AgShare Convening Report

Date: 30th March 2015
Strengthening Critical Value Chains with AgShare Open Knowledge

AgShare II Convening: 11 – 12th March 2015
Addis Ababa, Ethiopia
# Table of Contents

1. **Background** ........................................................................................................... 5
2. **Purpose of the convening** .................................................................................. 5
3. **Workshop attendance** ......................................................................................... 5
4. **Summary of workshop proceedings** ................................................................. 5
   4.1 The AgShare methodology ................................................................................... 5
   4.2 Gender in Agricultural Research ......................................................................... 6
   4.3 Institutional Presentations .................................................................................... 6
   4.4 Lessons emerging ................................................................................................. 9
   4.5 Educational Technology by Brenda Mallinson ................................................... 10
   4.6 Dissemination of AgShare Methodology ............................................................ 11
   4.7 Digital story telling by Rashad Muhammad ....................................................... 12
   4.8 Strengthening Research Capabilities .................................................................... 12
   4.9 Institutionalisation of AgShare Methodology ..................................................... 13
   4.10 Monitoring & Evaluation ................................................................................... 14
   4.11 Planning .............................................................................................................. 14
5. **Post workshop activities to be coordinated** ..................................................... 14

**Appendix A: List of Delegates** ............................................................................. 16

**Appendix B: The AgShare Methodology** ........................................................... 17
1. Background
AgShare II is being implemented by five teams located in three universities, Makerere in Uganda, Haramaya and Mekelle in Ethiopia. There are two teams at Makerere, two teams at Haramaya and one team at Mekelle. All the teams are implementing the project in different agriculture-related value chains, as shown below:

- Makerere College of Communication and Information Science (CoCIS) – Indigenous Agricultural Knowledge
- Makerere College of Veterinary Medicine, Animal Resources and Biosecurity (COVAB) – Dairy Hygiene
- Haramaya Department of Agricultural Information and Communication Management (AICM) – Enhancing Agricultural information through mobile technology
- Haramaya Department of Agricultural Economics – Marketing of agricultural products
- Mekelle College of Water Resources and Irrigation Management – Water and soil conservation

Each of the five teams is expected to implement the project by actively involving postgraduate students and local farming communities in action research, and in the process, jointly generate knowledge that feeds into the curriculum whilst at the same time it addresses farmers’ needs. Thus, the ultimate aim of the project is to create an environment where theory learnt in academia is bridged with practice by farmers. The different project teams are at different stages of project implementation, although all of them are expected to complete the project by end of October 2015.

2. Purpose of the convening
The purpose of the AgShare convening was to provide an opportunity for project teams to share experiences on progress made so far on the AgShare II project. At the same time, the convening offered an opportunity for project teams to plan for the remaining part of the project with support from the three partner institutions, namely Saide, MSU and RUFORUM. The specific objectives of the convening were:

- To identify progress made by institutions to date and challenges being experienced, and share experiences with a view to overcoming some of these challenges.
- To facilitate planning that enhances the timely completion of high quality products.

3. Workshop attendance
Three project participants were invited from each of the five teams, although in the end 13 attended the workshop. In addition to project teams, all the three project partners were represented at the workshop. The external evaluator of the project was also invited to participate in the convening so he could familiarise himself with the project and with implementers in institutions. In total, 22 delegates attended the workshop. Appendix A shows the names of all the workshop participants.

4. Summary of workshop proceedings
4.1 The AgShare methodology (Andrew Moore -NBA)
- Andrew presented the Agshare methodology using examples of how the two Makerere teams (COSIS and COVAB) have interpreted the methodology in their AgShare projects.
- The methodology consists of input, output and outcome variables all of which are interrelated.
- The input factors enable certain project activities to be implemented in order to realize certain outputs.
- The methodology is fully illustrated in the diagram in Appendix B
4.2 Gender in Agricultural Research (Nathalie M. Me-Nsope - MSU)

- Nathalie Me-Nsope gave a presentation on gender in Agricultural research, something that had not been previously thought about on the project.
- She made the point that gender issues in Agriculture are important especially in developing countries where experience shows that there is resistance amongst societies in African countries to give women decision making opportunities in agricultural matters.
- She made reference to the Global Centre for Food Systems Innovation (GCFSI) Mission, which is to create, test and enable the scaling of effective solutions and evidence-based approaches to a defined set of future critical global trends impacting food systems.
- She also gave the specific objectives of GCFSI (see Power Point presentation for details).
- The key point highlighted is that unlike sex, gender is a social construct.
- Thus, social context defines who does what; produce assets on the basis of gender; assets influence both the decision to participate and the level of participation in agricultural systems activities.
- The presentation underscored the importance of incorporating gender into Agricultural Curricula (OER modules & courses).
- It also emphasized the importance of incorporating gender into the Agricultural research agenda in order to:
  - Determine relevance of gender to the topic
  - Engage with gender questions that need to be answered, and
  - Build student’s / researchers’ capacity for gender-responsive agricultural research.

