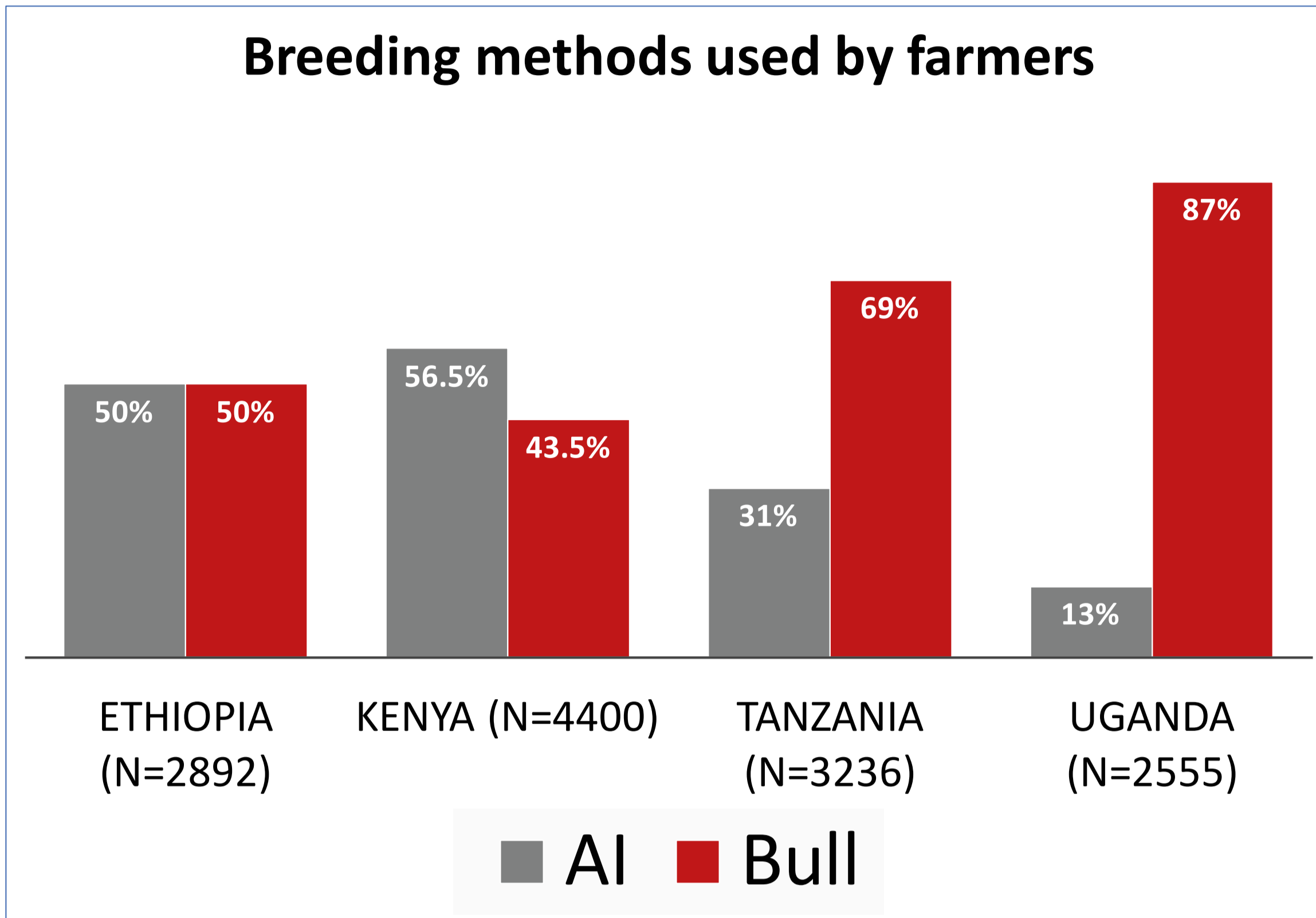# Multi-country investigation of factors influencing breeding decisions by smallholder dairy farmers in Sub-Saharan Africa

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Breeding methods used by farmers

