



A Short Version of
the Action Plan for the Long-term
Sustainable Management of Swedish
Animal Genetic Resources 2010–2020

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Swedish Board of Agriculture 2009

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Cover: Hens of the breed Skånk blomme.
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Introduction

Sweden's vision for a national programme is the "conservation and sustainable use of the genetic variation existing within and between populations and breeds of domesticated animal species in general and national ones in particular". At present, it is also necessary to take specific conservation measures in order to conserve the older Swedish breeds that are no longer used for commercial food production.

To achieve this, the vision must be broken down into a number of targets and interim targets, which will be "practical, measurable and realistic". The objective of the conservation and sustainable use of animal genetic resources may be based on species, breed or traits. In Sweden, we have often traditionally focused on breed. The measures for achieving these targets may differ depending on what is to be conserved or used.¹

Sweden's Action Plan for Animal Genetic Resources

The purpose of a national programme is to preserve the biological diversity through the conservation and use of animal genetic resources, and, as such, the action plan is the document that will transform the animal genetic programme from a set of ideas into action. The action plan will be the operative tool with which to inform ourselves of what should be done to achieve the targets. The action plan will constitute a part of the environmental quality goal, "A Rich Agricultural Landscape", and will be harmonised with it. This will all be in accordance with the Food and Agriculture Organization's (FAO's) intentions for the global work on animal genetic resources. There are references to the global plan in the action plan. The purpose of the national action plan is to guarantee long-term food production through sustainable use. Thus, the purpose is not, first and foremost, to conserve a number of different breeds, even if this were to produce a positive side-effect.

The background material for the action plan is the national programme proposal for the management of animal genetic resources, which the government commissioned the Swedish Board of Agriculture to compile.² The parties concerned have developed the proposal further into a national programme and have determined the measures recommended in the action plan. Among other things, we have considered conclusions from other government commissions on animal genetic resources. The action plan is, in part, intended for use in practical conservation work and, in part, as a basis for applying for resources for different research assignments.

The action plan will be valid for the next ten-year period, from 2010 to 2020. Each year, the Swedish Board of Agriculture will follow up on whether the results have been achieved through examining information from individual actors pursuing them. After five years, a review ought to be made to see whether we are still following the plan. We will report on efforts and activities achieved within the framework of the environmental quality goals and in the annual report for the Swedish Board of Agriculture.

¹ See "Presentation of stage one of the government assignment Jo2005/145 – plan on how the work on background data for the evaluation of targets, interim targets and funding with regard to animal genetic resources is to be structured" – The Swedish Board of Agriculture

² Report 2003:13

The Structure of the Action Plan

The national action plan:

- describes what the national animal genetic resources are.
- presents how Sweden will conserve and utilise the animal genetic resources in a sustainable manner.
- describes the actors involved today in the management of the country's animal genetic resources and suggests which actors may contribute to future work.
- identifies what resources there are for conserving the animal genetic resources as well as what resources are needed for this to be carried out when it comes to both finance and competence.

The action plan comprises five main areas.

1. characterisation and inventory (FAO Strategic priority area 1: Characterisation inventory and monitoring of trends and risks).
2. conservation and sustainable use (FAO Strategic priority area 2 and 3: Sustainable use and development, conservation).
3. information and education (FAO Strategic priority area 4: Policies, institutions and capacity building).
4. programme for research and development (FAO Strategic priority area 4: Policies, institutions and capacity building), (this section is an independent publication).
5. international work (FAO Strategic priority area 4: Policies, institutions and capacity building).

Within the initial areas, we recommend a number of measures aimed at achieving the goals of Sweden's national programme.

1. The first area, *inventory and characterisation*, is the point of departure for the conservation work; to identify which animal genetic resources there are in the country, map out where they are, their number, as well as identifying typical features of the breed, such as traits, products and quality.

2. The next area, *conservation and sustainable use*, deals with different types of measures, and the primary purpose of this area is to reduce the loss of genetic variation and to conserve the genetic range which exists within Sweden's different breeds. Via a well-planned breeding and conservation programme, the purpose is to work towards ensuring long-term and sustainable maintenance of the diversity used *in situ* and *ex situ*.

