

# EXPANDING BUSINESS OPPORTUNITIES FOR YOUTH IN THE FISH AND POULTRY SECTORS IN KENYA; 108072 – 001

United States International University-Africa, Michigan State University,  
License to Grow, VHL University of Applied Sciences

By; Karen M. Musikoyo, Francis W. Wambalaba, Christopher H.  
Peterson, and Salome E. Asena  
Report Type: Final Technical Report

Period covered by the report: June 2015 to March 2017  
Date: April 20, 2017



LICENCE TO GROW

MICHIGAN STATE UNIVERSITY



Australian Government  
Australian Centre for  
International Agricultural Research

GAME Global Agribusiness  
Management &  
Entrepreneurship Center



© 2017 United States International University-Africa. Disseminated under Creative Commons  
Attribution License

This work was carried out with the aid of a grant from Canada's International Development Research  
Centre (IDRC), [www.idrc.ca](http://www.idrc.ca), and with financial support from the Government of Canada, provided  
through Global Affairs Canada (GAC), [www.international.gc.ca](http://www.international.gc.ca)

# Project Information

- **Project Title:** Expanding Business Opportunities for Youth in Fish and Poultry Sectors in Kenya
- **IDRC Project Number:** 108072-001
- **Research Organizations involved in the study:** United States International University-Africa, Michigan State University, Van Hall Larenstein University & Licence to Grow
- **Location of Study:** Kenya
- **By:** *Karen Musikoyo, Francis Wambalaba, Christopher Peterson & Salome Asena*
- **Report Type:** Final Technical Report
- **Period covered by the report:** *June 2015 – March 2017*
- **Date:** April 20, 2017
- **Insert copyright and licensing information:**
  - Copyright notice in the following form: “© [2017] [United States International University-Africa]”
  - Licensing information as follows: “Disseminated under Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>) ”
- **Insert recognition of the financial support** received by including:
  - CIFS RF partnership identifier image and
  - acknowledgement: “*This work was carried out with the aid of a grant from Canada’s International Development Research Centre (IDRC), [www.idrc.ca](http://www.idrc.ca), and with financial support from the Government of Canada, provided through Global Affairs Canada (GAC), [www.international.gc.ca](http://www.international.gc.ca)”.*

# Acknowledgement

The authors wish to express their gratitude to the following contributors and partners, without whom this project and report would not have been possible:

The International Development Research Centre of Canada (IDRC) and the Australian Centre for International Agricultural Research (ACIAR), for its generous financial support, and the valuable support provided by members of the IDRC staff.

The contributors and project team which includes the United States International University – Africa’s research team, business counsellors and project partners from Michigan State University, Licence to Grow & Van Hall Larenstein University.

# Table of Contents

Acknowledgement .....	2
Table of Figures .....	4
Executive Summary .....	5
The Research Problem .....	7
Progress towards Milestones.....	9
Synthesis of Research Results and Development Outcomes.....	17
Synthesis of Results towards AFS Themes.....	27
Project Outputs .....	29
Problems and Challenges.....	30
Overall Assessment and Recommendations.....	31
Appendices:.....	32

## Table of Figures

Figure 1: Living Lab's 1st Cut in Selecting 60 from 200.....	<b>Error! Bookmark not defined.</b>
Figure 2: Individual Components of Venture Concept Ranking Comparing the Selected versus the Unselected .....	<b>Error! Bookmark not defined.</b>
Figure 3: Probit Regression: Probability of Being Selected for Training ..	<b>Error! Bookmark not defined.</b>
Figure 4: Sources of Funding for Youth Businesses .....	21
Figure 5: Operational Barriers for Youth Ventures in the Fish and Poultry Sectors .....	<b>Error! Bookmark not defined.</b>
Figure 6: Barriers for Youth Ventures in the Fish and Poultry Sectors ....	<b>Error! Bookmark not defined.</b>
Figure 7: Challenges Confronting Youth Entrepreneurs in Kenya .....	24
Figure 8: Comparison of the Effectiveness of Training/Mentoring in the Living Lab Model versus other Entrepreneurial Assistance Programs .....	25
Figure 9: New Venture Launch Rate by Intervention Stage.....	<b>Error! Bookmark not defined.</b>



# Executive Summary

About 80% of Kenya's population is below 35 years. Kenya's youth-defined as individuals between ages 18-35, are determining the economic growth of the country as there is a huge middle income bulge of this generation. (Scott, 2016)<sup>1</sup>. This growing middle class and youth bulge should be a very positive factor for Kenya. Research also shows that women face more constraints than men in participating in agribusinesses because they lack the time and have limited mobility due to cultural norms, domestic and reproductive household tasks (Kaaria et al, 2016)<sup>2</sup>.

Therefore, this 18 month pilot project - Expanding Business Opportunities for Youth in the Fish and Poultry Sectors in Kenya, intended to field test a combination of activities that could scale up innovations and successfully help youths, especially women to establish profitable agribusinesses in the fish and poultry sector. With the Cultivate Africa's Future Fund from the International Development and Research Center and the Australian Center for International Agricultural Research, the USIU GAME Center used its Metro AgriFood Living Lab (MALL) Model as a platform for such a pilot intervention. The model constitutes an intersection of 3 components; Training, Business Counselling and Action Research.

A nationwide call was made for Youth applicants. The call attracted 301 youths from 28 counties in Kenya and 220 were shortlisted. The 220 youth were invited for a one day recruitment workshop using a venture concept development approach which resulted in 60 top youths being selected for further entrepreneurship training (30 men and 30 women). However, since out of the 220 youth the team had complete data set on only 200 youths, this number was used for subsequent analysis purposes. The profiling revealed that out of the 60 youths, 40.7% had an undergraduate certificate compared to 18.5% of the 140 not selected. The 60 selected also had at least 4 years work experience and could bring personal money to their ventures such as the USD100 for training.

As part of the Action Research, the 60 went through a combination of activities such as business training, business plan pitching to investors and business counselling in the field. Out of these 60, the top 20 with the best business plans from the training were selected by a panel of financing and policy stakeholders to continue towards the venture launch. Student business counselors, mostly MBAs, were recruited and trained to collect performance data and support the 20 youth entrepreneurs to build important business networks towards the launch. The MALL model was deemed to be a unique approach from other interventions that provide training alone. For evaluation, the research identified three levels of criteria for assessing business launches; a) acquisition of resources to support new ventures within

---

1

Scott, A. O. (2016). *The Kenya Youth Survey Report*. Nairobi: The Aga Khan University.

<sup>2</sup> Susan Kaaria, M. O. (2016). Rural women's participation in producer organizations: An analysis of the barriers that women face and strategies to foster equitable and effective participation. *Journal of Gender, Agriculture and Food Security*, 148-167.

existing businesses; b) acquisition of resources to support start-up businesses; and c) acquisition of legal documents and networks to start making sales or increase sales. The program projected an increase in access to resources as some youth received funding while all youth received some form of business support services.

The pilot project achieved a 90% success rate of the youth who launched their ventures and 60% were women. Also, while the timeframe was too short for any meaningful results, the study still showed some marginal improvements between the MALL model participants and the control group, i.e, a) 82.4% of those *selected* for training launched their ventures versus 77.8% who were not selected; b) 88.9% of those who *attended* training launched their ventures versus 57.1% of those who did not, and c) 92.9% of those who participated in business *counselling* launched their ventures versus 84.6% who were not. Hence, while the training by itself was effective, it was evident that the combination of the three MALL model activities increased chances of venture launch among these youth Agribusiness entrepreneurs.

Nonetheless, this pilot study also found some sociocultural and economic challenges confronting the youth entrepreneurs. Based on the findings, except for insurance, barriers became more evident with progression into the business. Aside from access to capital, the significance of using technology and accessing markets became more evident with progression into the business. The study also identified gap areas in terms of value chain analysis, value addition and marketing as the top 3 areas of training which the youth thought will benefit them most in setting up their ventures.

Lastly, with respect to the effectiveness of this pilot MALL model in comparison to other existing models towards successful venture development, a qualitative analysis was done to determine the effect of the training and mentoring on the performance of the youth ventures. While there was a limited amount of time to obtain realistic assessment of the effect of the interventions, an attempt was made to have some insights within the grant timeline. It was found that the effectiveness of the MALL model in increasing the new venture launch (new start-up, business growth, or resource acquisition) rate was likely to be higher when compared to other entrepreneurship models in literature.

