Dairy Goat Farmers' Attitudes on Adoption of Artificial Insemination in Kenya

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Introduction

- Enhanced breeding techniques like goat artificial insemination is an ideal climate smart practice for enhanced goat productivity (Paramio and Izquierdo, 2014; Tsuma et al., 2015; Omontese et al., 2016; Hashemi and Safdarian, 2017)

- Goat farmers' attitudes towards AI affects its adoption as a climate smart breeding technology (Tsuma et al., 2015)

- Understanding and addressing farmers's adotion attitudes for CSA TIMPs is key in enhancing uptake of the TIMPs for acceraled breeding and goat productivity

Study Objectives

Overall

To determine factors affecting the adoption of goat artificial insemination in goat keeping areas of Kenya

Specific

- To assess farmers' attitudes on adoption AI goat breeding practice

Materials and Methods

- Study site

- Nyeri county, Mukurwe-ini sub county, Rugi and Mukurweini central wards

- Sampling frame/design

- The respondents included farmers, staff from an animal genetic resource Centre, staff from an animal health-training institute and the county veterinary officer.

- The sample was purposively selected based on presence of a large number of dairy goat farmers. The respondents' sample size was calculated using the formula by Yamane (1967).

$$n = \frac{N}{1 + N(e)^2}$$

- Where n=sampling size

- N=Population size /sampling frame

- e = Level of precision (90% confidence level)

- A list of 200 farmers was then generated from the selected wards of Mukurweini sub-County

Materials and Methods

Methods and tools for data collection

• Survey interviews using questionnaire was administered to 200 farmers by skipping four households along the main road

• A key informant interviews were conducted for experts from Animal Genetic Resource Centre, , staff Animal Health-training Institute and the County Veterinary Office

Data analysis

• Data was analyzed using descriptive statistics (i.e., frequencies, percentages) using R software version 4.03.
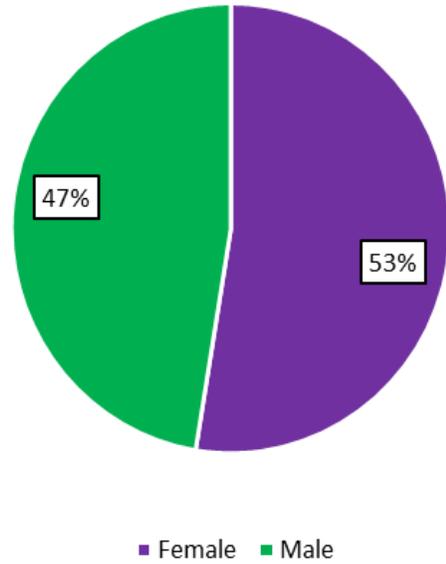
Results and Discussion
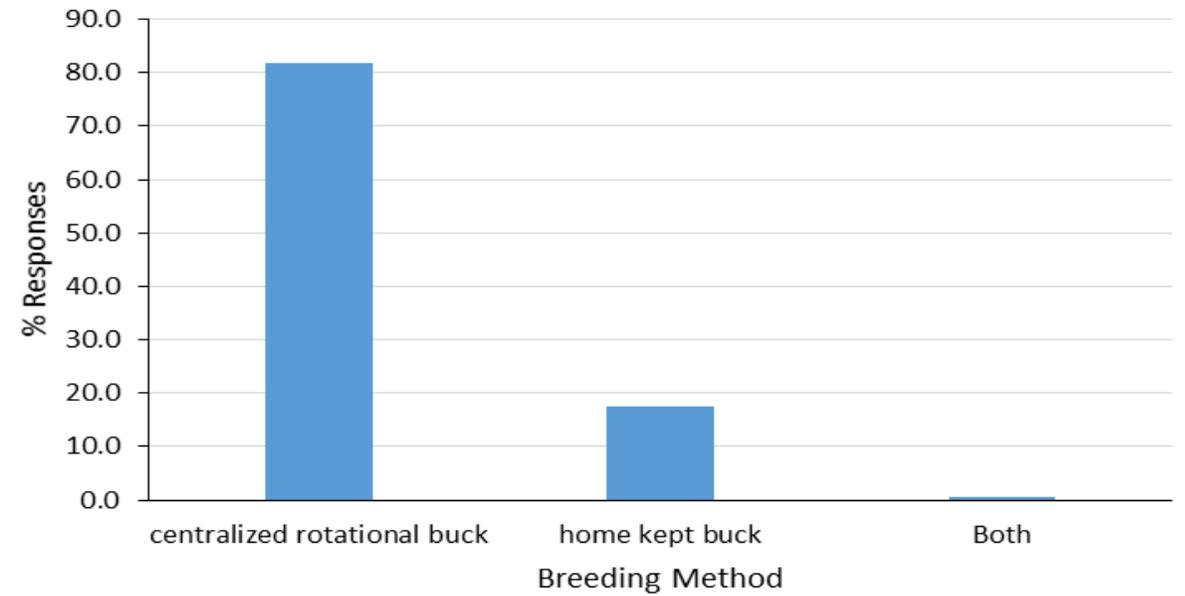

