

Overview of e-learning and blended learning training curricula related to inclusive business and suitable for dairy service providers

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One small side assignment of the Inclusive Business Theme was to explore what e-learning or blended learning training materials are already available in East Africa, offered by the various Dutch partners but not limited to that. This document offers an overview of institutions that are active in training and education related to inclusive business development (focus on cooperatives) and dairy, mostly in Uganda and Kenya, but also some international organisations.

The assignment to explore if and how existing training materials can be converted to blended learning was beyond the scope of this team and the timeframe. It can be noted that blended learning is a slowly emerging development, and that few universities and training organisations are already offering this.

The research has been limited to:

- International organisations active in Kenya and Uganda
- National training and education institutes in Kenya and Uganda
- Dutch education and training centers active in the dairy sector;
- Dutch development organisations active in Kenya and Ethiopia (Agriterra, SNV).

This overview is not exhaustive but gives an overview of what could be gathered in the given time frame. In summary:

- There are many training manuals, courses and reports available related to the dairy sector. Most training address technical dairy issues. Very few address inclusiveness aspects like cooperative principles; or how to engage specific target groups like small holders, youth or women.
- There are very few online dairy courses available. In some cases, there is online training material available but only when you are an alumni or student affiliated to that training institute
- (I) NGOs have developed training materials, but this is usually not available on-line, or only the reports are available online. The trainings are not yet offered in a blended learning way, but more traditionally: classroom, real live trainings, that require physical presence and facilitators.
- Blended learning is still at its infant stage.
- My.Coop ToT and My.coop smart are e-learning modules that are free available and focus exclusively on core aspects of agricultural cooperatives. The trainings are developed by ICT-ILO, FAO in close coordination with various development partners , including Agriterra.

Pathway towards more blended learning or e-learning for inclusive business development in the dairy sector:

- Many universities or TVETs are not yet into e-learning or blended learning, but this will change in the future. Hence this is the right time to explore in detail which institute is most willing to invest in this.
- Uganda: The Makerere University offers an e-learning environment: MUELE (Makerere University E- Learning Environment) being run by E-Learning Department, under CEES (College of Education and External Studies) including technical dairy e-learning modules. This could be an interesting entry point to explore if they can take up certain already available online training courses addressing the inclusiveness aspects of the dairy sector, as this would add value to their dairy training course. Open sources like my.coop can be include. WUR would be best positioned to further explore such opportunities and establish the contact with this university.
- TVET are not yet much focused on blended learning or e learning, but it will be worthwhile to explore the possibilities for collaboration in Kenya.

- SNV and Agriterra have not developed blended learning trainings. Both show generic information about relevant trainings that address inclusiveness is available through websites. The design and development of blended learning training requires experience, a suitable ICT environment and also the students should have good access to internet including the necessary hardware. Until now, most trainings are designed as physical, very practical trainings in which exchanging experiences of the participants, participatory adult learning principles are put central under guidance of experienced facilitators and trainers, either national or international.

ANNEX 1: Overview of e-/ blended learning (dairy) inclusive business focused topics (International)

Organization	Training Modules	Link
EADD-Heifer International (HI), which is the lead partner, Technoserve (TNS), African Breeder Services (ABS), the World Agroforestry Centre (ICRAF), and the International Livestock Research Institute (ILRI).	THE VOLUNTEER FARMER TRAINER EXTENSION APPROACH	http://old.worldagroforestry.org/downloads/Publications/PDFS/TM16068.pdf
FAO- UK	Inclusive Business Models	http://www.fao.org/3/a-i7968e.pdf
	Improving extension work with rural women	http://www.fao.org/3/x0249e/x0249e02.htm#P43_6361
TECHNOSERVE	TechnoServe Initiative for Inclusive Agricultural Business Models	https://www.technoserve.org/files/downloads/case-study_technoserve-initiative-for-inclusive-agricultural-business-models.pdf
International Training Centre of the ILO	My Coop-Managing your Agricultural Cooperative	https://www.itcilo.org/projects/mycoop
Global Forum for Rural Advisory Services	The New Extensionist Learning Kit	https://www.gfras.org/en/knowledge/new-extensionist-learning-kit-nelk.html
GIZ	Approaches to Strengthening Farmer Based Organisations	https://www.snrdafrica.net/wp-content/uploads/2017/04/giz2016-0456en-farmer-organisations.pdf

