



WELCOME TO MKULIMA YOUNG

A COMMUNITY AND MARKET PLACE TO POST YOUR FARM PRODUCE AND GET INSIGHTS.

ISSUE1:
MARCH 2019

Introducing Mkulima Young

Thanks to the interns from PNG

Village Chickens – a sustainable and healthy solution to food insecurity.

Food insecurity and antimicrobial resistance: is the “perfect storm” forming in low- and middle-income countries?

Did you know?

Our key program is the IRPC.



New projects and partners in 2019 at Kyeema Foundation (KYEEMA).

It's been a busy start to 2019, with two new projects being mobilised in Africa and lots of activity on our ongoing projects in Africa and the Pacific.

We recently released our 2017-18 Annual report. You can read this at our website.

At our Board meeting in December 2018, we welcomed a new Chair, Professor Robyn Alders. Robyn has been a Board Member of KYEEMA since our inception in 2003. We give thanks for the great job done by Dr Stewart Routledge, our founding member and the Chair till now. We are even more grateful that he is remaining as a Board member and on the Program, Monitoring and Evaluation Sub-committee.

We look forward to bringing you more exciting news about our people, projects, and programs in 2019 - a big year ahead. Your feedback on how we communicate about our work is really valued so please get in touch.

Supporting small-scale farmer decision making with Mkulima Young online marketplace

A new partnership for Kyeema Foundation (KYEEMA) in 2019

Mkulima Young (MY) or “Young Farmer” in English, is a successful agricultural online platform in Kenya and East Africa, with over 130,000 social media followers and around 20,000 registered users. The MY platform provides digital agricultural marketing and advisory services to small-scale farmers and links consumers interested in supporting local farmers. It aims to attract young people back into the business of farming, by improving their earning potential.

This year MY and KYEEMA are partnering to improve smallholders' agricultural productivity, sustainability, market access and information through the MY digital platform. The project also aims to enhance the functionalities of the platform, including use of data for marketing analysis and better decision-making power for farmers.

The traditional African marketplace or ‘soko’ moved online

Young people in Africa are more connected through digital technology than ever before and digital innovation in agriculture has enormous potential to reduce poverty. The common barrier to profitability and sustainability of small-scale farming is the low bargaining power of smallholder farmers. MY is dedicated to providing a mechanism where farmers deal directly with buyers, hence improving productivity whilst at the same time reaching a wider market to sell their produce. KYEEMA is particularly interested in the livelihoods impact of the platform in relation to promoting better village poultry production and marketing of local breed chickens and eggs, which are an invaluable local food resource for addressing unacceptably high rates of malnutrition and childhood stunting.



Our Goal in 2019

We hope to grow the number of registered users on the platform three-fold in 2019. Thanks to funding from the Australian High Commission in Nairobi, we will be able to build on the platform to make it more accessible to users in East Africa. We hope that the outcomes from this activity will inform policy development on big data applications, particularly in agricultural marketing.



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Check out the existing platform @
www.mkulimayoung.com

Thanks to our recent interns who have played a key role in developing our food and nutrition security project in Papua New Guinea (PNG) – entering pilot phase in 2019.

KYEEMA's latest interns Linda Sataro and Melissa Ralda are women with a vision for PNG that aligns with our goals at KYEEMA. In this country, and in the Indo-Pacific more broadly, our aim is to develop breeding programs and training in the conservation and expansion of indigenous chickens – a precious local food resource that is under-utilised. This strategy will be employed at rural community level to improve household incomes and achieve the ultimate goal of decreasing rates of childhood stunting and improved food and nutrition security in the country in PNG. These women have volunteered their time to develop this project – specifically for stakeholder analysis, business model development, adaptation of training materials into Pidgin, online agri-business marketing research, and networking with local groups. We are excited to report that in February this year, with funds from Rotary, we conducted our first training activity in village poultry breeding and husbandry for two “Master Farmers” in the Morobe Province.

Linda Sataro



Linda is a post graduate Masters student at the School of Communications and Arts at the University of Queensland, majoring in Communication for Social Change. Back home in PNG, she works for a government department with diverse functions that contribute to communication and public relations, planning and development and public policy matters.

Her interest in planning and development prompted the idea to explore further how communication can support progress in PNG. We have enjoyed having Linda's unique perspective and practical approach to how we might upscale our project at a national level.

“For me, this is an ideal small project to invest to help my rural village community. Lack of protein in diet for a rural household is common in many parts of the country (PNG), due to many reasons and factors. If I can get involved and engaged in helping my rural community and if the project is operational, we can replicate the practice across the district to help more families and communities.”

Melissa Ralda



Melissa is undergraduate student from Griffith University studying a Bachelor of Business, majoring in Business Management. She plans a future career in project management. This internship is giving her hands-on experience in trouble-shooting a small-scale agribusiness enterprise which has the potential to help many in her community directly (where we are piloting the project). We have enjoyed the enthusiasm and initiative that Melissa brings to her work at KYEEMA – it is clear her motivation in business is for tangible social impact.

