



International organization progress report on the implementation of the Global Plan of Action for Animal Genetic Resources 2007-2013

1. Contact information and mandate

Name and position of respondent	Peer Berg, Head of NordGen Farm Animals
Name of organization	NordGen, Nordic Genetic Resource Center
E-mail of organization	Peer.Berg@nordgen.org
Geographical coverage of your organization	Nordic countries (Denmark, Finland, Iceland, Norway, Sweden) and the Baltic countries

2. Animal species coverage of your organization

General livestock-related mandate	<input checked="" type="checkbox"/>
Large ruminants	<input type="checkbox"/>
Small ruminants	<input type="checkbox"/>
Pigs	<input type="checkbox"/>
Poultry	<input type="checkbox"/>
Rabbits & micro livestock	<input type="checkbox"/>
Camelidae	<input type="checkbox"/>
Equines	<input type="checkbox"/>

Strategic Priority Area 1: Characterization, Inventory and Monitoring

1. Does your organization implement or support the implementation of projects or programmes on phenotypic characterization of animal genetic resources?

- Yes
- No

If yes, please provide details and specify the countries and species involved and whether you include characterization of production environments:

NordGen has supported and coordinated projects on characterization of AnGR in the Nordic and Baltic region, including characterization of production environments, on cattle, sheep, goats, poultry and horses.

2. Does your organization implement or support the implementation of projects or programmes on molecular characterization of animal genetic resources?

Yes

No

If yes, please provide details and specify the countries and species involved:

NordGen has supported and coordinated projects on molecular characterization of AnGR in the Nordic and Baltic region, on cattle, sheep, goats, poultry and horses.

3. Does your organization implement or support the implementation of projects or programmes for surveying the size and/or structure of animal genetic resources populations and monitoring population trends?

Yes

No

If yes, please provide details and specify the countries and species involved:

Surveillance and monitoring are national responsibilities, however NordGen acts as a knowledge and resource center also with respect to these activities, e.g. through courses, software and networks. Specifically NordGen has contributed to development of software for monitoring populations and for optimal contribution selection. NordGen has regularly organised courses on these subjects. In addition NordGen has acted as consultants on the establishment or modification of monitoring activities across the Nordic countries.

4. Does your organization implement or support the implementation of projects or programmes for identifying and monitoring threats to animal genetic resources?

Yes

No

If yes, please provide details and specify the countries and species involved:

Identifying threats to AnGR has and will be an integral part of many projects. A recent example is a report on the status of the brown bee in the Nordic countries, from a network funded by NordGen.

5. Does your organization support countries in the development of early warning and response systems for animal genetic resources?

Yes

No

If yes, please provide details and specify the countries and species involved:

6. Is your organization involved in research and development on methods, technical standards or protocols for phenotypic or molecular characterization, surveying and monitoring of population size or threats to animal genetic resources, or breed evaluation, valuation and comparison?

Phenotypic characterization

Yes

No

Molecular characterization

Yes

No

Surveying and monitoring

Yes

No

If yes, participatory monitoring

Yes

No

Breed evaluation or comparison

Yes

No

Economic valuation

Yes

No

Please provide details:

NordGen is involved in supervising PhD projects on surveillance and characterisation as well as several projects in collaboration with Nordic universities on characterisation. Recent and on-going examples include effects of climate changes on AnGR and functional characterisation of milk from native breeds with respect to the potential for specialised productions.

7. Has your organization identified major obstacles to inventory, characterization and monitoring of animal genetic resources in all or part of your mandate area or species coverage?

Yes

No

If yes, please list them being as specific as possible regarding geographical area / species:

Lack of funding particularly for phenotypic characterisation.

8. What are the priority measures that need to be taken to address these obstacles?

9. Please describe any additional activities relevant to the implementation of Strategic Priority Area 1: Characterization, inventory and monitoring of trends and associated risks.

1. Does your organization support countries in developing, reviewing or adjusting their national policies affecting the sustainable use of animal genetic resources?

