



Community-Based Management of Small Ruminants in Southern Benin

Interim Report
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Contribution of Current Study to ILRI-BMZ Project

Activity 1: Identification of communities, priority indigenous breeds/species

Activity 2: Community-based research action leading to the development and establishment of frameworks for community based management

Activity 3: Analysis of the economic, market and policy factors

Activity 4: Capacity building

Overview

- Objectives
- Methodology
- Results of completed activities
- Further steps

Objectives

- Characterize phenotypes of local breed of goats
- Identify farmers breeding objectives and strategies
- Develop a framework of participatory community–based management (CBM) breeding programs

Methodology

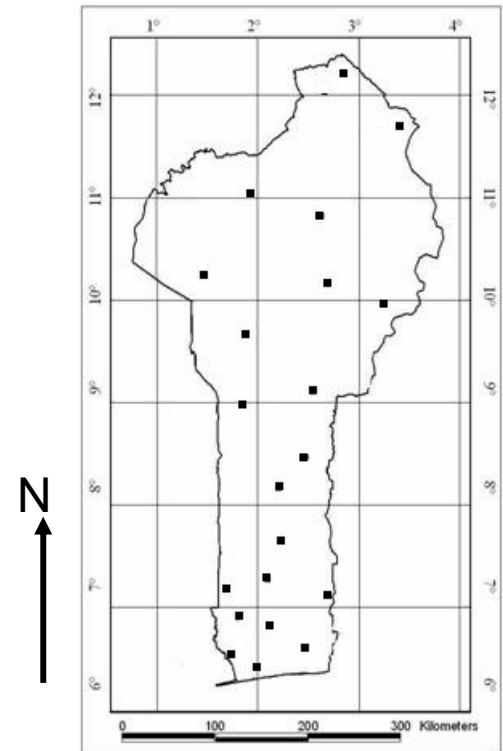


Goat Types of Benin

- Up to know, no comprehensive morphological studies
- Hypothesis: There are different ecotypes of goats in Benin and they can be characterized through quantitative and qualitative physical traits