Annex 2 International organisations providing online training materials (not necessarily the whole course is online)

Organization	Training Modules	Objective of the Training	Target Group	Materials Available Online
Agriterra	Financial Management Management and Organization Governance and Leadership Lobby Business Development Training of Trainers	Strengthening farmer-led businesses, improving sustainable farmer services, and supporting lobbying and advocacy.	Farmers Organizations and Cooperatives. (Farmers in Dairy and other value chain)	overview of the training materials Training and Workshop Videos https://www.agriterra.org/
Latia Agribusiness Solutions	Latia Apprenticeship Training Model. Offers short courses, seminars and field days for farmers and other Agripreneurs	To equip individuals with competencies required to select site, grow horticulture crops, evaluate productivity, post-harvest handling and farm management.	youth graduating from secondary and tertiary institutions, farmers (all farmers in different value chains including Dairy) Agripreneurs	No materials available online but are planning to start an e-learning platform. https://www.latiaagribusinesssolutions.com /L
Dairy Training Institute, Naivasha	Dairy cattle management, feed formulation, quality control and milk processing.	Offer training on Dairy cattle management, feed formulation, quality control and milk processing.	Dairy Farmers and other Interested parties	No materials available online but are planning to start an e-learning platform. https://www.facebook.com/pg/DairyTrainingInstituteNaivasha/about/
Cowsoko	Dairy cattle management, feed formulation, quality control, marketing and milk processing.	Technical dairy subjects.	Dairy practitioners in Kenya	No e-learning but relevant technical publications. No special focus on inclusiveness, but some documents about small holders.
Perfometer Agribusiness	Academy of Dairy Managers (ADM)	Done on the farm to allow the standard operating practices to be demonstrated as practically as possible.	Managers of dairy farms as well as potential managers looking to join dairy farm management as a vocation.	No Online materials http://perfometer.co.ke/
	On farm coaching (OFC)	To train farm workers on the job, at the farm where they work and in the language they understand best.	farm workers working in the dairy farms	No Online materials http://perfometer.co.ke/

SNV Kenya	Kenya Market-led Dairy Programme (KMDP) phase I and II	To contribute to improved competitiveness of the Kenya dairy sector and an improved business and investment climate.	smallholder dairy entrepreneurs, medium and large-scale farmers, dairy cooperatives and farmer organizations, milk processors input suppliers and service providers, including for dairy training and advisory, industry associations and policy and regulatory bodies	KMDP Document Repository A collection of documents on Dairy farming in Kenya. https://cowsoko.com/programs/kmdp/publications http://www.snv.org/sector/agriculture/topics/dairy
Wageningen University and Research (WUR)	Dairy campus which plays an important part in training and educating prospective dairy farmers and other professionals in the dairy chain. Partners with local Institutions in Research	To train on large-scale dairy farming and entrepreneurship, Sustainable dairy farming, Smart Farming and chain efficiency are the key areas.	Prospective dairy farmers and other professionals in the dairy chain.	WUR offers e-learning and are available in their website. https://www.wur.nl/upload_mm/6/f/4/e7fb_4feb-351d-497d-b121-a773cfb52e33_2c0bc0fe-25c3-4ced-92b4-90172a097225_Dairy%20training%20materials https://edepot.wur.nl/391018
Aeres University of applied sciences.	Education and training at certificate, Diploma, Bachelor and Master level. Tailor-made training courses on Dairy all over the world.	Gives students the invaluable opportunity of trying things out for themselves in real-life working environments.	Farmers from different countries in all value chains including dairy.	https://www.aerestrainingcentre.com/training-offer?page=1&facetIds=00000000-0000-0000-0000-000000000000
FAO	Animal Production and Health	To understand the role of livestock production in climate-smart agriculture.	For professionals working in food and nutrition security, social and economic development and sustainable management of natural resources. (including the dairy sector)	https://elearning.fao.org/course/
	Gender in Food and Nutrition Security	Helps raise awareness about the importance of addressing gender equality in food and nutrition security and agricultural policy and programming.	For professionals working in food and nutrition security, social and economic development and sustainable management of natural	https://elearning.fao.org/course/

