Review of the specific measures for support of the autochthonous breeds in Bulgaria

Анализ на прилагането на специфични мерки за подпомагане на автохтонните породи в Република България

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Abstract

The measures for support of 22 autochthonous breeds in Bulgaria are reviewed. It is concluded, that as a whole the support is more effective in the mountainous and semi-mountainous regions, where the opportunities for alternative agriculture are smaller. The numerous funding prerequisites and administrative formalities are some of the main obstacles to the inclusion of more farmers in the support programmes, and a hurdle to the change of the population trends in positive direction. A serious restriction is the requirement for pastures for herbivorous animals in the plane regions with intensive agriculture. In conclusion it is mentioned that the support for preservation of the local autochthonous breeds should be bound only with requirements for retaining the number of the animals and their rearing in traditional for the breed conditions.

Keywords: autochthonous breeds, population dynamics, in situ conservation

Резюме

Направен е анализ на прилагането на специфично подпомагане при 22 автохтонни породи в България. Установено е, че като цяло подпомагането е било по-ефективно в планинските и полупланинските региони, където възможността за алтернативно земеделие е по-малка. Пречка за включване на повече фермери в програмите за подпомагане и изменение на тренда на автохтонните породи в положителна насока са многобройните условия и ангажименти, свързани с финансирането и редица административни трудности. В равнинните региони с интензивно земеделие, сериозна пречка е изискването на пасища за тревопасните животни. В заключение се отбелязва, че за съхраняване на местните автохтонни породи, при подпомагането, не трябва да се поставят никакви други изисквания, освен ангажимент по запазване на броя на животните и отглеждането им при обичайните за породата условия.

Ключови думи: автохтонни породи, динамика на популацията, съхраняване

Introduction

In the recent years the effort of the global community is targeted at preserving the world's biodiversity. Nikolov (2012), describes the biological diversity as the most valuable feature of our planet, a wealth, the man only recently acknowledged, at a point where most of the biodiversity is inevitably lost. The author points out "Striding jauntily through the depths of the history, flushed with success by his achievements and 'great' creations, carried away in redesigning the matter – initially the non-living, and later also the living one, the human faced the risk of remaining alone, walking through the great desolation of the void".

The efforts towards conserving animal genetic resources, initially focused on the wildlife species, have been gradually increased to encompass also the domesticated ones. Their immense intraspecies diversity, though man-made, constitutes a part of the global biodiversity, and its loss might lead to unpredictable consequences. The former Director-General of the United Nations' Food and Agriculture Organization (FAO) Jacques Diouf (FAO, 2007) pointed out that the animal genetic resources are part of the world's heritage which must not be neglected. The Global Plan of Action for Animal Genetic Resources states that the effective management of animal genetic diversity is a prerequisite for world food security and for sustainable development, it contributes to the livelihoods of over a thousand million people, and the wise management of the world farm animal genetic resources under risk of erosion poses serious challenges to the global community.

The objective of the current study is to review the applied specific measures for support of the autochthonous breeds in Bulgaria and to make recommendations for their improvement.

Autochthonous breeds in Bulgaria

Due to its location, the favorable conditions for livestock development, and the variety of environmental and climate conditions, Bulgaria is among the countries in Europe possessing large variety of breeds. Our land is one of the hypothetical centers of domestication (Balevska and Petrov, 1968) and dozens of autochthonous breeds made their way from the antiquity to the present days.

The book "Local domestic animals" of Acad. Hinkovski et al. (1984), which is considered as the most complete source of information about local breeds, contains descriptions of 33 indigenous bulgarian breeds, including 6 extinct ones (Local Lop-Eared pig, Local Upright-Eared pig, Deliorman Horse, Rila-Mountain Horse, Kamchiya Horse, Rila-Monastery Sheep). Of the remaining 27 breeds, 10 (Iskar cattle, Rhodope Shorthorn Cattle; Local Buffalo; Bukiovska Sheep, Svishtov Sheep, Panagyurishte Sheep, Central Rhodope Sheep, East Balkan Pig; Stara-Planina Horse, Karakachan Horse) are classified as critically endangered, 14 (Karakachan Sheep, Replyan Sheep, Copper-Red Shumen Sheep, Local Karnobat Sheep, Pirdop Sheep, Sofia - Breznik Sheep, Kotel Sheep, Duben Sheep, Teteven Sheep, Strandzha Sheep, Sakar Sheep, Maritza Sheep, Central Mountain Sheep, Local goat) as endangered and 3 (Local Gray Cattle, Pleven Blackhead Sheep, Stara Zagora Sheep) as potentially endangered.

