SAVE Workshop “Rare and Missing Breeds of the Balkan”

"Indigenous breeds of the crossborder area of West Stara Planina Mountain"

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In 2001, REC initiated the project “Promotion of Networks and Exchanges Between the Countries of South Eastern Europe”. It is set in the framework of the Stability Pact for South Eastern Europe and part of the “Regional Environmental Reconstruction Program”. Part of this project is being conducted in the area of West Stara Planina Mountain with objective to support and implement activities leading to effective cross-border management of natural resources, and to empower local stakeholders to improve their well-being through support and promotion of environmentally friendly tourism, agriculture and traditional crafts. In the region of WSP, the government of the Republic of Serbia during 1997 passed the regulation of the protection of the Nature Park “Stara Planina”, which occupies 1422.20 km². There is a proposal to recognize WSP mountain as an UNESCO MAB reserve. In 1996 the Ministries of Bulgaria and Serbia signed a memorandum for creation of transboundary “Peace Park”. In March 2003, as a result of biodiversity studies on REC project, a proposal for the designation of the Nature Park in Bulgaria was submitted to the Bulgarian Ministry of Environment and Waters and the procedure has started.

West Stara Planina Mountain biodiversity and traditional animal breeding practices

According to International Union for Conservation of Nature and Natural Resources (IUCN), WSP is one of the six temperate biodiversity centres. The park presents a great variety of landscapes, habitats, natural phenomena and rural cultural heritage. Apart from fifty-two plant communities and a rich variety of wild animal- and plant species, WSP is home to unique rural communities and indigenous farm animal breeds. This region had in the past relatively strong rural economy based on sheep and goat dairy products and livestock production used to be functional part of WSP agro-ecological landscape. Indigenous sheep, goat, cattle flocks and traditional extensive farming systems shaped for centuries the valleys, meadows, pastures, forests and the culture of the various Balkan ethnic groups in this Mountain. The meat and diary products of those breeds are part of the tradition and have very high value because of their excellent nutritional qualities. Some of the WSP Mountain diaries (mandra) still produce traditional, autochthonous cheese (Kachkaval, urda, belmuz…). Zackel sheep wool used to be basis for the carpeting in Chiprovci (Bulgaria) and Pirot (Serbia) area. But luck of local development strategies; continuing migration to urban centers and unsatisfactory age structure resulted in a steady decreasing agricultural workforce (decreasing and aging population) and the slowly disappearing of cultural heritage; agricultural indigenous knowledge and agrobiodiversity declining. Today, there is a process characterized by weeds overgrowing in the area of mountain pasturelands, caused by the slowly disappearance of traditional farming systems and declining number of livestock. Forests natural community is slowly being established in the area of grass phitocenosis and the endemic flora is disappearing. The so called “non marketable” importance of sheep and goat flocks for protection of pasture and grazing land is significant and only our indigenous forms of farm animals are able to stop those undesirable phitocenotic changes, because of their ability to use mountain coarse forages of low nutritional value. Indigenous breeds used to be a vital
component of West Stara Planina biodiversity. The mutual impact of the environment and the genetic composition of breeds and the use of certain species are highest in the extensive grazing and the mixed farming systems that used to be traditional characteristic of West Stara Planina Mountain.

### Indigenous breeds in the crossborder area of WSP

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Grey Iskar Cattle (Sivo iskarsko)
The average live weight of Grey Iskar cows is 390kg. Average milk-yield is 2500-2600 liters, with a maximum of 6928.9 liters. The fat content in the milk is on average 4.2%, with a maximum of 5.7%. They are exceptionally hardy and strong. In addition to milk, these animals are used to provide tractive power (up to the age of 15 or 20 years). They are bred mainly in the region of the rivers Iskar, Vit, Osam, and Rositsa, from whence the breed received its name. Unfortunately, the population of this breed has declined from 74,152 in 1957 to just 281 today. Put another way, Iskar cows in 1957 represented 7.1% of the cows in the country, and today represent practically nothing.

In terms of morphological features, Local Greys are similar to Iskar Greys, but are smaller and significantly less productive. On the other hand, they were once widespread throughout Bulgaria. In 1957 they numbered 429,975, or 41% of the cattle in the country. Today the Local Greys are on the brink of extinction (Jordan Danchev, The Preservation of Autochtonous Breeds of Domestic Animals in Bulgaria).