So far, this pilot study indicates the need for adequate training time and increase in the number of youth participants in order to give a more conclusive analysis on the outcomes of the ventures created. With a larger number of participants and sufficient time to fully implement the combination of business activities provided through the MALL model, the study will be able to present more detailed information about the model's effectiveness in supporting venture launch among youth. It should also be further investigated the why women started from a weaker position but completed in a stronger position and if the affirmative action approach set out to start on a level playing field of 50:50 gender parity had any effects. In addition, there were potential areas of collaboration with partners and policy makers to design standards that could be used for reporting key indicators for venture development among youth in the area of agribusiness. These pilot findings so far argue that implementing the MALL model, using internationally comparable indicators and ensuring a robust monitoring framework, will greatly contribute to operational support for investments in youth ventures such as in Agribusiness.



# Project Summary and Milestones

## The Research Problem

The urban population bulge and the more youthful age of Africa in the face of unresponsive agricultural practices should be of great concern to all stakeholders, and in particular, policy makers and researchers. The first problem is that, the African urban population bulge is anticipated to cause strain on agricultural land as more of this land is usurped by urban functions. For example, while Africa's population is expected to more than double, rising from 1.1 billion in 2013 to at least 2.4 billion by 2050 (*World Population Data Sheet 2013*), the urban population is even rapidly expected to surpass the rural population in the 2030s as projected below.

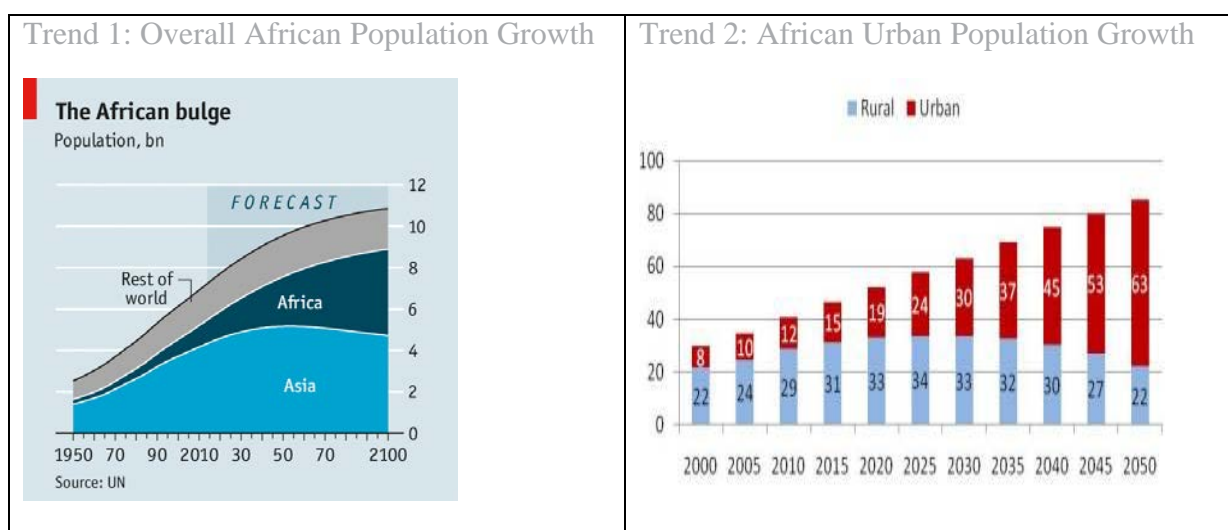


Figure 1: Population Growth Trends

The second problem is that there are nearly 200 million Africans aged between 15 and 24 with the majority being unemployed. In fact, Africa's growing and youthful population, has meant that 62% of the population is under the age of 25 years. However, the formal sector is unable to meet the employment demands of this growing young population which has further meant that Africa's youth are three times more likely than adults to be unemployed. This requires the continent to address the issue of finding sustainable opportunities for a rapidly increasing workforce, especially in agriculture which has grave implications to food security.

Unfortunately, most of the agricultural practices have remained at subsistence levels and where interventions have taken place, most of them have inadvertently focused on managerial than entrepreneurial strategies. But for millions of these growing young Africans, creating their own enterprises is the only avenue open to them for employment.

## Project Objectives.

The context of this project therefore was to test the Metro AgriFood Living Lab (MALL) model whose focus is on effective development of entrepreneurship. The model envisions

transformation from traditional approaches of developing managerial competencies to development of entrepreneurial competencies at four levels as depicted in the figure below.

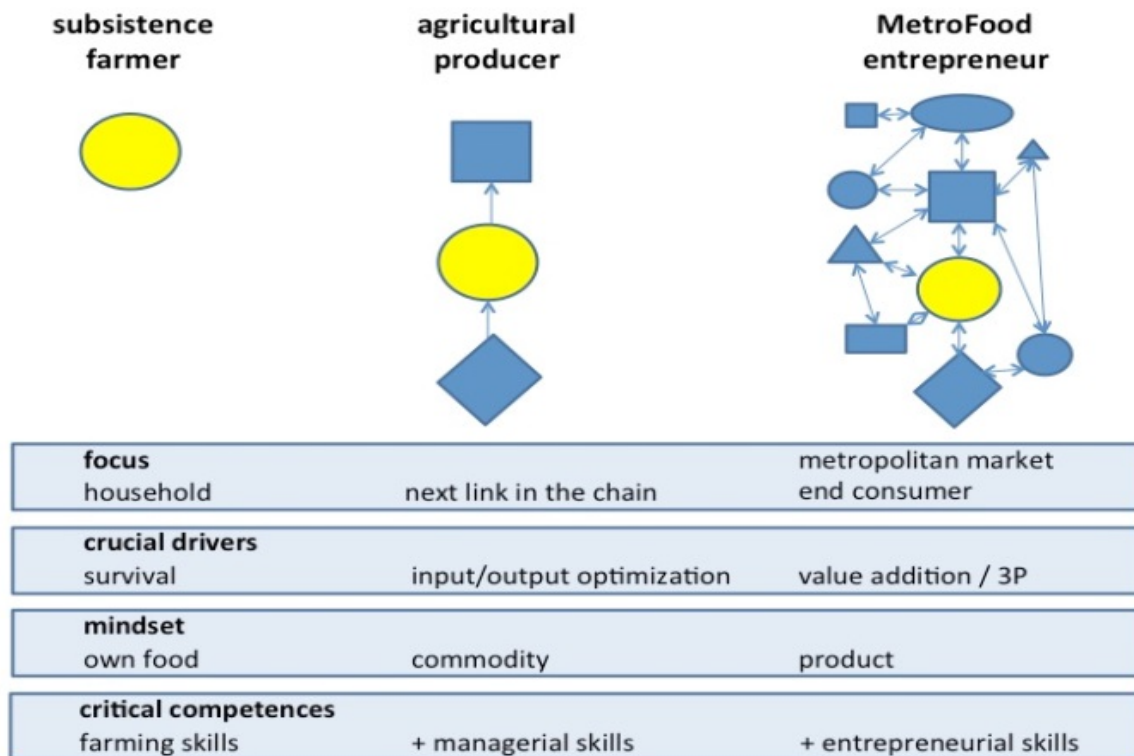


Figure 2: Skill Sets Transformation

At the first level, entrepreneurs must understand that their focus should on a sophisticated metropolitan market end consumer but not simply a transformation from subsistence to creation of surplus for sale. At the second level, attention is on crucial drivers that are about value addition than just optimization. And most important is the mind-set which must perceive of a product instead of a mere commodity. Hence, the need to cultivate critical competencies towards entrepreneurial skills which go beyond managerial skill.

Therefore, the main objective of this project was to build the entrepreneurial capacity of youth, specifically in the fisheries and poultry sub-sectors in Kenya using the MALL model. The project provided a platform for academia, NGO's, financial institutions and the government of Kenya to work together and create added value for the interventions.

The project specific objectives included;

1. To select and train current aspiring youth entrepreneurs with business ideas that have potential to grow and move fish and poultry and possibly insect for feed innovations to commercial ventures
2. To test and implement models for supporting and linking youth led agribusiness to business and market development services and networks; and
3. To monitor and apply lessons to scale up business models and enable more of the Africa's youth to replicate successes

Operationally, the model was to improve the experiential learning of youth Agri-food entrepreneurs by carrying out real-life training (education), business development and counselling (market, management, industry linkage) and research (especially action research) as depicted in the figure below

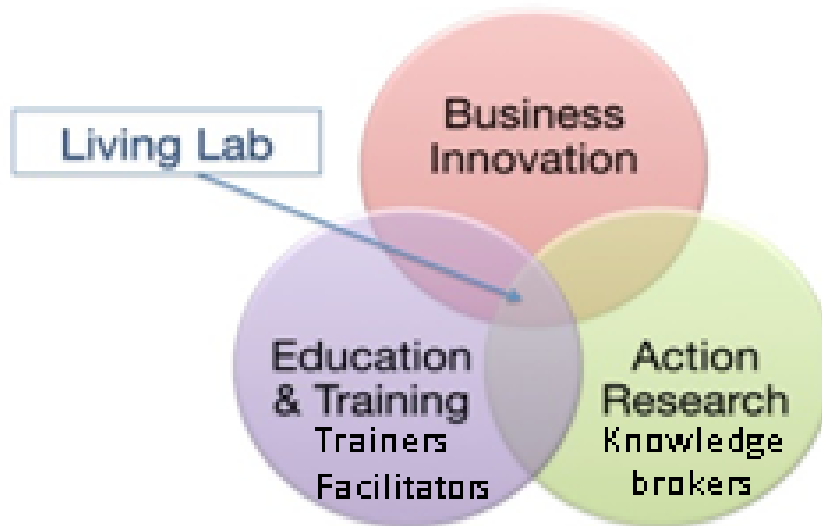


Figure 3: The Living Lab Model

Hence, from the “Action Research” perspective, the research questions were; i) what were the profiles of youth interested in the fish and poultry sectors as business opportunities. ii) What obstacles and barriers can be identified as facing young entrepreneurs? iii) What was the effectiveness of the living lab model in successfully engaging the youth in agribusiness?