Chart: AI vs Bull by country
- ETHIOPIA (N=2892): AI 50%, Bull 50%
- KENYA (N=4400): AI 56.5%, Bull 43.5%
- TANZANIA (N=3236): AI 31%, Bull 69%
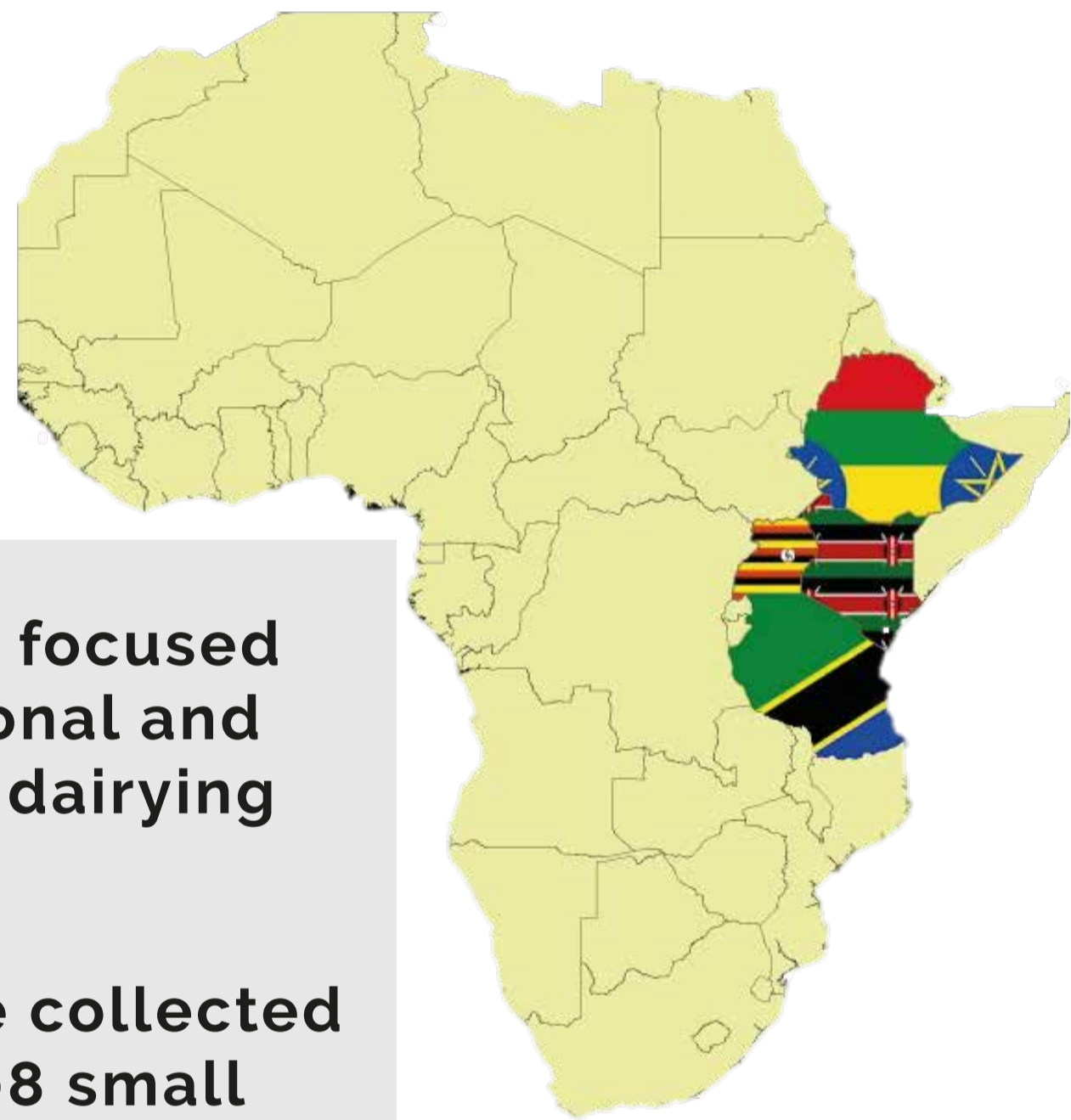- UGANDA (N=2555): AI 13%, Bull 87%

Legend: ■ AI ■ Bull

Introduction
Artificial insemination (AI) and selective bull mating are experiencing low adoption rates especially in Sub-Saharan Africa (SSA) owing to various structural and technical challenges.