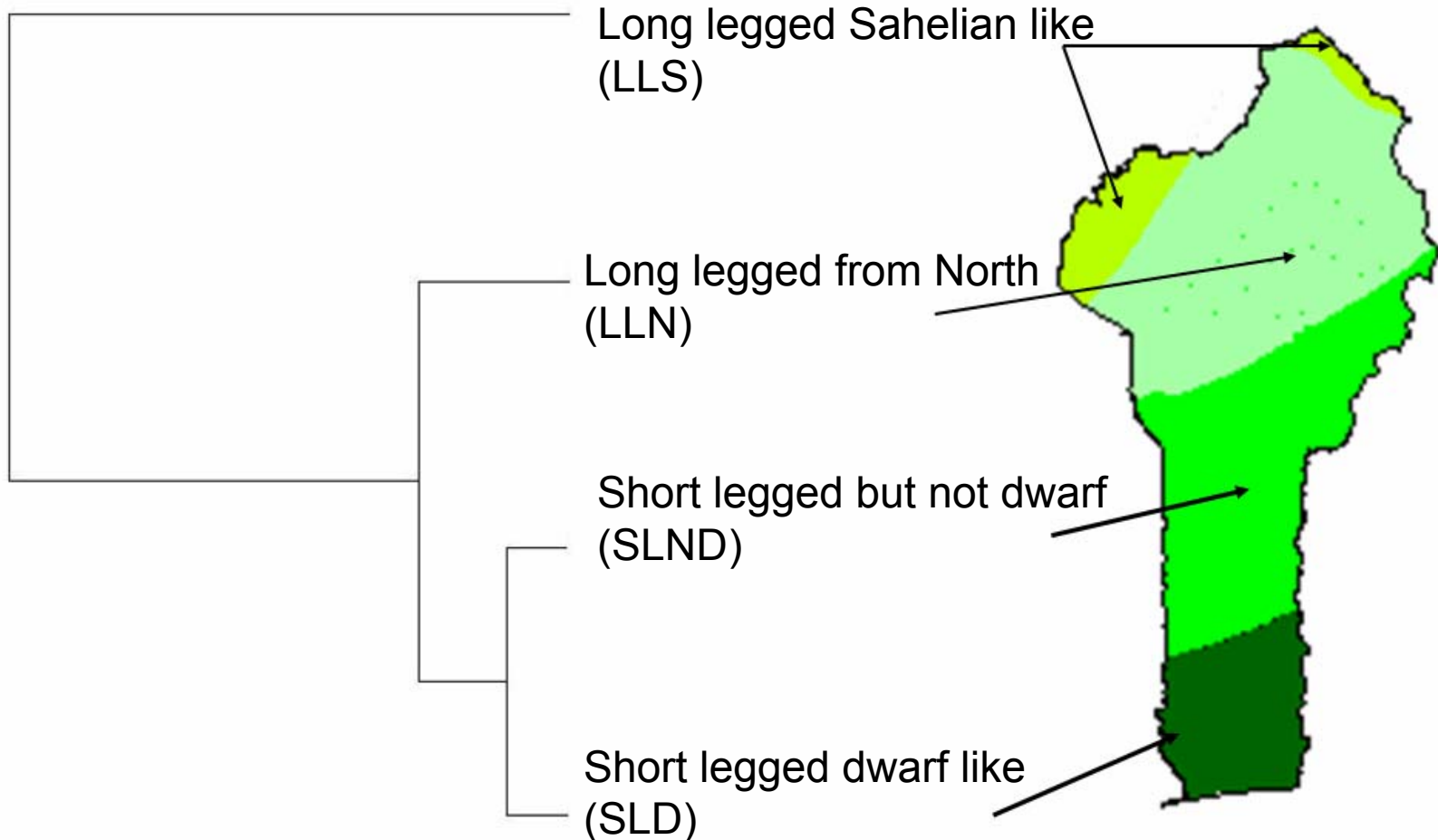
Goat Types of Benin

- 22 locations surveyed (South → North)
- 1672 mature female goats
- **Body measurements:** Body length, thorax depth, height at withers, ear length, tail length, heart girth, horn length, rump height
- **Qualitative traits:** Beard, wattles, supernumerary teats, position of ear
- Local name
- Parturition histories
- Multivariate Analyses with SAS version 8.2



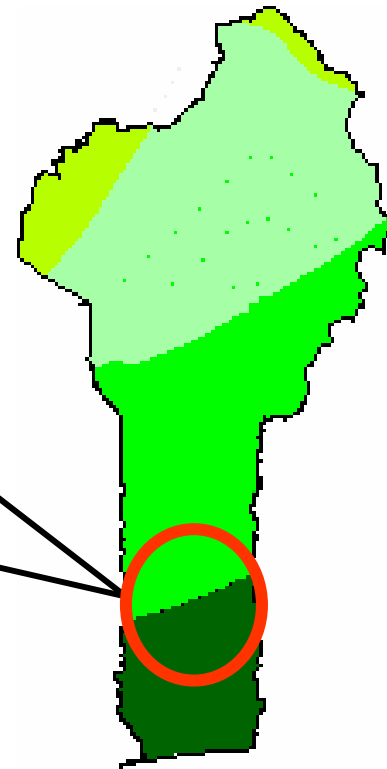
Goat Types of Benin

- Height at withers, neck length, height at sacrum, tail length were the most discriminating measurements



Goat Types of Benin

From	% classified into			
	LLS	LLN	SLND	SLD
Long Legged Sahelian (LLS)	90.4	5.8	3.8	0.0
Long legged North (LLN)	8.6	76.5	6.0	8.9
Short legged not Dwarf (SLND)	0.8	11.6	74.9	12.7
Short legged Dwarf-like (SLD)	0.2	6.5	18.7	74.6



Selection of Communities

- Two locations in South Benin
Ouedeme (C1) and Toffo (C2)
- Both locations are characterized by :
 - High population density
 - Pressure on land
 - Low revenues
 - Low off-farm opportunities
 - Increasing vulnerability

Source: Government of Benin (2003)



Rapid Rural Appraisal

- Focus group discussions
- Interviews with 22 farmers in C1 and 16 in C2
- Questionnaire included, flock characteristics, management practices, progeny histories, traits' preference, local knowledge and constraints to production
- Statistical analysis with SPSS version 9

Farmers' Identified Four Main Types of Goats

Short legged dwarf-like



Short legged but not dwarf



Long legged from the North



Long legged from Sahelian countries



Farmers Preferred the Short-legged but not Dwarf Type

- The short legged dwarf-like is the type originally kept
- The short legged but not dwarf type is widely kept
- Some attempts to introduce the northern long legged type
- Occurrence of indiscriminate crossbreeding