			resources. (Including the dairy sector.)	
Bles Dairies Consultancy/ Practical Dairy Training Centre Oenkerk	Practical training and E-learning module by DTC for trainers in the dairy sector. Very technical focus.	To acquire knowledge and skills that can be used straight away once students return to their farms	Dairy farmers in Netherlands and the ones working with Bles dairies worldwide. Members only	http://www.dairytrainingcentre.com/en/news-blog/news/practical-training-and-e-learning-by-dtc
HEIFER	Training models on Business Management, Product Quality, Production quantity, Sustainable Growth and Development Skills	poverty eradication	rural farmers in different value chains including dairy	The website contains interesting reading materials like women empowerment and social capital. https://www.heifer.org/our-work/our-model/training.html
GIZ	sustainable economic development and employment promotion and agriculture/ food security	Aim to increase productivity, improve market access and promote vocational training for farmers.	All Farmers	There are no e-learning modules relevant to the dairy sector, but the website contains relevant aspects that can help dairy managers gain knowledge. https://www.giz.de/en/worldwide/317.html
Farm Link	Extension Services On-farm training & tours Silage/Feed/feeding program training Farm Produce Marketing Farm worker training	To provide Specific advice on agribusiness investment and business planning service to guide you establish a successful investment in agriculture.	Farm Managers, Farm Workers, Organized Groups and individuals in different value chains including dairy.	No e-learning materials. Farm link has e-books and one on Successful Dairy Farming that costs KES500 http://ebooks.farmlinkkenya.com/
Baraka Agricultural College	Short Courses targeting farmers for Quick Practical Knowledge	To gain knowledge on Dairy farming Practices	Students from all over Africa who would like to learn about dairy farming.	No e-learning materials available. http://barakaagricollege.ac.ke/
Egerton University	Agricultural Courses Short Courses on Dairy Production	To Equip learners with skills to handle emerging issues In Agriculture. The short courses on Dairy production are meant to address issues directly affecting Cow management.	Students from Kenya and Foreigners who would like to learn dairy courses. Dairy Farmers from the community and globally.	They have e-learning courses covering the dairy sector. http://www.egerton.ac.ke/
FARM-UP CONNECT RUFORUM-Egerton University.	Dairy Cow Production Fact sheet On-farm Training	Create and strengthen linkages between universities, farming communities and other stakeholders to improve	The Farmers in the community and countrywide. (Farmers from different value chains and dairy) Key Stakeholders.	They have factsheets on Dairy Cow production http://farmup.egerton.ac.ke/index.php/resources

