This newsletter presents the Kirkhouse Trust (KT) activities undertaken during the 2023 trip to visit the Mochipapa research station in Choma and the first in-person annual meeting in Livingstone since the COVID-19 pandemic. This was a combined meeting between the African Bean Consortium (ABC) and the African Cowpea Programme (ACP). KT also welcomes two more new PIs in the ACP.

The KT team’s visit to Mochipapa Agricultural Research Station

As an appetiser to the inaugural joint ACP/ABC meeting in Feb/March 2023 (the first KT research meeting held in Africa since covid struck), a group of us (Dr Kelvin Kamfwa and Swivia Hamabwe (UNZA, Zambia), Patrick Attamah (SARI, Ghana), Dr Sigrid Heuer (NIAB, UK), Claudia, Mike, Maria, Mark and I) paid a visit to Mochipapa Agricultural Research Station in Choma, Zambia. The idea was to check out how a pair of our newest PIs (William Funsani and Velindah Chibomba) were faring with their trial of a set of ACP-released cowpea varieties (including some of Patrick’s), which were being exposed to an environment several thousands of kilometres distant from where they had been bred. It also gave Mark his first-ever experience of rural Africa. We piled into a minibus for the three-hour drive from Livingstone, down a narrow-straight, well-made highway, before bouncing the last few kilometres along a somewhat less well-made road. We were received at the Station by the two PIs along with a number of other Mochipapa staff, and after a short formal series of introductions, were treated to some welcome refreshments, which included (a novelty for me) some boiled sweet corn-on-the-cob – which wasn’t sweet, but did taste good. Then, fully energised, we headed out to see the plots and to tour the facilities available at the Station. Everyone was impressed by how well the plants were being managed – there was scarcely a weed to be seen anywhere! The tour was rounded off with a discussion held under the welcome shade of a big tree, and the party then left for its pre-booked lunch at a nearby hotel, a meal which Maria particularly enjoyed ... There was then just the long three-hour return journey to look forward to, in the course of which most of us – though fortunately not the driver – were able to sleep off our lunch. It was a great way to get into the mood of the ACP/ABC meeting which began the next day.

Dr Robert Koebner, KT Consultant
In February 2023, only 3 months after I joined KT, I had a wonderful opportunity to go on my first ever trip to Africa (which I was so excited to partake in) for a site visit and a combined ABC/ACP meeting. Before the meeting started, I had my first experience of travelling to rural Africa with the KT delegation to visit two KT PIs, William and Velindah, in Mochipapa Research Station, ZARI, Choma, Zambia.

Our journey had started early that day as the drive to the Research Station in Choma was a three-hour journey. I still remember all the excitement and the adrenalin rush; I was going on my first field visit. Looking out from the minibus, you could see fruit and vegetable stalls across parts of the journey, in particular an abundance of tomatoes. The journey was a smooth until the last half hour where the road became very bumpy, springy and soil based before we reached the research station.

After a very hospitable welcome from everyone at ZARI and introductions between KT, the PIs, and the Programs Officer of the site (Dr Kafula Chisanga), formal proceedings began. Claudia (CE), and Mike (ACP consultant) introduced KT and its funded breeding programmes; Dr Chisanga explained the research at ZARI, and Kelvin (KT PI) reiterated the importance of legume breeding in Zambia. We were treated to refreshments outside including, large watermelon slices, corn cobs, drinks, and a sponge cake baked by the ZARI staff. I really enjoyed the corn cobs as it was neither sweet nor bitter and was different (taste and appearance) to sweetcorn cobs that I am used to in the UK.

We visited the fields that were 5 minutes away. The plots arranged across a large field were associated with a number of different projects. The ZARI team took us round the field, showing us the peanut, beans, maize projects and then KT-funded cowpea field trials. Looking round you could see the meticulous effort that they had placed in keeping the field tidy and clean with areas outlined with different pathways. I could tell how impressed everyone was with the maintenance that they had in place.

The delegation then found safety from the heat under a tree for further discussions. We concluded our stay, said our goodbyes, and moved to a restaurant before our return to Livingstone.

The very next day, before the meeting started, I spent the morning sightseeing and experienced the extraordinary, Victoria Falls. Which sticking to my true Mark-style, I could only have done wearing what can be described as a hilariously yellow poncho.

Concluding my experience, as a first timer on a KT trip, I found the field visit such a phenomenal experience to see people in person and get to know the PIs. I found the experience wonderful to be part of and can’t wait to take part in the next one!

Mr Mark-Sharbel Asman, Science Project Administrator
Following a travel absence due to the COVID-19 pandemic KT returned to in-person Annual Meetings. The ABC and ACP joined together for a combined meeting hosted by the University of Zambia. The meeting took place on 27th February to 2nd March 2023 in Livingstone and was attended by 43 participants from Africa, Europe and USA.