Farmers' Objectives and Constraints

- Farmers breeding objective: increased net income per flock through increased number of marketable animals throughout the year
- Reproductive (good mothering, litter size at birth) and productive traits (growth, body size, health) are equally important for farmers
- Disease outbreaks (Pest of Small Ruminants), lack of appropriate housing and seasonal feed shortages are the major constraints

CBM Research Action

- Feedback of PRA results to communities
- Regular meeting of community members
- Communities dialogue and identify priorities
- Communities received training in improved management practices

CBM Research Action

- Commitment of participants to:
 - Share expenditures for the purchase of a Burdizzo castrator and two communal breeding males
 - Castrate unwanted or poor quality males
 - Replace the communal bucks after one year of service
 - Rotate the communal bucks among participant flocks
 - Remove unproductive females
- Two farmers appointed by the community to be trained in the use of the burdizzo castrator

CBM Research Action

Communities opt for immediate management initiatives:

- Lead short-term increases in productivity (reduction in malnutrition, morbidity and mortality)
- Contribute to reduction of risks of inbreeding and better use of best performing bucks



Foster farmers participation to develop long-term genetic improvement strategies

CBM Research Action

Communities develop local institutions for the management of local goat resources:

- Establishment of a committee (members were elected in a plenary session)
- Agreement on a code of conduct developed by the local committee:
 - Rules and regulations to be followed by members and punishments for non-compliance
 - Conflicts resolution

CBM Research Action

- Participatory recording system
 - Each community has been provided with two weighing scales → farmers record themselves body weight of animals at birth and also at sale
 - Fortnightly visit of participant flocks (31 in C1 and 25 in C2) by the local veterinarian and a recruited enumerator → Individual follow-up of animals and technical assistance

Probability of Success of CBM Breeding Program (1)

Strengths

- Community members have good knowledge of local resources
- A group of community members is willing to participate

Weaknesses

- Lack cohesion within community members
- Poor management practices
- No record kept
- Experiences with NGO and government facilitated initiatives → scepticism and lack of trust
- Small flock sizes

Opportunities

- Market incentives
- Locally-based private animal health services and some NGOs are supportive of CBM initiatives

Threats

- Some development projects promote use of non locally bred animals
- Currently applied extension methodologies (technologies not relevant to needs of farmers)

Probability of Success of CBM Breeding Program (2)

Strengths

- Communities aware of importance local FAnGR
- Communities develop local institutions for CBM
- A group of farmers has adopted improved management practices and keeps record
- Progressive building of trust

Weaknesses

- Some community members not willing to participate and try to discourage participants
- Small flock sizes

Opportunities

- Market incentives
- Locally-based private animal health services and some NGOs are supportive of CBM initiatives

Threats

- Some development projects promote use of non locally bred animals
- Currently applied extension methodologies