3. Under *information and education*, the aim is to increase knowledge on the conservation work and use of the national animal genetic resources in different contexts. Politicians, animal keepers and others who work within the management of animal genetic resources can receive education in, for example, basic genetics and breeding, as well as information regarding how Swedish breeds can contribute to different areas of use and their cultural significance. Other measures involve disseminating easily accessible information to the general public to increase their understanding of the value of conserving national breeds and how these breeds alone can contribute to the production of high-quality food and material for handicrafts, help with protecting the environment and pollination, as well as being used for pets etc.

4. The *programme for research and development* has a broad itinerary and contains a multidisciplinary research programme in the area of managing animal genetic resources. The research and development programme comprises sections such as genetics, health, different kinds of husbandry methods, cultural history, rural development and also covers part of the environmental area within which climate and different environmental protection efforts are included. The research programme will be able to be used independently of the action plan and will be an independent publication.

5. The *international work* area is a summary of the global cooperation work on animal genetic resources. In total, 109 countries, among them Sweden, ratified a global plan of action, “The Global Plan of Action for Animal Genetic Resources”, at an international conference in Interlaken, Switzerland, in September 2007. At the FAO conference, which followed it in November of the same year, the Global Plan of Action (GPA) was ratified by more countries and now all of the FAO’s member countries (191 countries) support this declaration.

The Swedish action plan describes how Sweden will meet its commitments made at Interlaken. Apart from international cooperation, the purpose of this part of the action plan is also to promote the cooperation of animal genetic resources at a Nordic level. Nordic collaboration on genetic resources has continued for a long time. When it comes to animal genetic resources, NordGen (previously Nordic Gene Bank Farm Animals (NGH)) plays a large part in coordinating the work on managing Scandinavia’s animal genetic resources. NordGen employs a strategy that has been adopted for the entire region under a mandate from, and in close corporation with, the Nordic Council of Ministers (NMR).

In the action plan, there are also some measures specifically aimed at breeds which, in their entirety, cannot be placed in any of the areas above. Thus, these have been placed under the heading of breed-specific measures.

Identifying Sweden’s Animal Genetic Resources

The Swedish Board of Agriculture was appointed by the government, and in consultation with several actors, to list the indigenous breeds and species which are the object of a national preservation effort. In “The Country Report on Animal Genetic Resources in Sweden”, which was sent to the FAO in 2002 (report no. Jo2002/1548), there is an inventory of Sweden’s general animal stock, a survey of development tendencies and threats as well as a characterisation and evaluation of breeds.

In consultation with interested parties, during 2006 and 2007 the Swedish Board of Agriculture carried out an update and expansion of the animal stock contained in Sweden’s animal genetic resources.³ In the evaluation, which forms the basis of the decision upon which domesticated animals and breeds will be covered by Sweden’s preservation commitments, we have concentrated on four criteria, all of which have to be met in order for a breed to be included.

³ Interim target for genetic animal resources for the years 2010 to 2020 – Jordbruksverket Report

The four criteria are:

- The commitment only covers breeds which have been domesticated, at least to some degree.
- Species and their different breeds are used, or have been used, as a form of farm or leisure animal by people.
- To qualify as pets, species and/or particular animals of the breed ought to have lived/been kept in close proximity to people for them to naturally be called pets.
- A significant part of the population should be in Sweden.

Responsibility for the Action Plan's Implementation

The responsibility for achieving a national programme, sustainable management and sustainable use of Sweden's animal genetic resources rests on many actors' shoulders, such as farmers and livestock owners, non-profit-making organisations, breeding organisations, zoos and museums, seats of learning, researchers and ministries and political institutions. Achieving collaboration between these actors and coordinating the different actors' responsibilities is crucial to achieving the goal of protecting the animal genetic resources for the future. That is why a distribution of responsibilities and increased coordination between different actors over the measures that are to be carried out is included in the action plan.

Responsibility and performance

Individual livestock owners

The individual livestock owner plays a key part in the work of managing Sweden's animal genetic resources. Livestock owners are responsible for the practical breeding work and the day-to-day management of each and every animal. The role of the livestock owner is characterised by choosing the breed, choosing the breeding livestock for one's own herd and choosing how the livestock is to be kept. Much of the practical work to be performed within the different measures is performed by the individual livestock owners.

