

Implementation of the Global Plans of Action (FAO) - Animal Genetic Resources -

Which role for the EC?

Bonn, April 2016



Socio-economical context

- Increasing world population – sustainable intensification under changing environmental / climatic conditions
- AnGR = genetic pool as safety-net to adapt to changing conditions and facilitate innovative solutions
- Multiple values of AnGR in terms of
 - food/nutritional safety
 - quality products
 - agro-ecosystem services
 - short supply chains, organic farming, local economies
 - alternative tourism activities
 - cultural heritage
 - genetic pool for within and across-breed improvement

Socio- economical context

- Major EU policy areas affecting AnGR
 - **Rural development policy** (general support for rural areas, agro-environmental measure - protection of “local breeds in danger of being lost to farming”, conservation and sustainable use of AnGR)
 - **State aid rules** (support for the livestock sector – breeding books, performance testing, genetic evaluation)
 - **Research and innovation** (H2020, EIP- Focus Group Genetic Diversity, EraNet SusAn, ...)
 - **Zootechnical legislation** (sustainable breeding programmes, derogations for endangered breeds, reconstruction of breeds, reasons of refusal - breeding programs (preservation), EU reference centre for endangered breeds, ...)
 - **Regulation on Access and Benefit Sharing**
 - **Animal health law** (derogations for endangered breeds - vaccination, scrapie, culling – disease outbreak, one-health agenda)
 - **EU quality and promotion policy** (PDO, PGI – products originating from specific breeds, EU promotional campaigns)
 - **Single CMO, Marketing standards, food security** (production systems – e.g. slow growing breeds, outdoor keeping systems, derogations for small food producers (traditional food products, production in remote, mountainous areas))
 - ...

EC needs to set a favorable environment for ...

... further improving the economical viability of activities related to the conservation and sustainable use of AnGR (principle: conservation through utilization)

- promote tradable output of local breeds:
 - valorisation of traditional products
 - creation of new innovative products in the food & non-food area
 - challenge: convert AnGR into economically profitable business (establish AnGR as self-supporting activity)
- promote consumer informed choices:
 - sustained and continued efforts in public awareness raising
 - achievement of increased visibility of products (labeling of food / services provided by local breeds)
 - stimulation of the use of EU quality schemes (PDO, PGI, ...) and trademarks
 - check opportunity for setting up an EU-wide certification scheme for the identification of products (food, non-food) originating from local breeds (EU vs. national initiatives?)

EC needs to set a favorable environment for ...

... further improving the economical viability of activities related to the conservation and sustainable use of AnGR (principle: conservation through utilization)

- examples:
 - set up joint quality schemes for local breeds, transboundary breeds (at transnational level), umbrella labels PnGR & AnGR
 - achieve growth in trade by realizing joint marketing and promotion efforts (also across species - AnGR & PnGR)
- increase cooperation, vertical – horizontal integration:
 - achieve sustainable breeding and conservation of AnGR by involving relevant stakeholders/actors in the value chain (breeders, breeding organisations, retailers, consumers, government, ...)
 - encourage regional / national / transnational cooperation (exploit synergies, economies of scale, avoid overlaps, be partners / allies no competitors, reach critical mass, foster new ideas)

EC needs to set a favorable environment for ...

... further improving knowledge linked to selection and breeding, improving access conditions to genetic material

- encourage knowledge exchange, networking between breeders, breeding organisations, other relevant actors in the value chain
- set up new or build up on existing advice and support services as platforms with expected multiplier effect:
 - sensitize agricultural extension services for AnGR
 - look for other adequate conveyers of messages, build on front-runners, trendsetters in the system
- establish and strengthen breeding organisations:
 - need for carrying out innovative breeding programmes taking an active role in value chain development
 - stimulating breeders to participate in breeding programmes

EC needs to set a favorable environment for ...

... further improving knowledge linked to selection and breeding, improving access conditions to genetic material

- strengthen specialised centres for reproduction techniques, germplasm collection / storage
- at breeders' level encourage engaging in active collection and storage of germplasm by providing sufficient financial incentives
- facilitate access to, exchange of breeding stock and their germinal products
- propagate the use of modern reproduction techniques (diffusion of genes)
- give support for mating decisions and guidance in breeding and selection decisions (control of inbreeding) (role of breeding organisations)
- enhance keeping of local breeds by professional breeders (counteract tendency of downgrading rare breed keeping to non-professional, marginal, small farm scale activities)
- evaluate potential and safe use of gene modification techniques (e.g. gene editing) and cloning techniques in terms of AnGR (these techniques may provide welfare & conservation benefits)

EC needs to set a favorable environment for ...

... further improving knowledge linked to selection and breeding, improving access conditions to genetic material

- support and encourage breeding organisations of mainstream breeds:
 - in achieving sustainable breeding and conservation goals, adapting good management practices of AnGR in view of future generations
 - raising awareness about potential of AnGR in terms of added value for their (cross-) breeding schemes e.g. future introgression of target genes (e.g. robustness)
 - engaging long-term commitments of breeding organisations towards AnGR e.g. volunteer « certification schemes » to characterize level of commitment towards AnGR, meeting sustainable breeding goals
- strike the right balance between conservation and improvement needs

EC needs to set a favorable environment for ...

