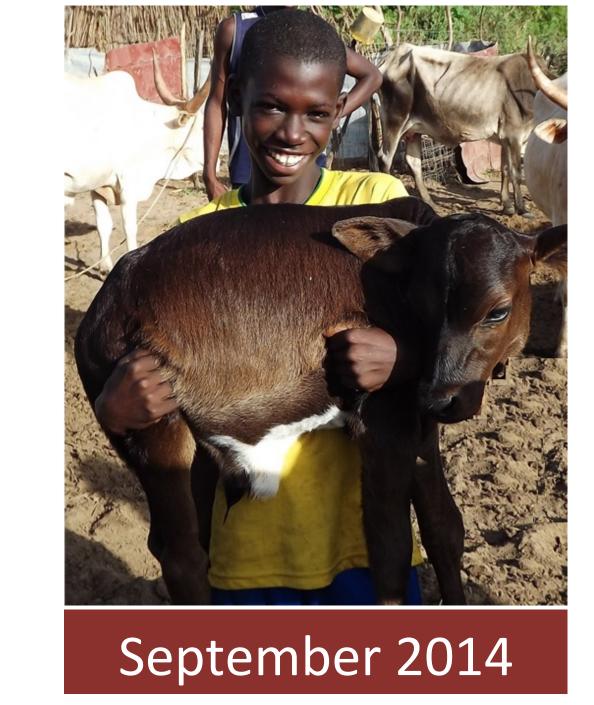# Determinants of use of breeding technologies in small to medium scale dairy cattle farms in Senegal

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Introduction

- Milk production in Senegal is dominated by the use of indigenous breeds with low milk production potential (around 0.7 – 1.5 litres per cow per day).
- Artificial insemination (AI) is being used to create indigenous and exotic cross-bred cattle with higher milk potential.
- To date, however, the use of AI and cross-bred or exotic cattle remains low.
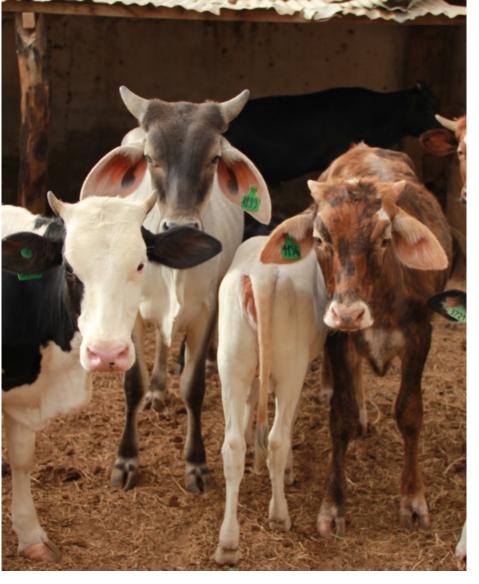
Materials and methods

The aim of this study is to identify household level characteristics that could have influenced the uptake of AI and use of cross-bred or exotic cattle breeds in the last 5 years.

- Baseline survey data collected as part of larger research project 'Senegal Dairy Genetics' was used.
- Separate logistic regression analyses were performed to identify potential characteristics.
- A backwards elimination method was used to identify significant variables ($P<0.05$).

Results

Table: Household level characteristics that significantly affect AI usage and rearing of use of cross-bred or exotic cattle breeds

Characteristics	AI service usage			Rear exotic and or cross-bred cattle
	Public & Private	Mainly Public	Mainly Private	
Demographic				
Ethnic group	■			■
Family size		■		
Farm				
Mode of acquisition of first exotic or cross-bred cattle	■			
Animal health service used			■	
Socio-economic				
Income class			■	
Reason for keeping dairy cattle				
Land own (m^2)		■		
Main mode subsistence		■	■	
Location				
Distance to market (km)		■	■	

■ Significant effect   □ No significant effect

- The main drivers of AI service usage and cross-bred or exotic cattle rearing were farmers' cultural values and wealth.
- Education, labour availability, herd size and experience did not affect use of AI or cross-bred or exotic cattle breed rearing.

Research into use

In order to scale-up adoption of these technologies, farmers' socio-economic characteristics should be carefully considered.

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