Balkan goat
In 1950-ties an eradication programme destroyed the Yugoslav population of Balkan Goat. It is late maturing breed. Adult male goats in average weight 45-50kg, and female goats 25-38 –40 kg. The average wither height of adult goats is 68 cm for males and 64 cm for goats. Body is covered with long goat’s hair, that can be in one color: white, black, gray, reddish, brown, but also multicolored. Goats are in general horny, but they can also be hornless. The milk production is from 95l-255l. Balkan goat is less fertile, and is about 100-130%. Some strains of this breed can be very resistant to certain infectious agents due to expressed DNA polymorphism in comparison to other goat breeds (Djordjevic, 2003).

Mangalitza (Mangulica)
Mangalitza is one of the 3 remaining indigenous pig breeds in Serbia. The status of Mangalitza is being described as a sustainable – endangered. Mangalitza poses valuable genetic alleles, which makes it different to so called noble breeds that are created using one-sided selection aiming to increase their productivity characteristics. “In-situ” conservation is being conducted in few locations in Serbia. European experience in involvement of Mangalitza in agro forestry and organic farming systems as so as local efforts presents the model of economic valorization and chance for Mangalitza’s survival.

Origin: Mangalica pig is old breed that had been formed on the Serbian, Rumanian and former Austrian-Hungarian land, as a result from natural selection and crossing the oldest local breeds “Siska”, “Shumadian pig” and Hungarian breeds. During the history the Mangulica pig has been subject to a series of transformations that are not known to us.

Characteristics: The Mangulica pig is adapted perfectly to the Balkan ecosystem, using the extensive oak woodlands as an important source of food. This breed is robust, resistant to diseases and stress and of a balanced disposition. Powerful legs and strong hooves allow it to securely move about in any landscape. A simple, draft-free and rain-tight shelter suffices. Important is freedom to move about outside. The thick, bristly coat protects in all kinds of weather. Important is also a wallow in which the animal can cool itself off and care for its skin. There are two color varieties in Dimitrovgrad area; yellowish-white (chief) and black or swallow-bellied (“Lasasta”). The meat is consists more proteins and 50-75% less cholesterol than “noble” pigs meat. It is commonly agreed that people with a high blood LDL-cholesterol will have a higher risk of coronary artery disease (CAD) than people with low blood LDL-cholesterol. Mangalitza pig meat produce the HDL – cholesterol less than LDL compared to the noble pigs.

Bosnian pony (Bosanski brdski konj)

Origin: Bosnian pony is one of the oldest Balkan horse breeds. This breed developed over a long period from Equus przevalski i Equus tarpan and belongs to the group of East Europian Ponies. Arabian horse was involved in final shaping of Bosnian pony during XIX century and fifties and sixties of XX century.

Characteristics: This breed is exceptionally strong and tough animal with modest feeding and accommodation demands. Bosnian pony has flat profile of the head; wide forehead; good set and strong legs; exceptionally solid and well-built hoofs; 380 kg weight. Bosnian pony is comparably short (130 cm at withers) and has good musculature. It’s used for transportation of different luggage; for ridding (they are still actively used for timber carrying in the Balkan forests). This breed was irreplaceable man support in the mountain harsh areas for a centuries. Unfortunately, its population trend is decreasing and it’s officially included in Critical (Disappearing) category, because of the fact that there are only 15 horses of this breed in Serbia.

Balkan Donkey

Donkeys have continuously been replaced due to motorization in agriculture and transport. This is an ongoing process. During the last three decades, even in mountain areas donkey keeping has been subject to strong decline. Statistics recorded rapid decline in Serbia and Montenegro. In Dimitrovgrad area there are only 10 of them.

