UDK 636:575.17

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THE IMPORTANCE OF ANIMAL GENETIC RESOURCES: GLOBAL, REGIONAL AND NATIONAL PERSPECTIVE

ABSTRACT

Awareness of the importance of biodiversity in all areas is becoming increasingly accepted, and so also in animal husbandry. Erosion of local breeds has been particularly strong over the past 70 years, which led to the disappearance of many species on our planet. Awareness of the importance of conservation and use of indigenous breeds on the global and regional levels of biodiversity loss is a slow process, but it is not stop and will continue in spite of stronger actions and actions of individual countries in this field. Conspiracy and action at the global level are becoming more successful, because the necessity to conserve biodiversity in livestock supported by numerous studies and actions that lead to global, regional and national level. This paper presents the development and course arrangements relating to the conservation of biodiversity at various levels and highlighted the importance of preserving indigenous breeds for milk production and future production of livestock products, the Food and Agriculture in the world and in every country are very important.

Keywords: animal genetic resources, action plan, global, regional, national plan

INTRODUCTION

Livestock contribute 40% of the global value of agricultural output and support the livelihoods and food security of “almost a billion people” (FAO, 2010). Animal production in the world depends on small number of species, which are domesticated in the History. For animal production we use only 14 species for 90 % of the total production. On each species large number of breeds and of lineages are declining, because they have adapted to the specific environment, availability of feed and way of use. But some breeds appearing to be well adapted to specific environment now may be not adapted to new conditions in the future.

For this reason it is very important to protect and keep available local breeds not very used presently. They might be a resource of genes for future selection works, with objectives of adaptation to adverse condition, disease tolerance, adaptability etc.

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Biodiversity should be preserved. In many developing regions, local breeds are often not very efficient in term of productivity. But they are particularly adapted to environmental conditions: climate, feed, technology of rearing and use of animal, diseases and parasites and other specifies and adapted to ever-changing socio-economic demands and environmental conditions, including possible adaptation to climate change. (FAO, 2007a)

Genetic variation is both a trait of individuals and a trait of population. Variation within population includes inter-individual variation and often is quantified by the gene diversity. Lowered variation has impact on a population's fitness in its present environment; decrease in variation (by reduction of population size) will reduce the ability of the population to adapt to changing environment.

Original indigenous breeds are often replaced by globally used high productive breeds. The less popular breeds are often maintained only locally and in small populations. Consequently, these breeds are at risk for becoming extinct or may suffer from inbreeding and genetic drift. Although the commercial breeds are represented in large numbers of animals, the genetic diversity of these breeds, so-called effective population size, may also be quite small by some species, because a small number of sires are selected to have a multitude of progeny (Gandini G., et al, 2004).

The diversity among breeds is usually known to contribute half of the genetic variation found among animals within species, while the other half is attributed to genetic variation within breeds. The latter variation is less vulnerable to loss, whereas breeds are easily irreparably lost when commercially non-competitive. That is why the maintenance of local breeds is of great importance for the genetic diversity. However, it may not be possible to maintain all breeds forever, especially if they are not competitive enough, all values considered. The definition of a breed is somewhat arbitrary and has, throughout history, allowed for some dynamics. Some breeds are disappearing or have disappeared, while others have been formed. Such changes have been possible and necessary as part of the evolution and the dynamics that the variability of the genetic resources allows their interaction with environmental changes. (FAO, 2007b)

The sustainable use and improvement of indigenous breeds has been justified on grounds that they are already adapted to local conditions. It is also a fact that a large genetic variation exists in productivity within these breeds in most traits of importance, and that this potential for genetic improvement has so far only been exploited to a very limited degree. In order to wisely select breeding stock, adequate definitions of broad long-term breeding objectives must be established in relation to the prevailing and expected changes of environmental conditions and production systems. Crossbreeding for rapid improvement of traits, such as milk production, requires even more consideration in the choice of breeds and the design of both the crossbreeding program and the breeding program of the pure breeds. This is necessary to ensure the future

availability of genetic material needed to develop appropriate genotypes as the environment and human needs change.

