

# Biocultural Community Protocols for Livestock Keepers



League for Pastoral Peoples and Endogenous Livestock Development (LPP)  
LIFE Network

Lokhit Pashu-Palak Sansthan

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2010



**NATURAL JUSTICE**

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# Abbreviations and glossary

FAO	Food and Agriculture Organization of the United Nations
LIFE	Local Livestock for Empowerment of Rural People
LPP	League for Pastoral Peoples and Endogenous Livestock Development
NGO	Non-governmental organization
UN	United Nations
UNEP	United Nations Environment Programme

## *Biocultural community protocol*

A biocultural community protocol is a document that is developed after a community undertakes a consultative process to outline their core cultural and spiritual values and customary laws relating to their traditional knowledge and resources. In this they provide clear terms and conditions regulating access to their knowledge and resources (Natural Justice, 2009).

## *Livestock keepers*

The term livestock keepers here encompasses both indigenous livestock keepers and ecological livestock keepers. Indigenous livestock keepers represent those communities who have a long-standing cultural association with their livestock and have developed their breeds in interaction with a specific territory or landscape. Ecological livestock keepers are those that sustain their animals and the environments where these animals live; relying largely on natural vegetation or home-grown fodder and crop by-products and without artificial feed additives.

# Executive summary

**B**IOCULTURAL COMMUNITY PROTOCOLS are a new approach that provides livestock-keeping communities the opportunity of documenting and showcasing their role in the management of animal genetic resources and agro-ecosystems. They offer insights into the all-important socio-cultural dimensions of livestock diversity that have remained invisible during standard livestock research on animal genetic resources. They provide an opportunity for communities to tell the story from their perspective and bring to light issues that researchers and development workers have not paid attention to so far. They describe the ritual and ceremonial meaning of livestock, they document traditional resource management and drought adaptation strategies, they identify the factors that may have led to the decline of a breed, and they make specific requests to outsiders for recognition of their role as custodians of biological diversity.

Establishment of a biocultural community protocol involves a facilitated process in which a community or group of livestock keepers reflects about the meaning of their breeds, their own role in maintaining it and their vision and concerns for and about the future. The reflections are put on paper, and the community is informed about existing national rules and international legal frameworks that support its role in biodiversity conservation. Although the number of biocultural community protocols that has been established by livestock keepers is still limited, they have already validated the concept and there is an enormous interest among other communities in developing their protocols.

Biocultural community protocols contribute to the implementation of several international frameworks. The most important of these are the UN Convention on Biological Diversity and the Global Plan of Action for Animal Genetic Resources. They also correspond to and implement the provisions of the UN Declaration on the Rights of Indigenous People as well as the Voluntary Guidelines to Support the Progressive Realization of the Right to Adequate Food in the Context of National Food Security. Furthermore, they may provide an answer to the increasingly debated question of how to protect the rights of small-scale livestock keepers in a global scenario in which Intellectual Property Rights become ever more prevalent in animal breeding. At community level, the development of biocultural community protocols strengthens interest in the conservation of indigenous livestock breeds and initiates a discussion about how to deal with factors undermining conservation.

So far, four livestock keeping communities, the Raika, Lingayat, Samburu and Pashtoon, have developed biocultural protocols. These have increased the visibility of livestock keepers as guardians of biological diversity, empowered the communities by making them aware of their rights, contributed to the documentation of breeds and traditional knowledge systems, inspired local communities to pursue conservation activities, and also contributed to a feeling of global solidarity between livestock keepers. One unsatisfactory aspect is the gender bias in the existing protocols which have been established by men, despite the acknowledged role of women in the management of livestock.

There are also some criticisms and problems with the establishment of protocols. Among these is the possible facilitation of biopiracy, as well as implicit acceptance of the prevalent Intellectual Property Rights system. There are also problems with the term “community”, which is criticized by many indigenous leaders. The process of establishing a biocultural community protocol is time-consuming and should be endogenous; abuse by external actors must be avoided. There is a need for them to be backed by strong data on traditional livestock breeding practices and scientific complementarity. It is concluded that biocultural community protocols are an extremely valuable tool that has met with huge interest among livestock keepers and has enormous potential for their empowerment. They should be promoted widely through capacity-building, funding and dissemination of the results. A number of recommendations are made to ensure maximum impact and success of this promising new tool.

# Introduction

*“We recognize the enormous contribution that the local and indigenous communities and farmers, pastoralists and animal breeders of all regions of the world have made, and will continue to make for the sustainable use, development and conservation of animal genetic resources for food and agriculture.”*

Interlaken Declaration on Animal Genetic Resources, Article 12 (FAO, 2007)

LIVESTOCK KEEPERS ARE RECOGNIZED as the creators of breeds and the stewards of domestic animal diversity in the Interlaken Declaration and the Global Plan of Action for Animal Genetic Resources (FAO, 2007). Livestock keepers who raise their animals on local resources are also beginning to receive acknowledgment for their essential contribution to the conservation of wild biodiversity, including flora and fauna, as well as ecosystems and landscapes. To ensure the long-term sustainability of their production systems and their natural environment, livestock-dependent communities and societies have often developed highly sophisticated traditional knowledge systems. It is therefore fitting that they are termed “guardians of biodiversity” (FAO, 2009a).

This recognition of indigenous and local livestock keepers as central to upholding biological diversity *in toto* is a very recent development that arose out of the debate about how best to conserve domestic animal diversity during the run-up to the first International Technical Conference on Animal Genetic Resources for Food and Agriculture that took place in Interlaken, Switzerland, in 2007. It is also due to the efforts of livestock keepers themselves who have advocated for “Livestock Keepers’ Rights”, a bundle of entitlements that would enable them to continue acting as stewards of animal genetic resources and the environment.

But this appreciation of livestock keepers as upholders of biodiversity has not yet spread among development professionals and bureaucrats regulating the livestock sector, except maybe within the community of professionals that was engaged in the “Interlaken Process”. Small-scale livestock keepers continue to be looked upon as a problem rather than a solution: they are generally depicted as backward and as unwilling to adopt new technologies. Their breeds are often considered to be in need of upgrading with exotic germplasm to increase their performance. Pastoralists continue to be regarded as the culprits of overgrazing and destroyers of wildlife. Furthermore, while the unique characteristics of indigenous livestock breeds are beginning to be appreciated more widely, this usually does not extend to recognition of livestock keepers in developing these unique characteristics.

Partly because of this disregard by policymakers, many livestock keepers face enormous problems of access to resources – they are squeezed out of their ancestral habitats due to competition for their land by general population pressure, promotion of crop cultivation, establishment of wildlife reserves, “land-grabbing”, and so on. The arrival of industrial animal production systems makes it even more difficult for them to remain competitive (FAO, 2009a).

Yet, the interest in local breeds is increasing, due to climate change, questions of global food security as well as their promise for specialty products (LPP et al., 2010).