Objectives
1. Determine and characterize factors that influence smallholder dairy farmers in Sub-Saharan Africa to choose between AI or Bull
2. Investigate, the relationships between the breeding choices and the bio-physical elements of dairy farming

Study sites

- The study focused on traditional and emerging dairying zones
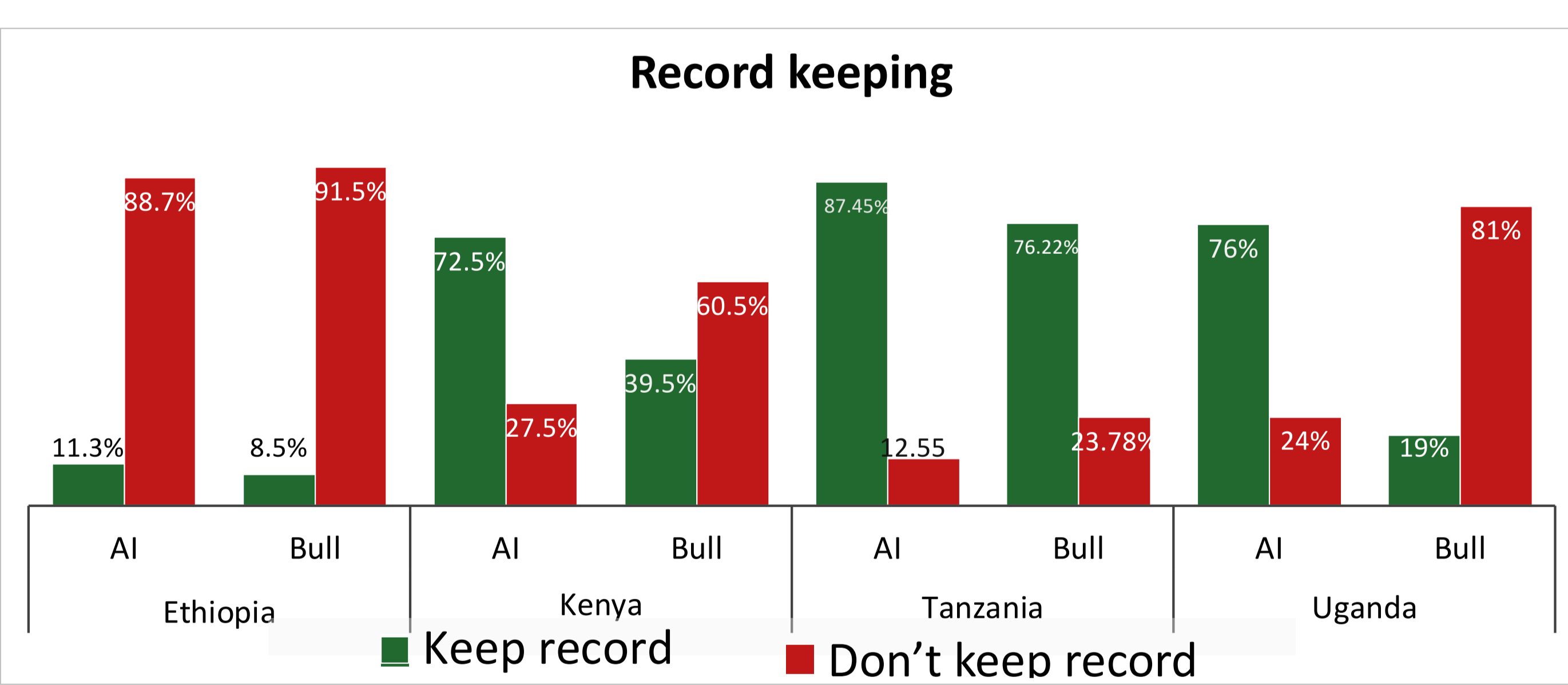- Data were collected from 16308 small holders farmers
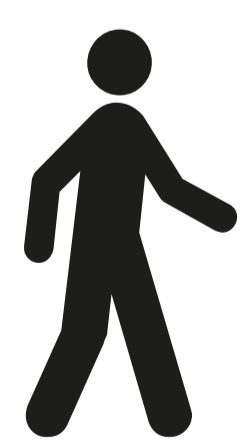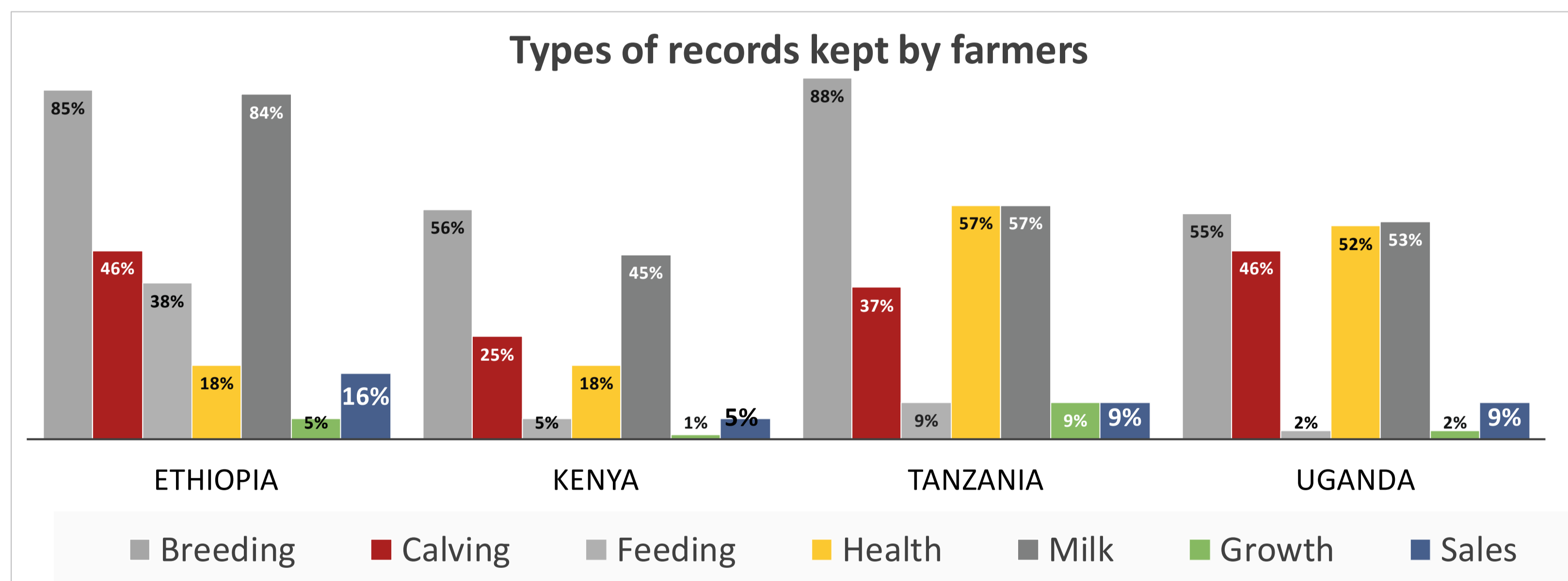
Factors Effecting AI Adoption