RESULTS AND DISCUSSION

SOME HISTORY ON THE INITIATION OF THE IMPORTANCE OF ANIMAL GENETIC RESOURCES – GLOBAL PERSPECTIVE

In 1980 in Rome, Food and Agriculture Organization of the United Nations (FAO) and the United Nations Environmental Program held a global Technical Consu1tation on the Conservation and Management of Animal Genetic Resources at which a significant number of European scientists who were active in the European Association for Animal Production (EAAP) took part (FAO, 1981). As a result of the stimulus from this consultation, later in 1980 at the Munich annual meeting, the EAAP Commission on Animal Genetics set up a Working Group on Animal Genetic Resources (WG-AnGR) (Hodges, 1999).

Between 1982 and 1988, this group organised three successive surveys on European livestock breeds of cattle, sheep, goats and pigs in 1982, 1985 and 1988, with the participation of 22, 17 and 12 countries respectively (Simon and Buchenauer, 1993). This work stimulated a special co-operative project between the EAAP and the University of Hannover, Germany, which obtained a grant from the Deutsche Forschungsgemeinschaft towards creating an animal genetic resources data bank for European breeds of livestock. In 1987, the Department of Animal Breeding at Hannover Veterinary University (TIHO) was entrusted by the EAAP with the task of creating that data bank. A joint EAAP/FAO Working Group was formed to provide direction to these activities. The following year (1988) EAAP and the Animal Production and Health Division of FAO made an agreement that identical questionnaire forms should be used to collect information on breed resources of all countries of the world, and the data should be compiled in the data bank in Hannover, then named EAAP/FAO Global Data Bank on Animal Genetic Resources. The data bank at Hannover was then used to train scientists from developing regions whose were sent there by FAO. Between 1988 and 1991, TIHO under the agreement with the United Nations Food and Agriculture Organisation (FAO), managed the Global Data Bank on AnGR. Establishment of the FAO global level Domestic Animal Diversity-Information System (DAD-IS), with support and data transfer from the AGDB, resulted in the Hannover database returning to its European status and becoming the EAAP Animal Genetic Resources Data Bank (EAAP-AGDB). Since 1994, the two databases have been developed separately using slightly different questionnaires for data collection. In November 1988 the United Nations Environment Program (UNEP) convened the **Ad Hoc Working Group of Experts on Biological Diversity** to explore the need for an. international convention on biological diversity. Soon after, in May 1989, it established the Ad Hoc Working Group of Technical and Legal Experts to prepare an international legal instrument for the conservation and sustainable use of biological diversity. By February 1991, the Ad Hoc Working Group had become known as the **Intergovernmental**

Negotiating Committee. Its work culminated on 22 May 1992 with the Nairobi Conference for the Adoption of the Agreed **Text of the Convention on Biological Diversity** (CBD, 1992).

The Convention was opened for signature on 5 June 1992 at the United Nations Conference on Environment and Development (the Rio "Earth Summit"). At this meeting was also attended by then President of the Slovenian Government. It remained open for signature until 4 June 1993, by which time it had received 168 signatures. The Convention entered into force on 29 December 1993, which was 90 days after the 30th ratification. **The Convention on Biological Diversity** was inspired by the world community's growing commitment to sustainable development. It represents a dramatic step forward in the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of benefits arising from the use of genetic resources. Slovenian parliament ratified the Convention in 1996

In 1990, the FAO Council recommended the preparation of a comprehensive program for the sustainable management of animal genetic resources at the global level. Understanding global animal genetic diversity was an early priority of the program. In 1991, FAO initiated global breed surveys to report on seven major mammalian domestic species (ass, buffalo, cattle, goat, horse, pig and sheep). These led to the establishment of the Global Databank for Farm Animal Genetic Resources and publication of the first World Watch List for Domestic Animal Diversity. Additional surveys were conducted in 1993 covering yaks, the 6 camelid species and the 14 major domesticated avian species.

FAO meeting of experts was convened in 1992 to give consideration to the objectives and key elements of an international program for animal genetic resources. The experts strongly supported the establishment of a comprehensive global program. Their recommendation was accepted by FAO’s governing bodies, and in 1993 the Global Strategy for the Management of Farm Animal Genetic Resources (Global Strategy) was initiated. The Animal Production and Health Division of FAO was designated the Global Focal Point for Animal Genetic Resources and given responsibility for the development of the Global Strategy as a technical work program of FAO. A conceptual framework was drawn up to provide a basis for implementing and further developing the Global Strategy as a comprehensive approach to promoting the sustainable use, development and conservation of animal genetic resources. The preparation and endorsement of Agenda 21 and the ratification of the Convention on Biological Diversity further encouraged the design, development and enhancement of activities within the framework of the Global Strategy. (FAO, 2007a).