Karakachan dog

The Karakachan dog is a very ancient breed of livestock guarding dog. It comes from the shepherd dogs of the ancient Thracians and dogs used for livestock protection by the proto-Bulgarians, who came from Central Asia. Karakachan people had selected this dog conservatively and had formed its present type. Due to its perfect working qualities this breed
has been also widely used by Bulgarian shepherds. According to the literature, in the past some livestock breeders, who had had a huge number of sheep (about 12 000) had owned 100 dogs for protection of these flocks. Until the World War II the Karakachan dog had been used in the Bulgarian army. These dogs are large, powerful, with harmonic proportions. The coat is long and coarse. The coloration is mainly spotted (big contrast spots on white base or white spots on dark base). These dogs are very movable and have big aggressiveness towards carnivores. They are also very unpretentious to the conditions they live. They can work in different conditions, which are sometimes very hard (rough terrain and high number of predators). Due to their qualities these dogs became legends in the Bulgarian folklore. After the nationalization of private livestock in 1957 a big number of Karakachan dogs had got useless and many dogs had been killed. In that period the wolf had been heavily persecuted and almost exterminated. In the period 1960s – 1980s the socialist government carried out several campaigns for extermination of domestic dogs including Karakachan dogs with the aim to trade with their furs. The main part of the population of the breed was saved in the state livestock farms, particularly in mountainous areas. However, after 1991 when the state farms stopped to function, these dogs became “homeless” and hunters killed most of them again. Due to the extremely low number and particularly shortage of females, shepherds started to crossbreed them with other mix-bred dogs or such from similar foreign breeds. Up to day the government has not supported the breed survival in any way, except including it in the Red Data List of the autochthon forms domestic animals, which is a part of the National Biodiversity Conservation Strategy of Bulgaria, as a disappearing breed (or critical). On the base of BBPS – SEMPERVIVA studies, the alive purebred Karakachan dogs in Bulgaria are between 600 – 700 individuals. In the herd book of the society 202 dogs have been registered.

Svrljishka chicken (Svrljishka kokosh)
According to the investigations, nowadays the Svrljishka poultry number has been decreased so much, that if urgent measures are not taken it will disappear in few years. During our expeditions we have seen only single specimen, or small groups from 2 - 4 chickens, usually in Dimitrovgrad, Pirot, Knjazevac, Zajehar and Svrljig area.
These poultry is very typical, with black colour and good lying and meat qualities. Those poultry are also bred traditionally. Some of the flocks have not been crossbreed with other poultry breeds yet.

Pirotska zackel sheep (Pirotski soj pramenke)
The Pirostka tzakel sheep is accepted as very typical Balkan zackel, coarse wool sheep. Its wool is coarse and long (up to 20 cm). The coloration is white-yellow. Very vital and energetic animal, very tough, very unpretentious towards the food source. Highly developed feeling for being in a flock. Low productivity of litters (110 - 120%). The Pirotska sheep had been one of the mostly spread breeds in West Stara Planina in the past. In the beginning of the XX century the population size had been more than 500 000 individuals. In 1957, during the nationalization of the farming practice, the number is decreased to 158 896 individuals. (Danchev, 1994). At that time the socialist government decided to replace the local breeds of sheep with foreign, fine-fleeced. As a consequence of the state policy the local breeds had been massively crossbred with other breeds. There are other factors which threaten the breed. The alpine pastures in the country are hardly used. But if the Karakachan sheep is bred in lower mountainous lands it has lower productivity compared with other breeds. At the moment the mountain livestock breeding is a loosing practice. The government does not stimulate private livestock breeders to keep and work with autochthon breeds. According to data of the Pirot Institute of Agriculture, the Pirostka zackel flocks are kept only in Gostsuha village and near Knjazevac, but are grazed together with other breeds.
Replyanska Sheep

Replyanska sheep is a local breed, a typical representative of the coarse wool sheep widespread in the western parts of the Stara Planina, Svetinikolska Planina, Chiprovksa Planina, and the mountain regions of Belogradchik and Montana. The center of the habitat of this sheep is the village of Replyana, from which it took its name (Danchev, 2004). It is investigated by Institute for Highland Agriculture from Troyan. The breed is saved completely only in Repliana village (Chuprene area), near Trgovishte. There are 5 flocks containing 200 sheep each, total 1,000 Repliana sheep. Local people in the village respect the breed and have high level of awareness. Repliana farmers are strongly convinced that the breed is very good for their climate and soil conditions, very modest toward the food sources. It’s very energetic, with very rare disease occurrence. Replianska sheep belongs to the "tzakel" type, it’s relatively small, mobile, and resistant. It is marvelously suited to its habitat in the broad mountain and high-mountain pastures and meadows. The wool is coarse and middle long. The coloration is white, but the typical characteristic are black field (diameter 0.5 cm-5 cm) on the legs and face. Milk yield is 70-85 l plus milk used for the lambs. The productivity of litters is more than 120%. This very rare breed is very similar to “pirotska pramenka - tzakel” that is endangered.

