



THE ARK OF LIVESTOCK BIODIVERSITY

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Development (LPP)

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Introduction

LPP is an advocacy and technical support organisation for pastoralism and sustainable livestock development, based in Germany and India
www.pastoralpeoples.org

LIFE-Network for community-based conservation of indigenous livestock breeds, advocating for „Livestock Keepers’ Rights“

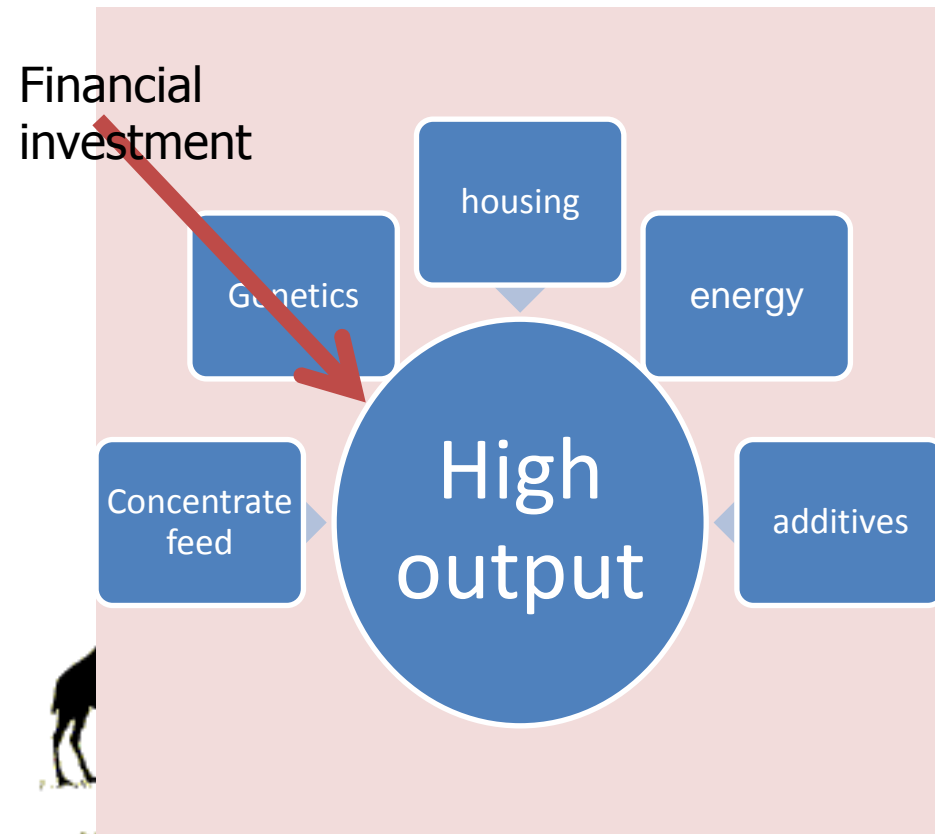


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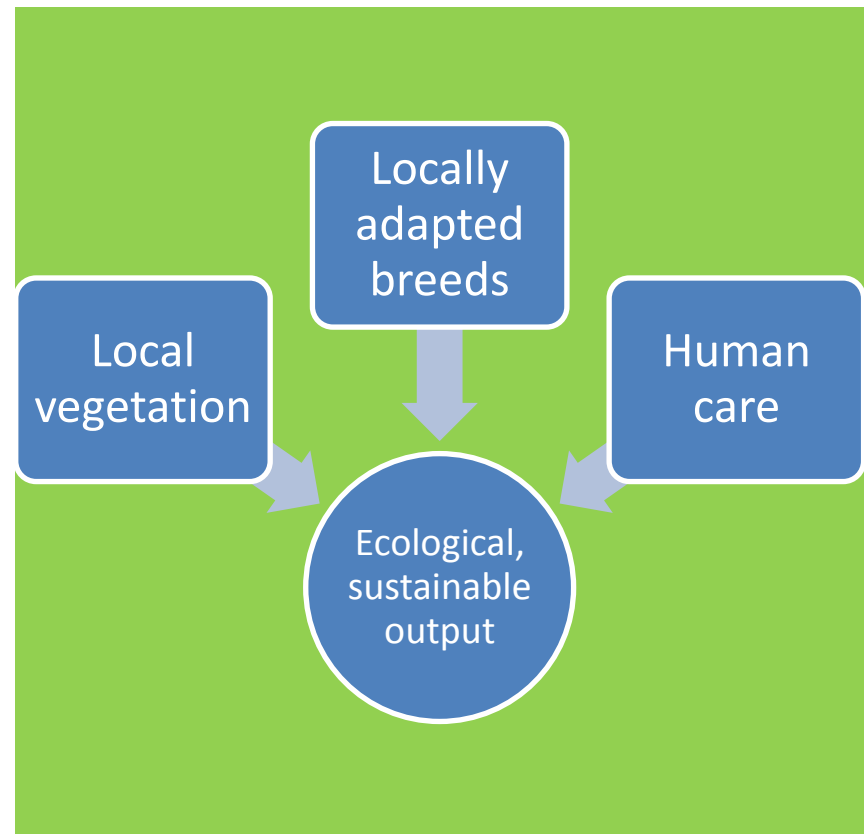


