



European Regional Focal Point for Animal Genetic Resources

Action plan for the animal genetic resource strategy for Europe

First version

ERFP network
01/11/2023

Action number	Recommendation of AnGR Strategy	Chapter of AnGR Strategy	Action	Related Actions	Indicator	Scale	Responsible actors
2.1.1.1	Improve the quality and frequency of updating EFABIS through close collaboration between National Coordinators, breeding organisations and gene banks.	Monitoring / Characterisation	Promote and coordinate regular updating of breed related data in EFABIS/DAD-IS according to the FAIR principles		Completeness and FAIR principles compliance of DAD IS records, including breed population sizes and uses, using DAD IS and custom indicators	National/ European	National Coordinators/ ERFP WG Doc
2.1.2.1	Increase the proportion of inventoried AnGR that are characterized and evaluated using genomic and phenotypic techniques, and – if appropriate – make characterization data publicly available.	Monitoring / Characterisation	Promote scientific research and breeding programs that contribute to better characterization of genetic resources in Europe	2.1.2.2 & 2.1.5.1	List of national/ EU funded research projects and breeding programs that include characterization of AnGR	National/ European	Governments/ National Coordinators/ Scientific organisations/ European Commission / Breeding organisations

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2.1.2.2	Increase the proportion of inventoried AnGR that are characterized and evaluated using genomic and phenotypic techniques, and – if appropriate – make characterization data publicly available.	Monitoring / Characterisation	Promote genomic and phenotypic characterization, genetic evaluation, data exchange and facilitate stakeholder access	2.1.2.1 & 2.1.5.1	Validated methods and guidelines / Proportion of inventoried AnGR that are characterized and evaluated / Weblinks publicly accessible data	National/ European	EURC-EAB / Interbull/ Governments/ National Coordinators/ ERFP WG Doc/ Scientific organisations
2.1.3.1	Further develop and implement indicators to monitor the status of, trends in and threats to the conservation and sustainable use of AnGR.	Monitoring / Characterisation	Implement SDG indicators 2.5.1 and 2.5.2		SDG indicators 2.5.1 and 2.5.2	National/ European/ Global	Governments/ National Coordinators/ ERFP Working Groups/ FAO
2.1.3.2	Further develop and implement indicators to monitor the status of, trends in and threats to the conservation and sustainable use of AnGR.	Monitoring / Characterisation	Review existing indicators, harmonise and implement relevant breed risk status indicators at European level		Report on relevant indicators to assess breed status, trends and threats	National/ European	EURC-EAB/ ERFP WG Doc/ National Coordinators/ Governments

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2.1.4.1	Improve interoperability of population and gene bank data with other relevant databases	Monitoring / Characterisation	Assess needs, user perspectives, for data exchange		Report on needs and perspectives to improve interoperability	National/ European	ERFP Working Groups/ FAO
2.1.5.1	Increase the number of studied traits to strengthen the characterization of livestock breeds, particularly local breeds, in their production environment.	Monitoring / Characterisation	Gather relevant information on breed characteristics through interaction with breeders and increase phenotyping efforts of traits less commonly assessed (adaptation, resilience, robustness).	2.1.2.1 & 2.1.2.2	Number and proportion of livestock breeds characterized for adaptation, resilience and robustness traits	National/ European	Governments/ Breeding organisations/ EURC-EAB/ Scientific organisations

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2.2.1.1	Boost the development and implementation of sustainable breeding programs, including pedigree and performance recording, genetic evaluation, and maintenance of within-breed genetic variation for both transboundary and local breeds.	Sustainable use and genetic improvement	Define sustainable breeding programs and propose methods and indicators for assessing breeding program sustainability	2.2.1.2 & 2.3.4.2	Indicators and guidelines for implementing and assessing sustainable breeding programs	National /European	EURC-EAB/ Governments/ National Coordinators/ ERFP Working Groups/ Breeding organisations
2.2.1.2	Boost the development and implementation of sustainable breeding programs, including pedigree and performance recording, genetic evaluation, and maintenance of within-breed genetic variation for both transboundary and local breeds.	Sustainable use and genetic improvement	Promote assessment of breeding program sustainability, including maintenance of within breed genetic variation.	2.2.1.1	Assessment methodology on breeding programs sustainability, Communication material. Report on sustainability assessment results	National / European	EURC-EAB/ National Coordinators/ ERFP Working Groups/ Breeding organisations