Livestock keepers that manage their animals as part of the local ecosystem also fall into the domain of the UN Convention on Biological Diversity. They represent indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity that are described in Article 8j of the Convention. Therefore they are entitled to respect and support for their lifestyles by signatories to the Convention. However, so far livestock keepers have not invoked their rights under this legal provision and remained invisible to the bodies and working groups that direct, supervise and monitor the implementation of the UN Convention on Biological Diversity, such as the Ad-Hoc Working Group on Article 8j and the Working Group on Access and Benefit Sharing.

“Biocultural community protocols” are an emerging approach that can help to rectify this unsatisfactory situation. There is the high likelihood that they will become a part of the Nagoya Protocol on Access and Benefit Sharing that is expected to be adopted during the Conference of the Parties 10 of the UN Convention on Biological Diversity in October, 2010 in Nagoya, Japan.

The purpose of this publication is to contextualize biocultural protocols in the debate about the implementation of the Global Plan of Action for Animal Genetic Resources and the United Nations Convention on Biological Diversity, to analyse the existing, still limited experiences with the development of biocultural community protocols, and to discuss the strengths, weaknesses, opportunities and threats of this new tool, as well as recommendations how to take it forward.

# What are biocultural community protocols?

**B**IOCULTURAL COMMUNITY PROTOCOLS are statements by communities about the genetic resources they are stewarding, about their traditional knowledge used to manage these resources, and their role in biodiversity conservation. They are the result of a facilitated process in which communities learn about their rights over these resources under existing national and international legal frameworks and reflect about the importance of traditional knowledge for their livelihoods and their aspirations for the future of this knowledge.

They have been described as “tools that facilitate culturally rooted, participatory decision-making processes within communities with the aim of asserting rights over their communally managed lands and traditional knowledge” (Natural Justice, 2010b).

The significance of biocultural community protocols lies both in the **process** of establishing the protocol and in the **product**, a document that puts on record the contribution of a community to biodiversity conservation. Biocultural community protocols have important meaning with respect to two international frameworks: the UN Convention on Biological Diversity (which is a legally binding instrument) and the Global Plan of Action for Animal Genetic Resources (which is an international agreement that is implemented under the guidance of the FAO and the Commission on Genetic Resources for Food and Agriculture).

But one of their greatest benefits may actually be the discussions generated during the process, both within the communities, as well as among outside stakeholders. Equally significant, they change the equation between livestock keepers and development professionals or scientists by establishing the former as active holders of traditional knowledge, resources and rights, rather than as passive recipients of top-down-driven development interventions.

## What is the difference between biocultural protocols and community protocols?

Basically, these are two different names for the same concept. The term **community protocol** is easier to understand for communities and is also used in the draft text for the International Regime on Access and Benefit Sharing. In this publication, the two terms will be used interchangeably.

# Regulatory and legal contexts of biocultural community protocols

## The UN Convention on Biological Diversity

The concept of community protocols has arisen out of the UN Convention on Biological Diversity which entered into force on 29 December 1993 and has the following three objectives (UN, 1993):

1. The conservation of biological diversity
2. The sustainable use of the components of biological diversity
3. The fair and equitable sharing of the benefits arising out of the utilization of genetic resources.

In Article 15, the UN Convention on Biological Diversity recognizes the sovereignty of States over their natural and genetic resources and commits them to facilitate access to genetic resources to other parties for all environmentally sound uses. This access is to be granted on mutually agreed terms and must be subject to prior informed consent. Furthermore, efforts should be made to conduct cooperative research and to share the results of research, development and the benefits from the utilization of genetic resources in a fair and equitable way.

In Article 10 on the Sustainable Use of Components of Biological Diversity, States commit to “*protect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements*”, as well as to “*support local populations to develop and implement remedial action in degraded areas where biological diversity has been reduced*”.

The relationship between governments and local and indigenous communities is specified in Article 8j:

*“Each contracting Party shall, as far as possible and as appropriate: Subject to national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the*

*approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge innovations and practices.”*

While Article 8j has been termed as a “great bargain for indigenous communities”, the concept of “equitable sharing of the benefits” has proven to be a very problematic and contentious issue. It is predicated on the position that biological diversity is under the sovereignty of nation States, and that these have the responsibility of facilitating access to genetic resources for other parties. This perspective is not shared by indigenous people representatives who call attention to the fact that they are the ones who have been stewarding biological diversity, often in the face of considerable odds and in conflict with governments.

They also point out that international negotiations have placed much emphasis on facilitating access to traditional knowledge and genetic resources, but that there are no satisfactory mechanisms or approaches for benefit-sharing with communities that are holders of traditional knowledge or own genetic resources. The most frequently cited example is that of the San Peoples, whose traditional knowledge formed the basis for a drug that generated billions of profits for a number of pharmaceutical companies, but had hardly any positive impact on the San (see box below).

It was in realization of these shortcomings that the South African NGO, Natural Justice, came up with the concept of biocultural community protocols. The aim was to ensure that communities are enabled and empowered to meaningfully negotiate with outsiders who have an interest in their genetic resources or knowledge. Biocultural community protocols are meant to be a tool for empowering a community to reflect on its biocultural knowledge,

### **The San peoples and the *Hoodia* cactus**

The San hunter gatherers of the Kalahari Desert in southern Africa are estimated to number about 100,000 people. Traditionally they used the stem of the *Hoodia* cactus for controlling hunger on their hunting expeditions. Based on this traditional knowledge of the San peoples, a UK company (Phytopharm) developed an anti-obesity drug, after obtaining the rights for this from South Africa’s Council for Scientific and Industrial Research (CSIR). Subsequently the company sold the rights to licence the drug to the pharmaceutical giant Pfizer. When this deal was widely criticized, a one-time benefit-sharing agreement was offered to the San which amounted to less than 0.003% of net sales which they accepted, although it prohibited them from using their knowledge in any other application. While the San were thus “compensated” for their traditional knowledge, they had no say in providing access to the genetic resource itself which was provided by the CSIR.

([www.cbd.int/doc/meetings/abs/abswg-06/other/abswg-06-cs-07-en.pdf](http://www.cbd.int/doc/meetings/abs/abswg-06/other/abswg-06-cs-07-en.pdf))

resources, priorities and with the aim of enabling communities to enter into beneficial benefit-sharing agreements with outside stakeholders.

“The process of developing a biocultural community protocol involves reflection about the inter-connectedness of various aspects of indigenous and local communities’ ways of life (such as between culture, customary laws, practices relating to natural resources management and traditional knowledge) and may involve resource mapping, evaluating governance systems and reviewing community development plans. It also involves legal empowerment” (Natural Justice, 2010a).

Although biocultural community protocols are a newly developed approach, indigenous peoples and local communities have always had customary laws that establish clear rules for how to manage and share their resources and knowledge. Biocultural community protocols are an innovation only to the extent that they help communities articulate these rules and values in the context of laws that are intended to support them. The concomitant legal empowerment and focus on endogenous development helps communities advocate for their formal recognition by national and international law and to secure their continued management of natural resources in ways commensurate with their cultures and ways of life.

