

Project Challenges

- Recruitment was slower than expected due to women not meeting the inclusion criteria
- Drop-out was common due to women moving to areas that were too far away from Nyerere Dispensary for yoghurt delivery and follow-up visits
- Probiotic yoghurt production at Tujikumboe kitchen was inconsistent due to lack of communication among yoghurt Mama's who required continual retraining on the yoghurt making procedures



Project Recommendations

- Additional support for APYN (needs more staff)
- Retraining of all yoghurt kitchens to ensure probiotic yoghurt production is standardized and being performed correctly
- The need for someone with a strong background in laboratory techniques and probiotic production on a permanent basis for at least one year



Mwanza, Tanzania

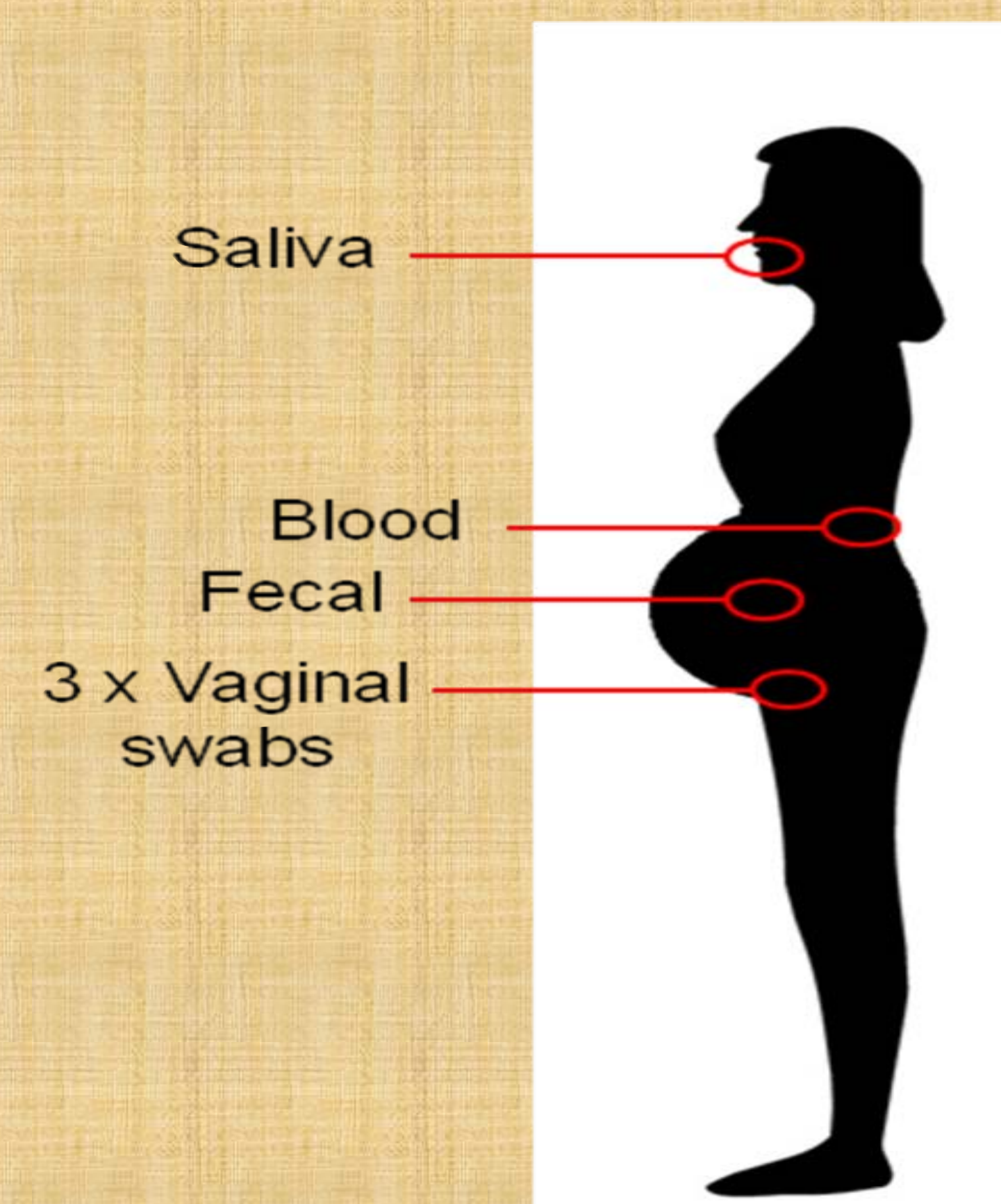
Project Goal

My research project has two main objectives:

- 1) Characterize the microbiome of undernourished pregnant women and compare it to that of nourished and obese pregnant women
- 2) Determine if a nutritional intervention of probiotic yoghurt supplemented with Moringa alters the microbiome and leads to an increase in positive pregnancy outcomes for undernourished women