## Progress towards Milestones

The project largely achieved all the set milestones with respect to; preliminary activities; recruitment activities; intervention activities; and impact assessment activities. To achieve these milestones, the program was organized at three levels:

First, ***at institutional partnership level***, License to Grow from Netherlands advanced the Living Lab Model concept for testing in a developing country context; Michigan State University in USA leveraged its vast experience with the Product Center model in the area of Business Innovation counselling; VHL University in Netherlands leveraged on its Action Research experience in the area of research; and USIU leveraged its entrepreneurial and Agent Network Model experience on training. Secondly, ***at entrepreneurial selection level***, the project made a national call for applicants which attracted 301 youth from 28 counties; it shortlisted 220 who met the minimum requirements; 60 of them were selected using a venture concept development and gender balance approach (30 men and 30 women); then narrowed to 20 who had effective business plans, and finally the 18 who launched the venture by end of the pilot as shown in the figure below. And thirdly, ***at project implementation level***, baseline data was collected from candidates; then candidates were introduced to management and entrepreneurial skills; went back home to start applying the skills; returned for further

training along with development and presentation of their business plan; returned home to implement the plan; and then exit data was collected to determine achievements made.

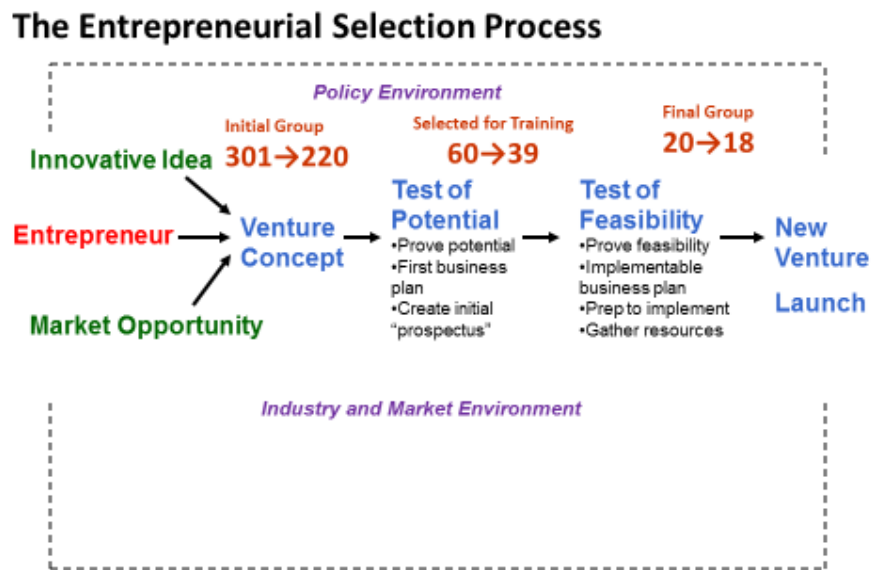


Figure 4: Entrepreneurs Selection Funnel

The 12 milestones below document the respective achievements of the project with respect to 1) preparatory activities; 2) engagement activities; 3) implementation activities; 4) assessment activities; and 5) dissemination and applications activities.

## 1. Preparatory Activities

### Milestone 1: Recruit Youths, Research Team & Counselors and Launch Project.

To establish the team composition and ensure synergy and shared understanding of the project, the secretariat convened a 3 day inception workshop that took place on September 14th to 16th 2015 at USIU-Africa campus with a successful project launch on 15th September, 2015 attended by all team members in the consortium, stakeholders such as intended beneficiaries, policy makers, funders and other key players in the industry. A research team comprising of 8 members and 11 business counsellors were recruited and set in place. The business counsellors were involved in carrying out business support activities and collecting data.

The core research team as indicated in the proposal development and refined during the inception composed of United States International University-Africa (USIU-Africa) who hosted the project and were instrumental in developing materials for entrepreneurship training and carrying out all project activities. Michigan State University (MSU) which was instrumental in developing business innovation services and providing advisory services. Van Hall Larenstein (VHL) University of Applied Sciences was instrumental in providing direction in action research and internship opportunity for their student to support monitoring and reflections in order to enhance the living lab and business counsellors' capacity. Licence

to Grow had a unique role in developing the concept and providing strategic guidance on the design and implementation of the program.

The workshop report with supporting documents for milestone 1 and launch are appended.

### **Milestone 2: Development of Project Methodology and Implementation Plan**

The project's implementation plan was developed together with the call for youth applicants, venture concept questions, and 1 day recruitment plan with a monitoring and evaluation plan. A gender strategy, communication strategy and a research plan were also developed and appended as supporting documents. These tools were useful in collecting data for monitoring entrepreneur and project progress. The complete data set of all youth applicants and those who attended a one day venture concept development workshop is appended. The implementation plan for the research project is appended together with other supporting documents for milestone 2.

### **Milestone 3: Review Lab Training and Services and Develop Data Collection Instruments for Baseline Data**

A baseline survey was conducted in April 2016 using baseline tools that had been developed. These tools included a questionnaire and an interview guide for the business counselors. The tools were developed from the research plan as guided by the head of research. Data was collected from 76 youth out of 200 who were sampled. They were divided into three groups (i) **control group** which involved those that attended the recruitment workshop but not selected for entrepreneurship training; (ii) **deferred group** which attended the recruitment workshop and were selected for entrepreneurship training but did not attend for various reasons such as other competing priorities; and (iii) **treatment group** who attended the recruitment workshop and were selected for entrepreneurship training and attended the training.

In addition to entrepreneurship training, technical Insect for Feed (INSFEED) training was carried out by the International Centre of Insect Physiology and Ecology (ICIPE). This involved a concept proof which ICIPE has been developing for commercialization including insect trapping, rearing, harvesting, and laboratory formulation for fish and poultry feeds. The goal for the partnership was for USIU to implement the project through the participating youths. However, while it was anticipated that the INSFEED training offered by ICIPE will be incorporated in the entrepreneurship training offered by USIU-Africa, this was not feasible at the time due to timing problems between the two projects. The secretariat therefore organized for the INSFEED trainings to be carried out parallel to the Living Lab activities and monitor the progress/adoption of INSFEED as a business. These trainings were carried out between May 2016 and November 2016 with 4-5 trainees per week totalling to 49 INSFEED entrepreneurs. The list of the trainees is appended together with the baseline data and report.

## **2. Engagement Activities**

#### **Milestone 4: Recruit and Select 60 Agribusiness Youth Entrepreneurs with a 50% Representation of Women**

A call for application was developed by the research team in consultation with IDRC targeting all youth who were between ages 18 to 35 years, had at least O-level certificate, were Kenyan national, had an innovative business idea in the fish and poultry sector and had potential to develop entrepreneurial ability. The invitation was advertised in the local daily newspaper, Global Agribusiness Management & Entrepreneurship (GAME) Center's website, social media platforms, and through partner organizations like; AgriProFocus, Techno Serve, Mkulima Young, Agricultural Sector Development Support Programme (ASDSP), Ministry of Agriculture, Livestock and Fisheries, United States Agency for International Development (USAID), Youth Agency for Development of Science, Technology and Innovation (YADSTI), GAME Center's alumni, among others.

While the project's target was to attract 150 applicants, this was superseded to 301 applicants with 65% men and 35% women which was an enrichment of the pool. Three recruitment workshops were carried out by the research team and business counsellors, based on the number of applications received from a particular region. The 3 workshops were convened, the first in Maseno to cater for Western region generating 82 applicants, the second in Nairobi for Nairobi region generating 99 applicants, and the third which was to be in Nyeri for the central region ended up in Nairobi due to budgetary challenges and generated 69 applicants.