Yes

No

If yes, please provide details and specify the countries and species involved:

NordGen ensures a network among the Nordic national coordinators, allowing for knowledge sharing on policies and best practices. In addition NordGen organises workshops for national coordinators and other stakeholders on relevant subjects, e.g. the Nagoya protocol.

2. Does your organization promote agro-ecosystem approaches?

Yes

No

If yes, please provide details:

Agro-ecosystems have been an integral part of a recent project on climate change effects on AnGR. NordGen has recently organised seminars focusing on agro-ecosystem approaches.

3. Does your organization contribute to the planning or implementation of strategic breeding programmes?

Mainstream breeds

Yes

No

Under-utilized breeds

Yes

No

If yes, please provide details (including the breeds involved) being as specific as possible:

NordGen maintains and distributes software for optimal contribution selection, allowing selection while maintaining genetic variation in the population. NordGen has regularly held courses on the use of this software for strategic breeding programs. NordGen has also historically funded a number of projects on sustainable animal breeding in most agriculturally important species, though with a main emphasis on Nordic dairy cattle breeds.

4. Does your organization contribute to the development of recording systems or organizational structures for breeding programmes?

Yes

No

If yes, please provide details (including the breeds involved) being as specific as possible:

NordGen collaborates with breeding organisations on the development of their breeding programmes, e.g. in horses (Faroese horse), dogs (Lundehund), sheep (Finnsheep) and dairy cattle (Icelandic dairy cattle). In addition we currently implement a database for the live poultry gene bank at Hvam Agricultural College, in collaboration with the Norwegian Genetic Resource Center.

5. If the projects and programmes that your organization implements or supports involve the use of exotic breeds, have any assessments been made of the long-term impacts of the use of exotic breeds on animal genetic resource diversity, livelihoods and/or food security in the affected countries and production systems?

Yes

No

No projects or programmes involving exotic breeds

If yes, please provide details:

6. Has your organization implemented or supported the implementation of animal genetic resources-related projects that aim at achieving sustainable intensification of production?

Yes

No

If yes, please provide details and specify the countries and animal genetic resources involved:

NordGen has (co)funded projects on sustainable intensification, e.g on the nordic red dairy cattle populations (now Viking Red and Norwegian NRF)

7. Does your organization contribute to the development of mechanisms for facilitating interactions among stakeholders, scientific disciplines and sectors as part of planning for sustainable use development of animal genetic resources?

Yes

No

If yes, please provide details and specify the countries or regions involved:

NordGen has regularly been the organiser of seminars or workshops focusing on cross-disciplinary problems, with a focus on facilitating interactions between stakeholders and disciplines across as well as within the Nordic countries. A recent example is the international scientific meeting on "Genetic Resources for Food and Agriculture in a Changing Climate" held in Norway in January 2014 (see <http://climate.nordgen.org/>).

8. Do your organization's activities contribute to improving farmers' and livestock keepers' knowledge of animal genetic resources from various sources?

Yes

No

If yes, please provide details and specify the countries and types of animal genetic resources involved:

NordGen aims at disseminating information on AnGR to all stakeholders.

9. Do your organization's activities contribute to improving farmers' and livestock keepers' access to animal genetic resources from various sources?

Yes

No

If yes, please provide details and specify the countries and types of animal genetic resources involved:

10. Does your organization contribute to the development of agreements for equitable sharing of benefits arising from access to and use and development of, animal genetic resources?

Yes

No

If yes, please provide details:

NordGen promotes dissemination of information and discussions on access and benefit sharing, e.g. by workshops for the nordic national coordinators.

11. Does your organization contribute to efforts to preserve and respect indigenous or local production systems and associated traditional knowledge and practices related to animal genetic resources?

- Yes
- No

If yes, please provide details:

12. Does your organization implement or support the implementation of projects that aim to promote the marketing of products from local breeds or local production systems?