The first efforts to establish a biocultural community protocol were made in mid 2009 by the traditional healers from Bushbuckridge in the Kruger to Canyons UNESCO Biosphere Region in South Africa. However, the first complete biocultural community protocol was developed by the Raika pastoralists of Rajasthan, which was then followed by the Gunis (traditional healers) of the Mewar region in southern Rajasthan and the Samburu pastoralists of northern Kenya.

The protocols cover the following general issues (Natural Justice, 2009):

- A self-definition of the group and its leadership and decision-making processes
- How the group promotes *in-situ* conservation of either indigenous plants or indigenous breeds of livestock and/or wildlife, with details of these resource
- The links between their customary laws and biocultural ways of life
- Their spiritual understanding of nature
- How knowledge and resources are shared
- Definition of free, prior and informed consent to access their land and traditional knowledge
- Local challenges
- Rights according to national and international law

### **The Nagoya Protocol on Access and Benefit Sharing**

Since the World Summit for Sustainable Development that was held in Johannesburg in 2002, there has been momentum to establish rules for the implementation of access and benefit-sharing. An International Regime on Access and Benefit Sharing was envisioned that would regulate all access to genetic resources and traditional knowledge and require the sharing of any benefits arising from the utilization of genetic resources and traditional knowledge with the States or communities that have rights over them. By 2008, the Conference of the Parties extended the working group's mandate to negotiate a specific text for the operational side of the international regime. A draft text has been developed and is currently being revised to be submitted for adoption to the next meeting of the Conference of the Parties in October 2010. This legal framework is commonly known as the Nagoya Protocol on Access and Benefit Sharing.

- Links between community demands and existing international regimes and frameworks
- A call to various stakeholders for respect of their customary laws, their community.

At a Panafrican Preparatory Meeting of Indigenous and Local Communities held in Nairobi, in September 2009, the more than 60 participants passed a formal resolution advocating biocultural community protocols as a way for African governments to recognize community rights under the impending protocol. They concluded that States should be required to ensure that access to community owned genetic resources and traditional knowledge would be obtained according to the specifications laid down in biocultural community protocols. They also recommended that the regime or protocol require States to ensure that the development, management and control of biocultural community protocols is community-led and that a financial mechanism for the promotion of them is set up. At a meeting held in Khaba, Rajasthan, the LIFE Network (a group of NGOs promoting local livestock breeds) also affirmed biocultural community protocols as the way forward to secure Livestock Keepers' Rights in India (Köhler-Rollefson, 2010b).

### **The Global Plan of Action for Animal Genetic Resources**

The Global Plan of Action for Animal Genetic Resources is a framework for the sustainable use, development and conservation of the world's livestock genetic resources (FAO, 2007). It is the outcome of a country-driven process of discussion on how best to conserve farm animal genetic resources and was adopted by 109 countries at the First International Technical Conference on Animal Genetic Resources for Food and Agriculture held in Interlaken, Switzerland, in September 2007. The country delegations also adopted the Interlaken Declaration on Animal Genetic Resources, by which they confirmed their common and individual responsibilities for the conservation, sustainable use and development of animal

## The Interlaken Declaration

### Paragraph 12:

We recognize the enormous contribution that the local and indigenous communities and farmers, pastoralists and animal breeders of all regions of the world have made, and will continue to make for the sustainable use, development and conservation of animal genetic resources for food and agriculture. We further recognize the historic and relevant contribution of all persons engaged in animal husbandry, who have moulded animal genetic resources to meet societal needs. It is their ownership and management of the genetic resources of their livestock that has enabled them to make important contributions in the past. It is this ownership and management that should be ensured for future societal benefits. We affirm that they should participate in the fair and equitable sharing of benefits arising from the utilization of animal genetic resources for food and agriculture. We affirm the desirability, as appropriate, subject to national legislation, of respecting, preserving and maintaining traditional knowledge relevant to animal breeding and production as a contribution to sustainable livelihoods, and the need for the participation of all stakeholders in making decisions, at the national level, on matters related to the sustainable use, development and conservation of animal genetic resources.

(FAO, 2007)

genetic resources for food and agriculture. The Global Plan of Action for Animal Genetic Resources was subsequently endorsed by all FAO members in the 34th FAO Conference. The Plan contains 23 strategic priorities for action to promote the wise management of these vital resources.

The development of biocultural community protocols contributes to several of the Strategic Priorities of the Global Plan of Action for Animal Genetic Resources (see also Appendix, page 31).

**Strategic Priority 2** supports the development of international technical standards and protocols for characterization, inventory and monitoring of trends and associated risks, including “protocols for participatory monitoring of trends and associated risks, and characterization of local breeds managed by indigenous and local communities and livestock keepers”.

**Strategic Priority 5** promotes agro-ecosystems approaches to the management of animal genetic resources by documenting agro-ecosystem management.

**Strategic Priority 6** supports “indigenous and local production systems and associated knowledge systems of importance to the maintenance and sustainable use of animal genetic resources”.

**Strategic Priority 8** supports establishment and strengthening of *in-situ* conservation programmes, including support to community-based conservation organizations.

**Strategic Priority 14** seeks to strengthen national human capacity for characterization, inventory and monitoring of trends and associated risks, for sustainable use and development, and for conservation, including establishment and strengthening of community-based organizations, networks and initiatives for sustainable use, breeding and conservation.

**Strategic Priority 20** promotes development and reviewing of national policies and legal frameworks for animal genetic resources, including their effects on the contribution and needs of local communities keeping livestock.

In 2009, FAO emphasized that the development of national strategies and action plans ensure full and effective participation of government and other key stakeholders including local and indigenous communities (FAO, 2009b).

## The UN Declaration on the Rights of Indigenous Peoples

The UN Declaration on the Rights of Indigenous Peoples<sup>1</sup> was adopted by the General Assembly in September 2007. It states in its Article 31.1 that indigenous peoples have the right to maintain, control, protect and develop their cultural heritage, traditional knowledge and traditional cultural expressions, as well as the manifestations of their sciences, technologies and cultures, including human and genetic resources, seeds, medicines, knowledge of the properties of fauna and flora, oral traditions, literatures, designs, sports and traditional games and visual and performing arts. They also have the right to maintain, control, protect and develop their intellectual property over such cultural heritage, traditional knowledge, and traditional cultural expressions.

## The Voluntary Right to Food Guidelines

The Voluntary Guidelines to Support the Progressive Realization of the Right to Adequate Food in the Context of National Food Security<sup>2</sup> were adopted unanimously by the FAO Council in November 2004. Guideline 8.1 on Access to Resources and Assets specifies that: “States should facilitate sustainable, non-discriminatory and secure access and utilization of resources consistent with their national law and with international law and protect the assets that are important for people’s livelihoods. States should respect and protect the rights of individuals with respect to resources such as land, water, forests, fisheries and livestock without any discrimination... Special attention may be given to groups such as pastoralists and indigenous people and their relation to natural resources.” (FAO, 2008).