The meeting started with a reception on the first day where Claudia introduced the KT consultants/staff and all the participants. On the second day the meeting was officially opened by Dean of the School of Agricultural Sciences, Dr Chishala who welcomed all the participants on behalf of the Vice Chancellor of the University of Zambia. The meeting progressed with presentations from current/new/prospective PIs from Africa as well as external representatives from USAID Feed the Future Innovation Lab, National Institute of Agricultural Botany/Cambridge CSC, John Innes Centre, North Dakota State University, Boyce Thompson Institute, University of KwaZulu-Natal and University of Nottingham - Malaysia Campus.

The presentations were filled with enthusiasm and the discussions were vibrant. Having been unable to travel due to the pandemic, it was clear to see that there had been very good progress in the field of crop improvement. In addition to the presentations there were two sessions that covered ‘Field management’ and ‘Bean crossing’. The field management presentations were contributed by Professor Mike Timko, Dr Travis Parker and Professor Hussein Shimelis. The discussions centred on the planning of field trials. Dr Kelvin Kamfwa demonstrated the skills required in crossing common beans to develop new varieties.

In addition to listening to the talks, KT also encouraged participants to share their ideas with other colleagues. It was pleasing to see many interactions and exchanges taking place.

Whilst the meeting was very successful, KT thanks the University of Zambia and Dr Kelvin Kamfwa for their generous and supportive Zambian hospitality. It also necessary to mention the magnificent Victoria falls. We were left in awe not to mention drenched to the bone by the mighty Zambezi, and many wonderful memories! A very big thank you to Mrs Helen Holt-Davies (KT team) who covered many of the ‘behind the scene’ issues that were resolved smoothly and went unseen. Your support was invaluable!

Dr Philip Pinheiro, Science Project Coordinator
Dr Michael Chipeta is a plant breeder and senior lecturer based at LUANAR. Why did you choose your current work? ‘Like many children born to smallholder farming families on the African continent, I grew up in an environment where household food security could not be guaranteed and chores like herding livestock were a daily norm. The tough life in the village and its difficulties implanted in me the desire to change my life and uplift others especially smallholder farmers through an agricultural career’.

Describe what you do on a typical day. ‘On a typical day, I go to work to teach the allocated courses to me, visit breeding trials, attend to students’ issues, and write reports’.

Dr Esnart Nyirenda Yohane is the Co-PI and the Principal Agricultural Research Scientist in the Ministry of Agriculture, based at Chitedze Agricultural Research Station. Why did you choose your current work? ‘I chose to work on Agriculture because I just wanted to work closely with farmers so that I should help them improve their agricultural productivity. I grew up seeing my parents struggling to get high yields from different crops hence I told myself that I need to improve parents situation through development of improved crop varieties’.

Describe what you do on a typical day. ‘In my daily work I focus on reading journal articles and books so as to get new insights in variety development’.

Mr Idrissah Kaisi, Project Research Assistant. Why did you choose your current work? ‘My decision to become a research assistant stems from my passion for learning, the desire to work alongside experts, the opportunity to stay updated with current research, and a chance to contribute to meaningful projects. A role that aligns with my academic and intellectual aspirations allowing me to grow both personally and professionally’.

Describe what you do on a typical day. ‘My typical day involves engaging in various activities that contribute to the progress of research projects. The activities range from data collection, collaborative work, administrative tasks and literature review among others’.
Mr John Kafwambira, 
Project Manager.

Why did you choose your current work?
‘Growing up, I always wanted to work in an environment where I could help my country become self-sufficient in terms of food production. During my undergrad, my lecturers were instrumental in inspiring me, and showing me that plant breeding can help to feed the nation and that there is a need for more passionate individuals ready to take up this challenging career. This is how my passion developed and I was able to study crop genetics and breeding which helped me secure the position I am currently serving. I believe that with collective effort, we can be able to catapult Malawi to a state of food and nutrition security, and improved economic welfare through crop improvement. I can confidently say that I am satisfied with my work’.

Describe what you do on a typical day.
‘On a typical day of work, I start by reviewing and responding to emails, messages, and other communications from team members and other stakeholders if any. This helps me in planning and getting everything organised at the very start of the day. I then check on the day’s to-do list and include anything new that may have been communicated. I usually visit the field every day before 8.00 am to organise the field workers to make sure everyone is doing their tasks for that day. If we are conducting field experiments, I help in data collection and ensure that all husbandry practices are being done timely and that the field is free from weeds, pests and diseases. I then return to my office to work on my schedules for the day which may include data analysis, report writing and organising meetings to discuss project progress, review milestones, and address any issues or concerns’.

Welcome to Dr Mashamba Philipo and his team at the Nelson Mandela-African Institution of Science and Technology (NM-AIST)

Dr Mashamba Philipo is the Principal Investigator for the new KT-funded bean improvement programme in Tanzania.

Dr Mashamba Philipo is a plant breeder and lecturer based in Arusha, Tanzania.