The EAAP has given support to the FAO's Global Strategy for the Management of Farm Animal Genetic Resources and notably in 1995 by helping set up the **European Network of National Focal Points** (NFPs). Since then, EAAP and FAO have continued to co-operate in the establishment of animal genetic resources focal points throughout Europe and the representatives of each National Focal Point hold their **annual workshops at the time of the EAAP**

Annual Meetings. The European Association for Animal Production through its WG-AnGR periodically reports to the Commission on Genetic Resources for Food and Agriculture on its activities relevant to animal genetic resources (Philipsson J.et a.., 2011).

In 1995, the FAO Committee on Agriculture reviewed the early development of the Global Strategy, and FAO Council subsequently supported its further elaboration. That same year, the mandate of the FAO Commission on Plant Genetic Resources for Food and Agriculture was broadened to address other genetic resources for food and agriculture, beginning with **animal genetic resources**; its name was changed to the **Commission on Genetic Resources for Food and Agriculture -** CGRFA (the Commission). In 1996, the importance of animal genetic resources and the Global Strategy were recognized at the FAO World Food Summit and by the **Conference of the Parties to the Convention on Biological Diversity**. Increasing awareness of the essential contributions of animal genetic resources to food security and rural development led FAO Conference to request that the Director-General establish an Ad Hoc Group of Experts on Animal Genetic Resources to prepare for the future work of an **Intergovernmental Technical Working Group on Animal Genetic Resources for Food and Agriculture**. By the way, the first session of the Commission on Plant Genetic Resources has been in Rome since 1984.

The planning and implementation infrastructure component of the CGRFA's work called for the establishment of national, regional and global focal points for AnGR. This led to the establishment of the first ever global network on AnGR, which enabled coordination of country actions, and strengthened regional and global communication and support. The technical program of work initially focused on the preparation of national management plans for AnGR, which addressed sustainable intensification of livestock production, characterization and conservation of AnGR, and emergency plans and response mechanisms. To support the implementation of the technical program of work at national level, FAO developed a series of technical primary and secondary guidelines. The primary guidelines focused on the development of National Farm Animal Genetic Resources Management Plans. The secondary guidelines addressed various aspects of AnGR management such as measurement of domestic animal diversity (MoDAD); sustainable intensification of AnGR management, including animal recording and improvement in low- and medium-input production systems; and management of small populations at risk. The reporting and evaluation component provided for reporting on the status of AnGR and monitoring of trends in their populations, as well as for evaluation of progress in the implementation of the Global Strategy (FAO, 2009a, FAO, 2009b, FAO, 2011).

REGIONAL ACTIVITIES

As an important part of the agricultural biodiversity, animal genetic resources are an essential basis for livestock production and offer opportunities to adapt animal breeds to changing environments, especially in the light of climate

change. The decline in the genetic diversity of farm animal genetic resources (AnGR) is now widely recognized. Many countries have signed the Convention on Biological Diversity (CBD, 1992) and have since established policies toward conservation and sustainable use of animal and plant genetic resources. European countries have also recently issued a national strategic policy report on AnGR in the framework of the FAO State of the World's Animal Genetic Resources process. These reports provide current data and developments and trends in national animal production as well as data on the breeds that are being used in that country and the trends in animal genetic diversity. Also, these reports provide details on national policy, stakeholders, organizations, and specific priorities and actions with regard to conservation, development, and use of AnGR.

Regional communication and coordination activities have also evolved and have led in some regions to the establishment of Regional Focal Points for AnGR, which facilitate collaborative program, training, research and mechanisms for sharing experiences. The commitment and responsibility for implementing the Global Plan of Action clearly rests with national governments. Experience suggests that effective implementation of the broad range of activities included in the Global Plan of Action requires that, within each country, operational responsibility be entrusted to a National Focal Point for AnGR. Some countries have not yet established National Focal Points, which may in part explain why levels of activity vary substantially among countries. Moreover, some regions have indicated a desire to establish a Regional Focal Point but have not yet been able to achieve this goal. It is important that the experience gained during the establishment and operation of existing National and Regional Focal Points be shared with those countries and regions where focal points still need to be established. The ITWG-AnGR, at its Fifth Session in January 2009, recommended that "the Commission request FAO to prepare a paper on the operations of existing National and Regional Focal Points for Animal Genetic Resources, with a view to share experiences on practices, approaches and activities" (FAO, 2009c). This recommendation was accepted by the CGRFA (FAO, 2009d) and guidelines have been prepared in response to the request.