1 [www.un.org/esa/socdev/unpfii/en/declaration.html](http://www.un.org/esa/socdev/unpfii/en/declaration.html)

2 [www.fao.org/righttofood/publi\\_01\\_en.htm](http://www.fao.org/righttofood/publi_01_en.htm)

# Experiences with biocultural community protocols by livestock keepers

**B**Y EARLY 2010, four livestock-keeping communities had established community protocols. These include the Raika of Rajasthan (India), the Samburu of northern Kenya, the Lingayat of Tamil Nadu (India) and Pashtoon livestock keepers of Baluchistan (Pakistan). They differ somewhat in scope and issues covered, because they were developed in a participatory manner.

## Raika Biocultural Protocol

The Raika are the largest pastoral community of western Rajasthan. They have a close relationship with the camel, but have also developed a spectrum of other livestock breeds, including cattle, sheep and goats. As long as common property resources were amply available, the Raika felt strong and well-endowed. Historically, they also had a close relationship with the ruling class of Rajputs, for whom they took care of camel breeding herds and enjoyed grazing privileges in forests. But over the last 60 years, they have suffered from a host of developments that have eroded common property resources and restricted their access to the remaining areas, including intensification of crop cultivation, establishment of wildlife sanctuaries, population pressure, roads, enclosures of land, and many others.



*Establishing the Raika Biocultural Community Protocol (photo by Ilse Köhler-Rollefson)*

The Raika Biocultural Protocol, being the first of its kind, was introduced to African indigenous communities during a meeting held in Nairobi, in September 2009. In their protocol, the Raika describe a number of breeds that they have been stewarding. These include the camel, Nari cattle, Boti sheep, as well as Sirohi and Marwari goats. The protocol was also presented to the director of India's National Biodiversity Authority at a meeting in Delhi and then shared with the international community at a side-event during the Meeting of the Ad-hoc Working Group on Article 8j of the UN Convention on Biological Diversity held in Montreal, in November 2009. It has inspired other communities and support NGOs to establish biocultural community protocols (Raika Samaj Panchayat, 2009).

## Samburu Community Protocol

The Samburu are a group of Maa-speaking pastoralists in northern Kenya. They are closely related to the Maasai and they number an estimated 800,000 households, being located in the districts of Samburu, Laikipia, Isiolo, Marsabit and Baringo. They are composed of nine clans that are divided into two main subdivisions, the White Cow and Black Cow. Eight of the clans keep livestock, the remaining one consists of hunters and gatherers. They moved to the present area following the 1911 Treaty between Maasai leader Lenana and the British. The Samburu keep the so-called small East African Zebu cattle, Red Maasai sheep and East African goats.

The Red Maasai sheep is a fat-tailed hair sheep and has a unique genetic capability to cope with internal parasites, especially *Haemonchus contortus*. This has attracted the attention of scientists as far away as Australia who are keen to understand the genetic basis of this trait which has obvious commercial potential. Despite this interest, the survival of the Red



*After preparing their biocultural protocol, the Samburu decided to revive the drought-resistant Red Maasai sheep (photo by Evelyn Mathias)*

Maasai is threatened, because of strong promotion of cross-breeding with Dorper sheep and market demand for large bodied animals. The community itself seems to have lost confidence in its indigenous breed, although it is significantly more drought-resistant than the Dorper and also required for a number of life-cycle rituals.

The Samburu Community Protocol was launched on 28 May 2010, in Maralal, in the presence of officials from the Kenyan Livestock Production Service. The Samburu were happy to see their protocol published and expressed eagerness to initiate conservation activities.

## Lingayat Biocultural Protocol

This protocol was established by a sub-group of the Lingayat, a large community in southern India, which lives in the Bargur Forest Range in the Western Ghats in Erode District of Tamil Nadu. They number an estimated 10,000 people and raise a unique cattle breed named Bargur or Barghur, besides managing the local forests. They also have detailed knowledge about ethnoveterinary practices. Their cattle-keeping practices are imbued with ritual meaning. For instance, they believe in giving one day rest to the animals per week and do not milk the cows on Monday, nor use the bullocks for ploughing on that day. In each herd, a couple of animals are devoted to God Matheswaraswmi and are maintained until they die a natural death. The Lingayat report a dramatic reduction of the Bargur cattle population over the last 10 years, so that now it numbers only about 2,500 head. They feel threatened by the expansion of the elephant population which destroys their crops. Other challenges are the spread of poisonous *Lantana* plant as well as closure of the forests by the Forest Department. Their biocultural community protocol was established in September 2009 (Samburu Local Livestock Keepers. 2010).



*Bargur cattle breeder showing his calves (photo courtesy of Society for Environment and Voluntary Action)*

In spring 2010, the local forest department denied the Bargur cattle breeders the “penning permits” which have provided them with the permission to pen their herds in the forest during certain parts of the year. This scenario represents a grave threat to the livelihoods of the Lingayat and the survival of the Bargur cattle breed. The community is using the Biocultural Protocol in its efforts to revert the decision (Lingayat, 2009).

## Pashtoon Biocultural Community Protocol

The Pashtoon are livestock breeders living in the northeastern part of Baluchistan Province of Pakistan. In their community protocol, they mention 6 sheep breeds, 2 breeds of goats and donkeys, as well as one breed each of cattle and camels. Each breed has its specific characteristics with respect to drought resistance, prolificacy, quality of products and marketability.

Livestock is kept in semi-nomadic systems, and communities have specific traditional grazing areas composed of mountainous and plain lands. During the monsoon rains, the herds are moved into the highlands, where they graze the mountain pastures. In winter they are moved down to the piedmont area. Access to resources is governed by customary laws. If conflicts arise, tribal elders (*jirga*) settle the issue. However, camel grazing is never restricted – camels can graze anywhere throughout the year.

The protocol provides interesting insights into the traditional rules by which access to resources was regulated. For instance, pastoralists from Afghanistan travelling through the area on a seasonal basis have the right of passage and can spend three days in one place, but are not allowed to establish permanent dwellings. There are also traditional community conserved areas known as *pargorr* (Pashtoon, 2010).

*Participants in the meeting to develop the Pashtoon Biocultural Community protocol (photo courtesy of Society of Animal, Veterinary and Environmental Scientists)*



# Observations

## Awareness

Through the process of establishing the protocol, the livestock keepers become aware of the value of their traditional breeds and resources and of their knowledge in managing these. They start to reflect on their current status compared to their earlier situation and about their vision for the future. For instance, among the Samburu in Kenya, the process drove home the point that the traditional Red Maasai breed could buffer people from drought and thereby provided livelihood security, while the Dorper sheep promoted by the government was only useful in good years.

## Mobilization

The process of establishing protocols mobilizes livestock keepers to take action for saving their heritage.