“Working with this team and getting to understand the passion and drive that is invested into this poultry project has imparted me with so much appreciation for the cause of food security. Coming from PNG and knowing the struggle that is faced there on food prices alone, I can see that this project would be life changing for many rural Papua New Guinean's”

Village Chickens – a sustainable and healthy solution to food insecurity.

By guest blogger Faith Considine. Faith recently completed a Bachelor of Business/ International Relations, majoring in Global Business and Diplomacy at Bond University. She worked as an intern for KYEEMA in 2017/2018 on many initiatives including our 'Happy Chickens' project with SELF in Fiji'.



Leah Msumba, a poultry farmer in rural Malawi.
Photo credit: Richard Nyoni.

Food in the Anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems, a recent report published in The Lancet medical journal by a group of 37 researchers from 16 countries calls for a “radical transformation of the global food system.” According to the authors, “Food is the single strongest lever to optimise human health and environmental sustainability on Earth. However, food is currently threatening both people and planet.”

While still under discussion by wider academic and professional communities, the report’s “healthy reference diet” advocates for a 50% reduction of red meat and a 100% increase in the consumption of legumes, nuts, fruit and vegetables. The diet also advocates for a low to moderate amount of seafood and poultry consumption.

However, where communities do not have access to nutritionally dense food, particularly in Sub-Saharan Africa, the report acknowledges that animal-source foods can improve dietary quality, micronutrient intake, nutrient status and overall health. Fortunately, village chickens are an environmentally sustainable and nutritionally-dense source of food. In contrast to intensively-raised poultry whose feed production and transport contributes to greenhouse gas emissions, village chickens’ carbon and water footprints are low[1].

Village chickens are a vital component of the interaction between crop and livestock production. These chickens do not require commercial feed and instead scavenge, eating pests and other foodstuffs not consumed by people, in the process. Their manure is also nutrient dense and adds organic matter to soils, improving water-holding capacity and structure.

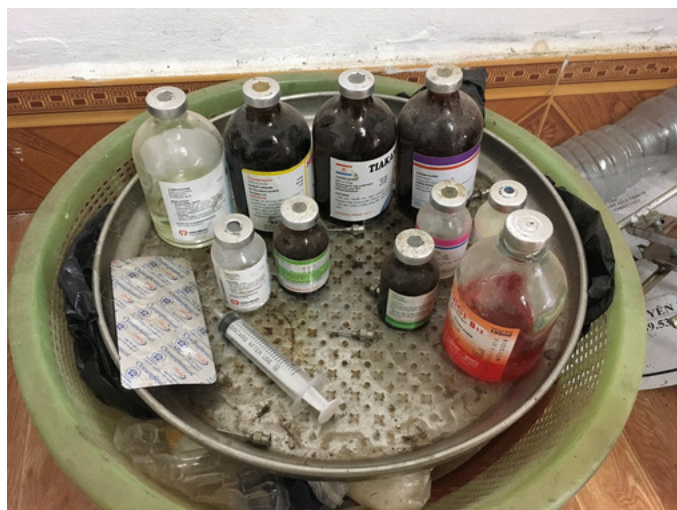
The report also recognises the benefits of “replacing calories from a staple starchy food with an egg” in reducing stunting and improving the nutritional quality of a child’s diet in low- and middle-income countries. With the world’s population expected to reach 10 billion by 2050, Kyeema Foundation believes village poultry will be an environmentally-friendly essential source of high quality protein and micronutrients consumed by many.

[1] Small-scale poultry and food security in resource-poor settings: A review.

Did you know?

Consuming an egg a day can prevent childhood stunting, as found by researchers in the journal **Paediatrics**

Food insecurity and antimicrobial resistance: is the “perfect storm” forming in low- and middle-income countries?



By Juan Pablo Villanueva Cabezas, guest blogger at KYEEMA's Village Talk blog and Research Fellow in One Health at the Peter Doherty Institute for Infection and Immunity, University of Melbourne.

Emerging links between undernourishment and antimicrobial resistance

The State of Food Security and Nutrition in the World (SOFI) is a collaborative effort of FAO (1), IFAD (2), UNICEF(3), WFP(4) and WHO(5) to monitor the progress made towards ending hunger. In 2018, SOFI announced that 821 million – or 1 in 9 people in the world – do not have enough to eat. This number has grown in the past three years and might keep on rising.

