

3rd IMAGE Dialogue Forum Zagreb 24. August 2018

Economics of Conservation: Economic trade-offs between gene bank and in-situ conservation?

Outcomes

In the frame of the H2020 (n° 677353) project IMAGE (innovative Management of Animal Genetic Resources) the third Dialogue Forum took place in Zagreb, Croatia on August 24, 2018. “Economics of Conservation: Economic trade-offs between gene bank and in-situ conservation?” was the topic of this event. Introductory presentations led the audience into the topic:

Dominic Moran, SRUC (Scotland’s Rural College), Edinburgh, explained a new scientific approach to a more efficient ex situ conservation concept. A gap was identified in harmonisation of ex situ collections, of genomic (e.g. DNA, blood, tissue) and reproductive germplasm (e.g. semen, embryos). One of the findings was a storing strategy which allows cross-border collections. But this is difficult to realise because of the trade and sanitary rules. Breed and gene bank selection clearly involves numerous biotechnological, institutional and economic challenges that can be informed by mathematical modelling of cost-effective breed conservation. Scenarios need to be explored which include economic returns associated with breed conservation by adding weights/rank of each breed based on their various attributes.

Adam Drucker, Bioversity International, Rome, presented an overview of Economics of Genetic Resources their Conservation and Use from the perspective of in situ conservation. A range of valuation methods, decision-support tools and research results related to the economics of AnGR (animal genetic resources) conservation and use were presented. Studies were shown to have given prominence to stated preference and ranking methods, given the importance of AnGR values that are not reflected in the market, a number of which can only be secured through the implementation of on-farm conservation strategies. While there continues to be relatively limited interaction between animal and plant genetic resource researchers and development practitioners, it is clear that at least in the sub-field of economics of genetic resources use and conservation, there is a high potential for mutual learning and collaboration that should be further encouraged. Such collaboration would facilitate implementation of the Global Plan of Action and the Convention on Biological Diversity in the context of AnGR.

In fact, Agrobiodiversity needs properly to be valued and mechanisms are needed to permit the capture values. Appropriate economic methods, decision-support tools and policy intervention strategies are important. During the last 10-20 years a significant development of methods to value plant- and animal genetic resources took already place and there is a wide range of decision-support tools successfully tested. But there is still the question of conservation priorities: What to board on “Noah’s Ark”? Particular local breeds may be im

portant to livelihoods. Which traits and functions are the most important and degree they can be traded off against each other? Adam Drucker also explained the “Weitzman” decision-support tool for identifying conservation priorities. The Idea of a competitive conservation tender approach for payments for agrobiodiversity conservation services (PACS) was emphasised and discussed.

Discussions in working groups

Next four questions have been discussed in working groups. The group composition was randomly assembled to mix the single interests of the audience and an intensive exchange could take place and a comprehensive picture of opinions emerged.

Summarize of the questions and answers:

1. *Do public preferences and trends play a role in what we should be spending on ex situ conservation?*

The public changes its minds quickly and conservation is a long term issue. Therefore the public should not control the goals, but it is important to exploit the public preferences. Genebanks are often financed through public money. Collecting the “right” diversity is a scientific issue.

2. *Does the livestock conservation / commercial breeding currently benefiting from the genetic variability that is stored in the gene banks? How to optimise the benefit?*

The situation and conditions differ from country to country. The re-establishment of breeds and support of the breeding can take place through gene banks. This is not very exploited by the commercial sector. CRISPR/CAS9 may be a new technology for exploiting the potential and the existing collections. The ration of entry and exist is unbalanced at the moment. Therefore the using of material should be more emphasized.

3. *What policy incentives should be in place to promote (on farm and in gene banks) conservation effort? Are there incentives more of a hindrance?*

Answer Summary: There is the obligation for the EU to secure all livestock. Therefore NGOs need to be included in the board of (public) cryobanks. It should be better considered what we are targeting with public subsidies. A better targeting of subsidies is needed. There are very large subsidies in the commercial sector, but less in the conservation sector-a better and more precise targeting is necessary in the conservation sector according to real costs and declared needs.

4. *In Europe there are about 25 gene banks (run by a host institution authorized and/or recognized by a national authority), the costs of which are covered by the respective state. Would one consolidated Pan EU resource bank be better than several – why?/why not?*

Answer – Summary: For those, who have not a national gene banks it could be helpful to have a central place to store the material. But sanitary- and trade rules may be a hindrance because of higher costs and risks. There are limiting zootechnical logistics: The material needs to be freezed in the country. A virtual central genebank is an objective of the EUGENA project.

Survey on Ethics

A variety of actors and stakeholders is involved in the management of farm animal genetic diversity. Cryoconservation of reproductive material is one of the complementary strategies for (long term) conservation and for the management of animal genetic resources. Therefore the ethical committee reviewing the project has asked for a report on the ethical considerations of stakeholders for the choice of breeds to be cryopreserved. The IMAGE consortium has prepared an anonymous survey in order to collect information on the viewpoints of a range of stakeholders regarding ethical considerations for the choice of breeds to be cryoconserved. In order to get as many different views as possible, also the participants in the Dialogue Forum were asked to fill in the survey.

Field Trip

After an intensive discussion morning, a field trip took place in the afternoon to get an impression of the in-situ conservation of the Posavje Horse in Bobovica near Zagreb. The horses are very tame and trusty and the farmer explained how he manages the animals. Before the group went back to Zagreb, they were invited to taste the farmers' products like cheese and Salami of both the Posavje horse and Slavonian pig.