

Introduction

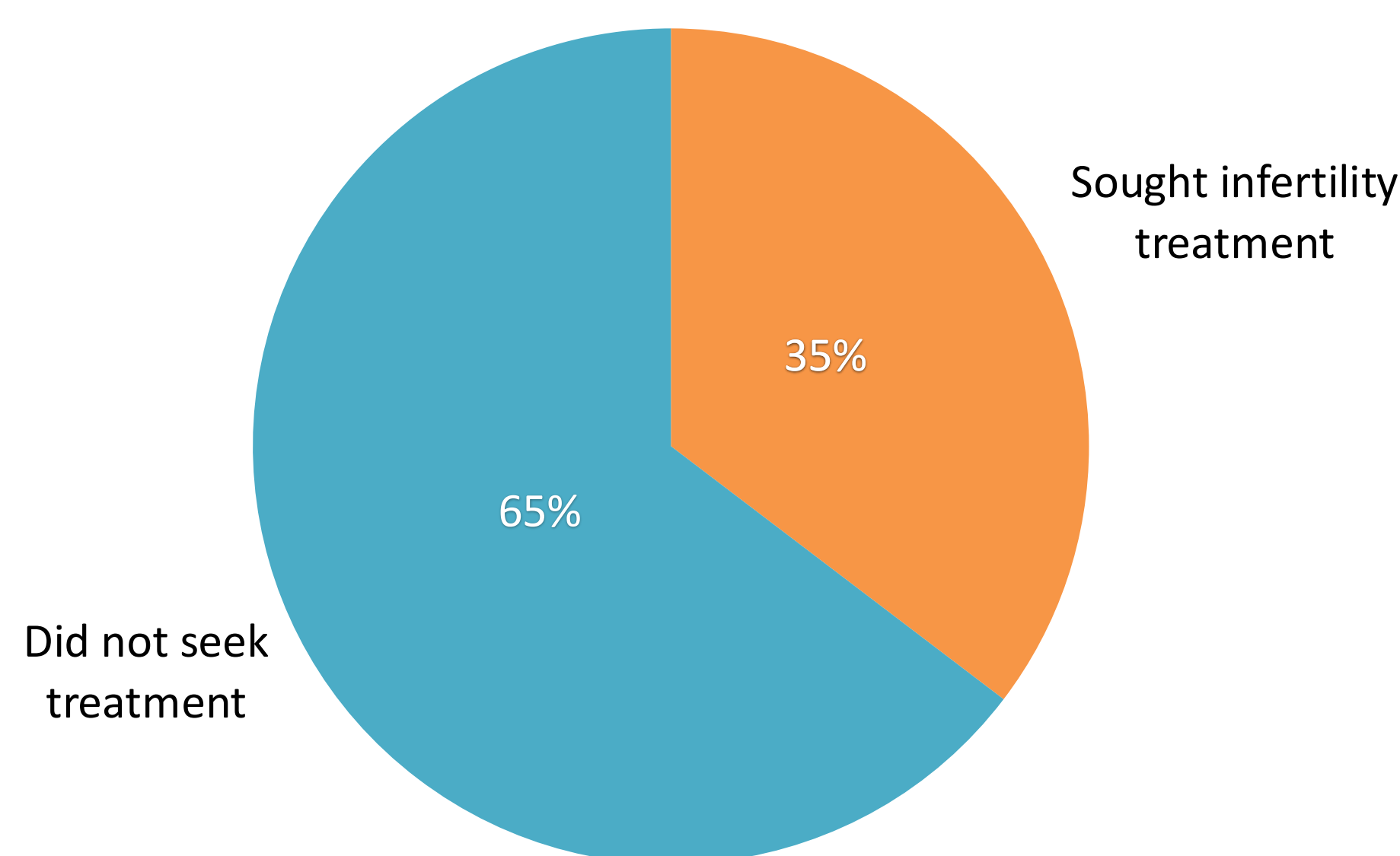
- **India:** World's largest milk producer, >300 million bovines
- 80 million smallholder farmers, typically 1–2 milking animals/farm, producing 65–70% of milk supply
- **Challenges:** Low productivity, inefficient breeding practices, limited veterinary access
- **Key problem:** Repeat breeding (>20% animals) → limits productivity & higher environmental footprint