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2.2.2.1	Promote innovations and new technologies in breeding and AnGR management.	Sustainable use and genetic improvement	Promote innovative actions and implementation of new technologies in breeding programs through collaboration of relevant actors		List of innovative technologies and methods applied in breeding programs /List of breeding programs that use innovative technologies/	National	Governments / National Coordinators/ EURC-EAB/ Breeding organisations/ Scientific organisations
2.2.2.2	Promote innovations and new technologies in breeding and AnGR management.	Sustainable use and genetic improvement	Initiate scientific research, research collaboration and knowledge transfer on innovations and new technologies		List of knowledge transfer and research projects / Knowledge transfer materials and scientific publications	National/ European	Governments/ National Coordinators/ Scientific Organisations/ European Commission
2.2.3.1	Promote better use of AnGR diversity in the diversification of livestock production systems.	Sustainable use and genetic improvement	Analyse and promote the role and use of AnGR in different production systems	2.2.4.1	Report on type of AnGR by production system / Communication materials and events	National/ European	Governments / National Coordinators/ ERFP WG In Situ

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2.2.4.1	Incorporate agro-ecological principles in livestock sector development and AnGR management.	Sustainable use and genetic improvement	Based on livestock sector review, prepare recommendations for better integration of agro-ecological principles in policies and programs	2.2.3.1	Recommendations and indicators for implementation of agri-environmental/ CAP measures and AnGR management integrating agro-ecological principles	National	Governments/ National Coordinators/ ERFP WG In Situ
2.3.1.1	Develop and implement national strategies and action plans for integrated and complementary in situ and ex situ long term conservation strategies for AnGR, engaging all relevant public and private stakeholders in the process.	in-/ex-situ Conservation	Identify national strategies and action plans which include integrated and complementary in situ ex situ long term conservation strategies	2.3.1.2	Number of national strategies and action plans in Europe implementing complementary in situ ex situ strategies.	National/ European	National Coordinators/ ERFP Working Groups

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2.3.1.2	Develop and implement national strategies and action plans for integrated and complementary in situ and ex situ long term conservation strategies for AnGR, engaging all relevant public and private stakeholders in the process.	in-/ex-situ Conservation	Develop guidelines for better integration and complementarity of ex situ and in situ conservation strategies for the conservation of endangered breeds and the genetic diversity within those breeds	2.3.1.1	Guidelines for national strategies and action plans	National/European	National Coordinators/ERFP Working Groups
2.3.1.3	Develop and implement national strategies and action plans for integrated and complementary in situ and ex situ long term conservation strategies for AnGR, engaging all relevant public and private stakeholders in the process.	in-/ex-situ Conservation	Promote design and implementation of conservation and breeding programmes with the integration of in situ and ex situ activities. Identify breeding programs implementing this integration		Number and list of conservation and breeding programmes with both in situ and ex situ conservation activities	National	Governments/ National Coordinators/ National actors/
2.3.1.4	Develop and implement national strategies and action plans for integrated and complementary in situ and ex situ long term conservation strategies for AnGR,	in-/ex-situ Conservation	Establish multi-stakeholder committee to oversee the implementation of the national strategy	3.2.2.3	Number of national multi-stakeholder committees and number of meetings	National	Governments/ National Coordinators/ National actors

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	engaging all relevant public and private stakeholders in the process.						
2.3.2.1	Promote and support initiatives and collaboration for in situ and ex situ conservation of transboundary breeds.	in-/ex-situ Conservation	Promote collaboration between actors to strengthen the conservation and breeding programs for transboundary breeds	2.3.2.2	List of actors and stakeholders for transboundary breeds / Number of transboundary breeds documented with stakeholder lists	National/ European	ERFP Working Groups/ National Coordinators/ EURC-EAB/ National actors
2.3.2.2	Promote and support initiatives and collaboration for in situ and ex situ conservation of transboundary breeds.	in-/ex-situ Conservation	Develop and implement collaborative conservation and breeding programmes for each transboundary breed	2.3.2.1	Number of collaborative transboundary breed conservation and breeding programmes	National/ Transboundary	National Coordinators/ National actors/ Breeding Organizations