The objectives of the workshops were to;

1. Recruit 60 youth (18-35 years) who had or wanted to develop a business idea for the poultry or fish sectors in Kenya.
2. Train the applicants on how to develop a business concept and business plan.
  - a. This ensured that even those that were not selected would gain some skills on business development. These would eventually become successful applicants for future rounds of recruitment and serve as a control group for action research.
3. For continued action research:
  - a. To use their first and second drafts of their business concepts for learning during the workshop. For example, what was the level of improvement from first to second draft? Did some answers improve more than others? Did weak answers remain in the second drafts? Were these results due to insufficient knowledge, limited business background, or some other factors?
  - b. Use the information from the application process to assess participant background characteristics between the 60 selected and those who were not. This was to help inform and target future recruitments.
  - c. Determine any patterns in who did not apply. For example, were there specific groups that we expected to participate that did not? What might be done better to recruit next time?

Sixty youth were ultimately selected to participate in the training programme (30 males and 30 females). Since female participants were fewer and on average scored lower than their male counterparts, an affirmative approach was used to disaggregate them into female and

male groups. Hence, the team selected the top 30 men and top 30 women. Appended are the supporting documents for milestone 4 which also include the 1st interim report.

### **Milestone 5: Design and Review Training Curriculum with Course Instructors and Partners**

The training materials were developed in December 2015 to prepare for classes which were held on 15-19, February 2016 and 14-18, March 2016 respectively. These materials were developed based on the training needs assessed during the recruitment of the 60 entrepreneurs in November 2015.

1. The following were the different types of training materials developed: Agribusiness simulation training materials for training the applicants on how to develop a business concept.
2. Venture development guide for business counselling that aimed at guiding the business counsellors on how to support the entrepreneurs on accessing the required resources in order to launch their ventures.
3. Entrepreneurship training materials for supporting the business plan development and improving managerial and entrepreneurial skills of participants.
4. Financial & marketing materials to guide entrepreneurs on how to differentiate their products. This was done together with other stakeholders from NGO's, private sector and financial institutions based on the identified needs.

From the 60 youths who were selected, only 39 (22 males and 17 females) benefited from this curriculum.

### **Milestone 6: Engage and Train Business Counselors and Provide Counseling on Seeking Funding, Investors, or Clients**

Eleven counselors with different skills required for business and venture development were recruited (8 MBA entrepreneurship students, one journalism student, one graduate student, and one ICT student). A comprehensive induction of the business counselors was carried out by Michigan State University on 11-13, January 2016. This session focused on supporting entrepreneurs on venture development and coaching business counsellors on how to support the entrepreneurs to access required resources in order to launch their ventures.

A master's student intern from VHL University (Netherlands) joined the team in April 2016 and was very instrumental in supporting the counseling functions while supporting action research. Several tools and materials were developed by counsellors as counseling support documents. The tools involved Plan of Work (PoW) whose function was to identify resources required by the entrepreneur to launch their ventures and an Entrepreneur Ecosystem whose function was to form linkages and generate business deals among the entrepreneurs via emails, phone calls and WhatsApp groups. As part of the supporting documents for milestone 6, a sample of a contract and business order for delivery are appended, together with the tools used during this intervention.

### **3. Implementation Activities**

#### **Milestone 7: Carry Out Training and Business Innovation Services to Selected Entrepreneurs**

The trainings that were carried out to support venture development were as follows;

1. Agribusiness simulation training and venture concept development was carried out on 28th November in Maseno for the western region, 2nd & 4th December for Nairobi I for the central region and Nairobi II for the Nairobi region respectively. These generated 220 venture concepts developed for the fisheries and poultry sectors. Sixty youth out of 220 were selected for entrepreneurship training based on the most innovative business ideas. Scores were awarded based on the following criteria; description of the business idea, the targeted customers, the benefits the target customers would receive, what they must do to satisfy their customers, how they plan to market their products, how much more would customers pay for the products, who will be their competitors, how will they compete, description of the production process, description of the distribution process, risks or limitations, how they planned to finance their businesses, description of the human resource plan and description of their business development background.
2. Two weeks' entrepreneurship trainings were carried out on 15-19, February 2016 and 14-18 March 2016. These were attended by 39 youth out of the 60 selected. After the business trainings, the entrepreneurs developed business plans for pitching their ideas to potential financiers and other experts.
3. After the business pitching event on May 18 & 19, 2016, the panel of judges which composed of NGOs, the private sector and financial institutions highly recommended further training on financial management and marketing in which most entrepreneurs appeared to be weak in. This was carried out on June 10th 2016 at USIU-Africa-Nairobi for the 20 youth who had been selected for business counselling.
4. Training on insect for fish and poultry feed was also carried out between May 23rd and June 10th and also between October 3rd and November 25, 2016 at ICIPE, to provide the youth entrepreneurs with technical skills on insect trapping, rearing, harvesting and feed formulation for fish and poultry as a business opportunity.

#### **Milestone 8: Hold a Networking Forum for Entrepreneurs and Potential Financiers.**

The 39 entrepreneurs who went through the 2 weeks' entrepreneurship training, developed business plans. The project team reviewed and suggested improvements and coached the youth on how to pitch during a mock business plan pitch event. The entrepreneurs then pitched their business plans in a dragon's den type of presentation which carried out on 18-19, May 2016

The presentation was to a panel of financiers and reviewers. The panel of reviewers constituted representatives from banks like Eco Bank, Non-Governmental Organizations such as AgriProFocus (APF), investors, donors, partners from Umati capital, Michigan State



University and VHL University among others. The top 20 successful entrepreneurs were selected to continue with further counselling towards the launch their ventures. The criteria used included:

- Appropriate business plans and financing requirements (financing needs, sources and uses);
- Appropriateness of their business description (date established, products, and service) and expansion plan;
- Meaningful business opportunities and appropriate entry strategies;
- Appropriate and well identified target market and five year sales projections;
- Competitive advantages identified;
- Qualifications and experiences of the management team;
- Valid financial projections, profit margins and breakeven points;
- Identify and description of critical risks and difficulties;
- Well outlined overall implementation schedule (major activities and timeframe);
- Realistic and viable business plan;
- Likelihood of generating high impact from the business plan.

Appended are the venture scores and feedback of stakeholders together with the list of top the 20 youth who proceeded with further counselling.

## 4. Assessment Activities

### Milestone 9: Monitor and Reflect on the Entrepreneurs' Progress and Carry out an Assessment of the Impact of Business Innovation Services

A follow up survey was carried out in August 2016 after the business development services were provided to the entrepreneurs. The aim was to monitor and reflect on the entrepreneurs' progress and assess the impacts of the interventions so far. This activity was open to all the 71 participants who took part in the baseline survey. Data was collected from three groups (i) **control group** which involved those that attended the recruitment workshop but were not selected for entrepreneurship training; (ii) **deferred group** which involved those who attended the recruitment workshop and were selected for entrepreneurship training but did not attend for various reasons; and (iii) **treatment group** which involved those who attended the recruitment workshop and were selected for entrepreneurship training. Based on a self-selection convenience sampling, from the first group, 26 out of 160 were sampled, in the second group 10 out of 21 were sampled and in the third group 35 out of 39 were sampled. Follow up tools were developed and are appended, together with the collected data. An assessment report and power point slides for the business counseling process are also appended.

### Milestone 10: Evaluate the Performance of Youth Agribusinesses

Qualitative analysis was done to evaluate the performance of the youth ventures based on the business counselors' reports and feedback. Five video case studies and 17 written case studies were developed to showcase the impacts of the research activities on the youth ventures in

fish and poultry sectors. It should be noted that the project achieved a 90% launch success rate (18 out of 20 youths launched their businesses). Further analysis is provided in the synthesis of research results section below. Reports and other supporting documents are provided as appendices for milestone 11.

## **5. Dissemination and Applications Activities**

### **Milestone 11: Pilot an Agri-Food Network to Facilitate Interactions with Various Stakeholders that Promote the Interests of Fish and Poultry Entrepreneurs**

A dissemination symposium was held on 1<sup>st</sup> and 2<sup>nd</sup> November 2016 which was well attended by a representation of youths from all the three groups (treatment, control, and deferred). The symposium participants' also involved GAME Center alumni youth groups from Sub Saharan Africa including Ethiopia, Tanzania and Uganda, policy makers from the Ministry of Agriculture, Livestock and Fisheries, the regulatory National Council for Science, Technology and Innovation, peer universities such as Strathmore, NGOs such as Technoserve, and financial institutions such as CFC Stanbic, among others. The youth were able to show case their businesses and products through exhibitions and power point presentations as well as panel discussions.