The European Union (EU), individual EU member states, and sub-regions within Europe (e.g., the Nordic countries) have developed policies in the area of conservation and sustainable use of AnGR. The Nordic Council of Ministers, representing Finland, Sweden, Norway, Denmark, and Iceland, established the Nordic Gene Bank for Farm Animals as a permanent agency to promote conservation of rare breeds of farm animals in the Nordic countries. In addition, in several European countries nongovernmental organizations (NGO) have become very active in conservation of AnGR. Hence, the **European Regional Focal Point** for Animal Genetic Resources (ERFP) was initiated in 1998 and became formally operational in 2001 as the European part of FAO's global coordination structure for animal genetic resources which is based upon national and regional focal points.

Over the years, the collaboration and coordination facilitated by the ERFP in Europe has developed successfully. There are now 45 countries involved. Experience gathered since the establishment of the ERFP lead to the preparation of new terms of reference for the organization and long term planning in the form of a Multi Year Program of Work (MYPOW) for the period 2010 to 2014.

Since its establishment, ERFP has been funded through voluntary financial contributions made by donor countries. Voluntary additional financial contributions may also be made by donors for specific program or projects co-ordinated by the ERFP. The financial management is carried out by the Secretariat of the European Federation of Animal Science (EAAP) in Rome. However, under the MYPOW a new funding mechanism is being established. The new funding approach is based on the Gross Domestic Product rating according to the FAO / UN scale and divided five categories.

The organizational core of ERFP consists of the Assembly of National Coordinators, Steering Committee (SC) and Secretariat. Working Groups consisting of NC's or other experts in the member states are the most important tools in the activities coordinated by the ERFP. Some short-term work may be carried out by Task Forces responding to very acute needs. The Assembly may also ask a named group to carry out ad hoc actions related to the needs of the common ERFP program or the needs of the Secretariat as issues arise.

GLOBAL PLAN OF ACTION FOR ANIMAL GENETIC RESOURCES

Animal genetic resources for food and agriculture1 are an essential part of the biological basis for world food security, and contribute to the livelihoods of over a thousand million people. A diverse resource base is critical for human survival and well-being, and a contribution to the eradication of hunger: **animal genetic resources are crucial in adapting to changing socio-economic and environmental conditions, including climate change.** They are the animal breeder's raw material and amongst the farmer's most essential inputs. They are essential for sustainable agricultural production. Properly managed, they need never be depleted, for there is no inherent incompatibility between utilization and conservation. The conservation and sustainable use of animal genetic resources, and the fair and equitable sharing of the benefits from their use, are an international concern and the **Global Plan of Action for Animal Genetic Resources** provides, for the first time, an agreed international framework for the sector. Promoting the broader use of livestock biodiversity can contribute to improved human health and nutrition, and expand opportunities for livelihood diversification and income generation. Domestic animals have, for more than 10 thousand years, contributed to the human needs for food and agricultural products, such as meat, dairy products, eggs, fiber and leather, draft power and transport, manure for fertilization of crops and for fuel**. Livestock also play an important economic role as capital and for social security.** The many-sided contributions of livestock are also emphasized by their cultural role in many societies. Hence, the use of animal resources varies considerably between various

parts of the world as the **social, environmental and other conditions for animal production enormously differ**.

In 1990, FAO initiated the preparation of a comprehensive program for the sustainable management of animal genetic resources at the global level. In 1993, FAO launched the Global Strategy for the Management of Farm Animal Genetic Resources to guide national, regional and global efforts to strengthen the contribution of domesticated animals and their products to food security and rural development, and to prevent the erosion of animal genetic resources.

From 1997, FAO's intergovernmental Commission on Genetic Resources for Food and Agriculture has guided a country-driven process for the preparation of The State of the World's Animal Genetic Resources for Food and Agriculture. In 2001, FAO invited all countries to submit a Country Report on the status and trends of their animal genetic resources; the current and potential contributions of farm animals to food, agriculture and rural development; and the state of national capacity to manage these resources; and provide priority action lists.