Why did you choose your current work?
‘Iron (Fe) is an important mineral micronutrient and low dietary intake often leads to Fe deficiency anaemia, contributing to a high YLD score (Years Lost due to Disability) in countries such as Tanzania. About 41% of children under age of 5 years and 35% women aged 15–49 years have Fe deficiency anaemia in Tanzania (National Bureau of Statistics (NBS) [Tanzania] and ICF (Macro, 2011).

Though, there have been in place several interventions such as supplementation, and fortification which have been used by international organizations and governments to combat iron deficiencies in Tanzania. Iron deficiency remained a public health problem in the country, as these two approaches, are limited by human and infrastructural capacity, of which in most cases these are poor in developing countries, such as Tanzania. These interventions need always trained personnel and training programs to the populations, thus making them not cost-effective and difficult to reach poor resource population residing in rural areas. The ability of consumers to buy or access to markets where fortified food is sold is low, and most grains are milled by small scale millers in both urban and the villages, thus difficult to add Fe fortificants. Therefore, a need of advocating other friendly alternative methods like Fe-biofortification of the preferred yellow beans which can easily reach resource poor populations such as those residing in rural areas of Tanzania and urban markets complementing iron supplementation, and fortification in reducing Fe deficiency and Fe deficiency anaemia’.

Describe what you do on a typical day.
‘Being a lecturer and a plant breeder at the NM-AIST, most of the days I train scholars on plant breeding, and research methods, supervise MSc. and PhD scholars on their research and thesis related to plant breeding, plant science, and crop production improvement. Supervise and conduct research on plant breeding, and production improvement’.
Why did you choose your current work?
'I was born and raised in a peasant family whose primary source of income was farming; as a result, I have had a deep passion for agriculture since I was a young boy. Consequently, I received agricultural training from secondary school through my university career. Then I made the decision to work with the Nelson Mandela African Institution of Science and Technology (NM-AIST), a research-based university, with the primary goals of (i) expanding my scientific knowledge, (ii) preparing postgraduate students for careers in agronomy including common bean; the most popular plant protein in Tanzania and East Africa region, and (iii) assisting the farming communities in the university's immediate vicinity'.

Describe what you do on a typical day.
'Every day, I usually wake up around 5:30 am and exercise for 30 minutes. Then, between 8:00 and 9:00 am, I meet with my postgraduate candidates in the office to discuss the status of their research. Depending on the schedule, I run classes from 10:00 am and 17:00 pm. I leave the office at around 18:00 hours, walk home as part of my evening exercise, have dinner, and then I go to bed at 22:00 hours'.

Dr Akida Ignas Meya is a Lecturer based in Arusha, Tanzania.

Dry bean and Ugali (Stiff porridge); and Makande (Maize and Dry Bean)- Recipe and accompanying photos provided by Dr Philipo, Tanzania

Ingredients - Dry bean and Ugali (or Rice)

¼ kg of beans
1 litre of water
2 tablespoons cooking oil (Use same amount for rice)
¼ teaspoon Salt (Beans)
¼ litre water (Beans)
1 chopped medium size onion
2 chopped big ripe tomatoes
1 bell sweet pepper
1 chopped medium sized carrot
½ tea cup cold water/maize flour mixture
1kg of rice
¼ teaspoon Salt (Rice)
2 litre water (Rice)

Method

• (Dry beans) Put the beans in saucepan, add water and boil until cooked and drain; you will have to check regularly and add water until the beans are cooked.
• Heat oil in the saucepan, add onions, tomatoes, carrots, and salt. Cover the saucepan and leave to cook.
• Add cooked beans (without the water) and bell sweet pepper. Add water after 10 minutes and cover. Cook for 10 more minutes and the beans will be ready for serving.
• (Ugali) Add 2 spoons of flour to cold water in tea cup.
• Bring water to boil in saucepan, add cold water/flour mixture and keep stirring for 5-10 minutes on medium flame.
• Add flour, and continue stirring until stiff dough forms.
• Continue stirring with a wooden spoon for about 15 minutes. The Ugali is ready to be served.
• (Rice) Sort rice and wash.
• Bring water to boil in a saucepan. Add salt, oil and rice. Stir and cover.
• If using a gas cooker, put a medium flame and leave it until the water is dry. If you are using charcoal burner, reduce charcoal and leave until the water is dry. The rice is ready to served.

Ingredients– Makande

¼ kg of beans
1 kg of plucked maize
2 litres of water
2 tablespoons cooking oil
½ teaspoon Salt
1 chopped medium size onion
2 chopped big ripe tomatoes
1 bell sweet pepper
1 chopped medium size carrot

Method

• (Makande) Put the plucked maize and beans in saucepan, add water and boil until cooked; you will have to check regularly and add water until the mixture is cooked.
• Heat oil in the saucepan, add onions, tomatoes, carrots, and salt.
• Cover the saucepan and leave to cook.
• Add cooked plucked maize and beans (the plucked maize and beans mixture without the water) and bell sweet pepper. Add water after 10 minutes and cover. Cook for 10 more minutes and the Makande is ready for serving.