In addition, thirteen presentations were done by the research team, students and other stakeholders who were involved in similar researches in Kenya. The symposium presentations can be accessed through the following link: <http://erepo.usiu.ac.ke/handle/11732/2853>. The project team leader subsequently took part in the Alliance for a Green Revolution in Africa's annual forum that brings together global experts and donors in agriculture by presenting on the project's outcome. Similarly, the project advisor also made a presentation at the Eastern African Multidisciplinary Applied Research Conference at USIU-Africa in November 2016 to an audience of researchers, industry practitioners and other stakeholders. The following link also provides documents that were presented during the AGRA forum that took place in Nairobi in September 2016: <https://www.dropbox.com/sh/wouej1641gwj2sx/AABZQ7W0LlIjLevyGVidK0sUa?dl=0>

### **Milestone 12: Embed the Model within the University's Curriculum for Sustainability**

The agribusiness degree curriculum which was already developed before the IDRC grant has now embedded the living lab concept which will involve providing internship opportunities for USIU-Africa students to carry out business counselling in order to gain practical consultancy skills. Considering this process involves a wide array of stakeholders such as the Commission for University Education as well as the University's administration, the process is ongoing as it needs to be aligned to the University's policies, strategic plan and timelines.

# Synthesis of Research Results and Development Outcomes

This synthesis of the results is presented according to the specific research objectives, i.e., a) to select and train current aspiring youth entrepreneurs with business ideas that have potential to grow and move fish and poultry and insect for feed innovations to commercial ventures; Objective 2: To test and implement different models for supporting and linking youth led agribusiness to business and market development services and network; and c) Objective 3: To monitor and apply lessons to scale up business models and enable more of the Africa's youth to replicate successes.

**Objective 1: To select and train current aspiring youth entrepreneurs with business ideas that have potential to grow and move fish and poultry and insect for feed innovations to commercial ventures**

## 1. Venture Development Funnel; Selecting 60 Youth from 301 Applicants

Starting with 301 youth applicants (65% men and 35% women), 220 were shortlisted since they focused on the poultry and fish value chains (project target). Using the Venture Concept Evaluation (VCE) criteria, 60 (or 30 men and 30 women) of the 220 were selected to participate in the entrepreneurship training. The remaining 160 were used as a control to evaluate the effectiveness of the program. However, of the 60 selected, only 39 (22 men and 17 women) attended the actual training. These 39 pitched their business plans but only 20 (8 (40%) men and 12 (60%) women) qualified to undergo further business counselling. Eventually, out of the 20 finalists, 18 (90%) were able to launch their ventures within the project's timeframe.

## 2. Venture Concept Scores Analysis

The performance analysis of different groups using the venture concept evaluation indicators and outcomes is indicated in the diagram below (note that due to lack of complete data for all of 220 entrepreneurs, only 200 records were used in this analysis).

Table 1: Living Lab's 1st Cut in Selecting 60 from 200

Venture Concept Evaluation Score--Total	140 Selected	Not 60 Selected	Statistical Significance
Average score (0-42 possible)	22	33	< .01
Minimum score	6	23	
Maximum score	33	41	
% below score of 23	56.1%	0.0%	

% above score of 33	0.0%	44.1%	
---------------------	------	-------	--

Male/Female Composition (50/50 required in 60 Selected)	140 Not Selected	60 Selected	Statistical Significance
Men	66%	50%	< .05
Women	34%	50%	

For the selected 60, the above analysis reveals higher average scores, higher minimum scores, and higher maximum scores compared to the 140 not selected. It also shows a gender parity after an affirmative action selection process.

### 3. Venture Concept Ratings Analysis

The research also analysed the performance ratings based on 14 items in the entrepreneurs' venture concept as indicated in the table below.

Table 2: Individual Venture Concept Ranking Comparing Selected versus Unselected

Individual Components of Venture Concept (0-3 points)	Average 140 NS	Average 60 S	Statistical Significance
1. describe business idea	1.7	2.7	< .01
2. target consumer	1.7	2.5	< .01
3. benefits target wants	1.7	2.5	< .01
4. how satisfy consumer	1.6	2.2	< .01
5. how market to consumer	1.8	2.5	< .01
6. how much more consumer pay	1.4	2.2	< .01
7. who will be competitors	1.4	2.1	< .01
8. how will you compete	1.6	2.2	< .01
9. production process	1.5	2.4	< .01
10. distribution process	1.6	2.4	< .01

11. what risks/limitations	1.7	2.5	< .01
12. finance plan	1.5	2.3	< .01
13. human resource plan	1.6	2.3	< .01
14. business/product background	1.4	2.4	< .01

On the overall, the analysis showed that in every one of the 14 components, of the scores were higher for the 60 versus the 140 at the .01 significance level.

#### 4 Entrepreneur Exposure Analysis

A third analysis compared the entrepreneur exposure to assess whether these had an influence on their trajectory. Compared to the 140 not selected, and except for the business training criteria, the 60 selected had higher levels of education, additional agricultural training, more work experience, could bring more poultry/fish knowledge as well as personal money to their ventures. The below table highlights these characteristics;

Table 3: Entrepreneur Exposure Analysis

Entrepreneur Exposure	140 Selected	Not 60 Selected	Statistical Significance
% temporary	<b>33.6%</b>	11.7%	< .01
% permanent	10.0%	<b>31.7%</b>	
work length over the past 5 yrs.	1.74	<b>1.98</b>	< .01
% college certificate	27.4%	<b>37.0%</b>	< .10
% undergraduate certificate	18.5%	<b>40.7%</b>	< .01
% additional agriculture training	16.4%	<b>25.0%</b>	<.10
% additional business training	<b>57.9%</b>	35.0%	<.01

#### 5. Entrepreneur Characteristics Analysis

Finally, a probit analysis was done to assess effects of entrepreneurial characteristics on their potential for being selected, i.e., specifically the probability of being selected for training based on several independent factors as presented in the table below. The most significant factors or variables with a “p” value of less than 0.1 (bold with X\*) were; gender, employment status, living arrangements, time, personal or family money, and undergraduate degree. In other words, one had chances of being selected if they were female, had a

permanent job, lived with family, brought personal or family money to the business or had an undergraduate degree.

Table 4: Probit Regression: Probability of Being Selected for Training

<b>Variable</b>	<b>Marginal Effects</b>	<b>Z</b>	<b>P&gt; Z </b>
<b>Female</b>	<b>0.28***</b>	<b>3.05</b>	<b>0.00</b>
Run Business	0.05	1.03	0.30
Student	0.25	1.40	0.16
Temporary Employment	-0.15	-1.50	0.14
Part-Time Employment	0.01	0.08	0.94
<b>Permanent Employment</b>	<b>0.38**</b>	<b>2.27</b>	<b>0.02</b>
Work Length	0.06	1.00	0.32
Family Business	-0.05	-0.94	0.35
<b>Live w/Family</b>	<b>0.16*</b>	<b>1.80</b>	<b>0.07</b>
Ag. Training	-0.05	-0.47	0.64
Business Training	-0.12	-1.15	0.25
Experience	0.07	0.46	0.64
Entrepreneur	0.05	0.94	0.35
<b>Time</b>	<b>0.27**</b>	<b>2.18</b>	<b>0.03</b>
Bring Hard Work	-0.08	-0.54	0.59
<b>Bring Personal Money</b>	<b>0.24**</b>	<b>2.37</b>	<b>0.03</b>
<b>Bring Family Money</b>	<b>-0.23***</b>	<b>-3.18</b>	<b>0.01</b>
Bring Bank Money	0.09	0.84	0.40
Bring Knowledge	-0.04	-0.37	0.71
Bring Skills	-0.03	-0.31	0.76
Bring Other Resource	-0.07	-0.72	0.47
Some College	0.11	1.23	0.22
<b>Undergraduate Degree</b>	<b>0.26**</b>	<b>2.31</b>	<b>0.02</b>
Graduate Degree	0.16	1.49	0.14
Postgraduate Degree	-0.15	-1.02	0.31

## 6. Entrepreneur Launch Analysis

Finally, out of the 39 who went through the training, the 20 who moved on to launch the venture had more work experience, more experience in poultry/fish, greater ability to bring skills relevant to poultry/fish, and they had learned more to overcome weaknesses in venture concept development. It is also noted that among these 20, the female participants displayed these characteristics more than the male participants. Finally, out of the 39, the 19 who did not move on to launch the venture, joined the program with less experience and less relevant fish/poultry skills.

## Objective 2: To test and implement different models for supporting and linking youth led agribusiness to business and market development services and network

The research was also very key in gathering descriptive data that was intended to inform policy. Other than the benefits received by the entrepreneurs through training and counselling, the research team convened a session with the ministry of agriculture and shared the research results from the project, especially with an aim to allocate more funds for research in business and innovative models, as well as providing better structures to create an enabling environment for youth ventures to thrive.