- While establishing their biocultural community protocol, the Pashtoons decided to form an Indigenous Livestock Breeders Association with the objective of organizing the livestock keepers, advocating for Livestock Keepers' Rights, educating livestock keepers to cope with global warming and desertification, playing an active role in the global movement for Livestock Keepers' Rights, and raising awareness about the importance of livestock and their breeders for future food security.
- The Raika committed themselves to continuing their traditional practices for managing the ecosystem as well as their livestock breeds. They were encouraged by the process to continue herding and to advocate for their rights in various fora.
- As an outcome of the process, the Samburu decided to revive the Red Maasai sheep and try to avoid cross-breeding in the future.
- The Lingayat committed themselves to continuing various measures to maintain the integrity of their ecosystem, including protecting the forest against fires, sustaining the predator population by offering some of their livestock as prey, disallowing granite

quarries, combating logging and poaching, and eliminating *Lantana*, a toxic, invasive plant species. With respect to livestock, they undertook to continue the customary marning of the forest as well as rotational grazing, to keep their traditional Bargur cattle breed and conserve their ethnoveterinary knowledge.

## Visibility

Biocultural community protocols change the outside perception of breeds by putting the people and communities that have nursed them centre-stage. In essence, they transform “genetic resources” that seemingly exist in a social void – and belong to nobody particular – into the heritage or property of specific communities and flag them as the products of traditional knowledge of these communities. They firmly establish pastoralists and other traditional livestock keepers as *indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity* that are entitled to certain rights under the Convention on Biological Diversity. Protocols provide insight into the problems and constraints facing the breed and identify the people who are in the best position to tackle them. Biocultural community protocols make visible the ways of life, practices and situation of livestock keepers and thereby provide an entry-point for the *in-situ* and community-based conservation of breeds.



*Pashtoon nomads on long-distance migration in Pakistan (photo by Abdul Raziq Kakar)*

## Empowerment

The large majority of livestock-keeping communities are not aware of the Convention on Biological Diversity and even less of the Global Plan of Action for Animal Genetic Resources and any relevant national laws. By going through the process of establishing the protocol, they suddenly become aware of supporting frameworks and processes – which changes their self perception from being **victims** of developments that they cannot understand into **rights holders**.

A printed protocol represents a potent tool for asserting rights. According to Raika leaders who were summoned to Delhi by the Central Empowered Committee for a hearing about their customary grazing rights in the Kumbalgarh Sanctuary, having the printed document that referenced all relevant laws and legal frameworks provided them with self-confidence and put them into a stronger bargaining position with the lawyers. For the Bargur cattle breeders, the biocultural community protocol may prove an important tool for regaining their penning rights in the forest.



*Pashtoon girl herding sheep (photo by Abdul Raziq Kakar)*

## Documentation

Community protocols provide fascinating glimpses into the world of livestock keepers according to their own perspectives and concepts. The protocols that have been completed have brought to light significant pieces of previously unrecorded information in some cases.

- The Pashtoon livestock keepers describe their customary laws regulating access to grazing lands and water (*pargorr*), their migration routes and drought-coping mechanisms, as well as alarm over the best genetic material systematically purchased by Arab livestock traders.
- The Samburu provide details about the use of animals in life-cycle rituals:
  - Bulls are slaughtered to decide on the time for mass circumcision of boys.
  - Boys are circumcised while wearing and sitting on Red Maasai sheep skins.
  - As part of wedding ceremonies, the man must find a pure Red Maasai sheep (signified by its red color, long ears and clear eyes) and present it to his future mother-in-law who is then referred to as “*Paker*”, literally meaning “the one who has been given sheep.” Another sheep is slaughtered for the wedding.
  - The bride is given a calabash full of milk and a gourd that is filled with the fat from a signet bull slaughtered to seal the wedding as the bride will belong completely to the new husband. If the fat from the bull is not enough, then a Red Maasai sheep ram is slaughtered whose tail fat is used to fill the gourd. The bride drinks the milk to assuage her fears about going to her new home and moisturizes her skin with the fat to help her relax.
- The Raika describe the breeds that they have developed, including the Nari cattle, which is a distinct breed that has not yet been recognized officially. This indicates that biocultural community protocols can also be considered as an important tool for identifying “new” breeds that may previously not have been recorded.

## Identification of problems

Biocultural community protocols analyse the situation from the perspective of communities and thereby pinpoint opportunities for possible development interventions.

- The Samburu describe the perceived challenges of climate change and population pressure, straining the resources and community harmony, as well as the relationship with wildlife. They note that the exotic breeds are dying at a much higher rate than the indigenous breeds and bemoan the fact that the children are learning less about traditional knowledge. They attribute this to a number of factors, including the reduc-

tion of access to grazing and the lack of emphasis on pastoral practices by the formal educational system.

- The Raika identify their lack of access to the Kumbalgarh Sanctuary as main challenge to the continuation of their livelihoods. Besides the loss of grazing rights, they also identify lack of marketing opportunities as issues that need to be resolved.
- The Lingayat report the problems they suffer from the increasing elephant population, despite being accustomed to co-exist with wildlife.
- The Pashtoon describe their lack of inclusion into policy-making processes as a major obstacle to biodiversity conservation.

## Intergenerational continuity

The Lingayat Biocultural Protocol records a lack of interest among the younger generation in putting up with the hardships of a life based on animal husbandry, coupled with frustration about a life as unskilled labourers. It states “*We are caught in a no man’s land of being unable to carry on our traditional livestock-keeping and unwilling to suffer the indignities of life as unskilled labourers*”. Similar sentiments echo through the Raika and the Samburu protocols.

## Solidarity

The process of establishing the protocols is generating awareness among livestock keepers about the similarity of their problems worldwide and leading to a feeling of solidarity, as expressed in the Samburu protocol: “*We express solidarity with all livestock keepers across the world. We celebrate our diversity as well as acknowledge the similar ways of life, values, and challenges that we face*”.

## Gender

The existing community protocols have been developed by men, with women hardly having any visible inputs. (The one notable exception to this rule is that it was a woman, Raika leader Dailibai Raika, who presented the Raika protocol first to African indigenous people and then at the meeting of the working group on Article 8j of the UN Convention on Biological Diversity in Montreal.) This gender bias is evident from the photographs documenting the individual processes. The existing biocultural community protocols thus present the male perspective on the issues. Interestingly, two of the protocols (Pashtoon and Samburu) point out that it is usually women who are in charge of veterinary treatment

*Biocultural community protocols for livestock keepers*

of animals. From the two other communities it is also known that women play a major role in the management of livestock. Among the Raika, it is often the women who handle the transactions with traders (because they understand money better), while among the Lingayat that breed Bargur cattle both sexes are equally involved in decision-making regarding the sale of animals.



*Raika leader Dailibai Raika (left) and a representative of the Saami community at a UN Convention on Biological Diversity meeting in Montreal (photo by Ilse Köhler-Rollefson)*

# Biocultural community protocols and Livestock Keepers' Rights

**L**IVESTOCK KEEPERS' RIGHTS are a concept that dates back to the Forum on Food Sovereignty in 2002 (Köhler-Rollefson et al., 2008). The term is an allusion to the "Farmers' Rights" enshrined in the International Treaty on Plant Genetic Resources for Food and Agriculture. (source FAO, 2001) Initially an effort to achieve formal recognition for livestock keepers around the world as creators and custodians of animal genetic resources, the concept has since been fleshed out at a series of consultations with livestock keepers and has come to include a bundle of rights that includes rights to grazing, water, markets, training and capacity building, and participation in research design and policy-making, as well as rights to the genetic resources of their animals (Köhler-Rollefson et al., in press). It was recognized that curbed access to pasture resources, as well as the stigma often attached to traditional lifestyles based on mobile herding was one of the main drivers for the unraveling of pastoralist systems and the breeds on which they depend.