- Yes
- No

If yes, please provide details and specify the breeds and production systems involved:

13. Has your organization identified obstacles to enhancing the sustainable use and development of animal genetic resources?

- Yes
- No

If yes, please provide details:

Establishing and/or maintaining small scale production based on AnGR is in most cases reliant on individual activities. There's a lack of knowledge sharing that could contribute to sustainable strategies. In addition there's a general lack of collaboration (and support of) shared marketing and branding activities.

14. What are the priority measures that need to be taken to address these obstacles?

15. Does your organization provide, or support the provision of, training or technical support programmes for animal breeding activities in pastoralist and farming communities?

- Yes
- No

If yes, please provide details:

16. Has your organization identified priorities for future training or support programmes to enhance the use and development of available animal genetic resources?

- Yes
- No

If yes, please provide details of the priority activities, being as specific as possible:

With increasing urbanisation there's an increasing need for information on food production as well as all the agro-ecosystem services provided by AnGR. In addition there is a need to motivate younger farmers to breed native breeds and contribute to their conservation and sustainable use.

17. Please describe any additional activities relevant to the implementation of Strategic Priority Area 2: Sustainable use and development.

There's a trend towards fewer and fewer global breeding organisations dominating the breeding of the agriculturally important species. This is particularly evident in poultry breeding, but similar trends can be seen in e.g. pig and dairy cattle breeding. This is a threat to between-breed diversity and global measures of diversity might not reflect the reduction in diversity among animals producing the majority of the food. Animal breeding has been intensified over several decades, resulting in significant productivity increases but also in many breeds having critically low effective sizes despite the census sizes being large.

Strategic Priority Area 3: Conservation

1. Is erosion of animal genetic resources occurring in any of the countries or regions in which your organization is active?

- Yes
- No
- Do not know

If yes, please describe. Please be as specific as possible and indicate which factors or drivers affect which species in which countries or regions:

2. Does your organization support the establishment of emergency response systems that provide for immediate action to maintain threatened breeds?

- Yes
- No

If yes, please provide details:

3. Does your organization take or support actions to protect breeds and populations that are at risk from natural or human-induced disasters?

- Yes
- No

If yes, please provide details:

4. From your organizational point of view, how would you judge the state of conservation policies for animal genetic resources in the countries and regions in which you operate?

Conservation policies and the level of conservation activities differs significantly between countries. Sharing of information on aims and prioritised activities would be advantageous, also at the political level.

5. What types of conservation measures for animal genetic resources does your organization implement or support the implementation of?

In situ

- Yes
- No

Ex situ in vivo

- Yes
- No

Ex situ in vitro

- Yes
- No

Please provide details, and specify the countries and animal genetic resources involved:

As a knowledge and resource center NordGen is involved in conservation in collaboration with national stakeholders.

6. If your organization maintains *ex situ* collections of animal genetic resources, could you please provide further information on these collections?

7. Is your organization conducting research to further develop methods and technologies for *in situ* or *ex situ* conservation of animal genetic resources?

- Yes
- No

If yes, please briefly describe the research:

NordGen develops and distributes software for optimal contribution selection.

8. Has your organization identified major obstacles to enhancing the conservation of animal genetic resources?

- Yes
- No

If yes, please provide details:

Keepers of conserved populations of AnGR are generally older farmers. There is a need to promote an interest in genetic diversity and in keeping native breeds for conservation.

9. What are the priority measures that need to be taken to address these obstacles?

10. From your organizational point of view, what are the priority requirements for enhancing conservation measures for animal genetic resources in the countries and regions in which you operate? Please list the requirements, being as specific as possible:

- Raising awareness of the value of AnGR, both their direct and indirect (eco-system service) effects.
- Recruiting farmers that want to conserve breeds
- Documenting specific characteristics of breed to motivate conservation

11. Please describe any additional activities relevant to the implementation of Strategic Priority Area 3: Conservation.

Strategic Priority Area 4: Policies, Institutions and Capacity-building

1. Does your organization support or facilitate the establishment of institutional frameworks for planning and implementing animal genetic resources programmes?

