**Project Title:** Assessment of adoption and impact of improved dairy technologies

**Institute:** Dairy Research Institute

**Center(s):** KALRO Naivasha

**Principal Investigator:** Alice Murage;

**Other investigators:** D.K Mbugua; F.M Matiri; T Mutuoki; M Mutoko; F M Murithi;

**Problem Statement:**
Despite the importance of dairy sub-sector in the economy, inadequate nutrition is a common problem and a major factor affecting the development of viable dairy industries. It has been recognized that improved dairy technologies e.g. feeding and breeding practices can play an important role in the long-term alleviation of rural poverty with specific benefits to the rural poor such as increased livestock productivity, household food security and household incomes. Research and technologies generation meant to overcome food insecurity and poverty have been very essential for agricultural and rural development. Furthermore, smallholder farmers have continuously been exposed to new and improved management practices through research and extension interventions. Despite these strides in improved dairy technologies development and dissemination, there is a critical information gap regarding adoption of these technologies by smallholder farmers. Also very few or no follow up studies have been conducted to evaluate and understand the levels and patterns of adoption of the most of the disseminated dairy technologies. Few or no studies have so far been carried out to evaluate the impact of these technologies, not only on the household but also their impacts to the environment. It would therefore be interesting and necessary to find out the actual and potential adoption of these new feeding and breeding practices and their impacts on dairy productivity. In addition, an understanding of the driving forces of adoption and the existing barriers is important for the development of appropriate extension and technology packages that can be adopted by farmers. This study therefore proposes to evaluate the adoption of different improved feeding and breeding practices, and their potential impacts on dairy productivity and household food security

**Objective(s):**
1. To evaluate the current levels of smallholder dairy farmers’ knowledge on selected improved feeding and breeding technologies
2. To assess the current and potential levels, and intensities of adoption of improved dairy feeding and breeding technologies (Feeding:- Homemade ration formulation and utilization, crop residues utilization, use of improved herbaceous legumes, use of fodder sorghum, UREA feed blocks; Breeding :- ET, SS, and AI)
3. To assess the main drivers of and barriers to adoption of improved dairy feeding and breeding technologies by smallholder farmers
4. To evaluate the profitability of dairy cattle enterprises under improved feed and breeding technologies as opposed to the traditional technologies
5. To evaluate the impact of adoption of improved feeding and breeding technologies on socioeconomic, financial and environmental aspects of the farmer; and on food and nutrition security of the household
6. To identify and propose possible policy options to support the influential barriers and eradicate/minimize drivers to technologies adoption

**Planned Activities:**
1. Desk review
2. Planning meetings
3. Preparation and pre-testing of data collection tools
4. Household surveys
5. Data entry, cleaning and analysis
6. Report writing, development of policy briefs, journal articles
7. Communication of findings
### Outputs

1. Smallholder dairy farmers levels of knowledge on improved feeding and breeding technologies evaluated
2. Current levels and intensities of adoption of improved dairy feeding and breeding technologies evaluated and documented
3. The profitability of dairy cattle enterprises using improved feed and breeding technologies with those using local technologies evaluated and compared
4. Social, economic, financial and environmental impacts of adoption of improved dairy feeding and breeding technologies and their influence on food and nutrition security evaluated
5. Policy options supporting the identified influential drivers and minimizing barriers to technologies adoption identified and documented

### Outcomes

1. Improved livelihoods
2. Increase in employment especially for the women and youth

### Budget

- **12,095,860.00**

### Start date

- **2017-08-01**

### End date

- **2020-08-31**

### Funded by

- USAID;

### Collaborators

- Ministry of Agriculture, Livestock & Fisheries;