*Young Raika camel herder in Rajasthan, India (photo by Ilse Köhler-Rollefson)*

Since there is currently no formal process for an international agreement in which Livestock Keepers' Rights could be embedded, there is now a move to turn them into "soft law" to which concerned parties could voluntarily agree. For this purpose Guidelines for putting Livestock Keepers' Rights into practice have been developed (Life Network, 2009a).

Furthermore there is a Declaration on Livestock Keepers' Rights, drafted in Kalk Bay, South Africa in late 2008 that sets out three principles and five rights for livestock keepers (Life Network, 2009b. See also box below).

Biocultural protocols represent an approach to invoking Livestock Keepers' Rights locally and in a decentralized manner. They provide livestock keepers with the means to articulate their concerns and views, and to document their breeds and ecosystems as well as their traditional knowledge and institutions. Through the process of establishing the biocultural protocol, they establish their identity as an indigenous or local community and thereby can claim certain rights or entitlements under the provisions of the Convention on Biological Diversity as well as other existing laws and legal frameworks.

## **Declaration on Livestock Keepers' Rights**

### **Principles**

1. Livestock Keepers are creators of breeds and custodians of animal genetic resources for food and agriculture.
2. Livestock Keepers and the sustainable use of traditional breeds are dependent on the conservation of their respective ecosystems.
3. Traditional breeds represent collective property, products of indigenous knowledge and cultural expression of Livestock Keepers.

### **Livestock keepers have the right to:**

1. Make breeding decisions and breed the breeds they maintain.
2. Participate in policy formulation and implementation processes on animal genetic resources for food and agriculture.
3. Appropriate training and capacity building and equal access to relevant services enabling and supporting them to raise livestock and to better process and market their products.
4. Participate in the identification of research needs and research design with respect to their genetic resources, as is mandated by the principle of Prior Informed Consent.
5. Effectively access information on issues related to their local breeds and livestock diversity.

(LIFE Network, 2009b)

# Biocultural community protocols and intellectual property rights on animal genetic resources

**I**NTELLECTUAL PROPERTY RIGHTS on animal genetic resources is a topic that is increasingly discussed at the international level. This can be attributed to three major developments: the increasing volume in trade in animal products; the scientific progress in animal breeding with the advances in genetic engineering; and the erosion of animal genetic resources (Biber-Klemm and Temmermann, 2010).

At present, policymakers and experts are still grappling with these issues and have not come to any firm conclusions. But there appears to be consensus on the following:

- Much of the world's animal genetic resources diversity is held by small-scale, often poor, livestock keepers (FAO, 2009a). The future of this diversity will depend on livestock keepers being both able and motivated to continue raising traditional breeds.
- Traditional breeds will retain their adaptive traits only for as long as they are kept in their original production environment, i.e., conserved *in-situ* (Sponenberg and Bixby, 2007; Van der Werf et al., 2009).
- Wide access to genetic resources and equitable frameworks for benefit sharing are a prerequisite for sustainable use of livestock biodiversity, its further development and continued availability for the generations to come (Hiemstra and Ivankovic, 2010).
- There is a need to provide incentives to livestock keepers who keep local and indigenous breeds (Hiemstra and Ivankovic, 2010; Tvedt et al., 2007).
- Local livestock keepers have no means of protecting their resources while commercial actors guard their innovations through patents and trade secrets (Köhler-Rollefson, 2010a).

Promoting biocultural protocols and endowing them with legal standing represents not only a means of improving community empowerment, locally invoking “Livestock Keepers’ Rights”, but also a logical option and promising strategy for addressing these concerns and for creating a more level playing field for local livestock keepers and to defend their interests in this respect. By establishing local breeds “as prior art”, they should also contribute to protecting them from patenting and biopiracy, in case outsiders are interested in their special features.

# Critiques and problems

A NUMBER OF RESERVATIONS about community protocols and their impacts have been expressed by civil society organizations. They relate both to the concept in general as well as the process of establishing the protocol.

## Biopiracy

There have been several cases in which companies or other outsiders have used traditional knowledge about the medicinal value of plants to develop commercial products without sharing any of the proceeds or benefits with the communities who were the original knowledge holders. There also concerns that the details contained in protocols could actually facilitate biopiracy by alerting outsiders to the presence of valuable genetic resources. According to them, the establishment of biocultural protocols could facilitate and pave the way for pirating genetic traits that would enable adaptation of commercial production systems to climate change. Such interest would not only relate to specific breeds, but even to so-called “non-descript animals”. It has been recommended to genotype indigenous breeds and then to keep the information secret and in a safe place (Suman Sahai, pers. comm., 2009).

By contrast, animal genetic resources experts note that there is currently no commercial interest in locally adapted breeds and regard such a scenario as unlikely (Hoffmann, 2010). Yet, the case of the Red Maasai sheep, that was discouraged locally while at the same time continuing to be the subject of intense interest among scientists and the sheep industry in Australia, is reason for caution.

Certainly, there is the possibility that unique traits of local breeds would become known through the biocultural community protocols, thereby precipitating interest among governments, scientists or commercial operators and leading them to purchase animals of the breed. This would raise the question whether this would be “good” or “bad” for the “community”: it could actually be beneficial by creating income or increasing prices, but it could also be harmful if the community sells out its genetic resources and neglects to keep its female breeding animals.

Some community-based organizations have expressed concerns that establishing protocols would entail implicit acceptance of the Intellectual Property Rights system. However at a meeting of LIFE Network held in Khaba (Rajasthan) on 25 February 2010, participants from India, Uganda, Kenya, Argentina and South Africa unanimously supported community protocols as the way forward and as a means of locally invoking Livestock Keepers' Rights (Köhler-Rollefson, 2010b).

## "Community"

The term "community" is fraught with problems and lacks clear definition. It can be understood in different ways. In the narrow sense, it refers to a group of people who interact with each other according to a common set of rules, e.g., an ethnic group, tribe or village population. But it also often used more loosely to identify grassroots people or beneficiaries, as opposed to NGOs or government or other development actors.

Because of these problems, indigenous activists object to the use of the term "communities," in UN Convention on Biological Diversity texts (Harry and Kanehe, 2005). On a practical note, it has often proven difficult to identify representatives of a "community" who are authorized to negotiate on that community's behalf. Bio-prospectors have taken advantage of this and tried to identify cooperative members or "cooperative" communities that would be willing to enter into contracts to sell their resources and/or knowledge, although many other communities might share the resources and knowledge, but not be willing to enter into a contract (Ribeiro, 2005). This has helped developers to obtain "consent" for projects with negative impacts, including the sale of land and exploitation for natural resources.

