Farmer innovators are happy people... impressions from a field visit to Kenya

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In September 2019, I had the opportunity to visit several Prolinnova-Kenya (PK) partners who were involved in a pilot project to test a “how-to-do” guide on gender-responsive local innovation development. As a member of the Prolinnova International Secretariat, then hosted by KIT, I took the lead in developing this guide in 2017 together with my colleague, Mona Dhamankar, with funding support from FAO. In 2018, we asked the FAO for some additional funding to test the guide in the field and to revise it based on feedback from practice. FAO agreed to our request and proposed Kenya as the country for the pilot project. The field test consisted of an orientation workshop to introduce the guide, a period of mentoring to support participants with application in the field and a concluding visit for reflection and feedback from the participants for further revision of the guide. The agricultural research and development (ARD) participants selected for the pilot came from the two field sites of the Promoting Local Innovation in Food and Nutrition Security (Proli-FaNS) project, which was implemented in five countries: Cameroon, Burkina Faso, Ethiopia, Ghana and Kenya. In Kenya, the two field locations of the project were Kisumu and Makueni Counties.

The reflection and feedback field visit was short (16–20 September 2020) and consisted of discussions with ARD partners involved in the two counties, Kisumu and Makueni, and visits to selected innovators. Five women and 13 men from the two sites were involved in the discussions and visits. It was a great opportunity to catch up with some of our partners in PK and to provide backstopping, especially related to gender analysis of local innovation and farmer-led joint research, as this was the primary purpose of the pilot. The visit was coordinated by Vincent Mariadho, country coordinator of Prolinnova-Kenya, who joined the two of us throughout the trip. In Kisumu, we were joined by Marta Opondo (Kenya Agricultural and Livestock Research Organisation), Peter Atito (County Department of Fisheries), Simon Obuolo (County Department of Agriculture), Dominic Onyango (Rural Development Initiative) and Fred Wabweyo (Community Rehabilitation Environmental Protection Program). In Makueni, we were joined by Andrew Muendo (Inades Formation, Kenya), Juliet Musau (County Subward Administrator, Makueni), Magdaline Ndungwa (County Ward Administrator, Makueni), August Ngonzi (Sub-County Administrator, Kilome), Abraham Nyaga (County Veterinary Officer), Anthony Kimeu (Extension Officer, Department of Sand Conservation and Water Resource Users Association), Joseph Museveni (Makueni County Water Resource Users Association), Daniel Muia (County Development Committee) and Dominic Munyau (Youth Representative-Kasikeu).

We visited 27 farmer innovators – 18 of them were women – and each story was unique and uplifting. There were women who had come up with sack gardening and irrigation systems to cope with the increased lack of water due to climate change, others who had developed different designs of stoves to reduce fuel consumption and indoor-air pollution, and still others who had come up with various herbal concoctions to keep pests away from their crops and livestock.
Rebecca Auma Dero’s sack-garden irrigation kit

Rebecca Auma Dero (on the left and far right) is a widow who lives in the village of Konyango East Village in Kisumu County. Water is becoming an increasingly scarce resource in this dry region of Kenya. Rebecca has been thinking of various ways to make the best use of water. She has several rain collectors and has come up with a new way of drip-irrigating her sack garden to optimise the use of water. Sack gardens have been promoted by various NGOs in the area, but not all plants in a sack get sufficient water which tends to seep quickly to the bottom. Rebecca put in a column of stones and pebbles in the middle of the sack in order to spread the water evenly through the whole sack thus providing moisture for all the plants. She is also trying out new, more nutritious varieties of vegetables that can tolerate drought. According to Rebecca, these are vegetables that were used by her grandmother but have now disappeared from diets. Not only is she trying to revive these crops, she is also sharing seeds with other women in the area, who are also following her example. Rebecca is also a community health volunteer in the area and is using her interactions with women to share her innovations and to stimulate them to set up sack gardens with drip irrigation and grow vegetables for the family.

While listening to her experiences, standing in her homegarden, I noticed a plant that was growing near the base of one of the sacks. This is a plant that we in Sri Lanka call “Gotu kola” and consider highly nutritious and eat regularly as a green salad (“mallung”). I tasted a leaf to make sure it was the right plant and then asked Rebecca whether she had grown it for eating. To my surprise, she said it was a weed. None of the African agronomists in the group knew the plant. So a quick Google search gave us the botanical name *Centella asiatica*. I shared with her about the nutrition and medicinal properties of the plant and she promised to try it in her food. That is a small example of the strength of an international multistakeholder community of practice like Prolinnova – Rebecca from a village in Kisumu, Kenya, and I from faraway Sri Lanka, can share experiences and learn from each other. Martha Opondo, one of the scientists from the Kenya Agricultural and Livestock Research Organization (KALRO) and also a member of the PK network, recollected seeing the same weed in her village and was going to try it out herself.
Eunice Ayieko’s compact portable jiko

Eunice Ayieko came up with this compact portable “jiko”, which is very handy for women, as it can be moved around. It is light in weight, very durable and fuel efficient. She said that it is far more durable than the jikos that are sold on the market. Moreover, it is considerably cheaper than the commercial equivalent. Eunice has been teaching many women in her village to build similar stoves, and many of them are using them. Eunice has made changes to stove designs so that they use less fuel and are smoke-free. When asked whether she would want to turn this into a business, she responded that she prefers to teach others how to build improved stoves, as that gives her a lot of satisfaction.