Figure 1; Gender response

Figure 2; Breeding Methods

Results and Discussion

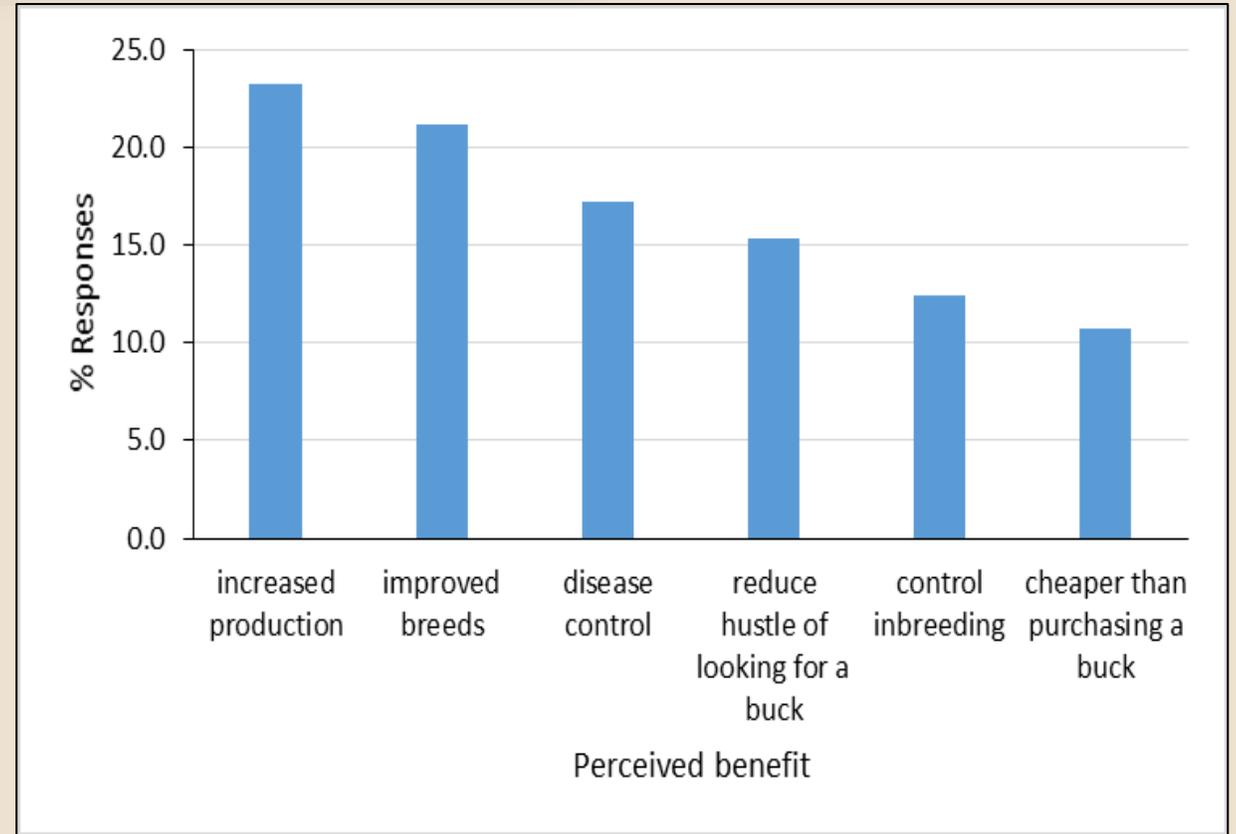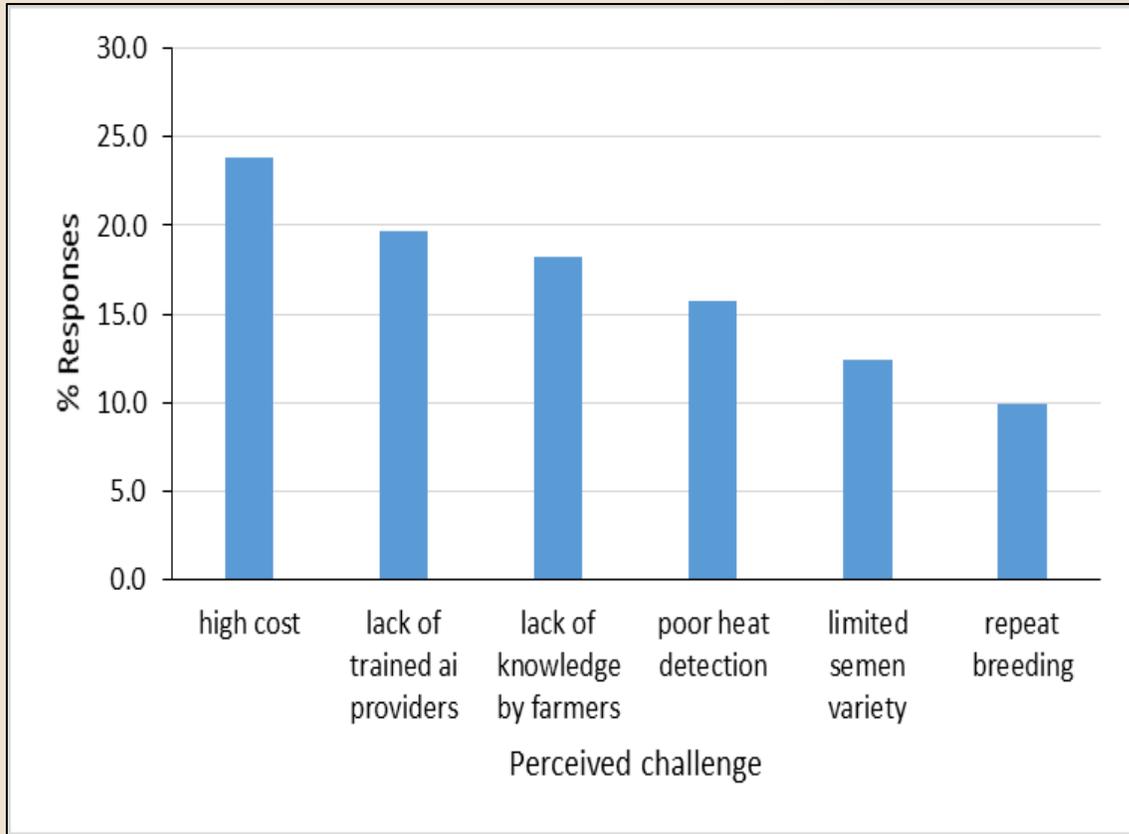Figure 3: perceived challenges of AI adoption

Figure 4: perceived benefits of AI adoption

Results and discussion

- Figure 1: Higher female to male respondents inferred that women are the custodians of the goats

- Figure2: Preferred method of breeding was centralized buck rotation due to price of purchasing a buck, reduce land size and availability of pure breed bucks at the market

- Figure 3: Cost of AI is the greatest challenge, however this is attributed to cost of equipment ,semen processing and AI process

- Lack of trained AI providers, poor heat detection, variety of semen, heat detection and repeat breeding

- Figure 4: Most farmers, perceived increased production as the highest benefit of AI

- Increased production, improved breeds from improved genetics and avoiding the risk of inbreeding were in agreement with the findings of Mbindyo et al., (2017) in Kenya and improved production from genetic gains as reported by Ciptadi et al., (2014)

Conclusion and/Recommendations

- The most preferred method of breeding is natural breeding through centralized buck rotation

- Goat farming still faces challenges in the uptake of AI reproductive technologies

- Creation of awareness through farmer education, training of AI providers and AI subsidy could enhance goat AI technology

- Further research on technologies for reducing costs of goat AI could enhance its uptake and enhanced goat productivity

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