

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



**Ilse Köhler-Rollefson**  
**League for Pastoral Peoples and  
Endogenous Livestock Development (LPP)**



# „Two types of breeds/AnGR“

**High output of one-product, high inputs, artificial environment, calculated diet**



**Multi-functional, several products, cope with challenging environment and variability**



- For adapting to climate change , for a green economy, and for reducing the climate impact of agriculture, humanity will require the multi-functional breeds and their adaptive traits!
- Many of them have been developed by pastoralists, others – especially poultry and pig breeds – are the product of indigenous and smallholder communities



# Pastoralist herds:

Mobile banks of fitness genes –  
physiological adaptations to extreme  
weather and unconventional feed stuffs







Biological diversity: In Rajasthan camels and goats convert 36 different fodder species into milk, meat, manure and fibre





# Making use of waste and fertilizing at the same time



# BUT: More than assemblages of fitness genes!

**Knowledge of herder**



**Knowledge of animals**





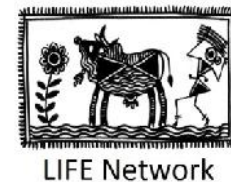
Feeding behaviour is learned, passed on from one animal generation to the next (Kraetli, 2008)  
Animals can not easily be transferred from one ecosystem to the other





# Survival under extreme conditions

- Not just a matter of physiological traits and instinct, but also of **LEARNED BEHAVIOUR!**
- Pastoralist herds are **LIVING HERITAGE** resources that can not be conserved out of context and in gene-banks, but **ONLY** in-situ.



# Implications for Access and Benefit-Sharing

To get the BENEFITS of pastoralist domestic animal diversity and the knowledge that sustains it, these populations need to be managed sustainably in their respective ecological and social contexts. Only then will humanity have ACCESS to them in the future.



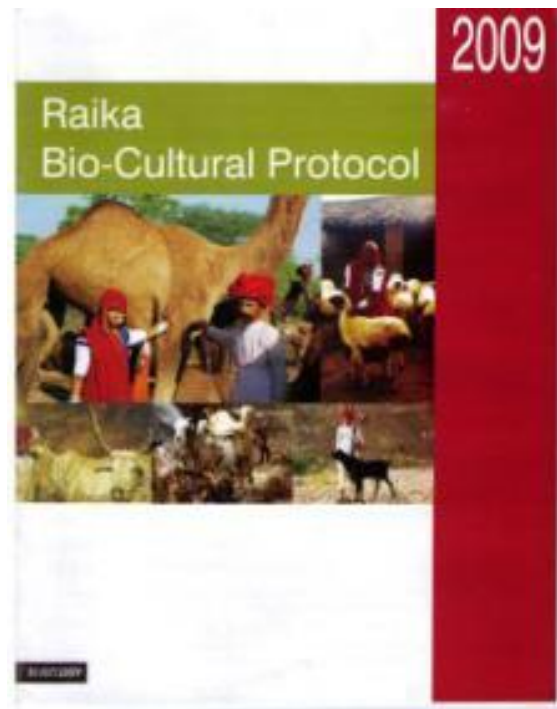


# What is ACCESS with respect to AnGR?

- Access to AnGR is not just about contracts between specific providers and commercial users (MTAs)
- **Access is about ensuring survival of a pool of genes long into the future.**
- Otherwise we will lose opportunities for adapting to climate change, as well as for food production in harsh environments and with minimal inputs!



# Nagoya Protocol requires governments to support Community Protocols



Biocultural Community Protocols document the role of a community in conserving animal genetic resources and eco-systems, contribute to visibility and awareness.

They are both a document and a process.





# This is an opportunity!

for countries to better understand:

- their animal genetic resources,
- the social contexts in which they exist,
- the threats that they are exposed to,
- thereby laying the foundation for their long-term participatory conservation.