Later, Boykovski et al. (2006) described in their book “Sheep breeds and populations reared in Bulgaria” 9 more breeds and populations- Central Stara Planina Sheep, West Stara Planina Sheep, Beloslastinska Sheep, Kula Sheep, Kyustendil Sheep, Radomir Sheep. Koprivshtitsa Sheep and the sheep in the valley of Maritsa river have been divided into two breeds – Parvomay Sheep (White Maritza Sheep) and Patch-Faced Maritza Sheep.

More recently, the analysis of differences in the exterior traits has been conducted and the Sofia Sheep, called also Elin-Pelin, was separated from the Breznik Sheep. From the local goats one breed - Kalofer Long-Haired Goat and two sub-breed populations – Local Screw-Horn Longhair Goat and Local Long-Haired Goat (Malashev variety) were distinguished.

Gorinov and Yotov(2006, 2009) conducted analysis of the exterior and the constitution of the Gray cattle, and demonstrated that the current breed population is an intermediate one, between the Local Gray Cattle and Iskar Cattle, whereas the animals from the founder populations do not exist anymore. The new population was presented under the name Bulgarian Gray cattle, which has been already in use. Nevertheless, one of the breed societies is still calling the breed Iskar Cattle.

The national genetic resources include also the Black Shumen Chicken, Bulagarian Honey Bee and dogs from the Karakachan Dog, Bulgarian Hound (Barak) and Bulgarian Ludogorian Hound breeds.

From the listed 45 Bulgarian autochthonous breeds, 30 are under the control of a breed society. One breed - Svishtov Sheep is considered extinct since the end of the 90s of the previous century. At present there are no reliable data available for the other breeds. This does not imply that the rest of the breeds are extinct, as the work on the exploration and characterization of the breeds continues. As shown in Tabl.1, where the autochthonous breeds supported by the state are listed, the breeding process with the Central Rhodope Sheep, West Stara Planina Sheep, Sofia Sheep and Breznik Sheep breeds was restored in year 2010 and with the Sakar sheep and Kalofer Long-Haired Goat – in 2011. The work with the Local Long-Haired Goat (Malashev variety) started in the current year, and the breeding programme of the Local Screw-Horn Longhair Goat was approved in 2013.

The existence of such large number of autochthonous breeds is explained by the fact that Bulgaria became aware long ago of the need for their preservation. Our state was the first in the world to provide economical conditions for the preservation of the indigenous breeds, by allocating additional subsidies for keeping animals from local breeds of sheep and cattle (Hinkovski et al., 1984). In 1974, the time of the mass industrialization and the introduction of highly productive breeds, the ruling at that time Bulgarian communist party government issued a decree for preservation, development and use of the local animal genetic resources. Following this decree arc farms for the conservation of the Iskar Cattle and 17 indigenous breeds were established (Hinkovski et al., 1984). In the 90s of the previous century the state and cooperative farms were abolished. This resulted in closing of the centers for preservation of autochthonous breeds, with the exception of the institutes of Agricultural academy and the state stud farm “Kabiuk” near Shumen.

In 2001, the first non-governmental breed societies in Bulgaria, obtain state license for breeding. At that point in time, the first associations for breeding autochthonous breeds were established. However, the breed societies were not operational due to lack of financing, the only exception was the Breeding Association of the local

Maritza sheep, which has had a long history. Considerable work on tracing animals from 4 autochthonous breeds - Bulgarian Gray Cattle, Rhodope Shorthorn Cattle, Karakachan Sheep and Copper-Red Shumen Sheep and on establishment of the breeding programme for these breeds was done in 2001, in the frame of the "Rare local breeds" project, financed by the Swiss Agency for Development and Cooperation.