The Country Reports demonstrate the significant and irreplaceable contribution that the diversity of farm animals makes to the food security and development of nations. They show that the full potential of animal genetic resources is far from being realized and confirm the serious erosion of genetic diversity in both developed and developing countries.

This erosion has many causes, including changes in production systems, mechanization, the loss of rangeland grazing resources, natural calamities, disease outbreaks, inappropriate breeding policies and practices, inappropriate introduction of exotic breeds, loss of animal keepers' security of tenure on land and access to other natural resources, changing cultural practices, the erosion of customary institutions and social relations, the influence of population growth and urbanization, and the failure to assess the impact of practices in terms of sustainability, and develop adequate policies and economic measures. Erosion of animal genetic resources threatens the ability of farmers and livestock keepers to respond to environmental and socio-economic changes, including changing diets and consumer preferences. The Global Plan of Action for Animal Genetic Resources consists of three parts: the Rationale for the Global Plan of Action for Animal Genetic Resources; Strategic Priorities for Action; and Implementation and Financing.

The Strategic Priorities for Action, contained within this Global Plan of Action for Animal Genetic Resources, propose specific measures to reverse the ongoing trends of erosion and underutilization of animal genetic resources. The implementation of the Strategic Priorities for Action will make a significant contribution to international efforts to promote food security and sustainable development, and alleviate poverty, in line with the Millennium Development Goals and other international commitments.

For the first time ever, the State of the World's Animal Genetic Resources provides a comprehensive global assessment of the roles, values and status of animal genetic resources, which highlights the importance of the livestock sector

within agriculture. Specific Strategic Priorities for Action for the sustainable use, development and conservation of animal genetic resources for food and agriculture, contained within this Global Plan of Action for Animal Genetic Resources, are warranted because of their great importance for global food security, and because of the specific features of domestic animal biodiversity as an integral part of agricultural ecosystems. Livestock genetic diversity and options for its utilization are usually discussed in terms of breeds. **"Breeds" are cultural concepts rather than physical entities**, and the concept **differs from country to country**. This is a fact that makes characterization at the genetic level very difficult. For sustainable management, diversity needs to be considered and understood at the species level, between breeds, and within breeds themselves.

More than 7 000 domestic animal breed populations have been developed by farmers and pastoralists in diverse environments in the 12 000 years since the first livestock species were domesticated. These breeds now represent unique combinations of genes. Thus all animal genetic resources for food and agriculture are the result of human intervention: they have been consciously selected and improved by pastoralists and farmers since the origins of agriculture, and have co-evolved with economies, cultures, knowledge systems and societies. Unlike most wild biodiversity, domestic animal resources require continuous active human management, sensitive to their unique nature. • In terms of their enormous potential contribution to reducing hunger and poverty, and to sustainable development, animal genetic resources for food and agriculture are underconserved and underutilized.

As agreed in Interlaken, the main responsibility for implementing the Global Plan of Action for Animal Genetic Resources rests with national governments. The need for effective National Focal Points for animal genetic resources, and the importance of national networks to mobilize and engage stakeholders in the implementation of the Global Plan of Action for Animal Genetic Resources is recognized. Each country will determine its own priorities in light of those agreed in the Global Plan of Action for Animal Genetic Resources. As appropriate, countries will determine their priorities within the framework of their food and their agricultural development needs, and cooperate with other nations and international organizations.

MANAGEMENT OF ANIMAL GENETIC RESOURCES IN SLOVENIA

For Slovenia the biodiversity is extremely important with regard to its economic, social and environmental value. In comparison with other central European countries, Slovenia has more areas that have preserved their biodiversity. This brings with a responsibility to conserve such areas, especially at a time when the reduction of biodiversity in Europe is a cause of serious concern. Following the ratification of the Convention on Biological Diversity in 1996, the National Assembly of the Republic of Slovenia adopted the National Environmental Action Program, which featured the conservation of biodiversity as one of its four priorities. In year 2001 the Slovenian Government adopted the

Strategy for the Conservation of Biodiversity including objectives and directions which will help us attain in a co-ordinated manner the following three main objectives of the Convention on Biological Diversity:

- conservation of biological diversity;
- sustainable use of its components;
- fair and equitable sharing of the benefits arising from the utilisation of genetic resources.