Breed associations and breeding organisations

Breed associations can be responsible for the breeding targets of the breeds, breeding plans and advice on breeding. There are several types of breed association. Some of them are herd book and registry associations for their breed, whereas others are more like interest associations for their breed. As well as providing advice for members, their area of responsibility is generally the marketing of information about the breed and utilising the members' interests. The herd book or registry breed conservation associations have breeding plans and plans and guidelines approved by the Swedish Board of Agriculture. These associations actively engage in conservation work through administrating, informing and providing advice on genetic database activity - in the event there is an active database - as well as examining and giving advice on breeding. There are also breed associations for Swedish breeds and associations for certain types of animal whose proposed inventory has not been approved by the Swedish Board of Agriculture. As well as focusing on information work, these organisations are able to organise breeders and perform breeding activities which are not regulated by the law on the control of livestock etc.

The guiding principle is that industry should be responsible for all livestock control and for the practical work in the field. A breeding organisation issues regulations for control and the evaluation of breeding as well as being responsible for the direction and scope of breeding

targets. Some of the organisations are also responsible for registering and herd book-keeping with regard to animal type and insemination as well as offering advice and information on the approaches of breeding work and choice of animals, respectively.

The Sami parliament

The Sami parliament and individual reindeer keepers are responsible for carrying out measures involving reindeer. The Sami parliament is both the state authority and an elected Sami parliament, with the comprehensive measure of dealing with issues that concern Sami culture in Sweden.

National Board of Fisheries

The National Board of Fisheries is responsible for the conservation and sustainable use of Sweden's fishing resources and for aqua culture. The National Board of Fisheries owns and takes care of all the practical management of fishing at the research farm for farmed charr. For more information, please see the section "Universities and university colleges".

Swedish open-air museums and zoos

Swedish open-air museums and zoos which house Swedish native breeds (e.g. Nordens Ark, Skansen and Skåne Zoo) have played an important part in increasing people's interest in the importance of preserving national animal genetic resources as well as increasing one's understanding of the cultural significance of native breeds.

Several open-air museums and zoos provide information on endangered breeds and keep herds of them. In this way, these contribute considerably to the spread of knowledge on and interest in the preservation of these breeds. The primary purpose of keeping animals in museums and zoos is generally for displaying species, but several institutions also contribute to the survival of endangered species through breeding and through education.

4H farms

The activities of 4H (Head, Hand, Heart, Health) are aimed at children and young people. 4H farms are similar to Swedish farms, and they have their own domestic production. Among other things, this means that the animals kept on the farms are, by and large, Swedish native breeds. The idea of 4H farms is for children and young people to take part in the everyday chores on a farm. Children learn to take care of the animals and it allows them a good opportunity to learn about parts of Swedish cultural heritage, especially when it comes to animals. This leads to an increase in awareness of Swedish endangered breeds and takes place at an early stage of a child's development.

Upper-secondary agricultural schools

Upper-secondary agricultural schools are in charge of upper-secondary education in agriculture, gardening and industrial forestry. A post upper-secondary course in agriculture and forestry is also available. Many upper-secondary agricultural schools concentrate on horses or pets and zoo animals. Several upper-secondary agricultural schools also focus on animals from endangered Swedish breeds, specifically those that were once used in food production. At Ingelstad's upper-secondary agricultural school, for example, there are 30 Swedish native breeds.

Universities and university colleges

Universities and university colleges are in charge of education and research which is both fundamental and applied. There are educational opportunities both for people who wish to get involved in commercial livestock keeping and those who wish to learn more about conservation work with small populations. Universities and university colleges provide information and advice to authorities and other recipients.

The Swedish University of Agricultural Sciences (SLU) owns the rights to the breeding progress of farmed charr and is in charge of research and evaluation. Therefore, the SLU should have overall responsibility for the farmed charr.

Nordic Genetic Resource Centre (NordGen)

NordGen (previously a part of Nordic Genebank Animals⁴), as an information and knowledge centre, is responsible for protecting the Nordic countries' animal genetic resources. NordGen should be an actor in charge of breeding and conservation organisations and should take part in creating the long-term development and sustainable management of animal genetic resources.