		<p>service delivery and market access</p> <p>Develop a framework for farmers' interaction with key stakeholders to obtain appropriate solutions</p> <p>Implement experiential learning for undergraduate students to equip them with practical agricultural advisory knowledge.</p> <p>Contribute to transformation of small- scale agriculture from subsistence to commercial farming</p>	<p>Student interns are attached to specific farms continuously for a minimum of 3 years.</p>	
JKUAT	<p>Research, Production and Extension Department.</p> <ul style="list-style-type: none"> Participation in Agricultural Society of Kenya shows JKUAT students Techno farm JKUAT open day TV and radio programs Demo farm Short courses School visits 	<p>to disseminate and promote adoption of technologies and research findings for enhanced community development</p>	<p>Juja Community at large</p> <p>Visiting Students</p> <p>Dairy Farmers and from other value chains.</p>	<p>Farmer Voice Radio is owned by JKUAT to provide full-featured, multi-media extension services based on radio, with active involvement of farmers.</p> <p>http://jkuat.ac.ke/divisions/rpe/farmer-voice-radio/</p>
UON Kabete Campus	<p>No structured training modules but have a farm which is mainly a teaching facility in the faculty of Veterinary Medicine and faculty of UON</p>	<p>The farm is used for teaching, research and training activities at the farm, various farm Structures and equipment are also available.</p>	<p>Farmers in the Community from different value chains including dairy.</p> <p>Students</p>	<p>No learning materials online since interested groups visit the Institution for learning.</p> <p>https://www.uonbi.ac.ke</p>
Ministry of Agriculture Livestock and Fisheries- Kenya	<p>Extension And Advisory Services Research</p> <p>Agricultural Shows, Field days and Exhibitions</p> <p>On-farm Demonstrations</p>	<p>Agricultural development through delivery of knowledge, technologies and innovations.</p>	<p>Farmers Pastoralists Cooperatives</p> <p>Farmer Organizations (From dairy and other value chains)</p>	<p>Partners with other institutions offering Dairy services.</p> <p>The materials available online include research papers and Reports that have been written in relation to the dairy sector like the report on;</p>

				Kenya National Dairy Master Plan http://www.kilimo.go.ke
Green Dreams TECH- iCow	Farmer Library Advice Smart Tools Calendar	To connect farmers to the vital players in their agricultural ecosystem.	Organizations, Governments and farmers especially in the dairy sector across the world.	iCow is accessed by farmers on their mobile phones or the internet. No online materials but Farmers need to subscribe at a fee so that they can receive messages on Dairy lessons in their phones three times a week. https://icow.co.ke/
One Acre Fund	Training on Modern Agricultural Techniques.	By combining products that allow farmers to raise healthier animals, One Acre Fund aims to have a long-term and diverse impact on household incomes.	Small holder farmers in different value chains including dairy.	Has a library in their website where dairy farmers can download documents https://oneacrefund.org/
Chuka University	No structured training modules however it has Faculty of Agriculture and Environmental Studies that is involved in outreach programs to the community; Improving dairy production Ration formulation Artificial Insemination services and Various student clubs	To improve the livelihoods of the community through sustainable, efficient and increased food production from animals and plants in a clean environment.	Community and other interested farmers in different value chains including dairy.	Materials available online are research conferences and workshops which can equip dairy farmers with knowledge. https://www.chuka.ac.ke/index.php

Annex 3 Uganda based training institutions providing online training materials (not necessarily the whole course is online)

Makerere University. This was established in 1922 as Technical School, in 1949 as the university college affiliated to university college of London and in 1970s as an independent university. Now have 9 semi-autonomous colleges and over 40000 students. The College of Veterinary medicine, Animal resources and Bio security”(COVAB) offers a Bachelor of Industrial livestock and business with options for specialization in the 2 year programme dairy industry and business.

The Makerere University offers an e-learning environment: MUELE (Makerere University E-Learning Environment) being run by E-Learning Department, under CEES (College of Education and External Studies) including technical dairy e-learning modules. Link of online: <https://muele.mak.ac.ug/mod/page/view.php?id=42450> under faculty of economics and agribusiness Makerere University. The e-learning models are open source. Most topics are rather technical.

Bukalasa Agriculture College. This is the main agriculture college in Uganda. It offers diplomas, certificates in general agriculture where students can specialize in animal production, crop, and agribusiness .the animal production and management include models in dairy production and business management. Bukalasa also offers 2- 4 weeks tailor made short courses in dairy production, animal feeding etc., so technical topics.

Rwentanga farm institute. Located in Mbarara milk shed, is one of 12 public vocational institutions also to receive support under the USDP. It offers diploma and certificates in general agriculture. It currently has a farm of high yielding 30 cows and can and support in the project. Doesn't have online platform and course for dairy inclusive business.

