Handover Summary

Agriculture Assessment | Malawi

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PROJECT EVEREST

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Executive Summary:

Muli Bwanji? (How are you)

Welcome to the Agricultural Assessment Team in Malawi. This month our team continued to maintain and develop the experimental farm set up in December, alongside investigating the food supply chain of Malawian fresh produce. We also briefly assessed the viability of entering this distribution chain and the impacts this would have within the industry.

The goals of the month were to:

1. Establish an understanding of the food distribution network in and around Blantyre, and start shaping the Project Everest product around the opportunities in this market.
2. Maintain the December experiments on the Demonstration plot, by collecting data and repairing parts of the experiment that needed work.
3. Establish a draft farming blueprint to begin working on through secondary research, whilst building a network of contacts to facilitate this development.

These goals required a greater understanding of the agricultural sector as a whole, as well as long term plans for how the product will develop for future teams. This information has been included in the additional handover documents. What has been found is that there are clear pain points farmers face during their crop cycle, which can be improved upon by methods including companion planting and IPM (Integrated Pest Management), however barriers to the adoption of new practices exist. Opportunities within the distribution network were also identified, including potential customers, producer sources and other stakeholders.

These goals still need to be worked upon to reach the establishment of a product offering. The information in these handover documents will hopefully prepare the team for a productive month of reaching their own goals, and making big strides to improving the food security of Malawi.

All the best,
The January Aggie Bois

2. Agriculture Overview of Malawi

Farming and agriculture are inherent to Malawian lifestyle, culture and economy. Eighty percent of the rural population relies on subsistence farming for food and income, meaning that the issues which hinder agricultural productivity have a direct impact on these communities' day to day lives.

This month, the Agricultural team continued to build upon previous teams' understanding of the agricultural sector, and assessed the viability of how a Project Everest product would fit into this sector.

Below are the key issues within the agricultural space as identified by the January and previous teams.

- A lack of access to knowledge surrounding improved farming methods results in poor land utilisation, which in turn undermines productive crop yields and fails to address current industry inefficiencies.
- Constant mono-cropping of staple crops (maize) has led to wide-scale soil degradation, a lack of nutritional variety and inefficiencies within the market (e.g. creation of a "maize mafia").
- Farming systems, and thus practices, require fertiliser for optimum yields, however, many farmers lack access to the capital required to purchase fertiliser and thus farm productivity is restricted.
- Current best practice does very little in the way of natural pest management and as such there is a reliance on pesticides (e.g. Maize losses due to Fall Armyworm).
- A lack of an established distribution chain between farmers and end consumers (such as supermarkets, hotels and the public) has led to a lack of market access for farmers, unstable market prices and food wastage.

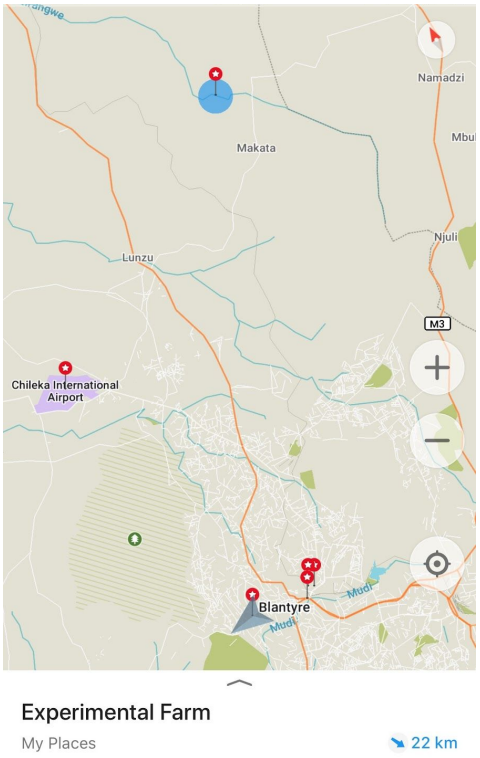
Culture is another important factor to consider within the agricultural field in Malawi. This is due to the cultural values and farming techniques passed down through many generations, making households conservative to change. Maize being considered a

'man's' crop and horticulture a 'women's' focus is an example of this conservative approach, and can make it difficult to convince farmers to change practices.