NordGen's strategic plan and priorities between 2004 and 2009 involved actively contributing to raising the level of knowledge on the importance of the long-term management of animal genetic resources among a broad target group (politicians, management, farmers and the wider general public). NordGen wishes to spread information on results of research and investigatory projects involving animal genetic resources. Prioritised areas within research are food safety, measures involving endangered Nordic breeds and knowledge on rural development and the role of livestock, among other things. They also prioritise networking, wherein participants seek to establish contact and collaboration, nationally and internationally, with different actors within research, management and politics.

Other actors

The **Federation of Swedish Farmers (LRF)** is a nationwide organisation for farmers. The **National Board of Small-Scale Farmers** is an organisation that looks after the interests of small farmers. The **Swedish Ecological Farmers' Association** is the ecological farmers' union, which monitors politics, research and regulations for ecological production in Sweden and the EU. There are several organisations whose responsibility it is, for example, to see to the interests of consumers and to spread information. **Consumers in Collaboration, The Swedish Consumers' Association** and **The Swedish Co-operative Union (KF)**. **The Swedish Society for Nature Conservation** is Sweden's largest popular movement when it comes to the protection of the natural environment. Nationally, the society protects the countryside, plants and animals.

⁴ www.nordgen.org

Overall responsibility

Swedish Board of Agriculture

The Swedish Board of Agriculture⁵ has overall responsibility for the implementation of action plans. The Swedish Board of Agriculture reports to the government on developments with regard to existing breeds and the number of animals per breed and it also analyses the developments.

The Swedish Board of Agriculture's instructions from the government state that when it comes to animal genetic resources, the Swedish Board of Agriculture is the central management authority within the area of agriculture. In the letter of regulation for the Swedish Board of Agriculture's financial year 2008, it states that the comprehensive aim for the area of policy on animal health is "*sound animal protection and sound condition of health among animals in the service of people ...*". Within this comprehensive aim, there are more detailed aims involving animal health and combating infection. Among other things, it reads that the Swedish Board of Agriculture will report on how implementation and follow-up of the FAO's global action plan for animal genetic resources is continuing at a local level in Sweden.

Coordinating function at a national level

Swedish Biodiversity Centre (CBM)

The Swedish Biodiversity Centre,⁶ in collaboration with the Swedish Board of Agriculture, has the function of coordinating the implementation and follow-up of the action plan. The work of conserving indigenous animal genetic resources involves everyone, from private citizens, non-profit-making organisations, companies, universities and different seats of learning, organisations and authorities. The CBM also shares, in part, responsibility for the practical implementation of the national action plan.

The CBM was set up in order to work towards enabling Sweden to meet the requirements laid down in the convention on biological diversity. The establishment of the centre was a collaboration between Uppsala University and Sweden's University of Agriculture, but it is intended to work nationally. Its mission is to initiate, run and coordinate research on biological diversity. The CBM also provides education and information. The purpose of all this is the conservation of biological diversity.

The functioning body should work within a large network, coordinating everyone from authorities to individual livestock owners. The constellation of this functioning body should cover the work on preserving genetic resources for a large number endangered and in commercial production. This functioning body should contribute to the compiling of information and reporting on animal genetic resources, participation in the planning and implementation of measures for conservation and sustainable use as well as arranging seminars and meetings with associations and organisations, both with a view to updating information and with a view to continuing education. The functioning body should maintain

⁵ www.jordbruksverket.se

⁶ www.cbm.se

contact with researchers and keep abreast of research results on animal genetic resources and spread such information in an easily accessible manner.

Native breed forum

The native breed forum functions as a coordinator for associations with gene-bank systems. It is a collaborative group of breed conservation associations which use gene banks or equivalent systems in order to conserve, save or protect entire, or parts of, Swedish native breeds.⁷

Management of Sweden's Animal Genetic Resources

Sweden's proposal for a national action plan comprises groups of livestock which sometimes have very different breeding targets. The plan includes both commercial breeds and native breeds of cattle, sheep, goats, swine and poultry, as well as indigenous horse, dog and cat breeds, farmed charr, Nordic bees and reindeer. The paths suitable for achieving long-term conservation can therefore be very different for the different groups and breeds. Since the overall purpose is to conserve and sustainably use animal genetic resources, many of the measures can be applicable to several groups while others are only directed at some of the livestock groups. The different measures are not presented in any order of priority.

List of All Measures

The 30 measures included in the action plan are divided into five areas and have been placed in numerical order, below, to provide the reader with an overview.