- Costs for buying animal feeds and water
- Lack of good AI infrastructures
- Farmers activities: growing crops

Farmers Characteristics

Record keeping

Chart: Keep record vs Don't keep record
- Ethiopia: AI — 11.3% / 88.7%, Bull — 8.5% / 91.5%
- Kenya: AI — 72.5% / 27.5%, Bull — 39.5% / 60.5%
- Tanzania: AI — 87.45% / 12.55%, Bull — 76.22% / 23.78%
- Uganda: AI — 76% / 24%, Bull — 19% / 81%

Legend: ■ Keep record ■ Don't keep record

Types of records kept by farmers

Legend: Breeding, Calving, Feeding, Health, Milk, Growth, Sales
- ETHIOPIA: Breeding 85%, Calving 46%, Feeding 38%, Health 18%, Milk 5%, Sales 16%
- KENYA: Breeding 56%, Calving 25%, Feeding 5%, Health 18%, Milk 45%, Growth 1%, Sales 5%
- TANZANIA: Breeding 88%, Calving 37%, Feeding 9%, Health 57%, Milk 57%, Growth 9%, Sales 9%
- UGANDA: Breeding 55%, Calving 46%, Feeding 2%, Health 52%, Milk 53%, Growth 2%, Sales 9%

Farmers using AI walk long distance to access water

Farmers using AI prefer stall feeding over grazing

Conclusion
1. Improve supportive infrastructure such as water accessibility, provision of appropriate animal feed and animal health service,
2. Maintaining good infrastructure for influencing farmers to adopt the best farm management practices.

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