### 1. Funding Sources

For instance, the UWEZO fund and youth fund are great initiatives that aim to provide loans to women and youth businesses. However, most youth have attested that the fund is not being effective because of its group oriented mode of delivery and structures that are not favourable. This is especially for youth who have no groups with similar business interest. As seen in the results below, less than 25% of youth in both groups (group 1 treatment and group 2 control) have sourced funding from UWEZO funds or Youth funds. They have instead mostly relied on personal funds, followed by family funds, then bank funds and finally well-wishers funds. Ironically, more than 20% of group 3 (those who did not show up for training but were among the 60 selected), indicated having received funding from UWEZO funds.

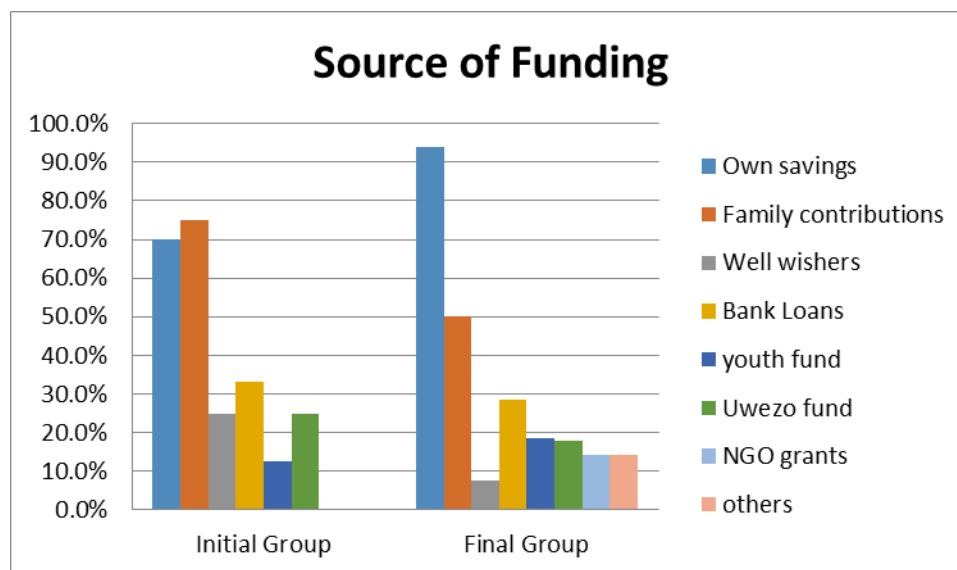


Figure 5: Sources of Funding for Youth Businesses

### 2. Entrepreneurial Barriers on New Ideas

The researchers carried out qualitative analysis on the barriers the youth face in venture development that emerged during the program. The goal was to identify emerging pattern of challenges facing entrepreneurs from the individual, economic, and the enabling environment barriers. It should however be noted that due to the project timeline, the limited period between baseline in April and exit in August is not long enough to notice the effect of an

intervention, especially for an Agricultural investment behavioural change. Hence, the findings should only be viewed in that context.

The barriers that emerged can be classified into three categories as measured by the percent of responses at base line and at exit. These were the individual barriers which consisted of managerial and technical skills barriers; economic barriers which consisted of insurance and financial barriers; and the enabling environment barriers which consisted of legal and market access barriers. On the overall, entrepreneurs seem to have experienced higher levels of these barriers as they progressed into the project. The largest difference between the baseline and exit was especially in areas of technical skills with a 20.3 percentage difference and in financial barriers with a 22.9 percentage difference. These research findings are based on the before and after the intervention as presented in table 5 below.

Table 5: Entrepreneur New Ideas Barriers

<b>Barriers</b>	<b>Questions of Interest</b>	<b>Before</b>	<b>After</b>	<b>Variance</b>
<b>Individual Barriers</b>	Managerial barriers when implementing the new idea	13.0	20.9	7.9
	Tech skills barriers when implementing the new idea	27.5	47.8	20.3
<b>Economic Barriers</b>	Insurance barriers when implementing the new idea	7.2	7.5	0.3
	Financial barriers when implementing the new idea	65.2	88.1	22.9
<b>Enabling Environment Barriers</b>	Legal barriers when implementing the new idea	5.8	19.4	13.6
	Market barriers when implementing the new idea	21.7	34.3	12.6

### 3. Entrepreneurial Challenges Accessing Resources

On the challenges that would require policy interventions, the research focused on ability for the entrepreneurs to access infrastructure, technology and other economic factors that would enhance their performance, in particular the youth. They were asked the extent to which they agreed with respective statements on a Likert scale ranging from strongly agree to strongly disagree. The emerging key findings seem to indicate an increase in access to technology but no significant changes in infrastructure nor economic. This is not surprising since given the short period of the study, only changes in technology (access to mobile network and access internet) could be possible. Details are presented in the table below.



Table 6: Access to Resources

	Questions of Interest	Agree		Disagree	
		Before	After	Before	After
<b>Infrastructure</b>	<i>Good roads eases the transportation of my products</i>	61.2	68.6	33.3	31.3
	<i>I have access to electricity</i>	73.9	64.2	21.7	35.8
	<i>I easily access water for farming</i>	82.6	74.6	4.3	23.9
	<i>The local environment has a sewage/sanitation system.</i>	50.7	61.2	39.1	34.3
<b>Technology</b>	<i>I have access to mobile network</i>	89.7	94.1	8.7	6
	<i>I easily access internet</i>	75.4	88	23.2	10.5
<b>Economic</b>	<i>I have a ready market for my products</i>	87	82.1	13	17.9
	<i>I easily access capital when I require it</i>	27.5	25.4	68.1	70.1

With respect to infrastructure, respondents were asked the extent to which they have access to good roads, electricity, water and sewage and sanitation. Except for access to electricity, there were comparatively many entrepreneurs who agreed on having access to infrastructure after the intervention than before. However, in a short period, it was difficult to make reasonable conclusions from this finding without extended further follow ups.

With respect to accessing technology, it was anticipated that while there was some attempt to access or upgrade mobile technology, there was need to exploit it further. This sentiment was well captured with respect to access to internet, where there was an obvious comparative difference with most of the entrepreneurs striving to access internet after the intervention than before. On the overall, while the level of accessing mobile network was slightly higher after the intervention, the level of accessing internet was much higher after the intervention.

Finally, from the economic perspective, on the issue of access to ready markets, slightly many (5% difference) agreed having access to markets before than after the intervention. Similarly, for access to capital, the study found that entrepreneurs felt they had more access to capital before than after. Both of these could imply that the push towards search for markets and external capital beyond the current status might have brought a realization that markets and capital might not be as easily accessible as it might have seemed before. However, like in the infrastructure case above, the time frame was too short to make any meaningful conclusions.

#### 4. Qualitative Analysis

Based on the qualitative descriptive statistics, the study also presents some sociocultural and economic challenges confronting the youth entrepreneurs. These seem to reflect most of the issues raised in the quantitative analysis above. Based on these findings, except for insurance,

most barriers seemed to become more evident with progression into the business. And aside from access to capital, the significance of using technology and accessing markets became more evident with progression into the business. The study also identified value chain analysis, value addition & marketing as the top 3 areas of training that the youth thought they will benefit from most in setting up their ventures.

