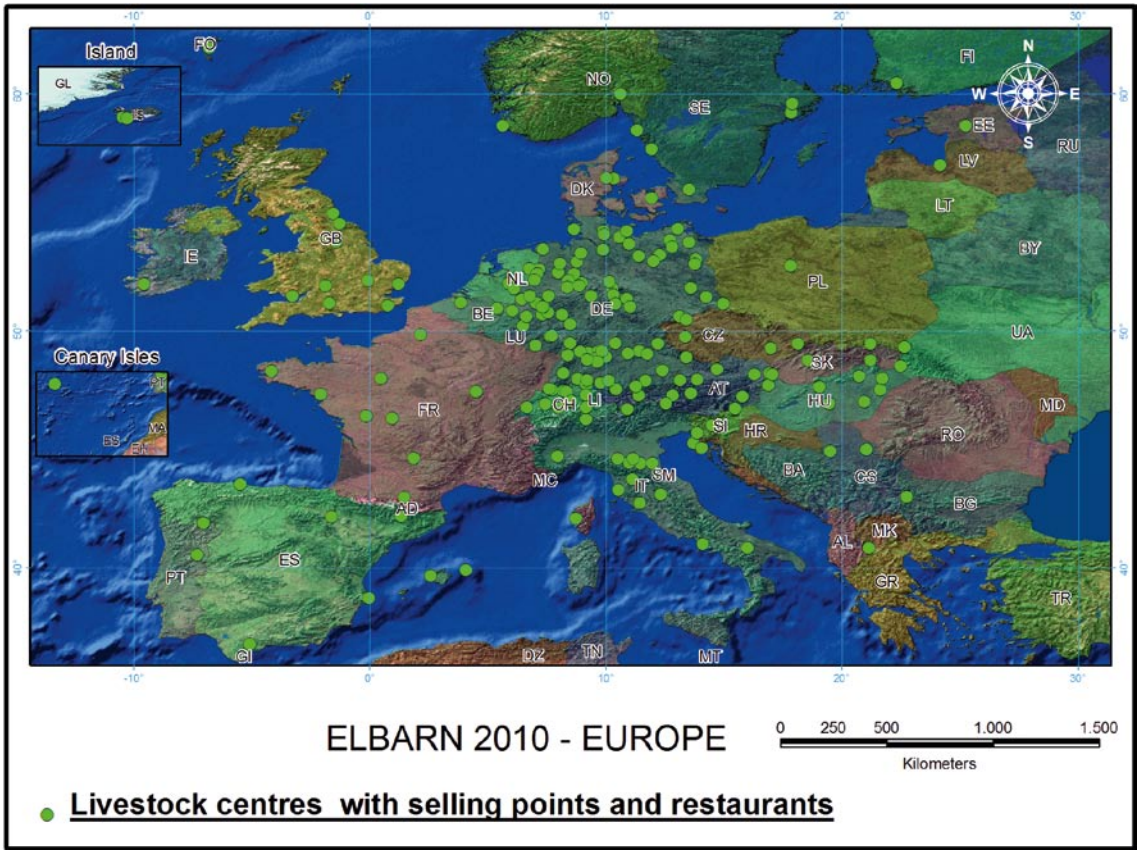

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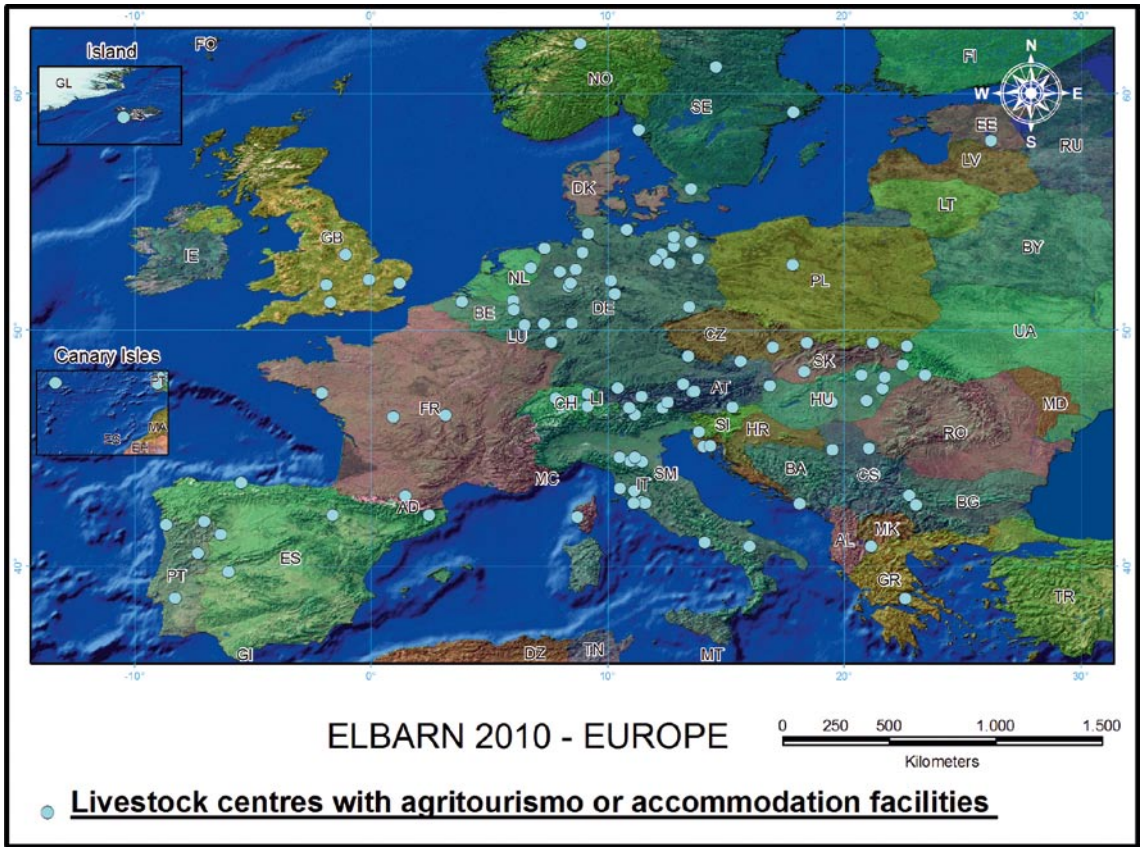