In the current study the results of several monitoring surveys of the population dynamics of autochthonous breeds from Bulgaria were used. In order to ensure objectivity of the assessment, data from parallel sources were used, provided by: the breed societies, the almanac "Livestock breeds in the Republic of Bulgaria" (2011), the registries of the Executive Agency for Selection and Reproduction in Animal Breeding (EASRAB) of the Ministry of Agriculture and Food of Republic of Bulgaria, State Fund "Agriculture". The data are officially published by the National Coordinator for Animal Genetic Resources and are accessible in the information systems EFABIS, e.g. in the Bulgarian national node (http://www.efabis-bg.iasrj.eu) and FAO's information system DAD-IS.

Supporting measures

The first state support for the non-governmental organizations in the animal breeding dated 2006, whereas targeted subsidies for herdbook keeping and performance control were introduced in 2009.

The first targeted support for autochthonous breeds was initiated within the framework of the Special accession programme for agriculture and rural development (SAPARD). Within this programme, the breeds included in the "Rare local breeds" project were subsidized.

The financial support within SAPARD was allocated to farmers assuming agri-environmental commitments for 5 years period, allotting in the first year 343 EUR per cattle and 42 EUR per sheep, and in the rest 4 year allotting each year 314 and 22 EUR, respectively. The maximum amount of the compensatory allowances for a single agri-environmental project was 10000 EUR per year. The support regulation was promulgated in 2006, and the first payments were received in 2008.

The farmers found the application rules and eligibility requirements of the SAPARD programme hard to meet. A mandatory requirement for the whole support period, along with the one for keeping animals from local endangered breeds, was the performance of a group of agri-environmental activities. These included, inter alia, training on agroecological farming, development of agri-environmental programme for the activities on the farm, farm book-keeping, practicing agriculture according to certain standards and rules. The applicants had to be owners of farming land, or tenants for a period of 5 or more years. They had to prove education or training in the area of "Agriculture" or "Agroecological farming" and at least 3 years of professional experience in the agriculture.

The applicants' farms had to comply with the veterinary and phytosanitary requirements and with the environmental protection rules of the Bulgarian legislation.

The agri-environmental programme for the farm management was supposed to include a detailed description of the land and had to be accompanied by a map of the farm, which should be done with respect to more than 15 rules and conditions.

The beneficiaries had to present on a yearly basis, detailed reports for all activities performed on the farm, e.g. crops sown by species and variety, date of sowing, date of harvesting, yields, purchased plant protection products, fertilizers and soil improving agents – type, date and acquired amount including original receipts, declaration of origin for the utilized manure, etc. The farm had to keep a file for each agri-environmental activity, containing all important and relevant documents, related to the performance of the activity.

The farmers, rearing endangered breeds had to comply with 5 more specific rules, including inter alia commitment for increasing the number of animals and ban of cross-breeding the supported animals.

During the application process, the applicant had to present 17 documents, including declaration from the regional veterinary service, stating that the farm is in compliance with the veterinary and health regulations of the national legislation; Certificate for lack of tax liabilities; lack of social security liabilities; extract from the "judicial record", etc. On submitting the payment request, 12 to 16 more documents are required.

Besides the described above administrative burdens and needless formalities, severe sanctions were imposed against the farmers in case of failure to comply with the contract conditions, resulting in a very small number of local breeds' farmers applying for the support.

The second targeted support for autochthonous breeds was launched within the "Agro-ecological payments" (Measure 214) of the Rural Development Programme 2007-2013. Eligible for support were all autochthonous breeds and part of the breeds, developed in Bulgaria and conforming to the requirements of Article 27(4) of Commission Regulation (EC) No 1974/2006 (EC, 2006). According to this regulation, eligible for support were breeds, which Numbers, calculated for all Member States, of breeding females of the same breed available for pure-bred reproduction registered in a herd book kept by an approved breeding organization recognized by the Member State in accordance with Community zootechnical legislation were lower than 5000 in Equidae, 7500 in Cattle and Buffalo, 10000 in Sheep and Goats, 15000 in Pigs and 25000 in Poultry.