(For more details on the presentation on gender issues see PowerPoint slides).

4.3 Institutional Presentations

4.3.1 Haramaya AICM

- Progress
  
  **Objective 1**
  
  - Training workshop on designing and implementation of scientific studies was held at Haramaya University campus
  - Workshop participants included staff members, project team members and all AICM (AgShare project potential students), and student supervisors from both teams at Haramaya.
  - Students were selected and trained on video production

  **Objective 2**
  
  - The following course modules were revised and reviewed by MSU content experts:
    - AICM 643: Farming Systems and Rural Livelihoods;
    - AICM 510: Fundamentals of Agricultural Information and Communication Management
    - AICM 616: Agricultural Knowledge Management.
  - Retreat workshops were held
  - Video case studies were produced (yet to be edited and translated into English)

  **Objective 3**
  
  Nothing reported on this objective

- Challenges experienced
  
  - Challenges: Delay of project start
Limited student capacity
Also searching for other African videos relevant to the course (some from Kenya)

4.3 2 Makerere COCIS

- **Progress**

  - **Objective 1**
    - Implementation plan developed and executed.
    - Institutional project budget developed and followed.
    - Investigating/Reporting on institutional challenges and enablers
    - Report on institutional challenges and enablers for adoption of AgShare developed and submitted.

  - **Objective 2**
    - Purchased 4 laptops and 3 Smart Phones
    - Stakeholder induction workshop conducted
    - AIK data collection techniques and technology applications workshop held
    - Pre-field retooling of students on the use of smart phone technology in data collection conducted
    - AIK data collected by students under the supervision of project team and academic supervisors.
    - AIK Online Database created and hosted on Mak/CoCIS server [http://agshare-ik.mak.ac.ug](http://agshare-ik.mak.ac.ug)
    - Best student research experience report produced
    - 1 student has submitted first draft of his dissertation.
    - One staff research supervision experience report produced
    - Data quality control and translation done
    - Farmers’ pilot workshop was held in Hoima District
    - Information packaged in form of flyers, CD-ROM, brochures, posters
    - Case studies to support agricultural research themes developed for MSc. Information Systems programs

  - **Objective 3**
    - Institutional activity report produced
    - 1 international activity report presented in Mozambique at the 2014 RUFORUM Conference
    - Publication of outputs in form of flyers, CD-ROM, brochures, posters and distributed to district officials and farmers

- **Challenges experienced**
  - Unexpected strikes in the University
  - Intermittent / slow internet connectivity to the AgShare database
  - Limited memory storage for the smart phone & battery life
  - Video and audio recording challenges
  - Students’ slow progress towards completion
  - Drop out of recruited student

- **Way forward**
  - Participation in project management and integrated monitoring and evaluation activities
  - Activity evaluation reports as required
  - Evaluation of OER development activities
  - Evaluation of AgShare online resource guide
  - Evaluation of AgShare Toolkit
  - 2 x project progress reports
1 x final institutional project report
Student reflection on OER Development
Student research publication
Face to face seminar with farmers regarding AIK alternative means of dissemination
Presentation of OER to community stakeholders
Progress Reports

4.3.3 Haramaya AE

- Progress
  
  Objective 1
  
  - Inception meetings held
  - Student and staff training workshops held

  Objective 2
  
  - Three course modules revised and reviewed by MSU experts:
    - Agricultural Marketing and Price Analysis
    - Research Methods, and
    - Institutional and Behavioral Economics
  - Constructive and invaluable comments received and incorporated which significantly improved the quality of the modules
  - Students developed questionnaires and started data collection in January, 2015.
  - Materials required for video case studies were procured and handed over to the students.
  - Budget has been disbursed as per the plan.
  - Field visits to the study sites of the respective students were made by supervisors
  - Students finished data collection and started analyzing the data. Some even produced preliminary findings of the study

- Challenges experienced
  
  - Long procedure and duration for defending an MSc thesis in the University mainly due to the school’s recent decision to conduct proposal defences only four times a year.
  - University- wide meeting held for ten days throughout the country-this ate into project time.
  - Lengthy procedures for fund disbursement.
  - Appointment of the trained and experienced video expert to a deanship position and absence of other trained professionals.
  - Some study sites are far away and this poses challenges of travel and communication.
  - Visa requirements and the cost implications to survey vegetable terminal market beyond the country borders

4.3.4 Makerere COVAB

- Progress
  
  Objective 1
  
  - Courseware Development workshop for staff and students done
  - Farmers to participate in the study identified.
  - Students had a say in which areas to focus on based on research focus.
  - Baseline studies with farmers and milk collection point personnel done

  Objective 2
  
  - Data collection and analysis by students under way
o Uptake of Agshare methodology within the faculty and institution will be addressed once we have completed the process.

- **Way forward**
  o 1 Procedural brief and guidelines
  o 4 students involved in action research
  o 1 Community factsheet
  o 3 Reflection reports
  o OER based curriculum
  o 1 policy brief
  o 1 advocacy Report

4.3.5 Mekelle

- **Progress**

  - **Objective 1**
    o Water harvesting needs in case study site identified
    o The Agshare method suits the need
    o The case studies developed will support modules within a wider course on Best Practices in Water Resource Development and Management.

  - **Objective 2**
    o Course modules revised:
      - Integrated Water Resources Management
      - Irrigation Agronomy
      - Water Harvesting

  - **Objective 3**
    Nothing reported on objective 3

- **Challenges**
  o Low engagement of staffs
    - Health, other assignments, and some technical failures
  o Unpredictability of the project
    - Time/schedule
    - Budget
  o Low engagement by staff (health) and also time and budget constraints.

4.4 Lessons emerging

- Mekelle’s project showed that Agshare has potential to address some of the identified needs of local communities.
- COVAB demonstrated continuity between Agshare 1 and 2
- Flexibility in projects is important
- BMGF liked the focus on the student and farmers and linking theory with practice
- Technical support better with Agshare 2 than 1
- There is tension between student products for Agshare and the needs for their thesis. There is the concern that students have to collect additional data for Agshare deliverables distinct from their thesis requirements.
- Action research not really understood.
- Costs in the field are considerable. Due to budget constraints faced in implementing the AgShare method, there is need to mobilise funds from a third party if the methodology is to
be institutionalized in universities. There is also need to explore possible ways of sharing costs with relevant stakeholders. Collaborative engagement in the Agshare projects could produce some savings.

- COVAB video demonstrated the use of existing data developed for AFRISA being mobilised to support the farmers. Students then collect data during implementation and report back. Farmer feedback to still happen in June
- In terms of general project progress, there was general consensus that objective 2 looks good and there is plenty of OER being developed by students and faculty. We now need to look at how to integrate the OER into coursework and other mediums of dissemination. We also need to start work on licensing the products.
- Progress on Objective 3 is however still limited. Objective 3 needs a lot of consideration as little has been done in this area.
- Process to achieve objective 3 on creating an institutional enabling environment – Need to focus at departmental level, produce proof of concept examples, identify champions before approaching the senior management. Also need to identify research data to prove that the method adds value and enhances learning and farming practice. The process will take time to be incorporated into institutional processes.

4.5 Educational Technology (Brenda Mallinson)
Brenda used the two diagrams below to explain the evolution of e-learning and the modes of provision:

- The continued evolution of e-learning is contributing to the blurring of the distinction between face-to-face and distance education provision.
- A second continuum could represent another dimension by plotting the extent of supporting ICTs – ranging from fully offline to fully online. Note the inclusion of ‘digitally supported’ in the ICT dimension. In our African context, it is pertinent to also consider digital forms of support that do not require internet access. The digital forms of support for learning could be offline via a CD/DVD, and a further detail could be expressed by clarifying exactly which elements of the ICT dimension may be on- or offline. Within a particular course, learning could be supported both online and digitally offline at various stages.
- The 3rd dimension is largely influenced by cohort size.
Key points of the presentation
- The way in which we use digital technology models particular values for our students and places particular kinds of demands both on them and on their teachers.
- We need to make conscious choices to use suitable digital technologies in appropriate ways taking cognisance of both our learning purposes and the technology profile of our target learners and teachers.
- Embrace the opportunities afforded by ICTs while preserving pedagogical integrity.
- Use ICTs to support (not drive) the teaching and learning process.
- Be adaptive to change and mindful of context when utilising supporting ICTs.
- Build capacity to promote sustainability in changing learning environments.

4.6 Dissemination of AgShare Methodology (Nodumo Dhlamini - RUFORUM)
- Developing an enabling policy environment
  - Harnessing students to be an integrated part of their academic programs was the initial key focus of Agshare.
  - Agshare Methodologies must be part of the overall assessment of the students.
  - Innovation and formal academic curricula conflict most times.
  - The Agshare Methodology is not cheap. Where will we get a sustainable flow of funding?
  - Need to integration to something viable - maybe we should sell this to the Faculties of Agriculture.
  - Agshare offers us a window of opportunity to profile African OER. Africa has been a marginal producer of knowledge.

Questions and Suggestions for way forward
- At which level must we focus in terms of institutionalization - faculty / university level. Best to focus on faculty level because we have more control.
- What kinds of policies need to be in place - Curriculum Policy; HR Policy; Open Licensing?
- Have we thought about post-project sustainability?
- What support do the institutions require?
- How can we secure sustainable streams of income?
- The group is already thinking of most of these issues.
- This helps us to focus our minds and understand how we can operationalize institutionalization.
- What are the constraints in relation to existing institutional policies?
- Makerere College of Agriculture & Environmental Sciences Input - could Agshare help through the existing CAES students internships?
We can write a grant to support Agshare for at least a year. "Teaching Methods as a research approach". We need to maintain what has been started. We could also look at funds from institutions and National Research Foundations.

How do we know if we have true Agshare Champions? This is important for institutionalization.

4.7 Digital Storytelling by Rashad Muhammad (MSU)
- Rashad presented on the digital storytelling course he developed. The 3rd iteration of the course is starting on Monday, 16th March 2015.
- It is a 5-week course which starts at 7:30 Eastern US time and is taught through Adobe Connect.
- Course evolved from work started with Agshare. It helps people to communicate the value of research results.
- The aim is not to make participants professional journalists, but to make them better storytellers.
- Adaptation of the approaches of the Center for Digital Storytelling.
- Capture the emotional heart of the story… but convey the value of the research.
- Rashad walked through the Edcast login instructions and demonstrated how the platform works.

4.8 Strengthening Research Capabilities (Prof John Kaneene MSU)
- Prof John Kaneene opened his presentation by highlighting what he called the six pillars of research capabilities, which are:
  - Laboratory and Related Facilities
  - Critical Mass of Research Faculty
  - Opportunities for Further Training of Faculty
  - Ability to Compete for Extramural Grants
  - Ability to Design, Implement, and Analyze Research Projects
  - Ability to Contribute to the Scientific Literature and Different Stakeholders
- Different funders focus on different types of research:
  - Research Grants: these fund hypothesis-driven research
  - Development Grants: these fund research that demonstrates high impact and sustainability
  - Combined Development and Research Grants: these support hypothesis-driven research to generate programs that have high impact and are sustainable.
- In so far as the AgShare methodology is concerned, John emphasised the importance of building capacity in:
  - Designing research studies
  - Implementing studies
  - Analyzing results from research studies
  - Publishing research
- Key steps in conducting research:
  - Provide a Problem Statement
  - State the Overall Question
  - Formulate the Hypothesis(es)
  - State Objectives and Specific Aims
- Design the Study
- Implement the Study
- Analyze the Data
- Interpret Results
- Publish the Study Results

**Types of studies:**
- Descriptive Studies: Hypothesis testing - NO
- Analytical Studies: Hypothesis testing – YES
- Experimental Studies: Controlled
- Observational Studies: Not controlled

**Aspects germane to the African context**
- Consider the technology students have - most students have mobile phones.
- Students in rural villages don’t have much bandwidth. Can’t afford online courses.
- Some of them don’t have smartphones, so they need to come to the university to access online resources
- In spite of these limitations, we need to be pragmatic and realize that:
  - Technology is beginning to bridge the gap. Richness of interactions is possible.
  - It is possible to do some training on new technology-based learning methods
  - Some students can utilize Internet Cafes
  - Our students are ready for Facebook, and WhatsApp. Why shouldn’t they be ready for technology-supported learning? We need to assess on a regular basis where our students are in terms of technology.
  - Constraint is probably more the instructors than the students.

**Suggestions for technology uptake**
- What will motivate faculty — hold up champions.
- Provide more professional development
- Provide more support to faculty
- Faculty are role models.
- Need more departmental collaborations for academic staff. Students that might be able to assist in developing educational materials. Need to get out of our silos.

**As academic staff— do you embrace the idea of changing your course to blended models?**

### 4.9 Institutionalisation of AgShare Methodology (Neil Butcher - NBA)

**Key questions to consider**
- For post-project sustainability, will it make more sense to focus on work at a faculty of a university level?
- What key issues of sustainability do you want to focus on within your faculties/institutions?
- Creation of supportive policies (noting time this takes at institutional level → faculty level focus may be better) – curriculum, HR, open licensing?
- Integration of AgShare models into formal programme curricula?
- Releasing staff time to work on building AgShare models – is this realistic?
- Securing sustainable streams of income?
- What progress has been made to date in ensuring post-project sustainability of AgShare models? How can we build on this in the time remaining in the project?
4.10 Monitoring & Evaluation (Ken Harley-Evaluator)

- M & E is really just about identifying what we’ve learnt from AgShare implementation and our personal/ professional experiences. Nobody will be judgmental about what has happened – we just need to understand what has happened, and why.
- As with research, it’s simply about interrogating issues and experiences in an enquiring, open-minded way.
- Who will be involved in M & E?
  - The partners: Saide; MSU and Ruforum
  - Universities: This is where the AgShare model is being implemented. From here, we’re addressing only the universities in relation to M&E.
- What needs to happen?
  - Ken, Ephraim and universities should plan for Ken to visit universities (to interview staff and students) in August. This is the Evaluation.
  - Ken will develop a plan that will be shared with university teams.
  - As discussed in previous sessions of the workshop, action research (AR) is an unfamiliar methodology in East Africa, and perhaps there are also doubts about it being regarded as a legitimate ‘scientific’ research approach.
  - At the same time, it’s clear that while Universities have implemented AgShare in thoughtful and creative ways, they may not necessarily have recorded reflective data in the kind of systematic way that AR likes.
  - So, project teams were requested to engage in a retrospective, reflective exercise for monitoring.
  - They were provided with guidelines for both students and staff to compile reflection reports which should be submitted to Ken before the Evaluation takes place in August. These reflection reports should reach Ken by 30th June, at the very latest.
  - Some project teams indicated that August is not a good period for them to have the evaluation visits.
  - A schedule for Ken’s visit needs to be developed – a Doodle poll was created for institutions to indicate when the visits can be made.

4.11 Planning

Institutional teams started developing implementation plans at the workshop, with the help of facilitators. Plans were to target 30th September 2015 for completion of all project deliverables. Teams were also provided with a format for developing the simple plans. Teams were furnished with an extract of project milestones and products from the funder’s report so they could align their plans with the funder’s expectations. The plans were shared in a report-back plenary.

Issues arising: Some of the teams indicated that there were milestones and deliverables in the funder’s report that were not explicitly stated in their contracts, and therefore which they had not budgeted for. Examples of such outputs include policies on institutionalisation of AgShare methodology, financial models for implementing the methodology and case study on the implementation of the AgShare methodology.

5. Post workshop activities to be coordinated

License Products

- OER copyright clearance for project products – we need to set dates for this exercise
• Submission of OER to RUFORUM – to be done as products get ready to avoid submitting everything at once
• EM to coordinate appropriate branding (logos) for the products
• EM to follow up with John Kaneene on the MSU person responsible for identifying appropriate OER to be put on the RUFORUM site
• Nodumo to clarify the process of uploading such OER

**Visits by project team members**

• Space for Neil’s visits on sustainability/institutionalisation issues. Need to brief Neil of the general feeling from teams that some of the suggested outputs like policies and financial models are new and not in their contract budgets
• Plan for Ken’s evaluation visits. Send consolidated information from project leaders on people to be interviewed for the evaluation during Ken’s visits to Ken. Ken to use the information for rationalizing his visit plan to institutions.
• Institutions to send reflection reports to Ken by end of June, latest.
• Plan for Brenda’s LMS support visit for June/July.
• Draw on institutional enablers and challenges document to develop sustainable strategy. EM to give the consolidated document to Neil.

**Project team plans**

• Institutions to send their next revised plans to EM by 16th March 2015
• EM to circulate Quality Assurance Toolkit and the OER guidelines to project teams
• Institutions to collect financial data on implementing the AgShare methodology before Neil’s visits.
• The Makerere dairy Hygiene course to be put on the RUFORUM MOODLE platform
• Project teams to send all pamphlets and flyers to RUFORUM. They should also have the RUFORUM logo.
# Appendix A: List of Delegates

<table>
<thead>
<tr>
<th>Name</th>
<th>Surname</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Constant</td>
<td>Okello-Obura</td>
</tr>
<tr>
<td>2.</td>
<td>Maxwell</td>
<td>Omwenga</td>
</tr>
<tr>
<td>3.</td>
<td>Gabriel</td>
<td>Karubanga</td>
</tr>
<tr>
<td>4.</td>
<td>Stevens</td>
<td>Kisaka</td>
</tr>
<tr>
<td>5.</td>
<td>Mayanja</td>
<td>Raymond</td>
</tr>
<tr>
<td>6.</td>
<td>Herbert</td>
<td>Mukiibi</td>
</tr>
<tr>
<td>7.</td>
<td>Yousuf</td>
<td>Jemal</td>
</tr>
<tr>
<td>8.</td>
<td>Yared</td>
<td>Mammo</td>
</tr>
<tr>
<td>9.</td>
<td>Jema</td>
<td>Haji</td>
</tr>
<tr>
<td>10.</td>
<td>Belaineh</td>
<td>Legesse</td>
</tr>
<tr>
<td>11.</td>
<td>Fekadu</td>
<td>Gelaw</td>
</tr>
<tr>
<td>12.</td>
<td>Atinkut</td>
<td>Mezgebu</td>
</tr>
<tr>
<td>13.</td>
<td>Tsegazaeb</td>
<td>Gebremedhin</td>
</tr>
<tr>
<td>14.</td>
<td>Nodumo</td>
<td>Dhlamini</td>
</tr>
<tr>
<td>15.</td>
<td>Ephraim</td>
<td>Mhlanga</td>
</tr>
<tr>
<td>16.</td>
<td>Jenny</td>
<td>Glennie</td>
</tr>
<tr>
<td>17.</td>
<td>Brenda</td>
<td>Mallinson</td>
</tr>
<tr>
<td>18.</td>
<td>Andrew</td>
<td>Moore</td>
</tr>
<tr>
<td>19.</td>
<td>Kevin</td>
<td>Gamble</td>
</tr>
<tr>
<td>20.</td>
<td>John</td>
<td>Kaneene</td>
</tr>
<tr>
<td>21.</td>
<td>Nathalie</td>
<td>Me-Nsopes</td>
</tr>
<tr>
<td>22.</td>
<td>Ken</td>
<td>Harley</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16.</td>
<td>John</td>
<td>Kaneene</td>
</tr>
</tbody>
</table>
Appendix B: The AgShare Methodology

1. Model of the Agshare Method

OUTCOMES:
- Improved agricultural teaching and learning
- Empowered Farming stakeholders

INPUTS:
- Farming Stakeholders
- Participatory Action Research
- University Faculty

OUTPUT:
- Technology transfer, skills, knowledge
- Open Education Resources (OER)
- Relevant Curricula

2. Makerere CoCoIS & CAES Project
Focus on Agricultural Indigenous Knowledge (IK)
(Multiple value chains)

OUTCOMES:
- Improved Agricultural & Information Systems teaching and learning
- Empowered Agricultural Farming stakeholders

INPUTS:
- Farmers in the Soroti, Masaka, and Hoima districts
- Faculty and farmers interacted during project inception, during student supervision in the field, and at a farmers' verification workshop.

OUTPUT:
- Databases, records, videos, photos, farmer brochures, Govt. policy brief, etc.
- IK case studies used to update the M.Sc. AINOM and M.Sc. IS courses

3. Makerere CoVAB Project
Focus Dairy Value Chain (specific focus: Dairy Hygiene)

OUTCOMES:
- Improved Veterinary Science teaching and learning
- Empowered Dairy Farming stakeholders

INPUTS:
- Dairy Farmers outside Kampala area via a dairy coop
- Faculty and Dairy farmers consulted at initial project inception and MOU signed, during student supervision and at information evening at the coop.

OUTPUT:
- New online Dairy Hygiene course
- (25 notional hours) on MAK Moodle Server

INPUTS:
- CoCoIS Students: Eric Hasamba, Sylvia Nakeua, Sylvia Namayi
- CoVAB Students: Annet Mugiga, Josephat Mungagi, +1

Students visited dairy twice, once to collect baseline data then to help implement the research 'solution'. Students present during official feedback sessions at coop.

Students research proposals vetted and supervision when students were in the field.