

DairyChain – Strengthening Capacity of Higher Education Institutions in Eastern and Western Africa to Enhance Efficiency in the Dairy Value Chain



Regional conference 'Transforming Dairy Education and Training for Health and Wealth in Africa', Nakuru, Kenya (September 2015).

PROJECT IMPLEMENTATION PERIOD

October 2013 – April 2017

CONSORTIUM

- Egerton University, Kenya
- Obafemi Awolowo University, Nigeria
- University of Education, Ghana

Associated partners:

- Wageningen University, The Netherlands
- Kenya Agricultural and Livestock Research Organisation (KALRO), Kenya
- Ministry of Agriculture and Irrigation, Kenya
- International Livestock Research Institute (ILRI), Kenya

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PROJECT WEBSITE

www.dairychain.org
www.dairychain.coelib.org

SUMMARY OF RESULTS

A Master of Dairy Science and Technology (MDairyScTech) has been developed and implemented as a competency based curriculum, with scientific and academic staff trained in competence and outcome-based learning methodology. The African Dairy Academy has been established to enhance research and training and collaboration between the industry and the partner Higher Education Institutions (HEIs).

BACKGROUND

In Ghana, Kenya and Nigeria livestock contributes significantly (30-50%) to agricultural sector GDP. However, the dairy sub sector contributes relatively little. All three countries rely on imported dairy products. Nigeria, for example, expends about \$ 1 billion on the importation of dairy products. Dairy development and marketing patterns in Kenya, Nigeria and Ghana suggest that only a small proportion of the total output of dairy products actually enters the marketing system. Most output is consumed within producing households, particularly in the traditional livestock sector.

There is a need for innovation in the dairy sector. Agricultural Higher Education Institutions (HEIs) need to strengthen their capacity to meet demand, boost production, add value and become competitive with imports. The transformation needs to be knowledge-led and market oriented.

The project was set up to build the capacity of HEIs in eastern and western Africa to deliver competent graduates in the dairy sector through curricula that are entrepreneurial, gender sensitive, practical and relevant to the needs of the labour market and with a focus on poverty reduction.



Students milking during their practical session at Egerton University, part of the competence-based curriculum.

METHODOLOGY

The project reinforced exchange and collaboration between HEIs in Kenya, Nigeria, Ghana and Europe with a focus on institutional capacity building and development of the Dairy Value Chain concept. A key component was the introduction of interdisciplinary teaching and the acquisition of problem-solving skills by students.

Stakeholder and labour market needs assessment

A survey was conducted for curriculum design based on competence profiles, skill development and assessment of the dairy labour market needs.

Academic capacity and educational development

Knowledge and skills development included competence- and outcome-based learning and e-learning. Curricula were reviewed for entrepreneurial, gender-sensitive and practical components.

A MDairyScTech was developed with a system for quality assurance. Academic staff exchange supported human resource development and built interdisciplinary partnerships and networks.

HEI-labour market linkages

Achieved through study research projects, internships and mentoring programmes.

Visibility and knowledge transfer

Research outputs were presented to concerned stakeholders and published as papers or posters. Three conferences were organised to disseminate results and a Dairy Academy was established.

RESULTS

→ Outputs

Capacity building

- An undergraduate curriculum was developed to form the basis of the Master of Dairy Science and Technology (MDairy-SciTech).
- Teaching staff trained on competence based learning methodologies, including its application in the dairy sector, labour needs assessment, curricula design and participatory approaches.
- Technical staff trained in dairy production (assisted reproductive technologies, dairy farm assessment and product processing).
- 40 student internships and mentorships, hosted by various firms throughout the dairy industry.

African Dairy Academy

- Established as a network of dairy scientists and researchers in order to foster collaboration between governments and HEIs in undertaking research and capacity building. The objectives are to facilitate multi-disciplinary research and promote evidence-based policy development.

Research projects

- 20 student research projects aimed at enhancing skills in dairy as well as exploring solutions within the dairy sector.

Publications

- 6 papers in peer-reviewed journals and presented at conferences.

Documents

- Report on labour market needs to guide curricula review.
- Guidelines for industrial attachment / internship / mentorship..

Visibility

- Project website.
- 3 mentor databases.
- Participation in conferences and multiplication symposia.

↑ Outcomes

- Curriculum fit to deliver competent graduates with relevant skills for the development of the dairy sector.
- Teaching staff able to design and deliver competence-based curricula.
- Greater co-operation between dairy industry and academia, including in jointly conducted and supported research.

🎯 Impacts

Usage

- Teaching staff have been enhanced in delivery of competence-based curricula and their attitude towards students has greatly improved.
- Students have the opportunity to be exposed to more practical modes of learning as opposed to pure theory, and enrolment in animal science programmes has increased.
- More research is conducted jointly with the industry seeking scientifically supported solutions in dairy management.

Policy implications

- Results have shown the importance of internship and mentorship programmes as part of training for the industry. The guidelines developed may inform national policy on training of dairy science students.
- One of the partner countries internships are being institutionalised in all undergraduate programmes. To this extent, the government is preparing a working paper towards implementing a tax rebate on parties that offer internship positions to fresh graduates.

Sustainability

- Linkages between HEIs and industry were institutionalised through memoranda of understanding and the Africa Dairy Academy.
- The partners have established a Centre of Excellence for Livestock Innovation and Business (www.coelib.org) with funding from the Dutch Government.

TESTIMONIAL



Joel Khobondo,
Lecturer, Department of
Animal Sciences, Egerton
University, Kenya

“Kenya is currently reviewing its curricula from primary school to university level. The experience gained and expertise learnt will be very instrumental in conducting a constructive review of the government educational sector. The country is at the forefront of curriculum change, so other countries in the region will borrow a lot of expertise and experience from us.”



Teams from Kenya, Ghana and Nigeria meeting on curriculum development.