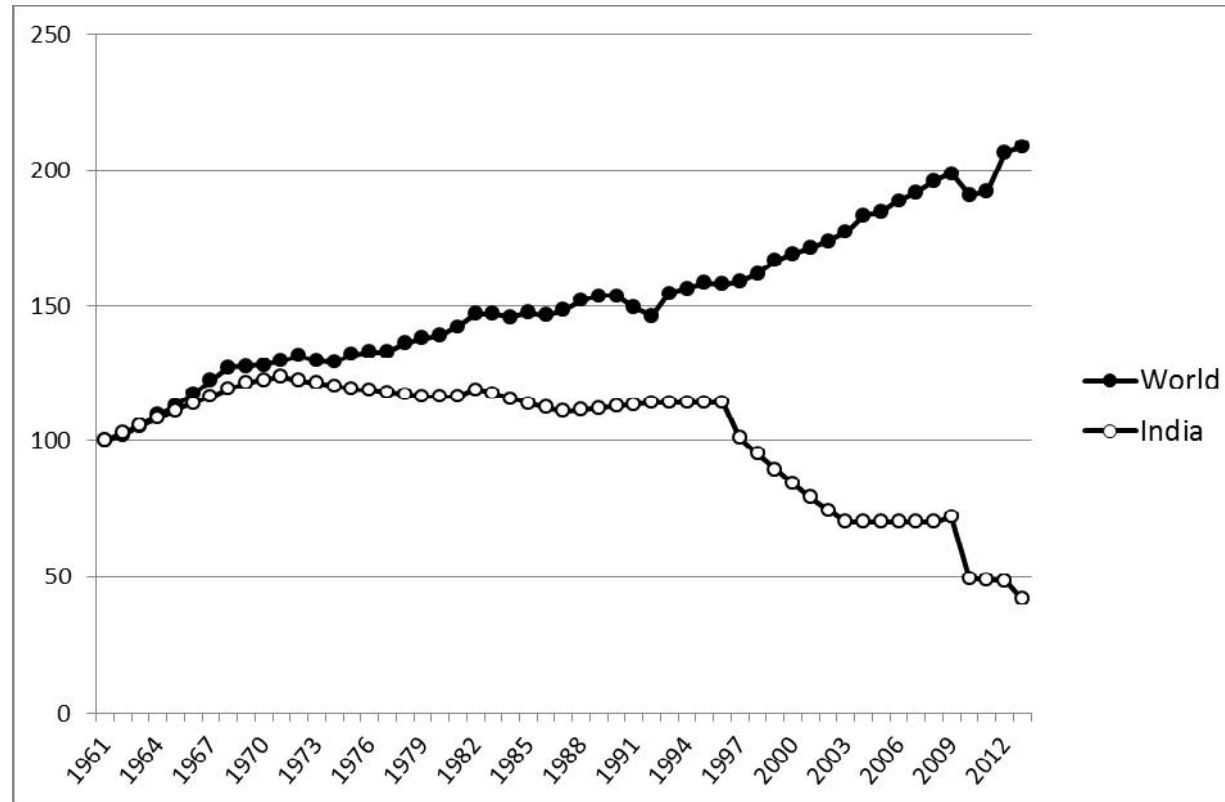
Community	Breeds	Country	Status
Raika	camel, Nari cattle, Boti sheep, Sirohi goat	India	finalized
Banni Maldhari	Banni buffalo	India	finalized
Rebari and Jatt	Kutchi and Kharai camels	India	finalized
Bargur Hill cattle	Bargur Hill Cattle	India	finalized
Attappady goat breeders	Attapatty goat	India	finalized
Pullikulum cattle breeders	Pullikulum cattle	India	finalized
Pashtoon	Various breeds	Pakistan	finalized
Samburu	Red Maasai sheep	Kenya	finalized
Golla	Ganjam goat	India	In prep
Kuruba	Kuruba shepherding system, incl. Deccani breed	India	In prep
Kangayam cattle breeders	Kangayam cattle	India	In prep
Malreddy	Red camel	Pakistan	In prep



