Beyond Material Transfer Agreements

LEAGUE FOR PASTORAL PEOPLES AND ENDOGENOUS LIVESTOCK DEVELOPMENT

Access and Benefit-Sharing of Animal Genetic Resources: About the need to think out of the box






Global livestock diversity at risk

When the United Nations Convention on Biological Diversity (CBD) was first conceived in 1992, it put biodiversity under national sovereignty and sought to reward and incentivize conservation of wild biodiversity by sharing the benefits from its commercialization.

As the focus shifted to plant genetic resources for food and agriculture, it was realized that this principle could not be easily transferred, as there were often multiple places of origin and crops had been developed incrementally by series of actors. In response, the global community created the International Treaty on Plant Genetic Resources for Food and Agriculture which establishes a multi-lateral system, Farmers' Rights, and set up the Seed Vault in Svalberg where seeds are kept in secure storage so as to be available in the future.

Animal genetic resources for food and agriculture present yet a third scenario that will require its own tailor-made version of Access and Benefit-Sharing to achieve the goals of the CBD.

The purpose of this paper is to show how conservation of livestock biodiversity can be achieved while at the same time improving food security, adaptation to climate change and resilience, by taking the next steps towards achieving the goals of the Convention on Biological Diversity, with specific reference to the Global Plan of Action on Animal Genetic Resources.

Animal genetic resources

For the sake of simplicity, we can broadly classify animal genetic resources into two types (although there are many intermediate types as well):

A small number of breeds or strains with vast outputs of one specific product, but equally enormous requirements in terms of feed, veterinary care and artificially optimised and stabilised conditions. These breeds have been developed by companies or breeders' associations, with the help of performance recording and statistical programmes.

A multitude of breeds with lower output, but that are multi-functional and bred to take advantage of natural environments and, in the case of pastoral breeds, specifically for capitalizing on environmental variability (Krätli, 2008). They are the products of networks of breeders who inhabit the same landscape, who exchange animals amongst each other according to customary rules and who keep no written records of their animals' performance, although they know them and their genealogies intimately.

It is these latter types of animals that humanity will need for adapting to climate change, for a green economy, and for reducing the climate impact of agriculture. Many have been created and developed by pastoralists. Others – especially poultry and pig breeds – are the product of indigenous and smallholder communities.

BCPs

BIOCULTURAL COMMUNITY PROTOCOLS COMPLETED ▶ **INDIA** Raika camel, Nari cattle Banni Maldhari Pullikulum breeders Pullikulum cattle ▶ **KENYA** Samburu Red Maasai sheep and others ▶ **PAKISTAN**

Biocultural Community Protocols; the effort now needs to be expanded so progress can be made on the ground.

Pastoral herds: Mobile banks of fitness genes and knowledge

Because of their adaptation to harsh climates, pastoralist herds are repositories of fitness genes, especially genes for physiological adaptations to extreme weather and 'unconventional feed stuffs', i.e. native vegetation with high fibre and mineral content. But they are more than just assemblages of genes. They represent knowledge, not only the knowledge of their keepers, but also learned behavior of animals that is passed on from one generation of livestock to the next: how to make use of natural environments, both individually and in a group as a socially organized population. Survival and performance under extreme conditions is thus not just a matter of physiological traits and instinct but also of learned behavior.

Adapted breeds need to be conserved in their original environment

Pastoralist herds represent living heritage resources that cannot be preserved out of context and in a freezer, but only in situ, by the herding communities that have developed and stewarded them over centuries. Defreezing semen or embryos, even if they have the right constellation of genes, would not result in the herds of livestock and behaviours that convert fibrous and drought-adapted vegetation into proteins for human consumption on the vast rangelands found in the most climatically volatile regions of the planet.

Implications for an Access and Benefit-Sharing regime

In order for humanity to be able to get the benefits of these genetic resources and the knowledge that sustains them, it has to ensure that they are conserved and managed sustainably in their respective ecological and social contexts. And ensuring this must be the central aim and issue of any Access and Benefit-Sharing regime for animal genetic resources, rather than focusing only on the detail of Material Transfer Agreements.

We must understand access not from the narrow perspective of contracts between specific providers and commercial users, but in the wider sense of ensuring access to a pool of genes long into the future. If we fail, we will lose one of our most valuable assets for adapting to climate change, as well as for food production in harsh environments and with minimal inputs.

BCPs

Strengthening the role of communities as keepers of living gene banks

The Nagoya Protocol for Access and Benefit-Sharing, concluded in 2012, includes the provision for countries to support Biocultural Community Protocols, in which communities detail the genetic resources and traditional knowledge of which they are the custodians. This provides the framework for countries to better understand their animal genetic resources, the social contexts in which they exist and the threats that they are exposed to, thereby laying the foundation for long-term conservation.

Biocultural Community Protocols

Livestock keeping communities in several countries have already taken the initiative to develop Biocultural Community Protocols which explain their situation and outline the conditions under which they can continue to act as stewards and ensure access in the future. These broadly correspond to the points summarized in the Declaration on Livestock Keepers' Rights (www.pastoralpeoples.org/docs/LKRdeclaration.pdf) which resulted from the Interlaken Process that culminated in the Global Plan of Action for Animal Genetic Resources (http://www.fao.org/docrep/010/a1404e/a1404e00.htm).

Action to conserve animal genetic resources So far this remains a scattered and underfunded effort which urgently needs to be expanded on a country-by-country basis, extending Biocultural Community Protocols with the goal of eventually creating a global in-vivo 'Community Breed Repository' as the animal equivalent to the Global Seed Vault and whose benefits can be shared by all of humanity.

DOWNLOADS

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