At a recent training workshop organized in spring 2010 for representatives of around 32 community-based organizations working with traditional healers from India, Sri Lanka, Tanzania, Kenya and Ghana, the term "community" was defined as follows (Kabir Bavikatte, pers. comm.): "*A community for the purposes of a biocultural community protocol is a group of people who share resources and/or knowledge and could have either shared values, shared ethnicity, a common cause, a shared activity, or be involved in collective decision making*" (see figure on next page).

## Problems of method and process

It takes time for a community to establish a protocol, and the process should not be rushed. It requires professionalism and dedication by the facilitating organization. While the process should ideally be initiated and executed by the communities themselves, in many cases an intermediary NGO will be instrumental in shepherding the process, simply because com-

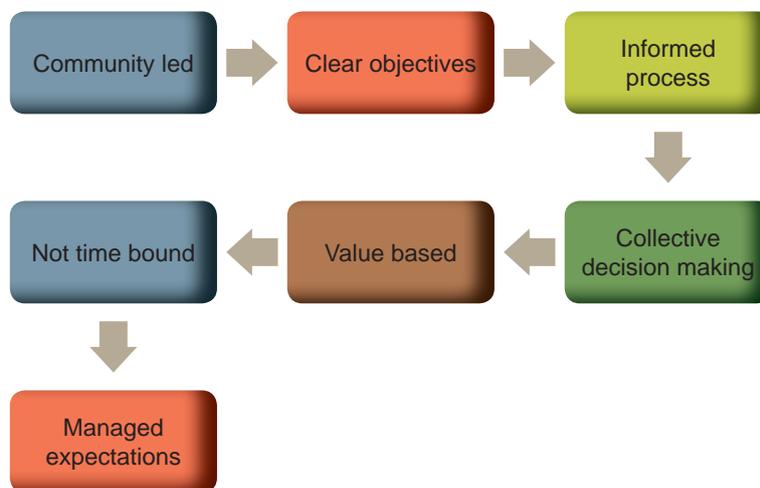


*Defining a “community” (source Natural Justice, 2010a)*

munities themselves are too isolated to know about the concept . Guidance by an NGO or local lawyers will therefore be required. The biases or special interests and backgrounds of the mediators will be reflected in the process as well as the result of the process (the written biocultural community protocol).

These mediators bear a great responsibility and must take care not to put words into peoples’ mouth and contribute to stereotypes. Furthermore it is useful and essential that background research be conducted by the facilitating entity before the process is started. There is need for outside expert inputs with respect to legal matters.

Biocultural community protocols are part of larger community processes, and as such the development of a biocultural community protocol should be entirely endogenous. Some communities may be ready to put information about their management of and interaction with natural resources and traditional knowledge, challenges, plans for the future of their biocultural heritage and legal rights into a document, but others may be years away from that kind of focus. Thus, the development of the protocol should not drive community processes; community process should feed the articulation of a number of things that then form a biocultural community protocol.



*A good biocultural process (source Natural Justice, 2010a)*

It is important that community protocols contain solid, and ideally quantitative, data and are not reduced to political statements. Requests for access to land areas are most powerful when they are backed up by evidence about how well the community has managed land and resources. In this regard, community driven processes of data collection using various forms of mapping, photos, video to portray land uses and oral histories, for example are integral to a biocultural community protocol, and this takes time.

The development of a biocultural community protocol is a community process, with assistance from outside if and when required. The assistance can be in the form of training on various aspects, such as on documentation, legal empowerment and facilitating meetings with government etc. Once developed, the protocol requires strong support from the community and support organizations. biocultural community protocols, to be successful, require a kind of solid, locally rooted, long-term organizational infrastructure and an ongoing social process. Biocultural community protocols can be considered as being both a process and a product!

## Danger of abuse

There is the potential danger that the process is abused by NGOs or other interested stakeholders. They may enter communities and rush them into developing biocultural community protocols without providing time for a proper intra-community consultation process in order to produce a written biocultural community protocol, either for the sake of it or even for ulterior motives.

# Conclusions

**B**IOCULTURAL COMMUNITY PROTOCOLS for livestock keepers are a way of making visible community-based management of animal genetic resources and highlighting the association between breeds and communities. They are a tool for empowering livestock keepers and of upgrading their knowledge and heritage.

The biocultural community protocol concept has emerged from the discussion around access and benefit-sharing in other fields of natural resources. Their rationale is to ensure that communities are aware and prepared when they enter into access and benefit-sharing negotiations and agreements. However, with respect to livestock keepers, the real value of biocultural community protocols would be as a tool for reaffirming Article 8j of the UN Convention on Biological Diversity which commits signatory governments to the Convention to respect, preserve indigenous and local communities and to support *in-situ* conservation. The entitlement for *in-situ* conservation implicitly entails access to land and grazing areas which is of much larger importance and significance for local livestock-keeping communities than possible access and benefit-sharing agreements in which they would provide access to genes, etc. So far, Article 8j has hardly been invoked by livestock-keeping communities and their supporters, so a concerted effort to establish a critical mass of biocultural community protocols by livestock-keeping communities could serve to do so and remind governments and other concerned authorities of their commitments under the UN Convention on Biological Diversity.

Biocultural protocols correspond to a number of the Strategic Priorities for Action in the Global Plan of Action for Animal Genetic Resources, including numbers 2, 5, 6, 8, 14 and 20 (see Appendix, page 31) which specifically mention community involvement in a range of activities aimed at the conservation and sustainable management of animal genetic resources. FAO's guidelines for developing national strategies and action plans also request effective participation by local and indigenous communities (FAO, 2009b).

Besides being of potential legal significance under provisions of the UN Convention on Biological Diversity, biocultural community protocols have an empowering effect on communities: the process makes them aware of their rights and nudges them to reflect on their current situation and their future aspirations. This tool has met with great response and interest among both communities and support organizations.

Biocultural community protocols transform livestock keepers from a generic group into a diverse but tangible assembly of communities with long traditions of livestock keeping, with different breeds in different agro-ecosystems, fulfilling multiple livelihood functions. They help to create responsible and politically aware development partners for outside actors that seek to pursue development interventions. They can be expected to contribute to endogenous livestock development, which represents a socially and ecologically sustainable alternative to the excesses of mainstream livestock development. If backed with institutional development and marketing support, they may thereby have the potential to support rural livelihoods, revitalize rural economies and prevent outmigration to urban areas.

All this said and done, biocultural community protocols are a new tool, and there is still much room for improvement and experimentation. Their misuse has to be prevented and it has to be ensured that it is communities who are driving the process. We need a dialogue between communities and outside actors to further improve the process and the relevance of biocultural community protocols.



*Pashtoon camel nomad in Baluchistan (photo by Abdul Raziq Kakar)*

# Recommendations

**L**IVESTOCK KEEPERS THEMSELVES should take the initiative to develop a critical mass of biocultural community protocols describing their breeds, traditional knowledge and ecosystem management practices.