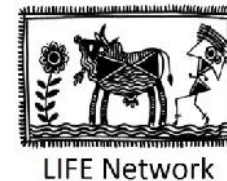
# Example: Brelvi camel from Pakistan



# Camel population development globally and in India



[www.lpps.org](http://www.lpps.org),  
[www.camelsofrajasthan.com](http://www.camelsofrajasthan.com). E-mail  
[ilse@pastoralpeoples.org](mailto:ilse@pastoralpeoples.org), #09660083437



# Why?

- Demand for camels as work animals has reduced – replaced by tractors, trucks and cars.
- It is not allowed to take camels out of Rajasthan – so nobody dares/wants to buy.
- There are no income opportunities from camels. **In order to save their own livelihoods**, camel breeders are forced to do away with their whole herds.





Camels can not be saved without Rajasthan's unique Raika camel culture. They are the guardians of the camel!

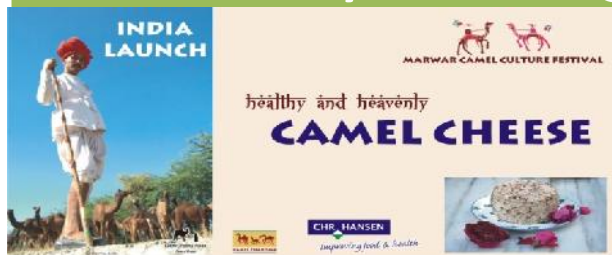


The Raika require economic incentives to continue acting as guardians. If their livelihoods are ensured, then the camel will be saved and young people enter the profession.





We need to capitalize on the potential of the camel to produce a range of eco-friendly, healthy heritage products to generate income for the Raika



[www.lpps.org](http://www.lpps.org),  
[www.camelsofrajasthan.com](http://www.camelsofrajasthan.com). E-mail  
[ilse@pastoralpeoples.org](mailto:ilse@pastoralpeoples.org), #09660083437