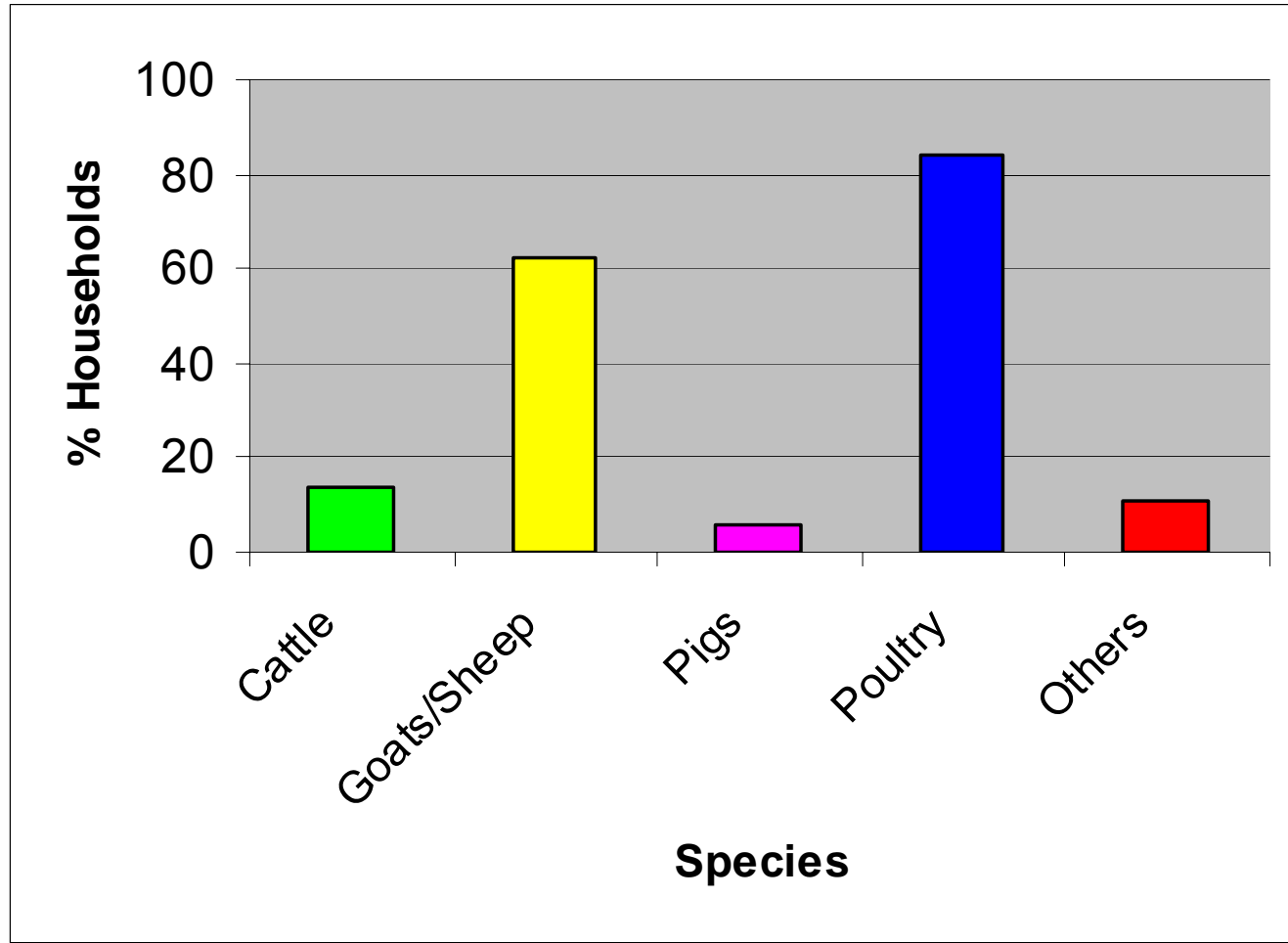
Next Steps

- Further planning meetings with communities (From November, 2006)
- Discussion with communities of the concepts of community-based breeding program: aims, benefits and feasibility
- Development of its legal framework and its genetic aspects
- Preliminary screening of the best performing animals based on the results on the ongoing individual follow-up of participant flocks (Started May 2006)
- Implementation of the frameworks developed

Thank you for your attention

General Background

- Small ruminants are widespread in Benin



Source: IFPRI-LARES (2001)

General Background

- Goats more popular than sheep in South and important in livelihood strategies of rural people (Dossa, 2002)
- Performance, adaptation & disease resistance of local genetic resources of goats not fully recorded
- Lack of breeding programme for local goats

General Background

- Indiscriminate crossbreeding or/and replacement → genetic erosion (loss of genetic diversity; reduction of adaptive value)



- Opportunities for efficient utilisation of livestock genetic resources for improvement of livelihood are being missed

Market Incentives for Local Goat

Composition (%) of goats bought by reasons for buying in two rural markets (n = 288)

Characteristics	Catering n = 26	Keeping n = 23	Sacrifices n = 19	Resale n = 110	Ceremonies n = 110
Breed					
Djallonke (local)	89	96	100	75	96
Sahelian /upgraded	11	4	0	25	4
Age					
≤ 1year	8	83	95	0	2
2 years	4	4	5	1	6
3 years	4	0	0	10	11
≥ 4 years	84	13	0	89	81
Sex					
Castrated	54	0	5	54	30
Female	46	100	21	39	61
Non castrated male	0	0	74	7	9

(Source: own data)

Market Incentives for Local Goat

A hedonic price model for goats in two rural markets ($n = 288$)

Characteristics	Coefficient	P-value
Intercept	6.81	0.000
Breed (1= non-local, 0= local)	0.04	0.158
Coat color (1= bright, 0= dark)	0.04	0.120
Live bodyweight (kg)	0.93	0.000
Age		
≤ 1year	0.00	
2 years	- 0.03	0.624
3 years	0.02	0.661
≥ 4 years	0.05	0.324
Sex		
Castrated	0.00	
Female	- 0.08	0.000
Non castrated male	- 0.19	0.000
Health (1= good, 0= bad)	0.13	0.006
F = 303.253, df = 9, p = 0.000, R Square = 0.90		

(Source: Own data)

Management Practices



Traditional



Improved

Vs.