- Yes
- No

If yes, please provide details and specify the countries or regions involved:

2. Does your organization support countries in formulating or implementing national strategies and action plans for animal genetic resources?

- Yes
- No

If yes, please provide details and specify the countries involved:

NordGen maintains a network among the national coordinators from the nordic countries, including sharing of information on aims and priorities of national activities.

3. Does your organization contribute to the development of regulatory frameworks or legislation for animal genetic resources?

- Yes
- No

If yes, please provide details and specify the countries or regions involved:

4. Does your organization have a database or information system for animal genetic resources-related data?

- Yes
- No

If yes, please describe the purpose and contents of the system and, if relevant, how frequently data are updated:

Historically NordGen established a Nordic-Baltic Animal Register. Recently it was decided to abandon the maintenance of this database and instead focus on DAD-IS as the global source of statistics on AnGR.

5. Does your organization have collaborative links to other stakeholders involved in the management of animal genetic resources (e.g. the breeding industry, livestock keepers, government agencies, research institutes and civil society organizations)?

Yes

No

If yes, please provide details:

NordGen has project collaborations with most Nordic agricultural universities. NordGen has an advisory council with participants from government agencies and universities as a central networking activity. A specific example is the NordMilk network which joins research activities in the Nordic countries on functional characterisation of milk from native dairy cattle breeds.

6. Does your organization cooperate with breeders' organizations?

Yes

No

If yes, please provide details:

Yes, on a project based basis.

7. Has your organization supported the establishment or strengthening of community-based organizations, networks or initiatives for sustainable use, breeding or conservation?

Yes

No

If yes, please provide details:

8. Does your organization implement or support the implementation of training or capacity-building programmes for animal genetic resources management?

Yes

No

If yes, please provide details and specify countries involved:

As an example NordGen is planning a workshop on poultry semen collection and freezing

9. Has your organization identified priorities for future animal genetic resources-related capacity-building and education?

Yes

No

If yes, please provide details:

See above. In addition we find that there is a need to strengthen the dissemination of information to future generations of farmers, e.g. at agricultural colleges. However, cross national initiatives are hampered by language difficulties.

10. Does your organization implement or support the implementation of programmes to increase public awareness of the roles and values of animal genetic resources?

Yes

No

If yes, please provide details:

Through website and publications

11. Please describe any additional activities relevant to the implementation of Strategic Priority Area 4: Policies, institutions and capacity-building.

Implementation and Financing of Global Plan of Action for Animal Genetic Resources

1. Has your organization's budget for activities supporting the implementation of the Global Plan of Action and animal genetic resources programmes increased since the plan's adoption in September 2007?

Yes

No

Please provide details:

2. Has your organization contributed to the establishment or strengthening of international research and/or education programmes to assist developing countries or countries with economies in transition to better manage animal genetic resources?

Yes

No

If yes, please provide details:

3. Has your organization contributed to the establishment or strengthening of international programmes to assist developing countries or countries with economies in transition to obtain training and technologies or develop information systems related to animal genetic resources?

Yes

No

If yes, please provide details:

4. Has your organization provided funding to countries for the implementation of the Global Plan of Action for Animal Genetic Resources?

- Yes
- No

If yes, please provide details and specify the countries involved:

5. Has your organization contributed to establishing or strengthening international collaboration with regard to:

Characterization of animal genetic resources

- Yes
- No

Use and development of animal genetic resources

- Yes
- No

Conservation of transboundary breeds

- Yes
- No

Please provide details and specify the countries involved:

6. Does your organization collaborate with national or international non-governmental organizations (NGOs) in the fields of:

Characterization

- Yes
- No

Sustainable intensification

- Yes
- No

Conservation of breeds at risk

- Yes
- No

Please provide details and specify the countries involved:

7. Please describe any additional activities relevant to the implementation and financing of the Global Plan of Action for Animal Genetic Resources:

