**Project Profile**

<table>
<thead>
<tr>
<th>Title</th>
<th>Development of a Low-Cost Pineapple Drier and Utilization of Agricultural Waste to Enhance Income Security among Small-holder Farmers in Kayunga District</th>
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</thead>
</table>
| PI    | Dr. Ahamada Zziwa  
Tel: +256 772 636253 /+256 701 636233  
Email: engzziwa@gmail.com or zziwa@caes.mak.ac.ug |
| Co-researchers | Florence B. Kyazze (PhD.)  
Makerere University  
Department of Extension and Innovation Studies  
Email: fbirdungikyazze@caes.mak.ac.ug or fbirdungikyazze@gmail.com  
Telephone: +256 – 703- 111292 or +256 – 782 354 233  
Dr. Komakech Allan  
Makerere University  
Department of Agricultural and Biosystems Engineering  
Email: allankoma@gmail.com and or allankoma@caes.mak.ac.ug  
Telephone: +256 -753-205622  
Kambugu Robert  
Makerere University  
Department of Agricultural and Biosystems Engineering  
Email: kambugu@caes.mak.ac.ug  
Telephone: +256 – 772 621863  
Lwiza Nsereko Florence  
Makerere University  
Department of Agribusiness and Natural Resource  
Email: flwiza@caes.mak.ac.ug  
Telephone: +256 – 782 765302 |
| Purpose | To enhance income security of small-holder pineapple farmers through development and promotion of low-cost cooker-dryer technology and the utilization of agricultural waste as manure and animal feed. |
| Project Summary/Abstract | The project will adopt an action-research approach to develop a cooker-dryer unit and determine feeding rates for optimal vermicomposting of |
agricultural wastes in Uganda. The project started with a baseline survey to understand the challenges and opportunities of pineapple farmers in Kangulumira sub-county together with the socio-economic factors that affect the demand for and ability to invest in solar driers. The project will undertake a technical evaluation of existing driers, modelling, developing and testing of an appropriate cooker-drier by one MSc student. The third dimension shall be an assessment of the applicability of vermi-composting technology in enhancing agricultural production using pineapple waste in the target community by a second MSc. student. The two MSc. study components are complementary; wastes from primary processing will be used in the vermin-compost units, an innovative way of increasing recovery and incomes from agricultural produce. Currently the two MSc. Agricultural Engineering Students are developing their research proposals before embarking on the design and set up of their experiments. As a way of building farmers’ capacity and ensuring sustainability of the project innovations, the project team shall build the entrepreneurial capacity of the target farmers with a specific emphasis on record keeping, interpersonal skills and basic marketing skills with a view of developing and sustaining markets for dried produce, worms, and compost to drive further technology adoption.

<table>
<thead>
<tr>
<th>Country and Specific Location(s)</th>
<th>Uganda, Kangulumira sub-county – Kayunga District</th>
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<tbody>
<tr>
<td>Participating Institutions</td>
<td>Makerere University, Kangulumira Pineapple Cluster</td>
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<tr>
<td>Start Date</td>
<td>Dec 2014</td>
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<td>End date</td>
<td>Dec 2016</td>
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<tr>
<td>Amount of Funding</td>
<td>US$ 64,936</td>
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Ahamada Zziwa (PhD)

Dr. Ahamada Zziwa is a Senior Lecturer in the Department of Agricultural and Bio-Systems Engineering, Makerere University. Ahmed holds a PhD in Civil Engineering (2013); M.Sc. in Forestry (2005); and B.Sc. Agricultural Engineering (1999) of Makerere University (Uganda). Ahmed also undertook Personal Mastery and Soft Skills Training organized by RUFORUM and Funded by Rockefeller Foundation from 2004 to 2007. Ahmed has also attended a number of short pedagogical trainings that have improved his skills as trainer and facilitator at higher levels of learning. Ahmed has field experience with respect to wood strength properties, timber engineering, agricultural structures and post-harvest technologies. Some of the Consultancies and Research Projects spearheaded and contributed to by Dr. Zziwa include: Design and fabrication of a low-cost automated pasteurizing tank under the Food Technology and Business Incubation Centre with funding support from the Presidential Initiative Project; technologies for Strengthening Capacities of farmers to adapt to Climate Change Induced Water Vulnerabilities in East Africa; and Development of a Low-Cost Pineapple Drier and Utilization of Agricultural Waste to Enhance Income Security among Small-holder Farmers in Kayunga District among others. Ahmed also has passion in agricultural value addition technologies in addition to agricultural technologies for improving productivity while reducing drudgery of the small or scale farmers.