Kyera agricultural training college: a private college also in Mbarara district and close to the border with Tanzania, it also offers animal production program. It has agribusiness program. This college can handle inclusive business models. The college is recognized by Uganda national council for higher education (UNCHE) It doesn't have online business platform.

Busitema University : This is an agricultural college. It also offers a 2 years diploma program in animal production and management. It can handle inclusive business models with its different agriculture inclusiveness programs. Doesn't have e- learning platform for dairy industry.

AN OVERVIEW OF SNV TIDE PROJECT TRAINING MATERIALS THAT CONTRIBUTE TO IBM.

TIDE has developed its own training materials not directly based on and also inspired by the Kenyan models. These are adapted to the local language and provide day by day guides for trainers to deliver 60% practical and 40% theory training programmes.

Omnitech app: Farm Record Management App. e-Lunda <http://omnitech.co.ug/our-products/e-lunda/>

This is based on Kenga, at the core of improved management and production, is the need to manage farm records efficiently and effectively, it is a dairy app as well. Omnitech training material is a mobile phone app with the web interface developed for the purposes of analyzing and updating the farmers information regarding the cost price of raw milk and dairy farm profitability. The app is easily available and very useful also for extension officers to train in the field. The app can be used for any dairy farmer, being small or big. It supports farmers in farm data record keeping: Animal Identification Records; Vaccinations and treatment; Track heat cycles and pregnancy; Daily Milk Yields per animal / farm; Milk Sales

and Consumption

This app is off-line available and contains training material related to the following modules. Module 1

Dairy registration

Module 2	Milk records
Module 3	Cow card Module
4	Feed and fodder
Module 5	Financials.

Nutrition and feeding. This training material provides the basics of nutrition and feeding of dairy cattle including keeping records on cutting Napier and concentrate uptake. A number of youth and women have been trained and engaged in different feeding activities like silage and hay making. No e-learning modality.

Calf rearing. This training material simplifies the young calf rearing style for small scale dairy farmers. This material has modules and steps that are followed by small scale dairy farmers to raise the calves.

Understanding and integrating gender issues in the project. This training material provides the guidelines of engaging the different gender types in the project. This provides the guide for integrating women and youth.

ANNEX 4 Agriterra (worldwide) inclusive business training materials (on and offline)

Agriterra has developed 15 products/trainings that are focused on professionalising cooperatives (not dairy specific). All training is specially designed for agricultural cooperatives, that can be seen as inclusive entities. See the overview below of all training products: On the training website of Agriterra <https://training.agriterra.org/en/training> more information can be found on each training. Only one of the trainings is available as e-learning module (ToT My.Coop). None of the trainings is specifically designed for the dairy sector, but all are focusing on cooperative development.

Modules that directly address the topic of Inclusiveness are:

1. Kick off Workshop Youth participation
2. Female Leadership Training
3. Managing your cooperative ToT my.coop*
4. Cooperative Governance Programme



The diagram illustrates a series of training modules arranged in a grid, each accompanied by a small icon. The grid is organized into columns: FARMER LED BUSINESSES, FARMER SERVICES, and FARMER LOBBY. The rows represent different training categories. To the right of the grid, three vertical bars are labeled 'ADVICE', 'TRAINING', and 'EXCHANGE', corresponding to the columns of the grid.