Measures for Characterisation and Inventory

- Measure 1: Inventory and evaluation of the current situation
- Measure 2: Identifying typical traits of a breed among national breeds
- Measure 3: Gathering data under a common information portal
- Measure 4: Carrying out the genetic characterisation of breeds
- Measure 5: Keeping herd books and planning genetic conservation breeding

Measures for Conservation and Sustainable Use

- Measure 6: Establishing a breed-specific strategy for *in situ* conservation
- Measure 7: Establishing a breed-specific strategy for *ex situ* conservation of living animals
- Measure 8: Establishing a programme for *ex situ* conservation – cryo (*in vitro*)
- Measure 9: Conserving genetic material in bio banks
- Measure 10: Establishing breeding plans
- Measure 11: Establishing national species and breed development strategies
- Measure 12: Establishing breed-specific contingency plans
- Measure 13: Monitoring health and fertility status
- Measure 14: Developing a policy for the use of genetic testing

⁷ www.alternativ.nu/lantrasforum

Measure 15: Developing an animal health programme for non-commercial breeds
Measure 16: Reviewing the management of animal genetic resources in risk analyses
Measure 17: Developing conditions for mobile slaughter houses
Measure 18: Creating a market demand for national breeds

Measures for Information and Education

Measure 19: Increasing the spread of information
Measure 20: Spreading information on indigenous and local production systems and local knowledge
Measure 21: Creating an inventory of education needs and carrying out the implementation of education

Measures for International Collaboration

Measure 22: Taking part in Nordic and international collaboration
Measure 23: Developing internationally standardised methods and protocols
Measure 24: Examining the rights and access to national animal genetic resources
Measure 25: Preventing the risk of hybridisation

Breed-specific Measures

Measure 26: Establishing mating stations for Nordic bees
Measure 27: Establishing a plan for keeping ponies at Lojsta Heath
Measure 28: Completing an inventory of older lowland cattle
Measure 29: Constructing a nationwide educational course for animal labour
Measure 30: Supporting and facilitating horse and carriage work

Examples of Measures

Some of the general measures, which involve several animal types and their activities, are described in detail in the following pages – for example on different measures we plan to carry out within the given period of time.

Measure 4: Carrying out the genetic characterisation of breeds

An important goal within the national programme and the national action plan is to work towards maintaining the existing genetic variation of Swedish breeds. The first step in this direction is to examine the genetic variation within existing populations of these breeds.

(FAO GPA Strategic Priority Area 1: Characterisation, Inventory and Monitoring of Trends and Associated Risks, Strategic Priority 1: Inventory and characterisation of animal genetic resources, the monitoring of trends and risks associated with them, and establishment of country-based early-warning and response systems.)

Target:

The genetic characterisation for breeds with a critical risk status will be completed by 2015, for other breeds, the deadline is 2020.

Purpose:

All animals, or a suitably large selection of them, will be characterised genetically. This ought to be carried out in the not too distant future, since the loss of genetic variation occurs quickly in small populations. The results from the genetic characterisation are a valuable tool in the work of breeding and ought to be able to be used to build up the genealogical tree where there are doubts in certain generations.

The current situation:

Currently, molecular genetic analyses are carried out on several of the cattle breeds and some of the breeds of sheep. Certain valuable information on related breeds has been compiled on sheep and cattle breeds.

Activities:

- Compile what has already been done.
- Draw up a plan for the work.
 - Who should carry out the investigation? What should be investigated? Which genetic markers will be used? Which breeds, apart from those included in the action plan, will be included and used as comparative material?
- Arrange the financing of the project.
- Investigating the status of genetic conservation.
- Design a strategy for the gathering of test material.
 - How many individuals per breed should be gathered?
- Gather test material dependent on the type of animal, e.g. blood, pieces of skin from the ear, muscle, hair, feathers etc.
- Draw-up guidelines for the documentation and presentation of the results. The results of the investigations must be communicable to, and understood by, laymen.
- Analyse the following questions:
 - What happens, for example, when it comes to your attention that a breed is not genetically unique? Is it still worth conserving, for cultural reasons, for example?
 - Should we still prevent the mixing of breeds, using genetic markers, if it turns out that they do not differ genetically (genetic difference can be detected with the greatest of probability depending on which genetic markers are used)?
 - Who has the right of ownership to the test material gathered and the genetic information derived from it?