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2.3.3.1	Strengthen the European network for in situ conservation and management of local breeds at risk.	in-/ex-situ Conservation	Develop pan European in situ conservation network, including a review of the current status of the Arca-Net network and website/portal		Pan European network established / Number of Ark farms/entities in the network	National/ European	National Coordinators / ERFP WG In Situ/ National and European NGOs
2.3.3.2	Strengthen the European network for in situ conservation and management of local breeds at risk.	in-/ex-situ Conservation	Identify relevant public and private actors and strengthen their roles to support the conservation and sustainable use of AnGR, in particular local breeds at risk		List of national actors supporting conservation and sustainable use of local breeds at risk	National	Governments / National Coordinators
2.3.4.1	Support breeders' associations and farmers to implement breeding programs for local breeds at risk.	in-/ex-situ Conservation	Identify and review breeding programs in EU countries for local breeds at risk	2.3.4.2	Survey report	National/ European	National Coordinators/ Governments/ EURC-EAB /ERFP WG In Situ

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2.3.4.2	Support breeders' associations and farmers to implement breeding programs for local breeds at risk.	in-/ex-situ Conservation	Propose sustainable breeding programs and propose methods and indicators for assessing breeding programs of local breeds at risk.	2.3.4.1 & 2.2.1.1	Guidelines	National/ European	National Coordinators/ Governments/ EURC-EAB /ERFP WG In Situ
2.3.4.3	Support breeders' associations and farmers to implement breeding programs for local breeds at risk.	in-/ex-situ Conservation	Provide subsidies for conservation and breeding programmes for local breeds at risk		Number of local breeds at risk that receive subsidies for their conservation and breeding programme, and information about the subsidies provided	National/ European	Governments/ European Commission
2.3.5.1	Strengthen and promote the valorisation of AnGR-related ecosystem services (e.g. landscape conservation) and livestock products.	in-/ex-situ Conservation	Analyze and report case studies on breed valorisation and conservation; collect cases and promote results		Number of articles, case studies, best practices, newsletters, social media, conferences, communication materials	National/ European	ERFP WG In Situ/ National Coordinators

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2.3.5.2	Strengthen and promote the valorisation of AnGR-related ecosystem services (e.g. landscape conservation) and livestock products.	in-/ex-situ Conservation	Develop initiatives with PGR and FGR community and environmental entities on ecosystem services and cross-links between domains and other connected policies		List of initiatives on valorisation of AnGR related ecosystem services (projects, common actions, papers)	European / national	ERFP/ National Coordinators/ Governments/ ECPGR/ EUFORGEN
2.3.5.3	Strengthen and promote the valorisation of AnGR-related ecosystem services (e.g. landscape conservation) and livestock products.	in-/ex-situ Conservation	Promote (labelling of) local products from breeds in extensive/traditional production systems and associated ecosystem services		Number of product labels or quality schemes linked to specific breeds associated with ecosystem services.	European / national	ERFP WG In Situ/ National Coordinators/ Governments
2.3.6.1	Increase the breeders' awareness of their role as key actors in the conservation of AnGR.	in-/ex-situ Conservation	Empower breed societies and promote farmer and breeder participation in conservation and breeding programs		List of initiatives that strengthen breed societies and breeders role in the conservation of AnGR	European / national	Governments/ National Coordinators/ ERFP WG In Situ

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2.3.7.1	Develop research towards better understanding of breed characteristics and features, in particular adaptation to specific ecosystems and farming systems.	in-/ex-situ Conservation	Initiate research calls, specific research projects and other projects related to in situ conservation	2.1.5.1 & 2.3.12.1	List of national and international research projects	European / national	Governments / National Coordinators/ Science/ ERFP
2.3.8.1	Establish and maintain an official European inventory of all ex situ conservation facilities.	in-/ex-situ Conservation	Support EUGENA as the network and database for ex situ conservation facilities in Europe		Nber of recognized genebanks in the EUGENA network	European	EUGENA/ ERFP WG Ex Situ/ ERFP WG Doc / EURC-EAB/ Governments
2.3.8.2	Establish and maintain an official European inventory of all ex situ conservation facilities.	in-/ex-situ Conservation	Make an inventory of ex situ in vivo collections complementing EUGENA network collections	2.3.3.1	Ex situ in vivo collections inventory	European / National	EUGENA/ Governments/ ERFP Working Groups
2.3.9.1	Stimulate genebanks in Europe to ensure the long-term conservation of AnGR through core collections.	in-/ex-situ Conservation	Promote establishment of core collections and regular updates of the material stored in the breeding programs of all breeds	2.3.9.2	Number of breeding programmes which set core collections / SDG 2.5.1	National / European	National Coordinators/ National actors