# A growing global market for camel milk

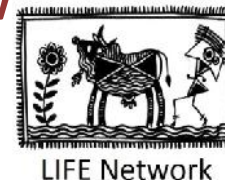
Premium product for health benefits

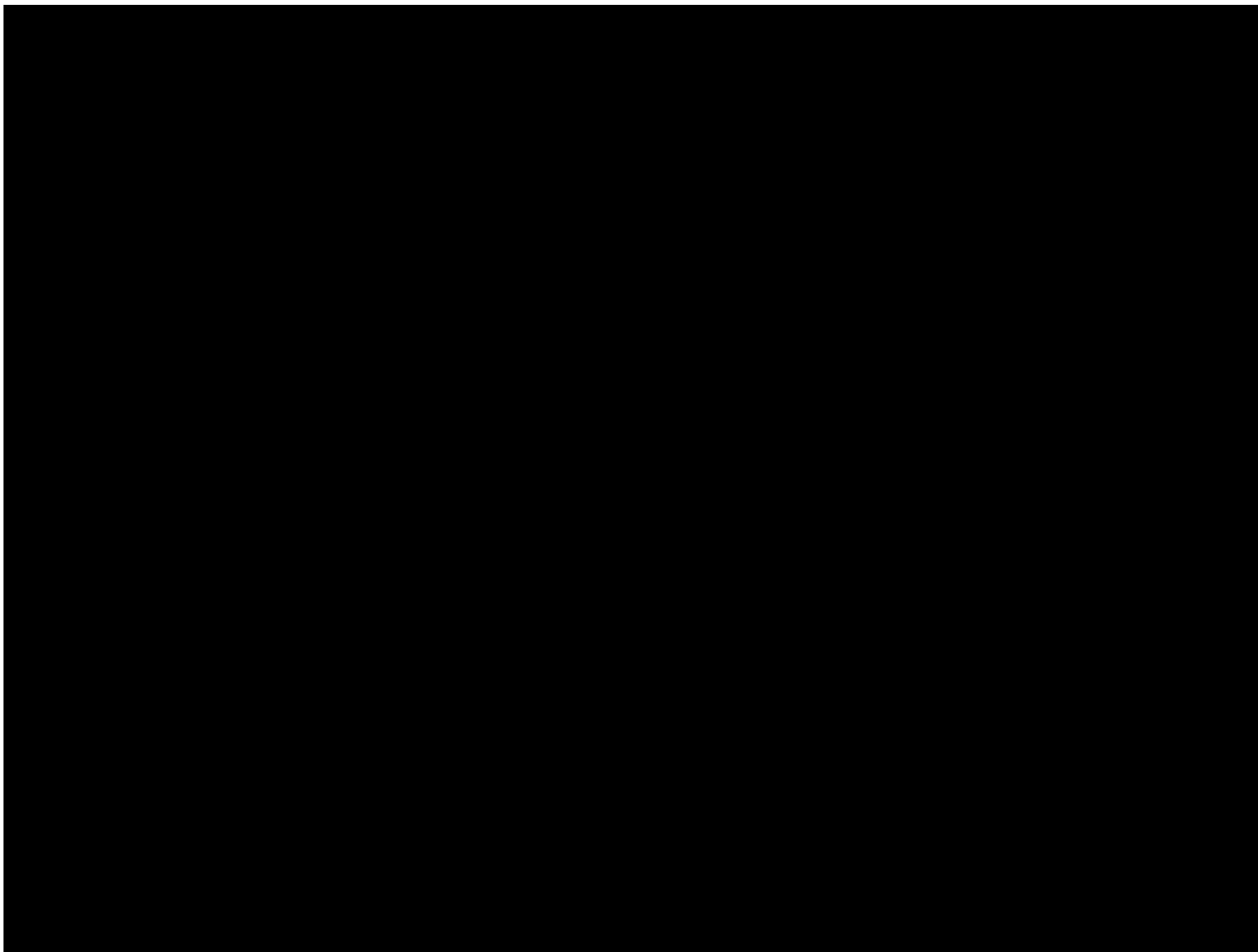
Retail price per litre



**FAO estimates global camel milk market may grow to \$10 billion annually**

[www.lpps.org](http://www.lpps.org),  
[www.camelsofrajasthan.com](http://www.camelsofrajasthan.com). E-mail  
[ilse@pastoralpeoples.org](mailto:ilse@pastoralpeoples.org), #09660083437





# Different approaches to agrobiodiversity conservation:

## PGR: Svalbard



## AnGR: A network of community based „breed repositories“





# Required Benefits for Pastoralists/Livestock keeping comunities

- Grazing Rights
- Value chain development /infrastructure for local processing
- Marketing
- Veterinary care
- Capacity and Organisation Building



# Resulting Benefits for Society at large

- Genetic diversity for adaptation to climate change
- Healthy heritage products
- Provision of ecological services – seed dispersal, organic fertilizer
- Livelihoods, thriving rural areas



If we invest in such comprehensive approaches, beyond Material Transfer Agreements, we will combine:

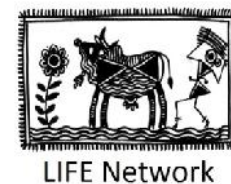
- Conservation of AnGr with **conservation of ecosystems/biodiversity at large**
- Conservation of AnGr with **climate change adaptation**
- Conservation of AnGr with **rural development**

Local AnGr are a crucial pivot for the implementation of SDG 2, and many others...



IF

...we adopt a wider concept of Access and Benefit-Sharing of animal genetic resources that creates benefits for the pastoralists and livestock keepers that have created and steward them!





[www.pastoralpeoples.org](http://www.pastoralpeoples.org), ilse@pastoralpeoples.org