This led to the question in the group: should all innovations with a potential for business be commercialised? Although we could not debate the issue at length because of our tight schedule, I certainly support Eunice’s altruistic and social approach to dissemination. Not everything has to be turned into money and profit – there may be far greater benefit in encouraging others in the community to try their hand at something new and thus stimulate them to experiment and gain a sense of self-worth and confidence. In this way, it is likely that more local women begin to experiment and find their own solutions to problems they face.

Joe Ouko’s Locally Formulated Dairy (LoFoDa) goat meal

We also visited the community of Joe Ouko, a farmer innovator who is also a member of the Prolinnova Oversight Group (POG), who developed a low-cost and nutritious goat meal using drought-tolerant plants that grow wild in the area.
Joe Ouko lives in Ogili Village in Kisumu County. He developed this goat feed through trial and error over a period of time in order to find a healthy, well-balanced and nutritious meal for his stall-fed goats. It was also meant to deal with the challenge of prolonged drought due to climate change leading to a lack of sufficient fodder in the dry season. Joe came up with the idea of harvesting and drying the grasses that are abundant for a short period after the rains. He then mixed the chopped grass with a variety of other drought-tolerant shrubs and trees that grow freely in this landscape.

Joe has done several rounds of research to improve the goat meal in collaboration with Martha, a researcher from the KALRO station in Kisumu, and other members of the Proli-FaNS Local Steering Committee in Kisumu. Goats that feed on this meal can produce up to four litres of milk a day, which is much higher than with the regular feed. Joe emphasised that the increased goat milk is used first for consumption needs in the community and only the surplus is sold. With access to this goat meal, more families have started keeping dairy goats and it has become a thriving activity.

Joe's innovation has kick-started a chain of innovations in his community related to goat keeping. He and his fellow farmers have set up a goat-meal producers enterprise and registered it as a company. The goat meal has been certified by the Kenya Bureau of Standards and the producer group has purchased a pelleting machine through a grant that they received through PELUM-Kenya, which supports enterprise development. Their locally developed and improved goat meal called "Lofoda" will soon be for sale on the commercial market.

Nyandago farmer innovators group in Ogili Village

The women innovators in the group are now trying new ways of using and preserving goat milk and meat to improve nutrition in the community. They showed us an array of new dishes and products they had come up with. In fact, they had set up a whole exhibition of different types of food they wanted to share with us.
Monica Auma displayed the many delicious dishes she was making with pumpkin to make it more attractive for consumption. According to her, these recipes have increased the consumption of pumpkin, especially by children. Pumpkin cake and smoothies made of pumpkin pulp and sour goat milk flavoured with lemon juice to be eaten hot or cold were among her exhibits. They were delicious!! She also showed us how she preserved pumpkin seeds in gourds.

Jane Jageero told us about the recipes she had developed with raw papaya, which is popular in Asian cooking but not generally eaten by Kenyans.

Helen Ouko showed us how she was using peanuts and goat milk yoghurt to come up with new recipes that were high in nutrition.
Syprina Odongo, the oldest woman in the group, was celebrated for reviving an old way of preparing “ugali” with millet flour and ghee, which is not only nutritious but can also be kept without refrigeration for several weeks. Her daughter-in-law, also in the group, was taking the lead in teaching younger women to cook this ugali.

These are but a handful of the many culinary creations that we tasted that day. But what struck me more was the sense of solidarity and generosity that prevailed among the people and the great progress the community has made since the development of the goat meal innovation a few years ago. It is truly a hub of innovation in which men and women, young and old, are working together to improve the wellbeing of the whole community.

Leaving Kisumu, we travelled on to Makueni County, where we visited more farmer innovators.

John Musumbi’s pest-control botanicals

John Musumbi has developed several botanical concoctions to fight crop pests. He used many substances freely available in his environment such as cactus, tobacco, onion and avocado seed. One of his key innovations is an onion infusion that kills termites. Termites are a serious problem for farmers in this area, and the news of his innovation has travelled like wildfire. He has been getting requests from farmers close by and further away for training in preparing this and other botanicals. He said that he had trained nearly 400 farmers thus far, free of charge, with only his travel and food covered by them. The PK Local Steering Committee had sponsored John to showcase his organic pesticides at a recent agricultural show. Again, what struck me were not only his creativity and inventiveness, but his willingness and social consciousness to share his knowledge and products freely with others.
Benigna Mumbua’s organic fruit-fly trap

Benigna Mumbua has developed an organic fruit-fly trap to protect her mango trees from fruit flies. It is a simple mix of honey, lemon juice and water that she puts into recycled plastic bottles and hangs up in the trees. The fruit flies get attracted to the honey solution and get trapped in it. Before coming up with this innovation, a good part of her mango crop was attacked by fruit flies and became unsuitable for sale. This low-cost, easy-to-use method not only keeps the flies away but also allows her to sell her fruit with a pesticide-free guarantee. When the solution in the bottles dries up, she empties them and feeds the nutritious contents to her chickens.