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2.3.9.2	Stimulate genebanks in Europe to ensure the long-term conservation of AnGR through core collections.	in-/ex-situ Conservation	Fund the establishment of core collections for all relevant breeds	2.3.9.1	Number of breeds subsidized for ex situ conservation program	National	Governments
2.3.10.1	Promote specific derogations from national animal health regulations for material intended to be stored in gene banks, as well as for its use and distribution	in-/ex-situ Conservation	Develop guidelines to implement derogations in the national animal health regulations for genebanks	2.3.10.2	Published case studies and guidelines for animal health derogations including implementation	National / European	ERFP WG Ex Situ / EURC-EAB / NCA's
2.3.10.2	Promote specific derogations from national animal health regulations for material intended to be stored in gene banks, as well as for its use and distribution	in-/ex-situ Conservation	Promote national assessments of opportunities for use of derogations in the animal health regulations	2.3.10.1	Number of countries assessing uses of health rules derogations for genebank material storage and use	National	Governments / National Coordinators/ NCA's

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2.3.11.1	Develop and expand EUGENA, promote the enrolment of new countries and gene banks and implement quality management systems.	in-/ex-situ Conservation	Encourage countries and genebanks to become member of EUGENA, the pan-European database of nationally recognized genebanks		Number of countries and breeds with information in EUGENA	European / National	EUGENA/ ERFP WG Ex Situ/ National Coordinators
2.3.11.2	Develop and expand EUGENA, promote the enrolment of new countries and gene banks and implement quality management systems.	in-/ex-situ Conservation	Promote implementation of QMS by gene banks and organise peer review system to benchmark genebank operations.		Number of genebanks which have implemented QMS	National / European	ERFP WG Ex Situ/ National Coordinators
2.3.12.1	Initiate research on the development, standardization and implementation of new cryopreservation technologies that cover all types of genetic material and species.	in-/ex-situ Conservation	Initiate scientific research collaboration and research projects on ex situ conservation	2.3.7.1	Publicly available, validated new cryopreservation methods and guidelines / List of research projects focusing on new cryopreservation technologies	European / National	Governments/ European Commission/ Scientific organisations/ ERFP WG Ex Situ

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3.1.1.1	Review the main European and national policies and instruments, with direct or indirect impact on AnGR, to identify needs and improve the integration of conservation and sustainable use of AnGR into relevant national and regional policies and regulations.	Policy and legal framework	Review all relevant EU/national policies and legislation with impact on AnGR conservation and use, identify specific necessities, derogations or improved legislation		Review report of relevant legislation and policies, including recommendations for improvements	European/ National	ERFP/ EU/ National Coordinators / Governments
3.1.2.1	Facilitate the implementation of the EU Animal Breeding Regulation 2016/1012 for the development of effective breeding programs.	Policy and legal framework	Carry out and support the Work Programme of EURC-EAB and national actions.		Advise, reports and output of EURC-EAB and national actions, collaborative actions between ERFP and EURC-EAB	EU /National	EURC-EAB/ EU/ Governments /
3.1.3.1	Promote the designation of the European Reference Centre (ERC) for AnGR as foreseen in Article 29 of the EU Animal Breeding Regulation 2016/1012.	Policy and legal framework	Support the EU Reference Centre for Endangered Animal Breeds			EU	ERFP/ Governments/ EURC-EAB



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3.1.4.1	Support the establishment of the European Coordination and Information Centre (ECIC) for conservation and sustainable use of plant and animal (agricultural) genetic resources.	Policy and legal framework	Review existing EU legal framework, and possibilities for the establishment of ECIC		Review report	EU	ERFP/ ECPGR/ Governments/ EU
3.1.5.1	Foster collaboration and partnerships in research and innovation across countries, including through Horizon Europe and EIP instruments.	Policy and legal framework	Promote international collaboration in research related to conservation and sustainable use of AnGR		List of collaborations and partnership across countries in research	Europe/ National	ERFP/ EFFAB/ ATF/ EAAP/ National Coordinators/ Governments
3.1.6.1	Create or strengthen a European and national technical and research infrastructure to provide a long-term foundation for the conservation, documentation and sustainable use of AnGR in Europe.	Policy and legal framework	Assessment of existing technical and research infrastructure in Europe, and provide recommendations to improve long term efficiency		Review report of existing technical and research infrastructure, including gap analysis and recommendations	Europe/ National	ERFP/ Governments