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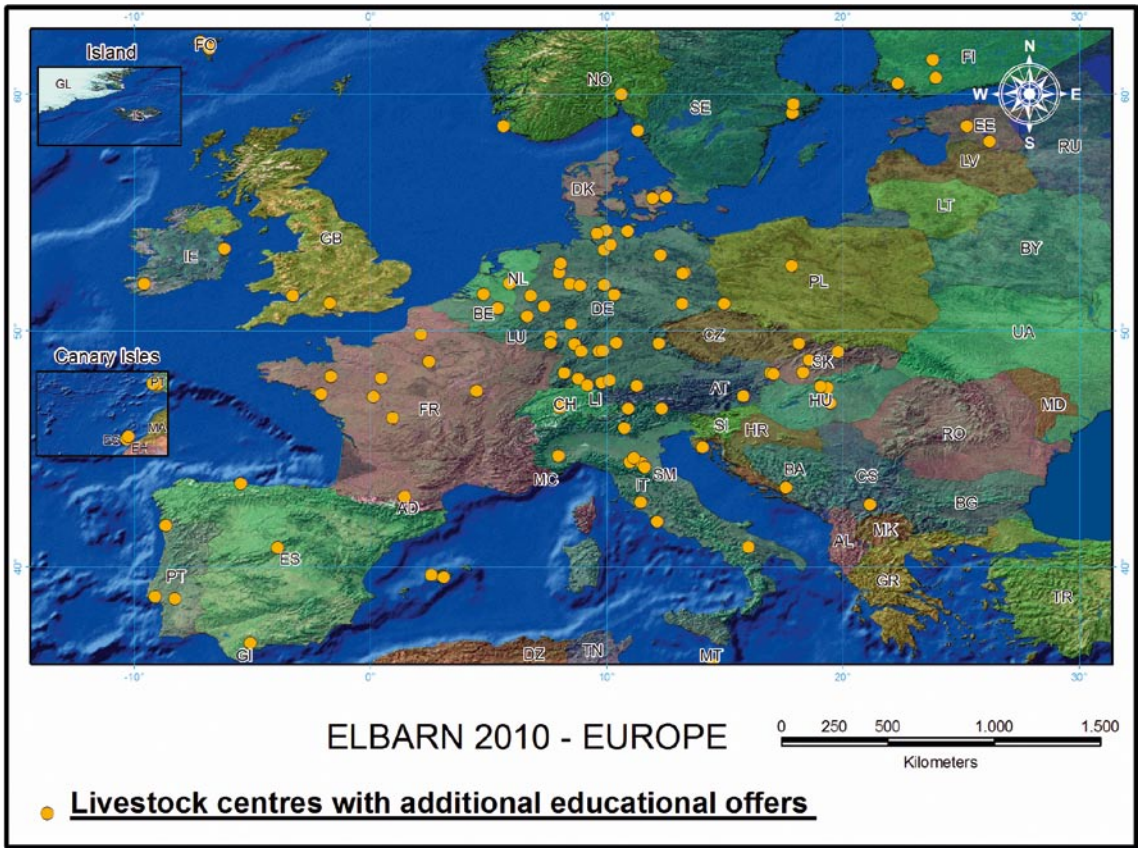