These endeavours need to be supported by capacity-building, training, and small amounts of funds for publishing the protocols. Much of the capacity-building can take place at the grassroots level – i.e., communities that have already established protocols can provide guidance to others, in the form of South-South exchange or inter-community learning.

Community protocols should be the (mandatory?) foundation and starting point for all outside interventions related to livestock and animal genetic resources. They are a means of including communities in national strategies and action plans, as spelled out in the Global Plan of Action for Animal Genetic Resources.

Donors should support the dissemination of the protocols by funding the establishment of a website and/or an “atlas of livestock cultures” which compiles the individual protocols.

Policymakers at local, national, regional and global levels should provide their formal support to these self-determination efforts of livestock-keeping communities and take Article 8j seriously, as well as the various actions of the Global Plan of Action for Animal Genetic Resources that request equitable involvement of communities.

Policy-makers need to also accept livestock keepers’ organizations as formal stakeholder groups in the implementation of the Global Plan of Action for Animal Genetic Resources and the Convention on Biological Diversity. Their regular participation in the Conference of the Parties of the UN Convention on Biological Diversity and the meetings of the Commission on Genetic Resources for Food and Agriculture must be ensured, and they should also be included as dialogue partners in the emerging debate about the future of livestock production (e.g. FAO, 2010).

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# Extracts from the Global Plan of Action on Animal Genetic Resources

## Strategic Priority 2

*Develop international technical standards and protocols for characterization, inventory, and monitoring of trends and associated risks*

### Rationale

Cross-national intercomparability of data is essential to be able to monitor trends in and risks to animal genetic resources at regional and global levels, in particular transboundary populations, and to set and revise conservation priorities, as well as identify key genetic resources for strategic breeding of such populations. This requires the development and use of standardized methods and protocols for characterization, inventory, and monitoring of trends and associated risks. This will facilitate coordinated national reporting in relevant international forums. There is also a need to collaborate in characterization research, to enhance coordination of existing research, and to improve the distribution of the results of characterization studies. The development of international standards for characterization, inventory and monitoring of animal genetic resources should take into account existing relevant processes.

### Actions

1. Develop agreement on a common set of minimum criteria and indicators for animal genetic diversity, including means for assessing endangerment status, and methods to assess environmental, socio-economic and cultural factors related to animal genetic resources management.
2. Develop protocols for participatory monitoring of trends and associated risks, and characterization of local breeds managed by indigenous and local communities and livestock keepers.

## Strategic Priority 5

*Promote agro-ecosystems approaches to the management of animal genetic resources*

### Rationale

Agro-ecosystems depend on human management practices, knowledge systems, cultural norms, values and beliefs, as well as social relationships and livelihood strategies. In some production systems the management of animal genetic resources, particularly by indigenous and local communities, takes place in close relationship with the management of crops, pastures, forests and other biological resources, and land and water management in productive landscapes. Rapid intensification of production is driven by a number of factors. Inadequate planning of intensive animal production can lead to negative ecological impacts, such as soil and vegetation degradation, water and marine pollution, and the unsustainable use and conversion of rangelands. Management decisions and policies on the sustainable use of animal genetic resources therefore should be based on an understanding of human environments and livelihoods, and efforts to achieve food security and environmental objectives.

### Actions

1. Assess environmental and socio-economic trends that may require a medium and long-term policy revision in animal genetic resources management.
2. Integrate agro-ecosystem approaches in national agricultural and environmental policies and programmes of relevance to animal genetic resources, where appropriate, particularly those directed towards pastoralist and rural smallholder communities, and fragile environments.
3. Establish networks to enhance interaction among the main stakeholders, scientific disciplines and sectors involved.

## Appendix

### Strategic Priority 6

*Support indigenous and local production systems and associated knowledge systems of importance to the maintenance and sustainable use of animal genetic resources*

#### Rationale

Over millennia, animal species and breeds have been domesticated, developed and maintained for human use. These resources have co-evolved with the social, economic and cultural knowledge and management practices. The historic contribution of indigenous and local communities to animal genetic diversity, and the knowledge systems that manage these resources, needs to be recognized, and their continuity supported. Today, the adaptive animal genetic resources management strategies of these communities continue to have economic, social and cultural significance, and to be highly relevant to food security in many rural subsistence societies, particularly, though not exclusively, in dry lands and mountainous regions. Measures to support such systems should take their specific ecological and socio-economic and cultural features into consideration.

#### Actions

1. Assess the value and importance of indigenous and local production systems, and identify trends and drivers of change that may affect the genetic base, and the resilience and sustainability of the production systems.
2. Support indigenous and local livestock systems of importance to animal genetic resources, including through the removal of factors contributing to genetic erosion. Support may include the provision of veterinary and extension services, delivery of microcredit for women in rural areas, appropriate access to natural resources and to the market, resolving land tenure issues, the recognition of cultural practices and values, and adding value to their specialist products.
3. Promote and enable relevant exchange, interaction and dialogue among indigenous and rural communities and scientists and government officials and other stakeholders, in order to integrate traditional knowledge with scientific approaches.
4. Promote the development of niche markets for products derived from indigenous and local species and breeds, and strengthen processes to add value to their primary products.

### Strategic Priority 8

*Support the establishment and strengthening of in-situ conservation programmes*

#### Actions

2. Encourage the development and implementation of national and regional in-situ conservation programmes for breeds and populations that are at risk. This may include support, either directly for breeders of threatened breeds, or measures to support agricultural production systems that manage areas of importance to breeds at risk, the encouragement of breed organizations, community-based conservation organizations, non-governmental organizations and other actors to participate in conservation efforts provided that such support or such measures are consistent with existing international agreements.

### Strategic Priority 14

*Strengthen national human capacity for characterization, inventory, and monitoring of trends and associated risks, for sustainable use and development, and for conservation*

#### Actions

3. Establish or strengthen community-based organizations, networks and initiatives for sustainable use, breeding and conservation.

### Strategic Priority 20

*Review and develop national policies and legal frameworks for animal genetic resources*

#### Actions

1. Periodically review existing national policies and regulatory frameworks, with a view to identifying any possible effects they may have on the use, development and conservation of animal genetic resources, especially with regard to the contribution and needs of local communities keeping livestock.

**BIOCULTURAL COMMUNITY PROTOCOLS** are a new approach with great potential for empowering pastoralists and other traditional livestock-keeping communities. They are both a process and a document in which communities invoke their rights as guardians of biological diversity under Article 8j of the United Nations Convention on Biological Diversity. Claiming rights for in-situ conservation, they also help promote Livestock Keepers' Rights to maintain their breeds and continue their traditional management practices.

Biocultural community protocols put on record traditional knowledge and the biodiversity that communities steward, in a process that the communities themselves drive. In developing a biocultural community protocol, communities become informed about national and international laws that protect their rights. This book provides an overview of the process as well as its legal background and describes the first experiences with implementing this approach by livestock keepers in Asia and Africa.

This book will be useful for those involved in the management of biological diversity in general and animal genetic resources in particular, including communities, livestock keepers' and breeders' organizations, non-government organizations, scientists, lawyers, policy makers and governments.



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