August Ngozi, the Sub-county Administrator who happened to join us on this visit, was very impressed with her innovation and promised to set up an organic mango producers group in the sub-county to support Benigna and other farmers to get a better price for their mangoes. He also said that he would connect them to the mango-processing unit that has been set up in the county.

We then went over to meet Joel Tete, farmer innovator extraordinaire.

Joel and Loise Tete’s farm lab

Joel Tete and his wife Loise have a farm that I would call a living lab. They are constantly experimenting on their farm and have so much to show us that we cannot fit it all into this short visit.

Joel has designed a relay-brooding innovation for his poultry enterprise. The incubator he received through an FAO-funded programme some years ago was not a success due to frequent electrical interruptions resulting in the loss of several batches of eggs. Now it stands as a relic in a corner of his poultry shed.
Joel does not use vaccines; instead, he uses herbal mixes to control disease. He has not had an outbreak of disease in his flock for several years. He has six milk cows, which he also treats with botanicals and does not use antibiotics.

Joel even has an old clapped-out car that he brought over from a junkyard, tinkered with it and made it work. He was proud to show it to us!!

We could have stayed all afternoon and listened to his stories of amazing innovations. But what struck me again were the happiness he radiated and his acknowledgement that Prolinnova’s approach of recognising their innovations had changed their lives, forever. I will always remember him as “Mr. Happy”, radiating such warm and positive vibes that are thoroughly infectious.

It was already late as we hurried on to the next village to meet another exceptional innovator.

**Isaac Nganda, eggplant breeder**
Isaac Nganda is a farmer breeder who has bred many different varieties of eggplant (aubergine) over several years. He has varieties bred for better taste, to withstand pests and for bigger size. His farm would be the envy of any breeder from a national research station. Not only has he bred many amazing varieties, but he has also shared seeds with many farmers in his community.

It is not only eggplant that keeps him busy. He experiments with many other crops such as peppers, kales etc. He has many different crops on his farm, increasing biodiversity and reducing risk of crop loss. He follows agroecological principles and ensures that his crops and soil stay healthy, using botanicals for pest control and manure for soil fertility. Isaac, who is also a pastor of a local church, said that the members of his congregation test his varieties and give him feedback on aspects to be improved. Isaac is a happy man who says that his farm now generates enough income to feed his family, send his children to school and have a comfortable life.

It was getting late but we were determined to meet Susan Joseph, the first woman to have started a butchery in the area.

**Susan Joseph, the first woman butcher in Mangala Village**

Butchery - slaughter of animals and handling of meat - is traditionally an occupation for men only and Susan had to break through many taboos to become the first woman butcher in the area. She is a single mum who was helping her father to run a small grocery store when she came up with the idea of expanding the business with a butchery.

Susan told us of the challenges she faced and overcame to slaughter animals and to sell meat. But her father always encouraged her despite social norms and taboos. She now has a thriving business and is attracting more customers from the area, who say that her butchery is cleaner than others in the area.

Susan has gone further and added on an eatery to her business venture, which is having brisk sales and the demand is growing. Susan says she always does the selection and buying of the animals herself, but has now hired a person to do the slaughtering for her, as she is quite busy. Susan has her eyes set on further expansion. She hopes to set up another butchery in an adjoining village. And she is looking for another single mother with whom she could partner. She wants to support another family to get on its feet. Once again, this deep sense of solidarity and caring for another came to the surface.
As I look back on this visit, I am overjoyed that the farmer-led innovation approach that we have been promoting for nearly twenty years is bearing fruit and transforming the lives and livelihoods of small-scale farming families and their communities. I am also thrilled that so many women innovators have come to the fore and are making change in their communities. What struck me most was that each and every one of the innovators we met radiates happiness and encourages others in their communities to exercise their creative capacity and carve out their own development path.

The partners in PK are working very well together and have grasped the farmer-led innovation development approach. They are now gaining more skills and confidence in gender analysis in this work. The Proli-FaNS project in general and this pilot in particular have provided opportunities for the partners from the two field sites to meet up, discuss progress and challenges, and share experiences.

More information on gender-responsive local innovation development can be found at: https://www.prolinnova.net/content/guidelines-gender-analysis-local-innovation-development

More information about the Prol-FaNS project can be found at: https://www.prolinnova.net/fns

(Photos: Chesha Wettasinha with permission from the farmer innovators and others involved in the visits)