Objectives

- Identify farm-level causes of repeat breeding
- Assess farmer awareness & access to veterinary/AI services
- Digital innovation and data-driven insights for improving reproductive efficiency

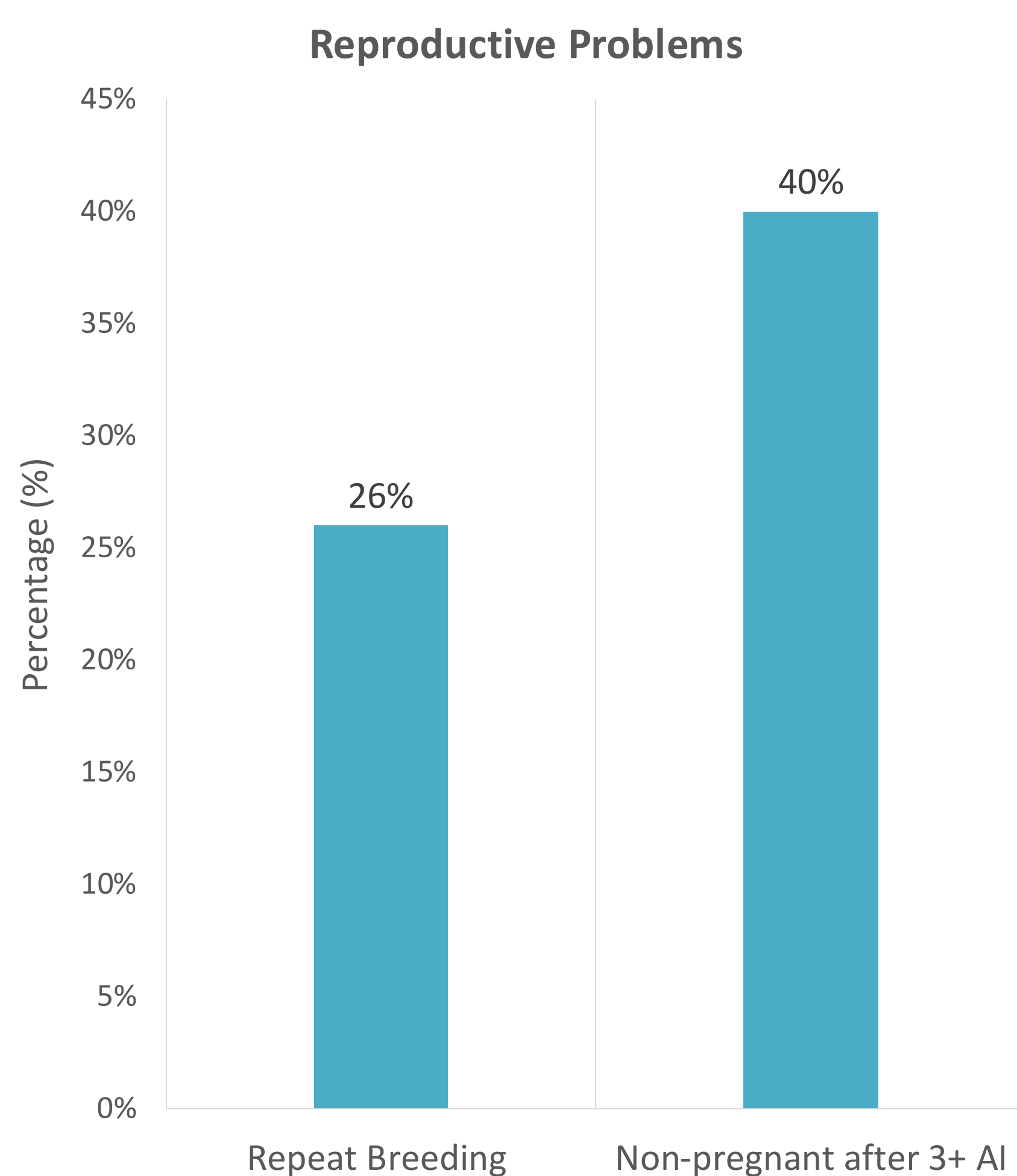


Farmers Seeking Infertility Treatment