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3.2.1.1	Engage the breeding sector and all other relevant actors, stakeholders and institutions in the implementation of the European AnGR strategy (AnGRSE).	Actors, stakeholders and institutions	Identify breeding sector actors and other relevant stakeholders/institutions at EU and national level, and analyse their (potential) roles in implementing the AnGRSE		Report listing breeding sector actors and other relevant stakeholders and their roles	National/ European	National Coordinators/ ERFP
3.2.1.2	Engage the breeding sector and all other relevant actors, stakeholders and institutions in the implementation of the European AnGR strategy (AnGRSE).	Actors, stakeholders and institutions	Increase professional engagement of stakeholders and promote collaborative actions between actors		Number of collaborative actions between actors	National/ European	ERFP/ National Coordinators/ EURC-EAB
3.2.1.2	Engage the breeding sector and all other relevant actors, stakeholders and institutions in the implementation of the European AnGR strategy (AnGRSE).	Actors, stakeholders and institutions	Present and promote the Genetic Resources Strategy for Europe		Communication material, events and communication	National/ European	Governments/ EU / ERFP

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3.2.2.1	Promote collaboration between actors in further development and implementation of national strategies and action plans.	Actors, stakeholders and institutions	Review the roles of actors and promote collaboration, synergies and coordination between actors		Report on existing collaboration and potential synergies between actors at national level	National	National Coordinators
3.2.3.1	Strengthen the role of the National Coordinators, National Focal Points and the ERFP network in developing and promoting the conservation and sustainable use of AnGR in Europe.	Actors, stakeholders and institutions	Analysis of organisational changes and structures that will enable the work of NCs and NFPs		Report on organisational structures analysis and assessment of needs of NCs	European/ National	ERFP/ Governments
3.3.1.1	Develop a communication strategy at European level and national level, raising awareness about the roles and values of AnGR, in society at large and among a wide range of stakeholders.	Education and awareness raising	Regular review of existing communication approaches and recommend communication strategy for different target groups		Report on existing and recommended communication strategies	European/ National	ERFP/ National Coordinators

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3.3.2.1	Strengthen education on AnGR at various levels.	Education and awareness raising	Identify stakeholders in education domain, analyse their roles, and develop promotional and training material related to the conservation and sustainable use of AnGR when possible, in collaboration with other genetic resources domains	3.3.2.2	Recommendations for strengthening human capacity development by stakeholder group and awareness raising / Promotional and training materials / Number of events	National/ European	National Coordinators/ ERFP / Governments / Education and Scientific organisations
3.3.2.2	Strengthen education on AnGR at various levels.	Education and awareness raising	Encourage integration of animal genetic resources management aspects into existing programmes and training courses in colleges, universities, and industry	3.3.2.1	Human capacity development programmes that include animal genetic resources management components	European/ National	Education and Scientific organisations

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3.3.3.1	Develop awareness raising activities in all value chains to strengthen the linkages between producers and consumers, including tourism and gastronomy alliances, environmental authorities and providers and users of ecosystem services.	Education and awareness raising	Identification of stakeholders from other connected sectors of interest and analysis of (potential) stakeholder roles and synergies		Report on stakeholder roles and synergies	National/ European	ERFP/ National Coordinators
3.3.3.2	Develop awareness raising activities in all value chains to strengthen the linkages between producers and consumers, including tourism and gastronomy alliances, environmental authorities and providers and users of ecosystem services.	Education and awareness raising	Raise awareness among actors and stakeholders and develop promotional campaigns		Plan for awareness raising / communication materials	National/ European	ERFP/ National Coordinators

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3.4.1.1	Explore opportunities for establishing fund-raising mechanisms and integrated investment plans to ensure adequate and permanent EU cofunding instruments for the conservation and sustainable use of AnGR.	Long term funding	Identify and review the existing financial mechanisms and resources to provide appropriate and long-term support for European and national animal genetic resources conservation and sustainable use		Review report on existing and potential financial mechanisms / Proposal for long term (EU) (co) funding of actions	National/ European	Governments/ National coordinators/ ERFP/ EU
3.4.2.1	Ensure long-term, targeted funding of actors, institutions, stakeholders and their networks for European and national activities related to the conservation and sustainable use of AnGR.	Long term funding	Propose financing mechanisms and long-term funding options for ERFP (and other European networks)		Proposal / potential financing mechanisms	European	ERFP/ Governments/ EU