... further improving knowledge on qualities, usability, adaptability of breeds

- « knowledge mapping / knowledge recovery » on breeds as regards their genetic quality, their adaptation to social, economic and ecological conditions (re-discover unexploited potential), traditional use, by involving breeders, breeding organisations → characterisation = trivial work
- progress in genomic and phenotypical characterisation of breeds based on scientific principles:
 - refined phenotype collection on productivity, robustness, health, welfare issues, quality of products, other sustainability traits, resilience aspects ... - invest in adequate technologies, installations, equipments
 - establish genomic selection across breeds – benefits for developing countries, for small breeding populations
 - conduct studies on characterisation of genetic diversity within / across rare breeds
 - identify, catalogue and prioritize breeds as regards their future value in terms of food security and resilience to climate changes and changing market needs, soundness for specific environments

EC needs to set a favorable environment for ...

... further improving knowledge on qualities, usability, adaptability of rare breeds

- understand global flow of AnGR in quantitative terms:
 - studies on landscape genetics (gene flow, genetic drift - spatial and temporal, adaptation of breeds)
 - improve import/export figures of live animals / germinal products from sanitary, customary records (record keeping of animals traded with information on breed)
- promote documentation and diffusion of knowledge on breed characteristics, husbandry aspects of breeds
 - information tailor-made for the target user – researcher, breeder, ...
– overcome language barriers
 - expected goals: identify new environments, territories, market opportunities, favourable for the establishment, promotion of given breeds

EC needs to set a favorable environment for ...

... further identification and closing of gaps between activities carried out by breeders and research activities in the area of AnGR

- need to bridge practice needs with research activities:
 - further align activities based on a holistic, integrated approach
 - foster interactions between breeders, end-users, researchers and other relevant actors engaged in upstream, downstream activities
- implement existing, new research findings into farming & breeding practice, whilst ensuring user-friendliness and adaptation to practical needs of breeders, stakeholders (ensure continuity, longterm use by providing continued guidance)
- encourage a dynamic bottom-up approach:
 - local breeders participating in decision-making process (strategy, priority setting) → achieve better overall results and acceptability
 - enhance the importance of breeders as drivers for attaining AnGR goals

Further considerations ...

- Ensure a legal framework which is fostering innovation and sustainability in the animal production sector
- Set an overall favorable policy environment which supports capacity building in the area of animal breeding in general and conservation and sustainable use of AnGR in particular through development of research, training, education, networking and cooperation
- Need to carry on and further develop legal instruments supporting, creating enabling environments for conservation and sustainable use of AnGR, building up on past experience, but more practice oriented → making efficient, sustainable in situ use of local breeds as favored longterm conservation strategy
- Need for mainstreaming and catering of AnGR aspects throughout all relevant policy areas, ensuring increased coherences across policies and programmes through improved co-ordination of relevant EU policies, following up an integrated, holistic approach target-oriented towards AnGR
- Awareness that conditions in the livestock sector are continuously evolving, development of a policy or regulatory frameworks should therefore anticipate future developments (foresight policy making)

Further considerations ...

- Need for increased impact assessment of (new/existing) legal instruments on AnGR
→ laws affecting AnGR most, have not been developed for the sake of animal breeding or AnGR, but are often related to more generic issues with sometimes no apparent impact on AnGR, but hidden consequences – need for anticipating consequences by early involvement, consultations of concerned actors e.g. stakeholders, Member States' experts in the area of zootechnics, AnGR, bodies like ERFP, FAO ...
- Awareness that there are significant differences between PGR and AnGR: need to differentiate and to tailor regulatory regimes accordingly (e.g. failure in EU ABS legislation, intellectual property rights, trade arrangements?)
- Rural development programmes and European Innovation Partnership, European Innovation & Research should combine conservation activities with end-user-oriented approaches by unlocking the economic potential of AnGR in the context of value chain developments
- Awareness raising among key actors on programmes and policy instruments in place to support and develop AnGR (measures-individual, combined, exploring the scope for developing a coherent, longterm strategy)

Further considerations ...

- When setting up policies and programmes, importance to account for geographical differences within Europe – regions with own distinctive characteristics and different priorities and needs – need for global European projects as well as subregional projects (no “one fits all” strategy)
- Stimulate interest / attractiveness of (young) farmers’ generations for maintaining locally adapted breeds (educational measures – counteract ageing problems at breeders level), unfold positive financial prospects and easy access to resources, education and training
- Stimulate interest / attractiveness of students for engaging in professional careers in the domain of animal breeding and conservation, set up adequate research and education facilities, promote awareness of children to issues like biodiversity as a key lever to foster new ways of thinking
- Need to raise public awareness on expected beneficial effects on diversification of food products, agro-ecosystem services provided by multiple breeds

Further considerations ...

- Greatest challenge ahead: alignment/consolidation of interests between sustainable intensification of livestock production systems (in view of the rapidly increasing world population - food demand) and meeting goals of conservation / sustainable use of AnGR – are the two areas of greatest interest at the either end of the spectrum of livestock production?
- Importance to increase the mutual and pro-active collaboration between FAO and UE in achieving these goals. EC plays an essential role in supporting the implementation of FAO's GPA. With this regard, ERFP may play an important role in connecting FAO policies and EU policies.