Implementation:

A genetic characterisation can be performed by the majority of institutions working on genetic populations and can be carried out in the form of different examination assignments, PhD projects or similar. Genetic markers are chosen on the basis of the research questions posed. The test material may be blood, small pieces of skin, muscle from slaughtered animals, samples from sacks of hair or feather samples in a capsule.

The ISAG (International Society of Animal Genetics) and the FAO have developed and recommend a number of genetic markers, so-called microsatellite markers, which are listed in the FAO's journal "Secondary Guidelines for the Development of National Farm Animal Genetic Resources Management Plans. Measurement of Domestic Animal Diversity (MoDAD): Recommended Microsatellite Markers".

Universities and university colleges in collaboration with breed associations and breeding organisations are suitable for these measures.

The Swedish Board of Agriculture or CBM can take part in contingency activities as well as in follow-up work. NordGen may also provide access to information on the results from characterisations.

Follow-up:

By 2010, 2015 and 2020, there ought to be a report on which breed characterisations have been completed and how the results have been communicated to those breeding the breed in question. When it comes to the characterisation of production breeds, one should continually follow up what is happening with them genetically and which genetic trends there are.

Time frame:

All breeds included in the conservation work will be genetically characterised by 2015.

Measure 12: Establishing breed-specific contingency plans

Since catastrophes, such as the outbreak of infection, or similar, can occur very suddenly and have long-term consequences for species and breeds, it is important that contingency plans are available.

(FAO GPA Strategic Priority Area 4: Policies, Institutions and Capacity Building, Strategic Priority 14: Strengthen national human capacity for characterisation, inventory and monitoring of trends and associated risks, for sustainable use and development and for conservation.

Target:

To have in place breed-specific contingency plans to protect the animal genetic resources in the event of different kinds of catastrophes.

Purpose:

In the event of different kinds of catastrophes occurring, for example the breakout of serious illnesses in animals, whole populations or breeds may be exterminated following combative measures in accordance with current legislation. One such example was the outbreak of foot and mouth disease, which affected many European countries during 2001–2002. That is why it is important to produce a contingency plan for all species and groups, which should also include measures for preservation. Dangers that can threaten livestock populations can occur very suddenly and require enormous interventions, and it would be impossible to do this in a suitable manner in the event of an ongoing outbreak of an infectious disease.

The current situation:

There are currently no plans.

Activities:

- Develop strategies for monitoring and evaluating risks for national breeds before a crisis situation.
- Produce a blueprint for what a contingency plan will contain.
- Produce a contingency plan according to breed, to ensure that Sweden's animal genetic resources are preserved in an outbreak situation.

Implementation:

In a government-commissioned project, the Swedish Board of Agriculture investigated the issue of contingency plans for protecting national animal genetic resources. In 2005, the project resulted in a report entitled, “Secure Animal Genetic Resources: Government Commission on Protecting Sweden’s Animal Genetic Resources during Catastrophes”.⁸ In the investigation, different measures were presented which may be included in a contingency plan, depending on the degree of the spread of infection. However, the measures are general, and to receive detailed contingency plans which can be used in practice requires that they are determined according to breed for all the national breeds included in the action plan. This should be performed by people with a wide experience and knowledge of each breed, that is, breeding organisations and breed associations in collaboration with the Swedish Board of Agriculture.

The Swedish Board of Agriculture is the authority that bears the main responsibility. Breed associations and breeding organisations carry out their measures with the help of The National Veterinary Institute (SVA).

Follow-up:

The plans should be up to date with respect to changes in the population.

Time frame:

The measure should be completed by 2011.

Measure 16: Reviewing the management of animal genetic resources in risk analyses

In order to choose a development proposed by The Convention on Biological Diversity (CBD) in the run-up to decisions affecting livestock husbandry in Sweden, the possible consequences for the management of the country’s animal genetic resources found in the risk analyses that are carried out should be considered.

(FAO GPA Strategic Priority Area 4: Policies, Institutions and Capacity Building, Strategic Priority 20: Review and develop national policies and legal frameworks for animal genetic resources.)

Target:

The management of animal genetic resources is included in risk analyses, and consideration is taken regarding how decisions may affect the long-term sustainable conservation of Sweden’s animal genetic resources.