Map: ESRI sampledata

Outcomes and future perspectives

The initial phase of the ELBARN project that has run from 2007 through to 2010 has been essential to bring together stakeholders from all over Europe at workshops in order to present ideas and discuss problems, questions and plans. Five workshops were held in 2008 and 2009 and involved 137 participants. The experience and knowledge that these participants have brought with them have led to the ELBARN Guidelines, a set of guidelines on the main themes of ELBARN. Four Area Action Plans have been published. Based on the pilot project Arca-Net, a pan-European network of Ark Centres has been built up with over 420 centres listed from 40 countries. The success of this first phase arises from the good cooperation between the project partners and others who have been invited to take part in various aspects of the project. Institutions, organizations and individuals have provided information to the project, have answered questions, provided photos for publications and have translated texts – this kind of support is indispensable!

The motivation to take part in the project shows that it meets a need: the need to be involved in conservation at a grassroots, practical level. Whilst political decisions are being made about global genetic resources for food and agriculture, farmers are making decisions too – which animals to keep and how to make a living. As long as farmers feel there is a benefit to keeping the autochthonous breeds of Europe, they will be kept and their conservation will be assured. However, farmers will not choose to keep these animals if they are not 'wanted' by consumers and the general public. The Area Action Plans address many of the issues involved in working effectively at this grassroots level. Thus, the ELBARN project looks to the future: action plans are relatively easy to write – they are expensive and time consuming to implement.

Area Action Plans

In order to implement the Area Action Plans a number of activities need to take place in the next few years. Concrete steps need to be taken to build up new A&RCs where they are missing and to improve existing ones. In places where A&RCs are still an unknown, 'model' A&RCs should be piloted. Gaps in knowledge need to be filled, for example, workshops on herdbook management and running well-organized breeder associations are seen as necessary in some areas. As ever, monitoring and characterization projects need to take place in countries where information about the animals is sparse. Training seminars for ark farmers on the themes of running an educational farm, marketing produce and meeting EU hygiene standards in production have been requested. A proper risk assessment of breeds needs to take place; this will require working out categories and indicators. The creation of a pan-European 'ELBARN Task Force' to lobby for specific legislation changes and improvements has also been requested.

Without people and organizations willing to take part in the above activities, nothing will happen. The past few years have shown that it is possible to find such people. NGO work is characterized as being based on the conviction and motivation of stakeholders. Unfortunately, it is easier to find motivation to take part than it is to find money and all NGOs rely on sponsorship for project activities. This fact slows down the whole process. The dynamic pace of the first years of ELBARN was possible thanks to the generous cofinancing of the project by the European Commission, the Swiss Government and the St Gallen Lotterie Fonds. In order to implement the Action Plans and to create a sustainable 'ark and rescue net' for the autochthonous breeds of Europe, possibilities for further funding are being explored.

Area Action Plans

ELBARN

AREA ACTION PLAN

CENTRAL AND NORTH EAST EUROPE

euronatur SAVE foundation GEH

ELBARN

AREA ACTION PLAN

MEDITERRANEAN AREA

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ELBARN

AREA ACTION PLAN

NORTH WEST EUROPE

euronatur SAVE foundation GEH

ELBARN

AREA ACTION PLAN

SOUTH EAST EUROPE

euronatur SAVE foundation GEH

Further information

ELBARN website:

www.elbarn.net

A searchable list of Ark and Rescue Centres, a list of national contact points as well as all the presentations from the Workshops can be found on the ELBARN website.