Methods

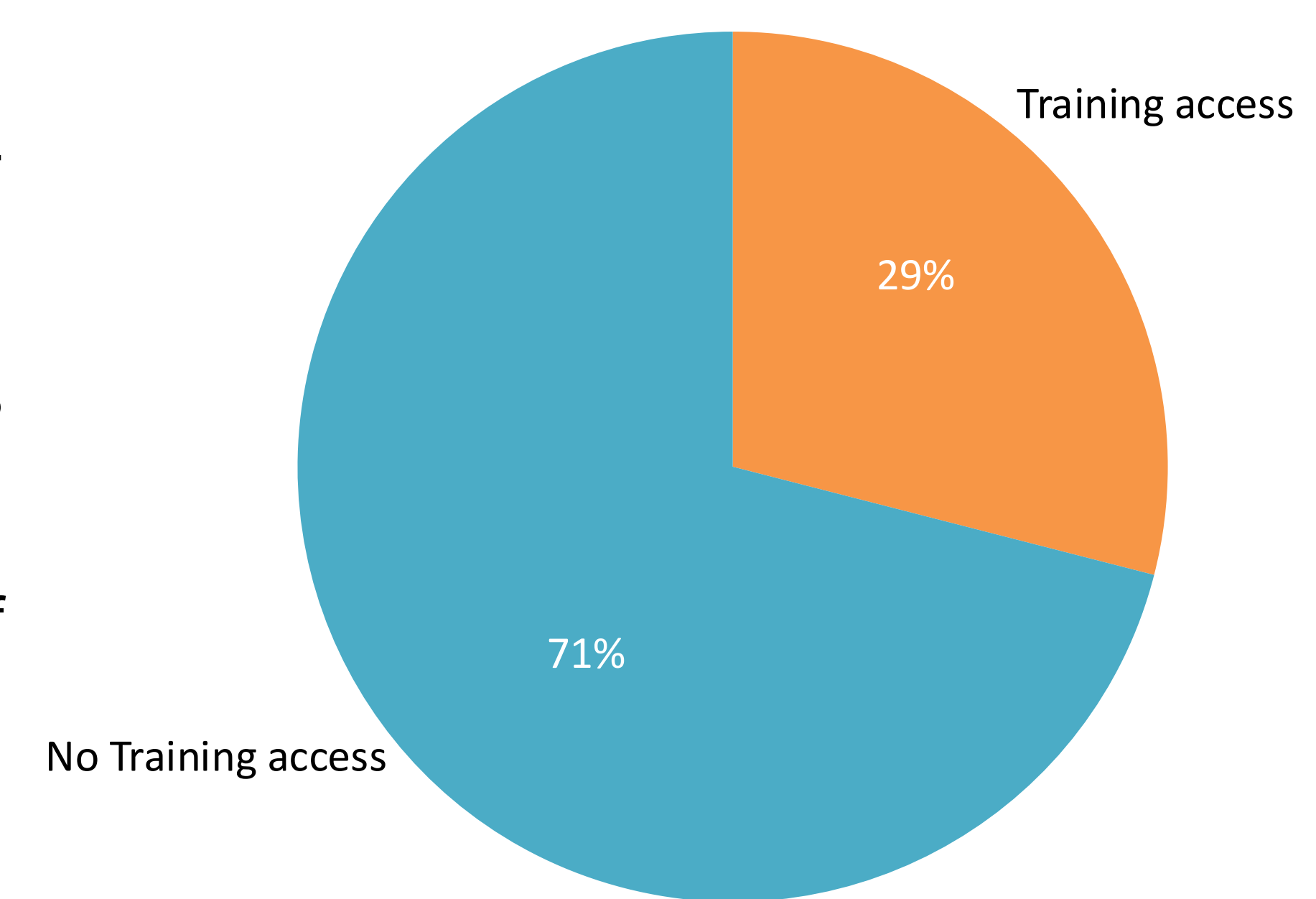
- Qualitative field survey of 100 dairy farmers (542 animals, Tamil Nadu, India)
- **Variables:** herd size, breeding practices, farmer awareness, veterinary/AI access
- **Data:** descriptive + qualitative



