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## Rwanda & Tanzanian Yogurt Production WHE Final Report 2012

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**WHE FINAL REPORT**  
**Linda Marroquin-Ponce**  
**(October- December 2012)**

## **INTRODUCTION**

I am a fourth year undergraduate student completing an Honors Specialization in Biology and a Major in French. This past year I got the opportunity to travel to Mwanza, Tanzania and intern with WHE and APYN for 3 months (from October to December).

## **THE THEORETICAL PLAN AND THE REALIZED PLAN**

When I initially got the internship I was told what general areas of the project I would be working on. As a science student the plan was to help with any protocols and/or procedures that needed clarification in the lab or in the kitchens. As the culturing and yoghurt making processes both require specific steps, each with a strict and important time frame and sequential order, it was very important to assess if the labs and kitchens had mechanism to monitor everything. I was to spend 2-3 weeks in Mwanza and then the remainder of my time in Kigali observing these processes and helping to create monitoring devices for the labs and kitchens. While in both countries I would also be helping the local partners, APYN in Mwanza and KIST in Kigali, with whatever they needed, and possibly creating a map of the kitchen locations. Also, because there would be researchers from Western in the field, I was asked to work with them and help them with their studies if needed.

Another focus point of my internship was to observe the day to day running in both the Mwanza kitchens and the Kigali kitchen. These observations would include: opening/closing kitchen procedures, finances, tool sterilization and basic hygiene, and other basic daily routines. The kitchen in Kigali is relatively new and my main goal while in Rwanda was going to be helping the partners in Kigali to get their kitchen up in running and help overcome the obstacles that they were facing at the time.

In the end, I never visited the Rwanda kitchen. Due to a delay in receiving my invitation letter from the Rwanda partners, I was not able to apply for a travel visa, and my initial plan was a bit altered. As a result my entire internship was spent in Mwanza, with the possibility of a visit to Rwanda still not entirely ruled out.

### **ACCOMPLISHMENTS:**

During my time in Mwanza Tanzania I was able to work closely with APYN, international researchers at NIMR and local yoghurt mamas to make the most out of my experience. As mentioned I spent the first couple of weeks in Mwanza believing that my arrangements for Rwanda would be made and I would be off any day. As a result of this state of mind I did not want to take on something that I would not be able to finish therefore I took on the role of an observer and was trying to absorb as much information as possible and to help wherever I could.

At the time of my arrival, APYN was in the midst of switching over to a new system of monitoring the beneficiaries, which required a lot of clerical assistance. Both myself and the other intern, helped around the office in any way we could for

the first few weeks in Mwanza. While in the office we were able to learn a bit more about how APYN operated, how they interacted with the kitchens and how the relationships between APYN and their many partners worked.

Though I was not able to hit the ground running when I first landed in Mwanza, I believe that overall taking that extra time in the beginning to just observe was really the best thing I could have done because it gave me the opportunity to not only assess the needs of the kitchens and of the local partners, but to also understand the causes of some of the problems that they face on a daily basis.

Apart from helping around the APYN office I was also able to accomplish a few other things, most important of which are listed below:

- **MAPPING**

The locations of all the kitchens in Mwanza are relatively unknown by people working outside of APYN. Because kitchens depend on APYN to provide payment for the yoghurt given to beneficiaries and to supply probiotics, there is constant travel back and forth between the kitchens and the APYN office. To get a better understanding of all of the work that APYN and the yoghurt kitchens do it is important to visualize their relative positions to one another.

In order to make the map of all the kitchens with limited technology, I travelled to every kitchen that was open and running during my internship. During the journey to each kitchen I took very detailed notes of any landmarks along the way, such as the presence of gas stations, schools, characteristic bends in the road etc. Later with these notes in hand I would

use Google Maps satellite view to retrace the routes to the kitchens. Using these methods and my limited knowledge in mapping I was able to create a map of all the kitchens in Mwanza with pretty accurate locations.

Link: <http://goo.gl/maps/VnXXR>

- **ASSISTING RESEARCHERS AND OBSERVATION**

While in Mwanza I was able to assist two scientists from Western on their research projects based at NIMR. The first was a PhD student doing a research study with school age children in Mwanza and the second was a Masters student doing a research study in a clinic with pregnant women. Both studies were looking at the health benefits of probiotic yoghurt consumption.

Because the probiotic yoghurt used in both studies was going to be made by the APYN yoghurt kitchens, it was very important that its quality was good and its probiotic count high. In order to ensure this, I observed the yoghurt making processes in both kitchens being used and noted that the amount of probiotic added to the yoghurt sold daily was a small fraction of the ideal amount. The scientists running both studies were aware of this and had their yoghurt made especially by the mamas with the correct proportions of probiotic and starter culture. My role was to monitor the yoghurt production for both studies and ensure quality. I would go through the step-by-step process with the yoghurt mamas, observe and make sure the correct amounts were being used. I was also available to the researchers

for logistical support and would often go out and buy supplies needed for the studies or help deliver and distribute the yoghurt to the study location.

- **ACQUIRING NEW TOOLS AND TRAINING**

During my visits to the kitchens it became apparent that only a couple of kitchens owned lactometers and thermometer, two tools that are absolutely essential to the sterilization of milk. The lactometer is a very useful tool for the yoghurt mamas because it allows them to assess the quality of the milk upon purchase. The thermometer is required for the pasteurization process and without it is very difficult to assess whether the milk has been heated enough and all the bacteria killed.

After a discussion with APYN, this became another goal for us. We managed to get lactometers and thermometers for all the kitchens. We also provided workshops to train the yoghurt mamas on how to properly use these new tools.

## **RECOMMENDATIONS**

With respect to the map of kitchens the only future recommendation would be to keep it as updated as possible. I have sent it to APYN and they are now listed as “collaborators” on the map and are free to make changes to it in the future if needed.

With respect to the training, I would also suggest that there be follow up workshops to make sure that these tools are still being used properly. The younger kitchens especially need the extra training.

One of the challenges that many of the kitchens face is the insufficient amount of probiotic culture that NIMR/APYN provides them. In the future they need

to be supplied with a lot more probiotics if there is to be a substantial final probiotic count in the yoghurt.

In general for future interns I would suggest the following: embark on this project with an open mind and the notion that though there may be goals you need to accomplish, the overall goal should still be to share and exchange knowledge with local partners.