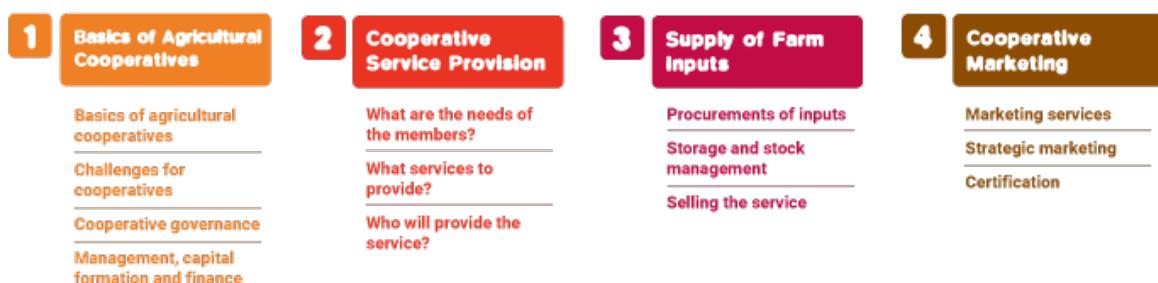
	FINANCIAL MANAGEMENT	FARMER LED BUSINESSES	FARMER SERVICES	FARMER LOBBY
	<ul style="list-style-type: none"> Basic financial management training Strategic financial management training Record keeping workshop Training course on internal capitalisation for farmers' cooperatives 	◊	◊	
	MANAGEMENT & ORGANISATION			
	<ul style="list-style-type: none"> Scoping tool Cooperative assesment Organisation assesment 	◊	◊	◊
	GOVERNANCE & LEADERSHIP			
	<ul style="list-style-type: none"> Coop governance programme Member commitment workshop Managing your agricultural cooperative, My.COOP Female leadership training Kick off workshop youth participation Guidance and support for supervisory boards Human Resource management toolbox 	◊	◊	◊
	LOBBY			
	<ul style="list-style-type: none"> FACT Farmers Advocacy Consultation Tool 			◊
	BUSINESS DEVELOPMENT			
	<ul style="list-style-type: none"> Marketing basics training Sustainable services workshop Value creator tool 	◊	◊	
	TRAINING OF TRAINERS			
	<ul style="list-style-type: none"> Training of trainers on financial management Training of trainers My.COOP Training of trainers coop governance programme Training of trainers Marketing basics training 	◊	◊	

E-learning on cooperatives

MY.COOP <https://www.itcilo.org/en/areas-of-expertise/rural-development/my-coop-managing-your-agricultural-cooperative> is a training package and programme on the management of agricultural cooperatives. Developed and launched in 2012 through a partnership of several organizations including the ILO, the FAO, the International Training Centre of the ILO, Agriterra, the Royal Tropical Institute and the Wageningen University and Research Centre, My.Coop consists of a trainer's manual and four learning modules. It also has an [online community of practice](#) and an [online training of trainers \(ToT\) programme](#).

The objective of this training material is to enable existing and potential managers of agricultural cooperatives to identify and address major challenges that are specific to cooperatives in market oriented agricultural development. Cooperatives may find themselves stretched between (at times conflicting) members' interests, business opportunities and social considerations. Within such context cooperative managers should ensure sound decision-making on service provision for services that are common to many agricultural cooperatives, including supply of farm inputs and marketing.

These issues are reflected in the modular structure of the My.COOP package as follows:



The My.coop online is a good introduction but the experiences shows that a physical training to trainers (ToT) and roll out in the field to managers is the most effective way of dissemination of this cooperative management knowledge.

In terms of inclusiveness, the my.coop addresses more the small holders, but there is no specific attention for youth or women.

MY.COOP smart: In the spirit of My.Coop, My.Coop Smart follows open access principles and is available since September 2019
https://rise.articulate.com/share/cZGOpPkWuk2Ysh1PAgrhmFfhsDJCxra#/lessons/25EaqkaJz9x9fg_BF4P9VwVFChlEseeqp

My.Coop Smart is the online interactive self-paced course part of the MyCoop family. It uses case studies and practical experiences to deepen the content of the MyCoop manuals and strengthen knowledge of critical concepts. MyCoop Smart demonstrates how interventions such as training, awareness raising and knowing financial and practical tools increase governance, dialogue and management and can benefit cooperatives. My.coop Smart introduces the core contents of My.Coop modules through a dynamic and smartphone compatible interface. It provides access

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to updated examples from field practices. My.Coop Smart is included in the curricula of online ToT.