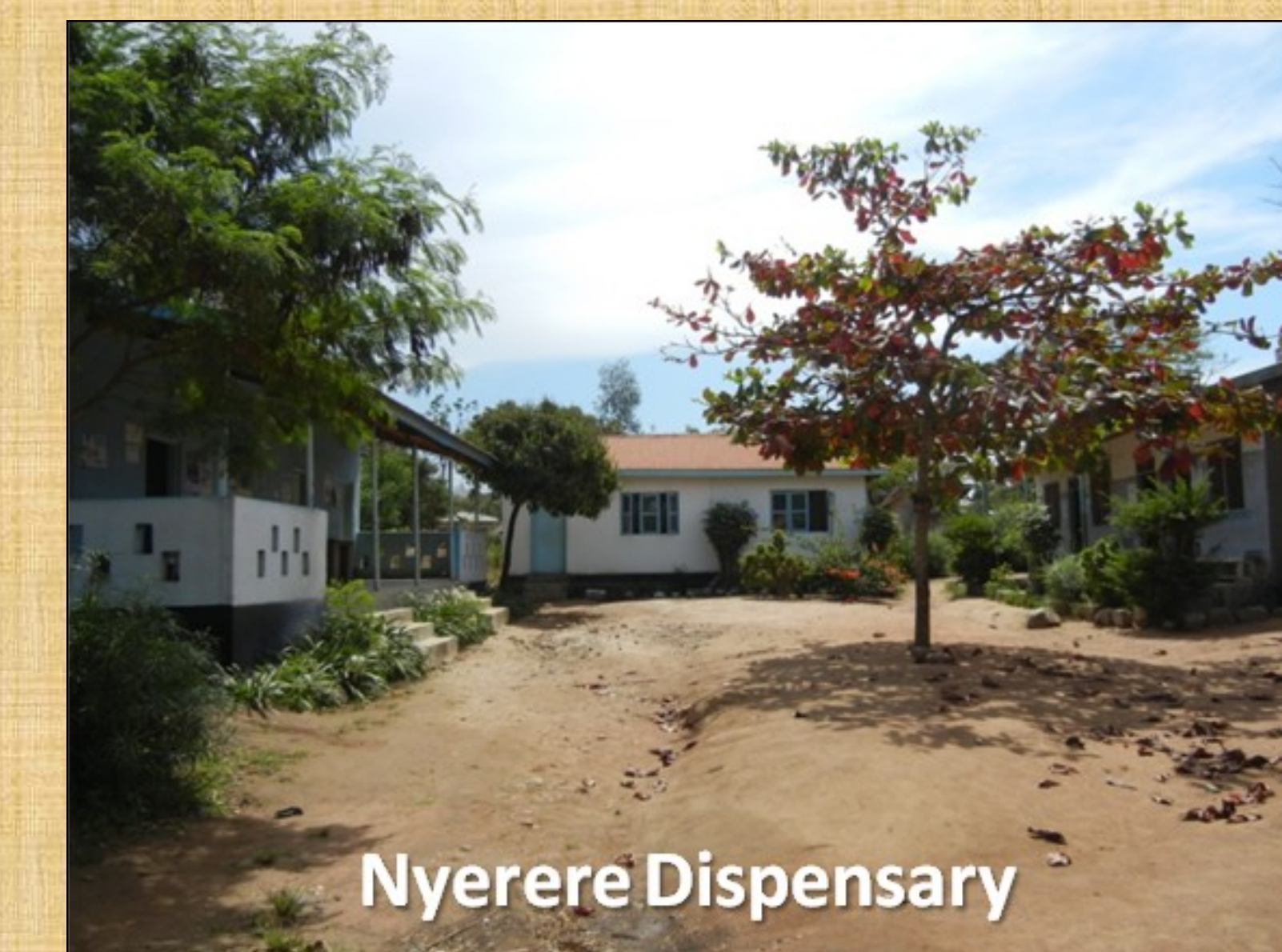
Study Methodology

Pregnant women from the antenatal clinic at Nyerere Dispensary were recruited after being asked a series of questions in order to make sure they qualified for the study. They were asked to come back for monthly follow-up visits until birth. **The following was done at each visit:**



- 48 hour dietary recall
- Collection of venous blood for nutritional analysis
- Collection of stool, saliva and vagina swabs for whole DNA extraction
- Collection of two additional vagina swabs for BV analysis and metabolome studies
- Clinical assessment of health at time of visit
- Collection of anthropometric measurements

After birth, women were asked to return with their infants and the same process was conducted but additional samples were collected from the infant as well as the breast milk from the mother



Project Outcomes

- Organized, implemented and ran a study at Nyerere Dispensary (a clinic in Buswelu)
 - Worked closely with clinical staff in sample collection and recruitment of women into the study
 - Worked with a translator to consent women and carry out follow-up visits with the women in the study
- Worked with Tujikumboe kitchen in Buswelu to produce high quality probiotic yoghurt for the study
 - Half of the undernourished cohort was randomized to receive probiotic yoghurt supplemented with Moringa which was delivered to them six days a week from recruitment to the time they exited the study
- Worked with the National Institute of Medical Research (NIMR) Mwanza to carry out lab related activities
- **Study is still ongoing and is set to be completed mid April 2013**

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Project Impact

- Provided needed supplies and extra support for the antenatal clinic and clinic lab
- Provided needed re-training to the yoghurt Mama's at Tujikumboe kitchen
- NIMR staff were trained on quality control for yoghurt as well as proper procedures for production of the probiotic starters
- Study participants benefited from additional medical care and prescriptions throughout their pregnancy
- Results could lead to the widespread distribution of probiotic Moringa enriched yoghurt to many individuals



Impact on Me

- The experience re-confirmed my desire to continue on a career path working in developing countries
- Taught me about the inequities affecting developing countries
- I was faced with many difficult situations which taught me how to problem solve out of my comfort zone
- I grew considerably as an individual and in my knowledge of living and adapting in culturally diverse situations