Two models of livestock production (simplified)

High input, specialised



Low input, multi-purpose, decentralised





Threat to livestock biodiversity

- As industrial modes of livestock production are spreading around the world, domestic animal diversity is in rapid decline.
- According to the FAO, one third of all livestock breeds have either perished or are threatened with extinction.

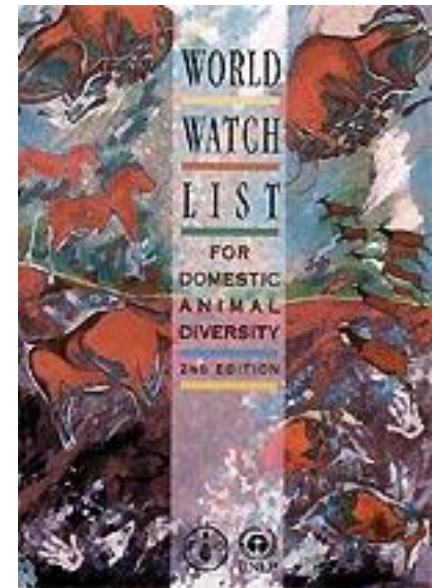


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Domestic Animal Diversity

- Livestock breed diversity is very high in pastoralist areas, according to a study conducted in the 1990s (Hall and Ruan)
- Every pastoralist group has developed its own distinct breed (e.g. Boran cattle, Mashona cattle, Nguni cattle, Gaddi goat, Somali and Red Maasai sheep).
- These breeds are repositories of very important genes (for disease resistance, hardiness, fertility, etc.)



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The livestock of pastoralists

- walk for miles in harsh terrain to seek out scattered, spiky, fibrous plants that survive in areas where crops could never be grown.
- take droughts and hunger in their stride and act as insurance
- are social animals in the true sense – living in a herd, responding to the voice of their keepers, and defending their young against predators.
- are part and parcel of their respective eco-systems and provide a host of environmental services



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Means of utilizing remote areas



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Ability to roam far from water resources prevents overgrazing





Seed scarification





Seed taxi



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Questions

- How can pastoralists be supported and incentivized to continue their role as stewards of much of the world's remaining livestock biodiversity?
- How can governments and the public realize and become aware of the value of these ecological livestock production systems?



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Project: „From Biocultural Protocols to the Ark of Livestock Biodiversity“

- Supported by the Fondation d'Entreprise Hermès
- In collaboration with LIFE Network





Research Questions

- What are the traditional livestock products and what are the traditional processing methods?
- What are the special properties of these products in terms of sensory qualities, nutritional value, and medicinal effects?
- How can we communicate the special properties of these products?
- How can we develop value chains for pastoralist specialty products?
- Is there scope for developing a special brand or label that indicates to consumers that a product is from a locally adapted livestock breeds and derives from biodiversity conserving production systems (“Ark of livestock biodiversity”)?



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Assumptions

Local livestock breeds raised on local resources and as part of the eco-system have the potential for specialty and niche products with health enhancing qualities, heritage value and attractive sensory characteristics.



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Nutritional value of livestock products from biodiverse production systems versus soybean/corn diet



- Pasture-raised foods have higher levels of vitamins, a healthier balance of omega-3 and omega-6 fats than conventional meat and dairy products.
- Milk from pasture-fed cows has as much as five times the Conjugated Linoleic Acid (CLA) as milk from grain-fed cows.
- Meat from pasture-fed cows has 200-500% more CLA as a proportion of total fatty acids than meat from cows that eat a primarily grain-based diet.^{iv}
- Eggs from poultry raised on pasture have 40% more vitamin A and 400% more omega-3's.





Methods

- Participatory community surveys to identify and document traditional livestock products and processing methods,
- analysis of the special properties of these products in terms of sensory qualities, nutritional value, and medicinal effects in collaboration with scientists
- sharing of the results with communities, private enterprise and policy makers.