The payments were in amount of 200 EUR per horse over 6 months of age, buffalo and cattle (including cow with suckling calf) over 2 years of age; 120 EUR per cattle at age 6 to 24 months; 24.75 EUR (updated later to 28.35) per sheep and goat; 61 EUR (later 75.5) per breeding sow over 50 kg; and 36.6 (later 45.3) per other pig categories under 50 kg. There was no upper limit of the payments per farm.

The conditions of Measure 214 were determined taking into account the positive and negative experience from the SAPARD programme. Some of the requirements were strengthened, others relaxed, but in total they are very similar to the SAPARD's ones. Again, the farmers had to undergo training on agroecological farming, or had to prove education or experience in the activities they wanted to perform. The applicants had to prove farm land ownership or rental agreement. The farmers had to preserve the number of animals in a 5 years period and document all the activities in the farm.

During the first two years of implementation of Measure 214 (2009-2010), the number of beneficiaries raised rapidly from 1036 in the first year (absorption of around 374000 EUR) to 9496 in the second year (absorption 711000 EUR). During the third year, when the first sanctions were imposed, the number of beneficiaries went down by 6.2%, but the absorption of funds increased with 10.6%. In 2012 the number of

beneficiaries increased 13.9 times (14451) compared to the first year, and the funds absorption increase 3.76 times (1405000 EUR).

Table1. Autochthonous breeds supported under Measure 214 «Agro-ecological payments» in sub measure « Protection of endangered traditional local breeds » (total number of animals per year).

Табл. 1. Автохтонни породи подпомагани по Мярка 214 „Агроекологични плащания“ подмярка „Опазване на застрашени от изчезване местни породи“ (общ брой животни по години)

Breed	2009	2010	2011	2012	2013
Cattle and Buffalo (females only)					
Rhodope Shorthorn Cattle	361	514	698	1067	1270
Bulgarian Gray Cattle	1156	1411	1630	1908	1967
Iskar Cattle	605		604	723	958
Sheep					
Stara Zagora Sheep	649	704	680	643	750
White Maritza Sheep	860		757	711	646
Patch-Faced Maritza Sheep	1887	3115	2343	2974	3299
Central Stara Planina Sheep	7847	9078	10788	10221	9289
Duben Sheep	3532	6601	4100	4272	5941
Central Rhodope Sheep		4856	3356	5783	5574
Teteven Sheep	1606	625	592	636	1846
Koprivshtitsa Sheep	1625	538	1069	1142	385
Karakachan Sheep	5732	4509	5200	5722	6394
Local Karnobat Sheep	155	255	160	150	250
West Stara Planina Sheep		919	984	1893	1692
Replyan Sheep	1871	1349	1696	1905	1682
Sakar sheep			1686	3157	3452
Sofia Sheep /Elin-Pelin Sheep/		1646	1543	1054	1110
Breznik sheep		1239	951	953	490
Copper-Red Shumen Sheep	3436	4465	4505	4789	5836
Goat					
Kalofer Long-Haired Goat			727	1368	1989
Local Screw-Horn Longhair Goat					515
Horse					
Karakachan Horse	264	284	942	1398	1842
Pig					
East Balkan Pig	595	1269	1277	1176	1242

The applied specific measures have delivered variable results in the various species and breeds.

During the time period 2009-2013 the number of cattle had increased more than 3.5 times, and were showing stable and consistent trend over the years. Based on analysis of the effectiveness of the support in Bulgarian Grey cattle, Gorinov and Lidji (2013) pointed out that the number of animals supported by the “SAPARD” programme was increasing 2 times faster than the ones supported by the Rural

Development Programme. According to the authors, this was due to the fact that the "SAPARD" programme allocated funds for rearing of all female yearlings in the herds, which provided maximum opportunities for expanded reproduction.

The most significant increase is observed in the number of Karakachan horses – almost 7 times. However, after the initial registration, the rates are decreasing. Similar is the situation with the other supported horse breeds developed in Bulgaria – Eastbulgarian Hose, Danubian Horse and Pleven Horse.