The strategy defines ten-year objectives for activities with a significant impact on the sustainable use of the components of biological diversity and sustainable development. It complements other national strategies, primarily the Strategy for the Economic Development of Slovenia and the National Environmental Action Program. The participation of other ministries in sustainable development has taken on more concrete forms on the basis of this strategy. Its implementation will contribute to closer co-operation between the key ministries in the implementation of measures for the conservation of biological diversity.

Ecosystems provide ecological processes which are the foundations for the functioning of human society and economy. In these processes the following are included: the cycle of nutrients and oxygen, the protection of soil against leaching and erosion, the mitigation of climate change - CO2 sink, the purification function of waters, the habitats for plants and animals. Systems with rich biodiversity easily mitigate the sudden changes in the environment and maintain ecosystems at a favorable status. If biodiversity conservation aspects are duly taken into account within the framework of the integral social and economic approach, the funds for the rehabilitation of undesired consequences and thus public spending are reduced. In the EU member states savings arise from the reduction of the intensity of agricultural production and efficient energy use.

The maintenance and use of indigenous breeds of domestic animals and the adequate system of financial support contribute to the conservation of areas where production conditions are limited and the afforestation of arable land is thus prevented. The European Union allocates funds and agro-environmental supports to the breeding of endangered local breeds of domestic animals in their centres of origin. The breeding of these animals is one of the nature conservation and environmental protection measures.

Work and experience in Slovenia in the field of preserving, studying breeds and their characteristics, and protection has been active for over 20 years. Although can be found in ancient literature reference records that must be beware of "local breeds" because they are well adapted to the conditions and environment where they grow, we are active protection Slovenian indigenous breeds (again) addressed only after 1992.

Slovenian livestock diversity include 12 horse breeds, 15 cattle breeds, 7 swine breeds, 6 sheep breeds, 4 goat breeds, 67 breeds of chicken, 3 breeds of turkey, 11 breeds of duck, 7 breeds of geese, 45 rabbit breeds and the Carniolan Bee. Many chicken and rabbit breeds are mostly breed by hobby breeders, united

in the Association of small breed animals. Eight of a total of 12 autochthonous breeds of farm animals are endangered. Breeds whose adaptation to natural conditions due to the specific style of rearing is of great importance are the most successful in defying the pressure of foreign breeds (Carniolan Bee, Jezersko-Solčava sheep). 2 out of a total of 17 traditional breeds are also endangered. Generally speaking, the state of the endangered breeds is improving due to more intensive professional endeavors to conserve the breeds of farm animals, and due to the foundation of animal gene banks and breeders' organizations. The Cika Cattle breed, where between 1991 and 2011 the number of the breeding cows increased from 180 up to 2500, is an example of successful breeding. On the other hand, however, the state of the widespread traditional breeds, which do not enjoy special conservation treatment, is turning for the worse, for instance Slovenian Brown cattle decrease in last decade from 35.000 breeding cows up to less than 20.000 cows.. Some of them cannot cope with the pressures of economically more competitive global breeds and their number is on the decrease.

Slovenia had a Multiyear Program of Work (MYPOW) on the protection of indigenous breeds of farm animals before the Interlaken conference. Re-adopted MYPOW over 7 year's (2010 to 2016) and its implementation in accordance with the action plan and work program, which was adopted in Interlaken in 2007. In recent years, devoting special attention to research Slovenian indigenous breeds and their specific requirements regarding performance, integration of specific products in the traditional management and marketing in local markets, and examines the environmental values of local breeds. The program pays special attention to promotion and awareness of specific features which are characteristic of each breed Participation in several projects, such as EFABISnet (AGRI GEN RES 020: An integrated network of decentralized country and Biodiversity genebank databases) and the Project Heritage Sheep (AGRI GEN RES 040: Heritage Sheep) has helped us to use the platform EFABISnet in the Slovenian language and to use modules such as CryoWEB and we started with cryo-conservation semen from rams and goats for the purpose of gene banks.