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Focus on three communities

- Camel breeders in Rajasthan (India)
- Pashtoon in Pakistan
- Samburu in Northern Kenya



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Raika pastoralists of Rajasthan



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Samburu pastoralists in Kenya



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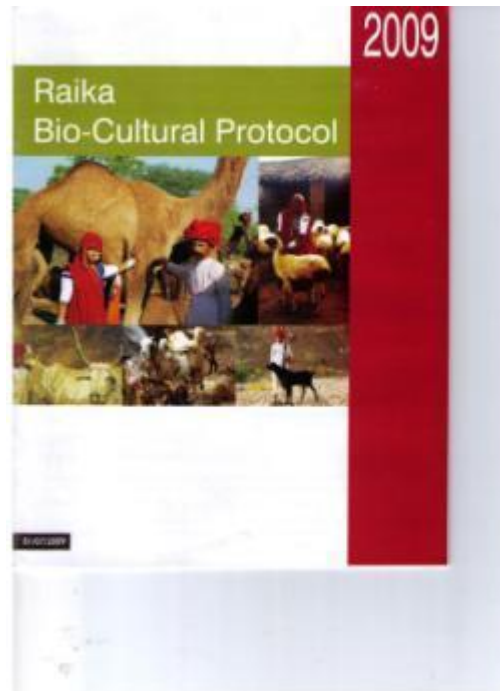
Pashtoon Pastoralists of Pakistan



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Biocultural Protocols

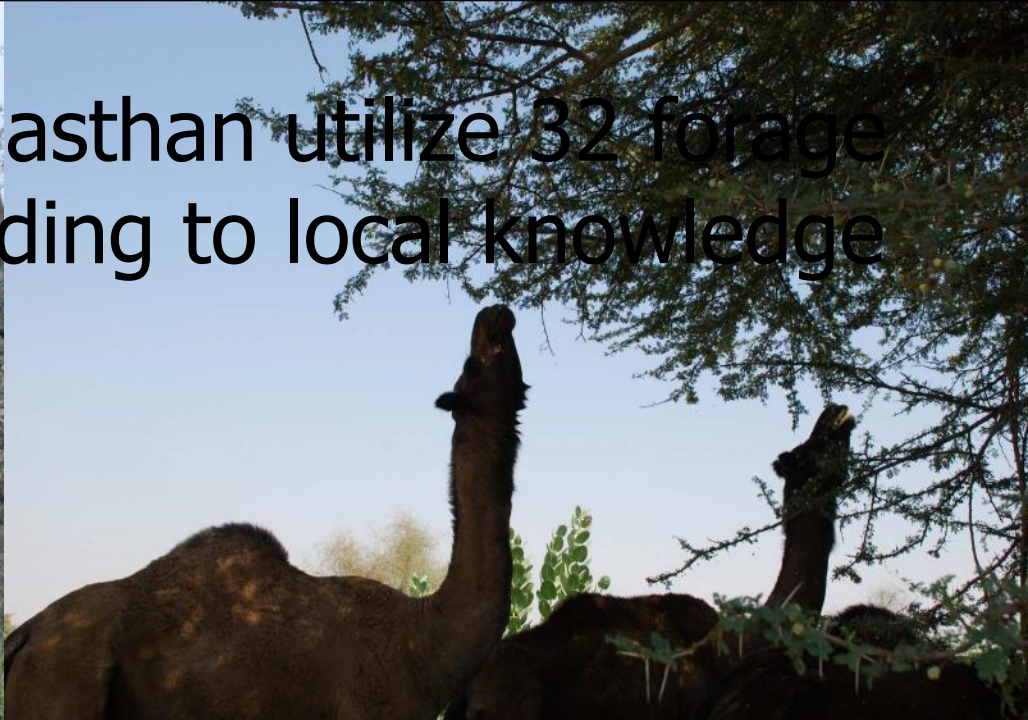


- Tool for claiming status as „indigenous or local community....“*embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity*” under Paragraph 8j of the Convention on Biological Diversity (CBD).
- Biocultural Protocols document the role of a community in conserving animal genetic resources and eco-systems, contribute to visibility and awareness



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Camels in Rajasthan utilize 32 forage species according to local knowledge



Nutritional Value



36 Camel forage plants: most of them have medicinal value



Making ghee



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THE PREPARATION





Results

- According to local knowledge, there is a connection between the dietary composition of livestock feed and the nutritional and sensory value of livestock products.
- Anecdotal evidence suggests that the diet of pastoralists may be much healthier than that of many urban dwellers.
- The methodology of scientifically analysing and validating the nutritional value of the products derived from livestock kept on natural and bio-diverse vegetation versus animals fed with concentrate need to be developed, improved and standardized.





Results

- The products from local breeds kept in bio-diverse husbandry systems would be likely to easily find a market among health-conscious urban people and such products could command premium prices.
- However, the marketable surplus may be very small and not sufficient to build up economically viable value chains. “In order to eat well, you have to either be a pastoralist or live in a pastoralist area”.



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Conclusion

- The feasibility of a special label for products from bio-diverse production systems will need further thought and investigation.
- But: Local breeds form the foundation for sustainable **“green” livestock development**
 - Do not depend on high inputs of concentrate
 - make optimal use of local resources and marginal areas
 - can be kept in systems that are compatible with notions of animal welfare
 - represent “natural livestock production.”



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Thank you !