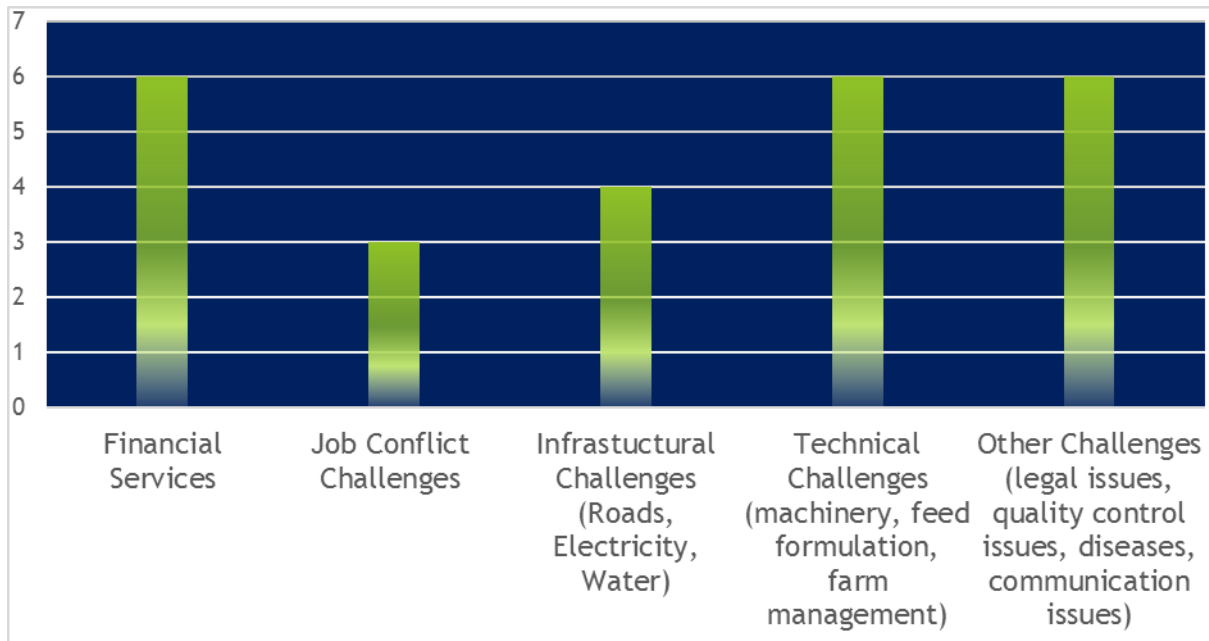


Figure 6: Challenges Confronting Youth Entrepreneurs in Kenya

On the overall, both quantitative and qualitative analysis indicates that, except for insurance, barriers became more evident with progression into the business. Secondly, there was no major difference accessing infrastructure with progression into the business, and thirdly, except for access to capital, the significance of using technology and accessing markets become more evident with progression into the business. On the overall, it could be concluded that the intervention broadened the entrepreneur's perspective of operational needs. However, given the short period, this needs to be verified with further research

**Objective 3: To monitor and apply lessons to scale up business models and enable more of the Africa's youth to replicate successes**

It should be noted that generally,

- There were more young men than women that applied for the program in the initial 301 applications (65% to 35%) than were in the final group of top 20 that were selected for business counseling (40% to 60%). Therefore, it can be concluded that women demonstrated greater resilience in developing fish and poultry sector ventures as compared to their male counterparts.

- The Metro AgriFood Living Lab Model which is a combination of entrepreneurship training, business counselling and action research, positively impacted on youth ventures in the fish and poultry sectors by achieving a 90% success rate of the launch of venture for the final 20 youth.

Addressing gender inequalities was identified as an important factor for the success of the project as statistics show that gender gaps in access to producer organizations hinders women's productivity and reduces their contributions to the agricultural sector and to the achievement of broader economic and social development goals (FAO, 2011)<sup>3</sup>. Which is why the affirmative action to have a 50:50 ratio of male to female candidates in the final selection. The youth entrepreneurs formed meaningful networks for information sharing and thus, can improve the livelihoods of their surrounding communities. This has increased the project's potential to support more youths in venture creation both formally and informally.

There was also an increased capacity of women entrepreneurs to develop and manage businesses in the fish and poultry sectors as mentioned in the above discussions, an enhanced venture development process and an improved decision making in youth -led businesses that are family owned. This can be depicted from the motivation to source for external funding, the linkages and business networks formed, and informal trainings carried out to fellow youth and ability to produce and make sales.

Lastly, a qualitative analysis was done to determine the effect of the training and mentoring on the performance of the youth ventures. This was done to 1) compare the effectiveness of training/mentoring in the Living Lab model versus other entrepreneurial assistance programs, and 2) compare the number and types of businesses launched by entrepreneurs in the control versus the treatment groups.

The research also reviewed other previous models to determine their effects of intervention compared to the Metro AgriFood Living Lab model. The results presented in figure 9, indicate the extent to which the Living Lab model supported youth in establishing new ventures in the fish and poultry sectors in Kenya. Compared to other competitive entrepreneurship programs, the launch rate is similar (and may be understated). Furthermore, the Living Lab model was more selective in terms of the percentage of applicants that were selected for the program.

*Table 7: Comparison of Effectiveness of Training/Mentoring between the Living Lab Model versus other Entrepreneurial Assistance Programs*

---

<sup>3</sup> FAO. (2011). *The State of Food and Agriculture in Africa: Women in Agriculture, Closing the Gender Gap*. Rome: FAO

	Program Type	# Applicants	% of Applicants Selected for Training	% of Applicants Selected for Training that Attended	% of Those that Attended Training Selected for Additional Training	% of Those Selected for Additional Training that Attended	% of Last Training Round Attendees Selected to Receive Business Grant	Percentage Point Increase in Launch Rate Attributable to Program Participation
Metro AgriFood Living Lab	Competitive	300	24%	54%	51%	100%	N/A	32
McKenzie (2015)	Competitive	23,844	25%	81%	N/A	N/A	25%	37
Klinger & Schundeln (2012)	Competitive	655	43%	Missing	37%	Missing	32%	17-22
Premand et al. (2012)	Non-Competitive	1,702	44%	59%	N/A	N/A	N/A	4
Cho et al. (2013)	Non-Competitive	1,900	66%	76%	N/A	N/A	N/A	N/A
Field et al. (2010)	Non-Competitive	636	67%	68%	N/A	N/A	N/A	N/A
Bjorvatn & Tungodden (2010)	Non-Competitive	252	50%	83%	N/A	N/A	N/A	N/A
Attanasio et al. (2011)	Non-Competitive	53,230	50%	Missing	N/A	N/A	N/A	N/A
Card et al. (2011)	Non-Competitive	8,356	81%	85%	N/A	N/A	N/A	N/A
Mano et al. (2012)	Non-Competitive	167	36%	Missing	N/A	N/A	N/A	N/A
Berge et al (2014)	Non-Competitive	1,141	50%	83%	N/A	N/A	26%	N/A
Bruhn & Zia (2013)	Non-Competitive	445	67%	39%	N/A	N/A	N/A	No Significant Effect

### Observations

- The Metro AgriFood Living Lab is one of the smallest programs detailed in the literature
- The Metro AgriFood Living Lab Program has the lowest training selection rate
- The Metro AgriFood Living Lab Program has one of the lowest attendance rates
- Increase in new venture launch rate attributable to training is similar to other competitive programs. Launch rates are lower among the two programs that offer an additional round of training or launch support

From the onset, it was anticipated that there will be some spill-over effect on the research component especially while administering the interventions and therefore the team sought to evaluate the launch rates at the various stages of the project activities. The research also defined launch as any of the following: **Level 1 Launch** (new venture of existing businesses): Acquisition of resources (from banks, family, investors, friends etc) to fund a new venture for entrepreneurs who have existing businesses. **Level 2 launch** (start-up businesses & operations): Acquisition of resources/networks (from banks, family, investors, friends etc) to fund start-up businesses & operations and/or **Level 3 launch** (start making or increase sales): Acquisition of legal documents & networks to start making sales or increase sales.

The results presented in figure 10, show the launch rates between different groups within the Living Lab program are marginally better for those that: 1) were selected for training, 2) attended training, and 3) selected for launch support. However, it is cautionary that the timeframe was not adequate to make any meaningful conclusions.

Table 8: New Venture Launch Rate by Intervention Stage

<b>Post-Survey Results: New Venture Launch Rate by Program Stage</b>						
	<b>Program Applicants</b>		<b>Selected for Training</b>		<b>Attended Training</b>	
<b>Variable</b>	<b>Not Selected for Training</b>	<b>Selected for Training</b>	<b>Did Not Attend Training</b>	<b>Attended Training</b>	<b>Not Selected for Business Counseling</b>	<b>Selected for Business Counseling</b>
Launched	77.8%	82.4%	57.1%	88.9%	84.6%	92.9%
Did Not Launch	22.2%	17.7%	42.9%	11.1%	15.4%	7.1%

# Overall Project Observations

This section provides an overall review of the project with respect to; a) synthesis of results towards the AFS Themes; b) project outputs; c) problems and challenges; and d) overall assessment and recommendations.

## Synthesis of Results towards AFS Themes

The 3 components of the Living Lab model; Action research, Training and Business counselling, have potential for enhancing the three AFS Themes of; 1) increasing agricultural productivity; 2) improving access to resources and markets and income for the entrepreneurs; and 3) informing policy. However, for an 18 months project, and in particular 3 months between baseline and exit data is too short to make any meaningful conclusions.

### 1. Increasing Agricultural Productivity (Availability)

The project's training component has contributed to increased agricultural productivity by enhancing the youth's business skills. It has also enabled youth entrepreneurs to develop ventures in the fish and poultry sectors. For example, on the lower end was one male entrepreneur in Siaya who kept 2 chicken as a hobby but after the project interventions, increased production to 200. On the upper end was a female entrepreneur from Makueni County who had a stock of 840 birds. She then trained 75 other poultry farmers on effective ways of poultry production to serve as suppliers and so far, one of her trainee suppliers has 700 birds. This is a great multiplier effect as initially anticipated by the project. Also, an entrepreneur from Gatundu - Kiambu County, had just opened a hotel, and through the training sessions and networking forums, he provided a market for 2 female entrepreneurs to supply indigenous chicken to his hotel. Several other entrepreneurs have recorded production improvements.