Finally, weather and cultural patterns with what is grown can make produce in markets fluctuate in price immensely and provide limited diversity. This makes it difficult for farmers to predict incomes from sales. With no predictability, farmers have no incentive to invest in inputs like fertilizers and pesticides, resulting in an overall lower quality of yield.

A full write-up of an agriculture overview can be found here.

3. The Experimental Plot



Village: Nsambudzi (sam-buu-zi)
Coordinates: -15.605813, 35.074526 (15'36'20.93"S 35'04'28.29"E)

Directions: It is an 01hr15min drive from the house in Blantyre to the experimental farm. Heading North out of Blantyre on the M1 for 23km you will reach Lunzu. From Lunzu, turn right after the bus stop and markets onto a dirt road and cross a one-way bridge. Continue to follow this main road (keeping to the right at any forks) for approx. 8km, crossing a railway line, until you reach a stretch of road with a school on the right hand side. Keep left at the next fork with a white stone sign and continue along the road, keeping to the right at the next fork. You will pass a school on the left hand side and continue down a bumpy road towards the experimental farm. When it has been raining it is a good idea to park at the top of the hill and walk down to the farm to avoid getting the bus bogged.

The Farm: The experimental farm is a 475m² (0.117325 acre) plot located on the river near the village of Nsambudzi. The position of the farm on the river means there is an

8.8° incline from the river to the top of the plot. The plot consists of 9 planted beds which have incorporated many techniques, including companion planting, bed structure differences and mulch cover. The experimental plot has been visited a number of times through the month of January following on from December's hard work. The radishes were harvested this month allowing us to input relevant data (size, leaves, weight etc.) which can be found in this spreadsheet. Further information on January's activities and the full Demonstration Plot handover can be found here.

The focus of the demonstration plot needs to be reviewed in February, especially given there will be some months until the next project in June. Some recommendations have been outlined in the document link above, including adapting the plot to deliver produce for the community so they have an incentive to maintain it over those months. However, this has to be balanced out with the required data collection and impact mitigation strategies which the February team see appropriate.

4. Farming Blueprint

At this stage in the project, we intend for a farming blueprint to be the first component of our final product. We envision there to be up to eight blueprint versions which differ according to potential differences in farmers' soil, placement of plot, access to water, climate, crops wanted to grow by farmer and the farmers capital. Through analysis of an individual farm, consultation and assessment, a computing system will spit out the eight blueprint types in order of most suitable through to least likely to work for that particular farm. The most suitable blueprint will be presented to the customer in the form of a booklet which will include diagrams, step by step instructions for set-up, a farm calender, recipes, additional information regarding their plot of land and contact details. This blueprint will also be paired with a consultancy service ensuring the blueprint is actively looked after and implemented correctly. The consulting service will also allow for distribution of newly found information to the farmers. Following both the blueprint and consulting service will be an additional means to a greater and more consistent income by Project Everest buying their surplus produce to sell to different markets.

Follow this link for further information on developing a farming blueprint: here.

Follow this link for a more detailed business plan: here.

5. Distribution Service

The distribution service Project Everest will potentially provide intends to give farmers opportunities to access markets they currently struggle to navigate. Smallholder farmers are mostly unable to break into the larger markets such as restaurants, hotels and supermarkets, leaving town markets as their only market value. This is due to a lack of quality and consistency in their produce, and leaving a bias where only farmers with existing capital can produce the quality produce needed for these higher-end customers, making it hard for households to predict income over the year.

Through the use of the blueprint and the consultancy service, smallholder farmers would be able consistently grow quality produce all year round. This would result in surplus produce for these farmers which we would then buy at a reasonable price and then sell straight to the end consumer. Farmers may receive more constant income and a greater value for their produce than if they were to sell it at the markets. The quality of the produce will be constantly monitored resulting in a constant sales stream alongside additional data that can be recorded for later reference.

The January team followed the December team's initial assessment which led to having a goal set out to map out distribution pathways in order to better understand the flow of food between farmers and end consumers. This resulted in engagement with many stakeholders and the establishment of a network within the food supply industry. The data collected from this research can be found here. The spreadsheet consists of the wants, needs, relationships and contingency plans of the customers, middlemen and farmers for each pathway followed by our team. As the data for one of these players was filled out, it would next lead either up or down the chain. Possible opportunities of entering the chain were found and can be potentially used later in the project.