The ELBARN Guidelines and the four Area Action Plans can be downloaded as pdf. There is also a comprehensive and searchable list of breed descriptions. The content of the website is kept updated.

Arca-Net:

www.arca-net.info

Arca-Net is a database-supported internet portal to Ark Farms, Farm Parks, Open Air Museums, Variety Gardens, Arboreta, etc found in Europe and open to the public. All entries are complete with directions, opening times and what is on show, and there is even the possibility to see if produce such as farmhouse cheese, salami or even hand-knitted socks are on sale in the farm shop. Use the search function to find interesting places to visit near to where you live or for an interesting outing when you are on holiday.

ELBARN partners:

www.euronatur.org
EuroNatur Foundation

www.save-foundation.net
SAVE Foundation

www.sle.be
Steunpunt Levend Erfgoed (SLE)

www.g-e-h.de
The Society for the Conservation of Old and Endangered Livestock Breeds in Germany (GEH)

www.associazionerare.it
Associazione Italiana 'RAZZE AUTOCTONE A RISCHIO DI ESTINZIONE' (RARE)

Other websites:

www.efabis.tzv.fal.de
European Farm Animal Biodiversity Information System

www.fao.org/dad-is
Domestic Animal Diversity Information System

www.agrobiodiversity.net
European, Regional and National Networks for agrobiodiversity conservation

www.eaap.org
European Association for Animal Production

www.cityfarms.org
European Federation of City Farms

www.genres.de
Information System for Biological Diversity (IBV)

www.cropsforthefuture.org
Crops for the Future

www.iucn.org
International Union for Conservation of Nature and Natural Resources

www.monitoring.eu.com
Monitoring Institute for Rare Breeds and Seeds in Europe

www.rarebreedsinternational.org
Rare Breeds International

www.ec.europa.eu/agriculture/genetic-resources/index_en.htm
Community programme on the conservation, characterisation, collection and utilisation of genetic resources in agriculture on the website of the European Commission, Directorate-General for Agriculture and Rural Development

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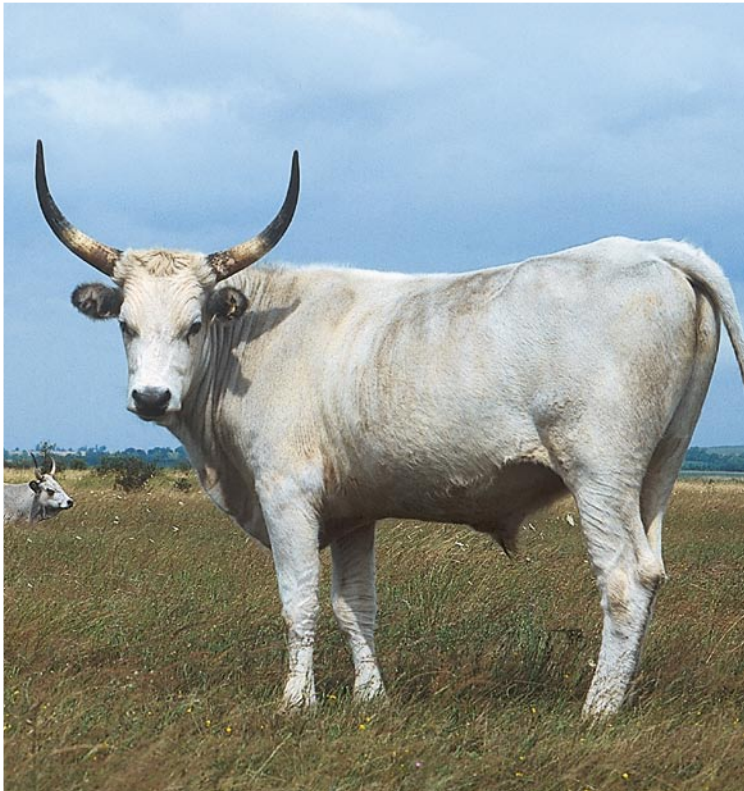

www.elbarn.net