However, some of the challenges are that traditional systems have provided youth with family owned fish and poultry businesses to simply keep them busy as they wait to get jobs or proceed with their studies. Also, the production of fish, poultry or insects for feed are slow to mature and are often risky. Therefore the youth are uncomfortable on registration or taking loans on such businesses.

### 2. Improving Access to Resources, and/or Markets and Income (Accessibility)

The project's business counselling component which was field based was highly favorable for the youth in improving their access to resources, and/or markets and income, especially for female participants who would have not been able to travel to Nairobi for an extended period for further training and consultation due to other competing interest in their households.

Some of the success stories on access to resources include; a) an entrepreneur who received an award of Ksh. 500,000 in a business plan competition and another received Ksh. 2 million from a SACCO to implement his aquaculture business idea; b) some who have been funded by investors, family and friends to start off their business ventures after presenting their business plans; c) one from Makueni County who managed to get orders for delivering her chicken to a

fellow entrepreneur who owns a hotel in Kiambu and also received government tenders to deliver 50 birds per week for functions within the county office; and d) an entrepreneur from Kakamega who signed 3 MOUs including one with Bidii Farmers Company to provide professional consultancy in hatchery management and supporting the farmers on poultry production and marketing, another with Iguhu Poultry Farmers for operations and management of the slaughter house; and a third with the county government of Kakamega for marketing of the poultry distributed to the farmers.

All the youth who pitched their business plans, received direct feedback and advice from business development service providers, with three female entrepreneurs who stood out, receiving personalized business advisory services and extra support.

### 3. Informing Policy

The project also aimed at providing insights to the policy makers on; a) who to target with policy interventions; b) how they can deliver services to the youth and women in a more structured and effective way to achieve desired results; c) strategies for improving youth employment, while minimizing poverty and food insecurity. For example, after engaging the National Council for Science Technology & Innovation (NACOSTI) and the Ministry of agriculture among other officials, they highly recommended that the living lab should to be used as the model for supporting youth ventures and vetting fundable youth and women for the uwezo and youth funds. It was agreed that this will also provide a better and organized structure for monitoring the use of funds given by the government.

Other policy implications included some underlying challenges that need to be addressed, especially for women smallholders. These include; a) improvement of market access by enhancing transport infrastructure; b) ensuring support for value addition to increase women participation in agribusiness as opposed to merely subsistence production; c) increased linkages among youth farmers, researchers and extension agents; and d) enhancement of the MALL model for a more multi-stakeholder participatory research processes.

Towards this end, the GAME Center developed an online platform to be used by entrepreneurs, stakeholders, collaborators, policy makers and other interested partners as a forum for engagements in knowledge exchange as well as provision of business development services. The team also approached OER Africa (<http://www.oerafrica.org/agshare/research>), to post the project reports and other publications on open education resource and received an approval for the same to ensure continuity of project services

## Project Outputs

The project has been able to achieve the following outputs:

**1. A Total of 13 Presentations made in 4 Months:** Presentations and dissemination of research results were done in both local and international forums; 1 in African Green Revolution Forum in Nairobi, 1 in Eastern Africa Multidisciplinary Applied Research Conference in Nairobi, 10 at USIU GAME Center Annual Symposium in Nairobi, and 1 at a partner meeting in Mongu, Zambia.

**2. Several Paper Publications Anticipated:** The research team has been able to analyse the data and is currently finalizing 2 research papers for publication of project results with online

open access journals. Five other draft papers are being compiled for possible journal publications. (The power points can also be accessed in the following link; <http://erepo.usiu.ac.ke/handle/11732/2853>)

**3. Youth Profile Booklet:** A profile booklet was developed to highlight details of the top 20 youth businesses with an aim of providing further support through business counselling and guiding the team on possible linkages and networks with investors and financiers.

**4. Seventeen Case Studies:** Success case studies of 17 youth entrepreneurs out of the top 20 who were selected for business counselling were developed to document the success stories.

**5. Gender Case Study:** A gender case study was developed and is currently being reviewed by WREN Media.

**6. Online GAME Platform:** An online interactive platform was developed to ensure continuity of the networking process among the youth entrepreneurs. This also provides an opportunity for partners, research team and other stakeholders to engage with the youth directly for further support. The platform can be accessed through the following link; <http://www.usiu.ac.ke/agribusiness/GAMEplatform/>

## Problems and Challenges

One of the major challenges encountered in the project (also highlighted in the 2<sup>nd</sup> interim report), was the synchronizing of activities with the ICIPE INSFEED team. Thus, while one of the intention of the Living Lab project was to expose entrepreneurs to the INSFEED process as a potential business venture, this proved difficult because the different products within the INSFEED research were not complete by the time the living lab project team was training entrepreneurs to start their businesses. However, a one week INSFEED training was eventually organized for the entrepreneurs who desired to carry out INSFEED as a business venture. Another one day training is anticipated in September to provide further knowledge on cost benefit analysis of the INSFEED versus other feeds in the market.

It was anticipated that the project will help 15 entrepreneurs launch their businesses by the end of business counselling where launch was defined as business registration, operations and sales. However, due to limited project time for the nature of enterprises in the agricultural sector, the team redefined the meaning of launch into three levels as indicated in the previous section.

As earlier mentioned, the request for gender and communication training came midway into the project and some of the communication and gender elements that should have been included in the initial stage of the project as well as baseline data were missed out. This posed challenges in terms of capturing gender and communication data towards an effective analysis.

Aside from the double taxation challenge that the project partners from Netherlands were exposed to as was reported earlier, the project team also realized that limited timelines posed difficulties in completing the project activities as expected. With in-kind contributions from the partners in Michigan State University, this helped to offset the financial challenge. Also an approval for a 3 months No Cost Extension from the donors was equally helpful in supporting the team to finalize on the pending activities (especially papers and reports which required heavy synthesis and coordination among partners across three continents). The research team has also



not been able to publish the research results on open access peer reviewed journals yet as the internal review process is still ongoing.

## **Overall Assessment and Recommendations**

The project; “Expanding Business Opportunities among Youth in Fish and Poultry Sectors in Kenya” has largely been able to achieve the set project objectives and answer the research questions as put forward at the commencement of the project in June 2015. The project; a) attracted various partners who hence intend to work with the research team; b) generated a lot of interest from various stakeholders who wish to adopt the model for further research; and c) enabled the team to make presentations on the project’s results in various international conferences such as the Alliance for a Green Revolution Forum (AGRF) in Nairobi, and Farmers of Tomorrow panel discussion at ICRAF.

Generally, the grant administration process and supervision provided a conducive environment for project objectives to be achieved and the involvement of the funder was beneficial in ensuring the project stays within its intended mandate. The project activities also proved to have made a greater impact than the team had anticipated especially the high number of youth applicants as well as involvement of other collaborators in order to produce internationally comparable indicators for creating successful youth ventures.

### **Recommendations**

With more funding, the selection of 60 from 220 could have led to a greater number of successful ventures at project end. This would also provide an opportunity for those with less financial resources to participate in the program. With more funding for launch support, it is anticipated that many of the 19 not selected would have moved on to launch their ventures.

The team learnt that that recruitment efforts too, successfully gathered a large group with potential for entrepreneurship. It is recommended that entrepreneurship models such as the MALL model be adopted when distributing funds targeting youth and women. It is imperative that the youth are not forced to think as a group but as individuals (very few youth have same ideas). The recruitment process of the youth who are to benefit from the funds should be systematic so as to ensure the beneficiaries are ready for funding and will apply the funds towards the intended use. Affirmative action is critical to allow for marginalized populations to start on a level playing field.

The communication and gender trainings that were given to the team proved to be very effective in communicating key messages and looking at the project activities through a gender lens. The team however recommends future research to include all researchers in the training for a shared understanding and for the training to be carried out at the initial stages as opposed to midway through the project activities.

Finally, when selecting participants, future research should screen and create cohorts of participants with similar field experience, level knowledge and skills, level of personal money brought to a venture, level of working experience, level of education, level of agricultural training and family experience with business. This will help create more homogeneous cohorts with similar aspirations and hence stronger intra-networking and intra-transactional activities.

# Appendices:

- Appendix 1: Milestone 1 Supporting Documents
- Appendix 2: Milestone 2 Supporting Documents
- Appendix 3: Milestone 3 Supporting Documents
- Appendix 4: Milestone 4 Supporting Documents
- Appendix 5: Milestone 5 Supporting Documents
- Appendix 6: Milestone 6 Supporting Documents
- Appendix 7: Milestone 7 Supporting Documents
- Appendix 8: Milestone 8 Supporting Documents
- Appendix 9: Milestone 9 Supporting Documents
- Appendix 10: Milestone 10 Supporting Documents
- Appendix 11: Milestone 11 Supporting Documents