In assessing the viability of entering the distribution chain, the January team has identified that there are certainly inefficiencies and gaps in the distribution industry that could be filled by a distribution service such as that which Project Everest is looking to develop. However, it is necessary for all negative and positive impacts of disrupting such an industry need to be considered. Entering the distribution chain could benefit

many including the middle men as they could become part of our link into the chain or could as easily cut out the middlemen leaving a large impact on the community. It was also questioned that through entering this market we could easily become a competitor to the farms which already supply to the same market. Although having the main focus on the smallholder farmers wellbeing, this avenue is up for discussion and possibly feasible within the future.

Jobs to do:
It would be good to continue with the data collection or reevaluate the path that we have chosen. To continue this is adding to the distribution chain spreadsheet which will outline the chain to a greater extent and having a wider network of contacts possibly even gaining a larger community for the market phone pricing idea. Having a large spreadsheet with multiple distribution chains will make it easier to determine which path/s will be the best way into the chain, and causing the least impact but be the most beneficial to the smallholder farmers and PE.

Steps needed to take next:
If continuing with the direction we have been heading it is recommended to assess the most viable way in to the distribution chain and to assess the impact of making that decision. The impact could potentially be smallholder farmers, middlemen and end customers/consumers.

6. Impact Assessment

A thorough impact assessment was conducted this month, mostly concerned with the impact Project Everest was having on the experimental farm and the future operations with the product.

A link to the full impact analysis can be found here.

This impact assessment is still a working process throughout the project's lifetime. The impact assessment currently includes most parties and stakeholders that the Agricultural Assessment team has worked with and plan to do so in the future, including the government, Nsambudzi, and parties directly involved in the potential product offering.

However, other impacts and parties should be added continuously, and the mitigation strategies adopted seriously. Other parties that have been identified but have not been assessed formally yet include:

- Middlemen in distribution service
- Consumers of end produce (ie customers of supermarkets etc)
- Students
- Trekkers and people involved in P.E
- Every stakeholder involved
- Economy wide
- Each potential customer (not just end users)
- Many more

It is also important to follow up on the mitigation strategies, not just identify them.

These have been identified as the most immediate mitigation strategies needed to pursue in the near future:

1. A sign outlining the experimental plot as purely experimental so as to manage expectations. This has been proven successful in Malawi from government experimental plots. Ensuring this is in both Chichewa and English is also vital.
2. Transparency with every stakeholder involved. Some issues this month can be traced back to misunderstandings of who Project Everest is, and no follow up on the progress of our work. Being upfront with them all, and maintaining this understanding over time, can mitigate these frictions.
3. Building a thorough understanding of Agriculture in Malawi from the beginning, to ensure understanding when engaging in the experimental farm and stakeholders. This will mitigate mistakes in the communication of ideas, and distrust of what we are achieving in Malawi.

7. Contacts and their engagement

GODFREY

Godfrey is an Agriculture Extension Officer who assisted us with many things on and off the farm. He had played a large role in the development of the farm and through his contacts he has given us a higher chance of completing the demo plot. He also acted as a translator from us to the Nsambudzi community. At the end of the month he went

back to Lilongwe to study.

PATRICK

Patrick is also an Agriculture Extension Officer who has given us his time to come out to the farm and engage the farm and community with us. He has been our point of contact regarding any outside information on the farm or products regarding the farm (seeds, transplants and general information required).

ALEXIOS

Alexios is the chief of Nsambudzi village who has been welcoming to us and watched us through our time on the farm. He has also sorted out a few things to assist us such as transplants and mulch.

JOHN

John is the lead farmer in the Nsambudzi community. He is always engaging what we are doing on the farm and having a laugh with us. He is dedicated to seeing the experiment go through to the end and has helped us if needed. He was also an assistant in getting the mulch we places on the lower beds.

KATHY

Kathy is the chef and manager of the restaurant called flavors. She was a key part of one of the distribution pathways we have mapped out due to her allowing us to follow her around the markets and gather much needed data. She is also the first participant in the price texting system.