One of the reasons for the lower effect of the support by horses is the requirement for registration of the farmers as Agricultural Producers. This is formally not a mandatory requirement for eligibility in Measure 214. However, within the application process a presentation of breeding documents and proof that the animals are under the control of a breeding organization are requested. This is possible only for the agricultural producers. Kaschiev (2013) points out that the large part of the horses under control is not owned by agricultural producers, therefore, preventing the breed societies to receive subsidies for them. This presents the breeding societies with difficulties in performing all necessary zootechnical acivities for these horses, which do not receive financial support.

The registration of the farmers as Agricultural Producers presents also a problem by the East Balkan Pig. It is bound with payment of mandatory social security fees, which, in the case of keeping a small number of animals, are larger than the total amount of the subsidies. Additional limitations of the development of the single autochthonous breed raised naturally on pasture, are imposed by its geographical concentration (located in 3 from the 28 provinces), the area dedicated for its breeding, the increase of the hunting grounds and the decrease of the pig pastures.(Nakev and Kulev, 2013)

Regarding the goats, a process of initial registration is ongoing, which leads to rapid increase in number of animals, an effect similar to the one observed in other species during the first years.

The most controversial is the effect of the targeted support in sheep. A consistent stable increasing trend is observed only in two breeds - Copper-Red Shumen Sheep and Central StaraI Planina Sheep. The latter has already reached the threshold for classification as non-endangered. In most of the other breeds, the initial increase in animal numbers is followed by fluctuations up and down. No effect of the support is observed in breeds like Stara Zagora Sheep and Replyan Sheep. The situation in White Maritza Sheep, Sofia Sheep and Breznik Sheep is the most alarming. In these breeds the number of the controlled animals is decreasing, despite the support.

In line with the factors mentioned above, one of the important obstacles is the binding of the support of autochthonous breeds with requirement for allocated pastures, where the density of the animals should not surpass 13 sheep per hectare. These requirements are unfeasible, especially in the plains, where the agriculture is intensive. There the most of the agriculture land is used for crops production, thus leaving not enough pasturage and hay-meadows to be used for autochthonous breeds. The plains are the regions where the Stara Zagora Sheep, Local Karnobat Sheep, Patch-Faced Maritza Sheep and White Maritza Sheep are reared. These are the breeds where the effect of the support is the lowest.

In the mountain regions, on the other hand, an additional obstacle is the maintenance of the natural pastures, which requires even removal of vegetation, e.g. blackberry bushes, which are browsed by the sheep and goats.

Amongst the most hindering factors is also the requirement for applying agri-environmental activities on the whole farm, irrespective of the fact that the farmer applies only for support of animals. For the rest of the performed agri-environmental activities no compensatory payments are made. Same holds for the record keeping of all activities on the farm, etc.

It is obvious that the development of new measures for support of preservation of local autochthonous breeds should be not bound with any other requirements except those of Commission Regulation (EC) No 1974/2006 (EC, 2006), as the only aim is the preservation of the breeds. Additional requirements can be the breeding of the animals in the traditional for the breed way and in accordance with the animal welfare.

The developed measures must be specific for the various species, targeted especially to eradication of the factors hindering the breed development.

It is necessary to stimulate, along with the support per animal, the production of unique products from local breeds, the development and the protection of geographical indications and traditional specialties, e.g. within Protected Designation of Origin EU scheme. Such approach has already proven successful in many other countries.

Conclusions

The specific support of local autochthonous breeds on the whole has had a positive effect on the preservation of the breeds and the increase of their populations.

The support's effect is very specific for the particular breeds and species, but all in all it has bigger impact in the mountainous and semi-mountainous regions, where the opportunities for alternative agriculture are lower.

The numerous conditions and obligations bound with the financing, and multiple administrative hurdles are obstacles for inclusion of more farmers in the support programmes and prevent the change of population size trend to positive value.

In the lowland regions, where the agriculture is intensive, a serious impediment is the requirement for allocating dedicated pastures for the herbivorous animals.

When developing new measures for support, the preservation of the local autochthonous breeds should not be bound by any requirements other than commitment for keeping the number of animals and their rearing in the breed's traditional conditions

The support measures must be specific for the individual breeds, and targeted to alleviation of the particular hindering factors.

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