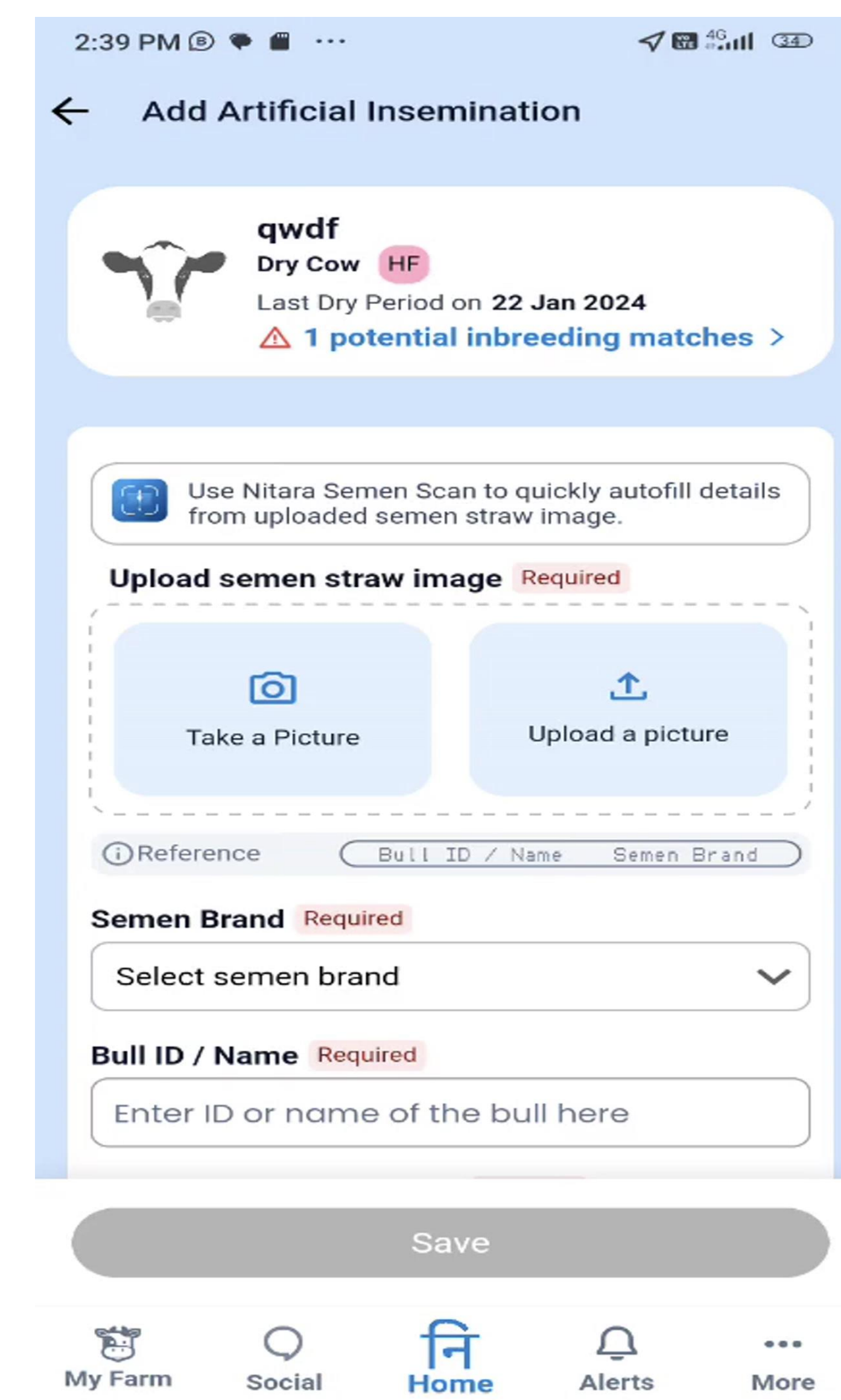
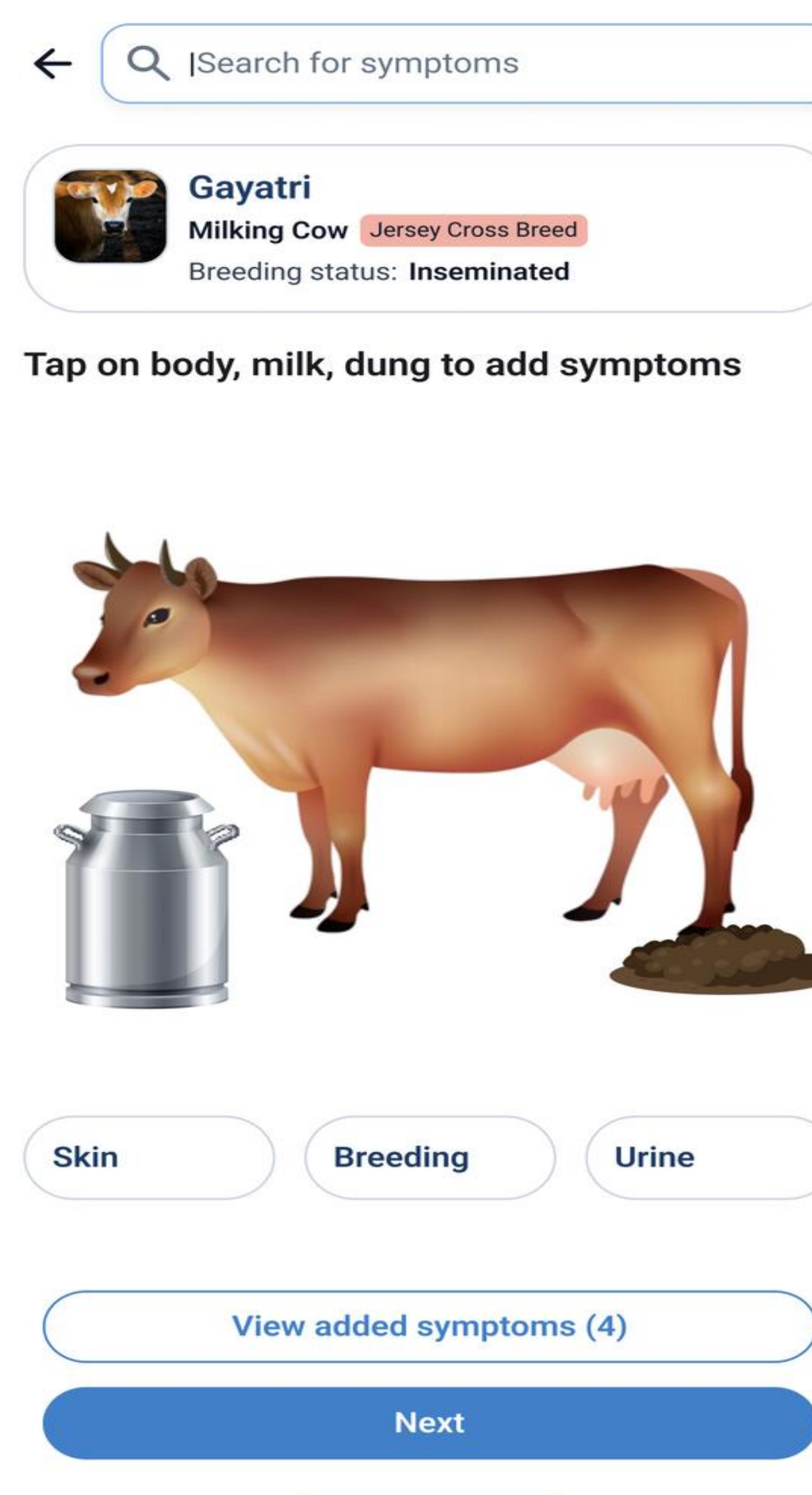
Key Results

- **Repeat breeding:** 26% mostly in crossbred Jersey and HF cows
- **Reproductive Performance:** 60% conceived after ≥3 inseminations; 40% remained infertile
- **Factors:** Poor heat detection, mineral deficiencies, shortage of AI/vets
- **Awareness:** Only 35% sought treatment; 71% no training access; 26% couldn't differentiate Vet vs AI tech; 64% unaware of semen selection

Access to Training Program



Digital Innovations



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Conclusion

- High incidence of repeat breeding = major management gap
- Less access to quality service & awareness worsens inefficiencies
- **Consequences:** reduced productivity, economic vulnerability, and environmental footprint per unit of milk
- **Solutions:** Standardised AI protocols, Fertility-focused genetic selection, farmer training, digital intervention, better vet/AI access
- **Essential:** Targeted interventions in breeding management and farmer capacity-building

Acknowledgements

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