Purpose:

Possible consequences for the management of animal genetic resources ought to be focused on in the risk analyses carried out in the run-up to decisions made which affect livestock husbandry in Sweden. Apart from benefiting the current breeds, these measures generate other possible effects. Many of the endangered breeds are on small-scale livestock holdings or small farms, which means that the effects on small industries are more clearly highlighted than was previously the case. To a greater degree, it is also possible to form an impression of which effects may be expected on both natural and cultural environments connected to keeping animals.

⁸ 2005:24

The current situation:

Today, the management of animal genetic resources is not included in risk analyses.

Activities:

- Monitor risk analyses which may affect the management of animal genetic resources.
- Develop guidelines for how the risks associated with the management of the animal genetic resources can be detected and reviewed in a decision-making process.

Implementation:

When different kinds of regulations concerning animal keeping and breeding work are introduced or changed, the effects of the regulations for those breeds Sweden is commissioned to preserve should be covered in risk analyses. By evaluating the effects of the regulations at an early stage, the possibility of finding long-term sustainable ways of preserving diversity among Swedish livestock breeds is increased. One proposal is for the breed conservation associations concerned to be able to review new or altered regulations or other regulations.

The Government Offices of Sweden and all authorities who carry out some form of legislation, such as, for example, the Swedish Board of Agriculture, the Swedish Environmental Protection Agency, the Medical Products Agency, county administrative boards and, possibly, the municipalities will all perform measures.

Follow-up:

In connection with the evaluation of the environmental quality goal, “A Rich Cultivation Landscape”, it is timely to follow up on whether this has achieved the intended effect. In consultation with the breed associations, the authorities concerned are in charge of following this up.

Time frame:

Continual.

Measure 24: Examining the rights and access to national animal genetic resources

According to the CBD, there should be “a fair distribution of utility occurring with the use of animal genetic resources”. For this to be possible, the rights and access to the national animal genetic resources have to be investigated.

(FAO GPA Strategic Priority Area 4: Policies, Institutions and Capacity Building, Strategic Priority 20: Review and develop national policies and legal frameworks for animal genetic resources.)

Target:

There is a prepared policy document which regulates right of use and access to Sweden’s animal genetic resources.

Purpose:

With increased international trade and the transfer of genetic material, it is important to examine who has the rights and access to the animal genetic resources. In the Nordic countries, a project group consisting of members from all the Nordic countries and Nordic institutions involved in the collaboration on genetic resources has compiled the report, “A

Nordic Approach to Access and Rights to Genetic Resources”.⁹ Based on this report, the Nordic genetic resource committee has compiled recommendations for the next Nordic ministry council meeting. Among other things, it has been concluded that, at the same time as the Nordic countries have been very active in the work of developing international laws, access and rights to the national genetic resources have not been prioritised.

The current situation:

Today, there is basically no legal framework which concerns genetic resources from a national perspective. However, work is ongoing internationally and in the Nordic countries.

Activities:

- Examine the right of use and need for policy documents which regulate rights and access to Sweden’s animal genetic resources.
- Establish a group with specific qualifications to examine these issues.

Implementation:

A project group consisting of a broad body of experts from the Nordic countries should be established to carry out a joint Nordic investigation in order to establish regulations for trade transactions and long-term regulations for animal genetic resources, “Legal Frameworks for Nordic Animal Genetic Resources”. One of the most important aims of this project is to achieve early international influence and a common Nordic strategy. Legal assistance is required to achieve this aim.

Examples of issues that ought to be examined:

- Should access to genetic resources be regulated nationally?
- Are Sweden’s genetic resources private or public property?
- Do rights of ownership to the genetic material follow rights of ownership to the biological material?
- Should anyone be allowed to gather genetic material? Does anyone have access to the genetic material for the purpose of research, or is it only for each breed association or organisation? Should access be granted nationally or internationally?
- Should a patent be placed on breeding work?

The Government Offices of Sweden ought to adopt the main responsibility and carry out the investigation. Authorities such as the Swedish Board of Agriculture, as well as NordGen, will also perform specific measures.

Follow-up:

Follow the development.

Time frame:

The measure should be completed during 2012.

⁹ Alternative title, “Access and Rights to Genetic Resources – A Nordic Approach” – Nord 2003:16. Nordic project group

