SAVE foundation

European Agrobiodiversity Day

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Traditional Agro-Ecosystems

Over the last century in Europe, farming and farming communities have changed beyond recognition. Where, formally, agriculture employed a high percentage of the European population, farming has now become socially marginal and it has become an industry driven by economics. This process has lead to many changes for the humans in rural areas but has also meant changes have occurred in the regional biodiversity. Some of these changes have been catastrophic, as some species have become extinct. Other species are endangered and are in need of conservation measures to protect them. A move towards more traditional farming methods can be seen as a positive move for the conservation of European Agrobiodiversity.

What are Traditional Agro-Ecosystems?

A traditional agro-ecosystem [TAES] is characterised by a regional blend of wild and domesticated plants and animals. Over hundreds of years these have been cultivated and managed in a way that makes them perfect for the landscape they inhabit and the culture they provide for. A wide-ranging mix of differing crops and animals provides genetic diversity, in the event of extreme weather conditions or crop failures this diversity existed to provide the farming communities with food security. Not only the animals and plants on the farm are included in these systems, they also include the wildlife, wild plants, forests and waterways close to the farmstead as well as external factors. Wildlife and waterways can provide extra sources of food, wild plants aid the adaptation of domesticated plants as cross-pollination occurs, forests provide firewood and wood for building, as well as nuts and berries and wild plants are used in traditional medicine. External factors can include factors such as extra space. Using mountain pastures in summer to allow the recovery of valley pastures, is an example of this.

A TAES provides little in the way of surplus, the harvest of crops and slaughter of animals would be enough to sustain the rural population. Any surplus provided by the TAES would be sold at local, seasonal markets, creating niches of regional products and specialities.

- A TAES has developed over centuries
- A TAES is a locally adapted farming system
- A TAES includes a wide diversity of animals and plants
- A TAES functions in harmony with local wildlife habitats
- A TAES promotes natural genetic adaptation
- A TAES facilitates local, seasonal specialities.

Where did the Traditional Agro-Ecosystems go?

In the 20th Century, the choice was made!

- Agriculture as industry rather than way of life
- Monocultures rather than wide Agro-biodiversity
- Adaptation through science (GM) rather than through natural processes
- Empty landscapes rather than species rich biodiversity
- Unemployment and migration rather than work and stability
- Standardised produce rather than seasonal, local specialities

The changes that have occurred in agriculture are due to a move towards a more profit-orientated farming practice. Farmers are encouraged through policies and subsidies to move towards a more technological and monocultural method. This move produces surplus, which can then be sold for profit. In most of Europe, the 20th Century saw ancient rural landscapes being destroyed as wetland was drained, hedges and woods ripped up to make way for bigger machines and heavier animals. Principles that had been used to build up the manufacturing industry in the 19th Century such as economies of scale were being used in food production. The need of the urban population for more and more food was put before the need for conservation. These changes in method changed the rural communities beyond recognition, underemployment, poverty and displacement became reality.

Not only people were affected by these changes. The changes first became apparent in the wildlife. The early mornings were no longer greeted by bird song, as the habitats for the songbirds were destroyed, they were becoming rare. Likewise, the animals which had populated forests, moors and wetlands were also disappearing. Rivers and lakes were empty of fish and the rural landscape was changing from an idealistic paradise to an unending, monotonous monoculture.

The changes in agro-biodiversity were only noticed when it was already too late for some species. Animals were being bred for their milk and meat production, high yield crops were taking over from locally adapted species. Any genetic adaptations were taking place in a scientific surrounding as hybrids were created, these days genetic modification (GM) is also being used to generate adaptations that had previously occurred on the farm. Any animals or crops that did not fit the new standards of productivity or did not have a place in the wider market were neglected, forgotten and, finally, extinct. Many regional specialities became lost and seasons also became blurred as improved transportation satisfied consumer demand for standardisation in the supermarkets.

Traditional Agro-Ecosystems and Conservation: What does the future hold?

- Re-establishment of TAESs in order to conserve agro-biodiversity
- Conservation of gene reserves important for future food security
- On farm conservation promotes locally relevant genetic adaptation
- Locally adapted species are hardy, fertile and resistant
- Regeneration of rural economy and landscape

The future may well be required to hold two contrasting agricultural systems. On the one hand, there is the economics orientated modern farming practice, which will be used to provide the vast quantities of food required to feed a growing global population. On the other hand, traditional agro-ecosystems will be re-established in order to conserve agro-biodiversity. The conservation of traditional farm breeds and species is very important. These animals and plants are uniquely adapted to the

regions they are found in. Although they may not be as productive as the new breeds and species, they often possess qualities such as hardiness, high fertility and resistance, qualities that are often lacking in new breeds.
Not only are these breeds and species genetically interesting, their conservation through traditional farming methods also promotes a healthy regeneration of rural areas. Regional specialities will be produced again promoting rural incomes. Traditional landscape management methods will encourage the reinstatement of forest and waterways, flower meadows and wetland, all of which will provide habitats for wildlife. A more species rich countryside with a beautiful, managed landscape will encourage tourists to spend leisure time in rural areas, a further assistance to rural incomes.
A landscape, which includes the traditional animal breeds and crop species, is a rich and interesting environment. It is also an environment that is storing important genetic material for future generations. The two farming systems can exist, side-by-side. Indeed, they will have a symbiotic relationship as a flow of money and genetic material moves from one to another. In order to conserve old breeds and species, it is important to act before it is too late.

SAVE foundation

In many countries in Europe, there are organisations supporting and promoting the conservation of Agro-Biodiversity. The SAVE Foundation, founded in 1993, acts as a European umbrella organisation for these organisations. It promotes and coordinates activities to conserve endangered breeds of domestic animals and cultivated plant varieties. The SAVE Foundation does not work with a romantic ideal of how it once was, rather the SAVE Foundation undertakes practical work to ensure a sustainable future for the diverse genetic material stored within the traditional breeds and species of Europe. The SAVE Foundation supports, plans and realises on-farm conservation projects alongside collecting and disseminating information about the traditional and endangered European Agro-Biodiversity. This work is undertaken in conjunction with the SAVE Partner Organisations. The European Monitoring Institute for Rare Breeds and Seeds is the scientific research unit of the SAVE Foundation.

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