Slovenia had a MYPOW on the protection of indigenous breeds of farm animals before the Interlaken conference (2001-2009). Re-adopted MYPOW over 7 year's program (2010-2016) harmonized with the action plan and work program, which was adopted in Interlaken in 2007. In recent years, devoting special attention to research Slovenian indigenous breeds and their specific requirements regarding performance, integration of specific products in the traditional management and marketing in local markets, and examines the environmental values of local breeds. The program pays special attention to promotion and awareness of specific features which are characteristic of each breed. Participation in several projects, such as EU Projects:

- “Support to the restructuring and strengthening of cattle producers' and breeders' associations as business representative organizations in Central and Eastern Europe (BABROC),
- European animal disease genomics network of excellence for animal health and food safety (EADGENE)
- the EFABISnet Project (AGRI GEN RES 020: An integrated network of decentralized country and Biodiversity genebank databases) and the Project Heritage Sheep (AGRI GEN RES 040: Heritage Sheep) has helped us to use the platform EFABISnet in the Slovenian language and to use modules such as CryoWEB and we started semen Cryo-conservation from rams and goats for the purpose of gene banks.

At sub-regional area, we participated in several projects funded by the ERFP, such as:

- "Current status of the cattle Brachycerous-populations and the Sout-East European Countries and Their Strategies for Sustainable Conservation"
- "Saving a Nearly Forgotten Breed, the Murinsulaner"
- "Study of Origin and conservation strategy of the sheep pramenka BREEDS as regional transboundary BREEDS"
- "Development of regional network in function of sustainable breeding programs for transboundary breeds"
- "Valuation of Current Status of Busha Cattle and develop a regional breeding program for their conservation and sustainable economic use".

The ERFP projects are designed to share experience and contribute to the understanding and comparison of regional transboundary breeds and largely contribute to the unification the understanding of biodiversity of animal genetic resources.

CONCLUSION

In the world we are beginning to realize the importance of biodiversity in animal husbandry. In order to maintain certain of this food animal production should maintain biodiversity at the level of breeds and within breeds. CBD, FAO and EAAP ERFP the main international organizations that have begun to draw attention to the importance of preserving biodiversity in the livestock and start numerous campaigns at the global, regional and local level to support the conservation of animal genetic resources for food and agriculture. The process of agreeing on a global level was held in the framework of FAO, who organized several meetings of experts and organize meetings of national coordinators from around the world. Commission on genetic resources for food and agriculture and professional structures were prepared by FAO and the preparation of strategic documents MYPOW and action plan for implementing the conservation of biodiversity in animal husbandry. Under the auspices of FAO, was also first International Technical Conference on Animal Genetic Resources for Food and Agriculture and September 2007, Interlaken, Switzerland, where the bill passed

and approved MYPOW and the Interlaken Declaration The MYPOW lays out the major outputs and milestones the Commission AIMS Tues Achieve Between 2007 and the 2017th The Commission, at the its Twelfth regular session in October 2009, the strategic plan adopted 2010-2017 for the implementation of the MYPOW, identifying processes and cooperation needed to achieve the agreed outputs and milestones.

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ZNAČAJ GENETIČKIH RESURSA U STOČARSTVU: GLOBALNI, REGIONALNI I NACIONALNI ASPEKT

SAŽETAK

Jačanje svijest o značaju svih oblasti biodiverziteta, pa time i u stočarstvu postaje sve više prihvaćena. Erozija lokalnih rasa je naročito bila izražena u poslednjih 70 godina što je dovelo do nestanka mnogih. Svijest o potrebi očuvanja i održivog korišćenja lokalnih rasa na globalnom, regionalnom i nacionalnom nivou gubitka biodiverziteta je spor process, ali se ne zaustavlja i biće i dalje nastavljen i pored iv snažnih aktivnosti i akcija koje se preduzimaju u nekim državama. Aktivnosti koje se preduzimaju na globalnom nivou sve su uspješnije, jer su podržane brojnim studijama i istraživanjima koja su sprovođena na globalnom, regionalnom i nacionalnom nivou.

U ovom radu prikazan je razvoj i tok dogovora i usaglašavanja koji se odnose na očuvanje biološke raznovrsnosti na različitim nivoima i istaknuta je važnost očuvanja autohtonih rasa namijenjenih za buduću proizvodnju mlijeka i drugih stočnih proizvoda za hranu i poljoprivredu u svijetu generalno i u svakoj državi pojedinačno.

Ključne riječi: životinjski genetički resursi, akcijski plan, globalno, regionalno, nacionalno