Main problems and treats in WSP Indigenous breeds conservation

- Inbreeding and further decline of valuable genetic material and the diversity in the genotypes of livestock species;
- Systematical crossing in the past and unsystematical crossing of WSP indigenous breeds is carried out;
- Decreasing interest of local farmers for animal breeding - decreased animal production and number of farm animals caused by social and economical problems in the mountain;
- Lack of functional local and national mechanisms for implementing conservation programmes for the indigenous breeds (caused by financial limitations);
- Lack of promotional and marketing initiatives able to increase the value of indigenous breeds products and activities;

Good practices in the WSP area

„Natura Balkanika“ Nature Society from Serbian part of the West Stara Planina Mountain, started actively with agrobiodiversity conservation since 2002. 26 pigs of Mangalitza breed and 5 horses of Bosnian mountain pony breed were received from Former Federal Institute for Animal and Plant Genetic Resources of Yugoslavia. The animals were distributed to few rural households in the area. Today, two years later, there are more than 120 Mangalitza pigs situated in 4 farms and many local farmers show an interest in breeding them. This means that Dimitrovgrad area is the first Serbian center of Mangalitza pig and the second important center of Bosnian mountain pony. This year Serbian Ministry of Agriculture decided to locate in Dimitrovgrad 27 sheep flock of Bardoka breed; “Natura Balkanika” Nature Society started with in-situ conservation of Svrljig chicken and Balkan goat and with introduction of Interactive farm – pilot model aiming to promote this genetic heritage by organizing promotional events for children, tourists, aiming to change attitudes of local people. The Interactive farm is combined model based on rural tourism, sustainable agriculture and traditional food processing able to bring people closer to the values of the WSP indigenous
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breeds. Conservation activities of Natura Balkanika are supported by the Serbian Ministry of Agriculture, Forestry and Water Management; the Regional Environmental Center for Central and Eastern Europe within the project “Promotion of Networks and Exchanges in the Countries of South Eastern Europe”; EED Germany within the Project “center for Sustainable Rural Development and local community institutions. “Natura Balkanika” and REC organized the First Regional Fair of Balkan Agrobiodiversity and Rural Heritage in September 2003, in Dimitrovgrad, where 13 Balkans autochthonous breeds where presented for a first time on one place. The event was successful model of indigenous breed promotion, but also supportive and encouraging mechanism for the breeders. Natura Balkanika activities with free-range system of Mangulica breeding confirmed traditional experience that farming systems relying on local breeds, are more stable, robust, and sustainable. The breeding of Mangalitza pig, Bardoka sheep, Balkan Goat, Svrljig Chicken and Bosnian mountain pony is ecologically oriented since the animals usually graze outside on land with no surplus fertilizer and the animals normally get very little surplus feeding, if any. Rare breeds conservation activities of “Natura Balkanika” aim to support rural revival and sustainable development of the area by: promoting effective use of natural resources; reducing dependency on external inputs and encouraging diversification of rural economy. This is in accordance with our activities in establishment of organic agriculture and ecotourism in the area.

**Conservation tasks and opportunities**

Rare breeds conservation activities in the WSP area should be part of biodiversity conservation and also part of actions aiming to support rural revival and sustainable development of the area by: promoting effective use of natural resources; reducing dependency on external inputs and encouraging diversification of rural economy. That is in accordance with REC activities in establishment of organic agriculture and ecotourism in the area. Unfortunately, many breeds, such a Balkan donkey, Balkan goat, “pirotska” tzakel, “svrljishka” poultry… are not under any program of conservation. Autochthonous breeds situated in the Stara Planina (Balkan) Mountain area have high biodiversity value. Every indigenous breed deserves to be protected from extinction and to be treated as a valuable heritage of every country. To prevent further irreversible erosion of genetic diversity next actions should be taken immediately:

- The limited funds available for biodiversity conservation need to be allocated in the most efficient way;
- There is need for field identification and characterization, for marking of animals and for introduction of information system for their monitoring;
- Systematic identification of traditional animal / typical products and their utilization and promotion;
- Support to indigenous breeds conservation activities in establishing interactive/show farms systems able to combine rural tourism, direct marketing and small-scale processing of foodstuffs aiming to valorize indigenous breeds products;
- Establishment of governmental programmes for subsidizing indigenous breeds, especially in thr areas where is necessary to stop further abandonment of mountain pastures (landscape and environmental benefits).

The WSP indigenous farm animal breeds should be treat as an important resource for economic development and livelihood security. Extensive genetic diversity in these breeds allows the existence of livestock in the most extreme mountain environments providing a
range of products and functions. An important research and development goal is the systematic evaluation of breeds in production systems where they are typically found, quantitative assessment of the genetic diversity they possess, the definition of relationships amongst breeds and the implementation of programmes for their effective management, including development of policies and strategies for conservation and sustainable utilization. Rural Development Plans should be one of the main tools in implementing measures in favor of livestock biodiversity conservation.

References: