EXAMINATION OF THE EFFICIENCY OF PRODUCTION UNDER INTENSIFICATION OF SMALLHOLDER DAIRY IN UGANDA

NARO

National Agricultural Research Organisation

Ministry of Food, Agriculture and Fisheries
Danish Institute of Agricultural Sciences

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Project Goal and Purpose

- Goal: To improve the contribution of smallholder dairying to the livelihoods of resource poor farmers in Uganda
- Purpose: to develop and test methodologies to compare productivity and economic viability of contrasting dairy systems with a view to developing a greater understanding of these systems in order to:
    - Provide information that decision makers can use to inform policy development
    - Identify potential interventions that will improve small farm nutrient management and
    - Identify key characteristics of a farm that can be used to target extension messages

MOTIVATION OF THE RESEARCH

- Preliminary analysis from a Uganda dairy sector rapid appraisal (ILRI/NARO/MAAIF) (1996) suggested there is little evidence of strong incentives for adoption of more intensive dairy technologies such as zero-grazing
- However, there has been emphasis by some dairy development projects for the adoption of intensive systems.
- Further, it was also evident that opportunities for crop-livestock nutrient interactions were often not being exploited (crop residues and manure use)

RESEARCH AIMS

- Therefore there was need to research and establish:
  - comparative economic advantages of and incentives for different levels of dairying intensity under various resource, market and policy regimes
  - level of and incentives to crop-livestock nutrient interactions, and consequences for nutrient balances
  - the ecological competitiveness of dairy production at varying levels of intensification, in form of nutrient balance
  - to identify options for improving nutrient balances at various levels of intensification of dairy production

DIMENSIONS OF THE RESEARCH

- Based on these aims, the research looked at two aspects in relation to smallholder dairy farming:
  - Analysis of economic incentives to dairy intensification in Uganda, and
  - An analysis of nutrient balances and options for improvement under different levels of intensification of dairy production in Uganda

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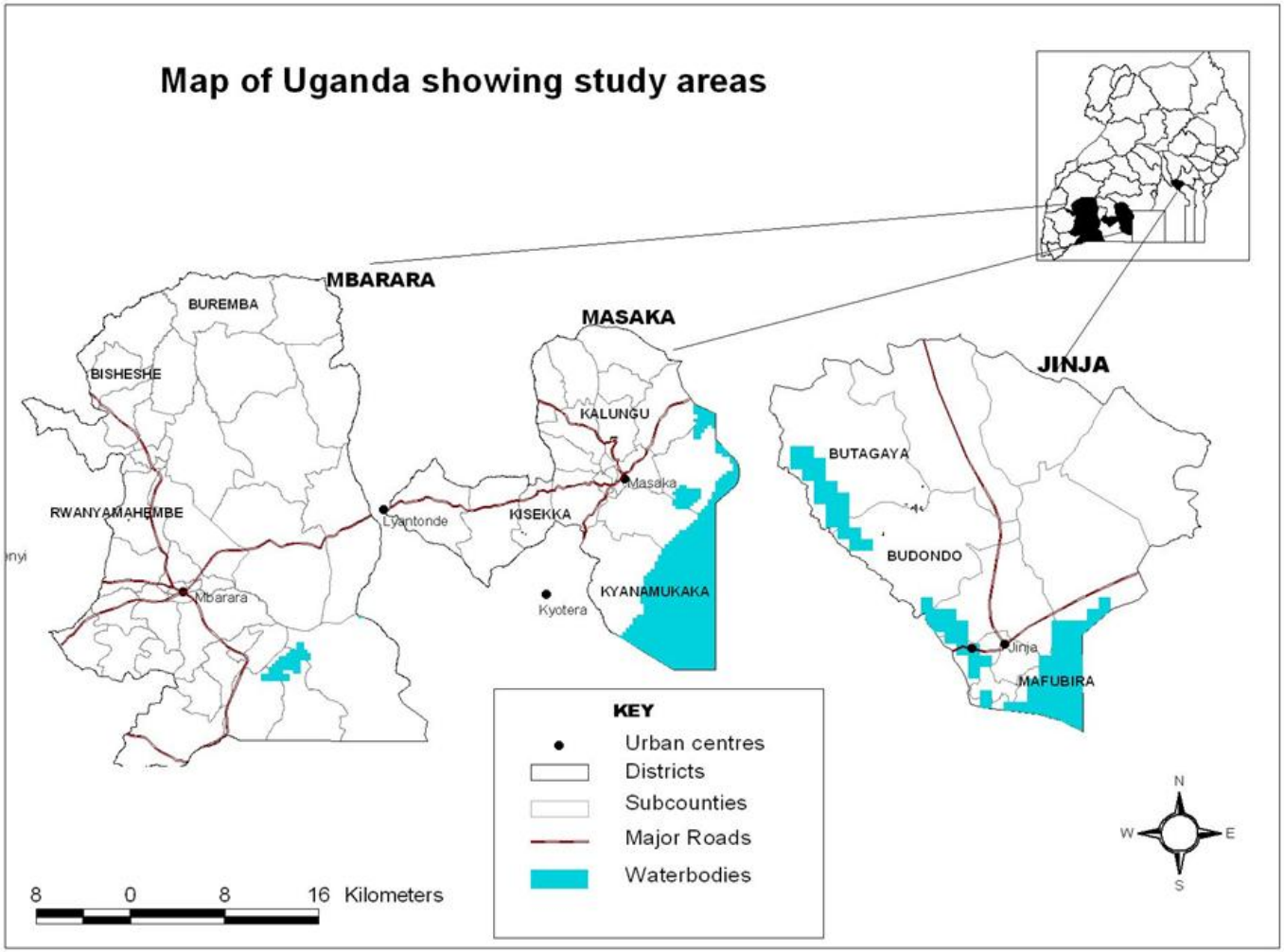
Study Areas-Dairy Sheds



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How did we obtain and handle the data? Two surveys.

- A) One visit survey in 2001, 300 geo-referenced households in 3 districts (characterisation survey)

- B) 1 visit per fortnight for 14 months between June 2003 and August 2004, 24 representative farmers (longitudinal survey, in-depth farm monitoring)
- Soil sampling on most plots
- Various methods of data analysis (spatial econometrics, cluster analysis, farm budget, nutrient balance, and linear programming)

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IMPLEMENTING INSTITUTIONS

The project is funded by DANIDA and is implemented by:

- National Agricultural Research Organisation (NARO), Uganda
  - Main research implementation - 2 PhD researchers, William Nanyeenya and Sarah Mubiru
- International Livestock Research Institute (ILRI), Kenya
  - Research coordination and methodological support
  - D. Romney, I. Baltenweck, L. Njoroge, P. Wanjohi, S. Staal, E. Kariuki
- Danish Institute of Agricultural Sciences (DIAS), Denmark
  - Methodological support – N. Halberg
- Makerere University
  - Methodological support and thesis supervision – J. S. Tenywa, J. Mugisha

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Today's Workshop

- Proposed Objectives
  - Present summary of results from the research
  - Present summary from Farmer Feedback Workshop held yesterday.
  - Obtain stakeholder views on validity and implications of the findings
  - Suggest plans for integration of key policy and extension messages and recommendations into on-going development and research activities