CHARLES MALIDADI

Mr. Malidadi is the head of horticulture at the Bvumbwe research station. He was a help in contacting Zapco and showing us around Bvumbwe research station and explaining what they have done and hope to achieve in the near future. He has also been contacted about giving us information on their projects and their research which will be possible to use as secondary research.

CHIFUNDA

Chifunda is the gardener out the back of Mandala Cafe. He personally grows some of the produce that Mandala use throughout their meals. He has also given us contacts to

the crown stewardship school and the book he follows to be able to produce to Mandala Cafe all year round.

YOHAN

Yohan is heavily involved with the Crown Stewardship School, which runs educational farming programs and workshops. We were unable to contact him in January but recommend persisting in setting up a visit to the School to observe the farming techniques and practices that they are disseminating.

BARTON

Barton is a middleman who also supplies to Mandala Cafe. He supplies them with fresh produce daily from the Bvumbwe markets. He also supplies to Kips and is a vendor at the Blantyre markets. He is a reputational middleman who has given us insights into the distribution chain and prices.

WEZ

Wez is the merchandise manager of Peoples head office. He has been engaged by us to determine a few links on the distribution chain of what and where people go for produce. He has been contacted for prices and amount of produce they buy locally and imported but has not yet been through with it.

FRANK MIJOSO

Frank is the chairman at Zapco. He currently grows for the market which Zapco has recently entered and showed us his farm and his techniques. He has given us insights into different farming techniques and knowledge.

RUTH KALIMA

Ruth is the owner of Rosebury Farms who works with UNDP to produce to the market of supermarkets. She has assisted us in developing our direction for the project and potentially in the future be a large help as she has extensive knowledge in the agricultural field.

CHIKU

Chiku is the marketing manager of Peoples head office. She also gave us the lead to Wez. She gave us an insight into people wants for produce and directed us in a

direction where we could follow.

LUCIA & MOSIMBA

Lucia is a hairdresser who gave us initial contact to her husband Masimba and to Ruth. They have given us insights into the agriculture around malawi and the markets which are achievable. Through Mosimba's previous employment and knowledge surrounding imports and local markets we were able to get contacts to Austin Phiri, who has yet been met.

AUBREY

Aubrey is the produce manager at Sunbird - Mount Soche (in Blantyre). He was very helpful in gaining us pricing documents from Sunbird. Aubrey is also willing to assist us even more but is a very busy man so his time is limited. Aubrey also linked us to Bonface, the manager of Sunbird who is keen to see the path the project takes and says the market is always open for local produce so long as the main factors, quality and consistency are met. Bonface along with Aubrey (initial and best contact) are also interested and willing to give us more information.

8. Future actions

1. Follow up contacts that are still in the process of working out. These include
    a. Charles Malidadi from Bvumbwe Research
    b. Kadale Consultants for UNDP and survey results
    c. Justice (agronomist that Lucia and Masimba linked to us) for questions about soil and seeds in Malawi
    d. Try Wez from People's again for information (was difficult, may need to organise another meeting or just rock up)
    e. Yohan to check out the farming practices taught at Crown Stewardship School

For all of these, see the past meeting minutes and emails already sent (see Malawi workhub-sent mail, or Hubspot)

2. Continue the development of the farming blueprint by seeking existing research and data from secondary sources such as Bvumbwe Research Station, Crown Stewardship School, and the most successful and horticulture farmers in the region such as Ruth.

3. Contact Manota Andrew Mphande with questions about land ownership in Malawi (will be important to how the blueprint is designed).

4. Find gaps in the distribution spreadsheet and continue to chase the network, understanding problems in this and analysis of prices

5. Ensure texting service with Cathy from flavours restaurant is set-up, and ensure that this can be continued when Project Everest is not in country.

6. Identify questions that need to be answered for the product. A survey was designed and tested a few times (see data collection-surveys), however this should be reviewed. This survey was designed to find out what farmers want to grow, and how they change habits, and the second part is trying to derive a willingness and ability to pay for a product. However, willingness to pay may be too early to answer given the product is still very early in its progress

7. Review progress of experimental farm and make plan for its direction over the months Project Everest is not present