In rural areas where undernourishment is a significant problem, livestock represent a primary asset to tackle food insecurity. The wellbeing and productivity of these animals, therefore, is vital for the livelihood of these communities. A recent review by a multidisciplinary American public and veterinary health group, however, made a concerning finding; striving for animal health and productive performance in these settings can result in antimicrobial misuse. The limited monitoring of pharmaceutical drugs for humans and animals, limited veterinary services, and widespread food insecurity found in low- and middle-income countries (LMICs) may result in a “perfect storm” of undernourishment and superbugs. A transversal One Health commitment to educate and inform these communities, reduce their food insecurity, improve their livestock husbandry, and monitor the responsible use of antimicrobials in human and animal health practices is critical to prevent a disaster that is already on the horizon.

Undernourishment and poverty remain dominant health and social issues in rural areas of LMICs. According to SOFI, climate change and the forced displacement of people due to armed conflicts are the main threats to food security in these settings, which also severely undermine the livelihood and income of small-scale food producers. These phenomena also inflate the prices of agricultural goods, hitting the rural poor who are usually food producers, not buyers. The SOFI members have called for further investment in rural areas to increase the productive scale of the agricultural and livestock systems and to promote innovation and connections with markets as a means to alleviate poverty and undernourishment.

However, while the intensification of small-livestock systems may help combat undernourishment, this may also increase the systematic prophylactic, therapeutic and growth promotion (mis)use of antimicrobials in livestock. In 2015, an ILRI (6) review of the current evidence on antimicrobial use in LMICs found there is a dearth of data on their use (type, dose and treatment duration) and the state of antimicrobial resistance. ILRI reports that the use of antibiotics is more prominent in animals than in humans and that the rapid intensification of the livestock systems is an underlying driver of antimicrobial resistance in LMICs. Given that the same classes of antimicrobials are used to treat infections in humans and animals, antimicrobial misuse in livestock is a One Health problem that undermines both animal and human health.

Pharmaceutical misuse is not exclusively linked to intensive systems, though. The dispensing of antimicrobials in small-scale systems can be common in some settings. Chicken production systems, which play a crucial role in alleviating poverty, food insecurity and reducing gender gaps in rural settings of LMICs, might be particularly sensitive to pharmaceutical misuse. For instance, a study from Bangladesh reports that veterinary officials seem to focus on large animals, leaving the chicken producers with less formal animal health assistance which usually results in inadequate antimicrobial prescription. Other types of pharmaceutical misuse in this country include dispensing contraceptive pills to chickens to treat Avian Influenza and Newcastle disease. The problem, however, is global. The administration of penicillin, tetracycline, sulfonamide, trimethoprim, enrofloxacin, doxycycline, among other antimicrobials, has been extensively reported in small-scale chicken systems of Latin-America, Africa and Asia.

While rigorous epidemiological data remain limited to estimate the attributable fraction of antimicrobial resistance in humans due to antibiotic use in small-scale livestock systems, behaviour and closeness between people and their animals may drive and facilitate the exchange of resistant pathogens. Low-cost husbandry practices aimed to protect livestock in food insecure settings (e.g. allowing chickens to sleep in baskets under the bed) may contribute to emerging antimicrobial resistance in these settings.

Stopping undernourishment and antimicrobial resistance

Avoiding the coexistence of undernutrition and antimicrobial resistance must become a priority. Animal and human health providers in LMICs need to be trained to ensure evidence based-prescription of antimicrobials. Also, less formal animal health providers in rural settings (pharmacy seller, village healers) should receive lay language instruction about the risks of continuous and unregulated use of antimicrobials in animals and humans. It is also important that manufacturers conform to a responsible production and distribution of antimicrobials in these settings. A monitored access to these pharmaceuticals by the general population should complete the strategy.

Proper husbandry is an effective way to have healthy and productive livestock. Husbandry training should emphasise the importance of best hygiene practices to reduce environmental contamination, disease transmission and minimise the need for antimicrobial use. Good farming should be promoted as the most effective way to reduce “prophylactic” use of antibiotics, their misuse as growth promoters, and redirect the expenses associated with these pharmaceuticals towards other household needs.

Vaccination of livestock in these settings should be a primary strategy to reduce antimicrobial misuse; however, most vaccine formulations still depend on strict cold chains which pose a significant limitation. Fortunately, vaccine technology is moving forward and thermotolerant formulations have made possible its use in less equipped settings. Vaccines may prevent infection or reduce the shedding that leads to a further spread and environmental contamination. If adequate vaccine coverage exists, unvaccinated animals will also benefit from the intervention. Adequate access, promotion and use of vaccination should be encouraged as a critical intervention that ensures livestock’s health and performance.

Undernourishment and antimicrobial resistance are problems that have been approached by different scientific silos for many years. However, they are pieces of a complex puzzle that demands a comprehensive and collaborative effort – a One Health approach that could result in positive change in multiple dimensions.

1 Food and Agriculture Organization of the United Nations; 2 International Fund for Agricultural Development; 3 The United Nations International Children’s Emergency Fund; 4 World Food Programme; 5 World Health Organization; 6 The International Livestock Research Institute