BUSINESS PLAN

FARMED JULY

JULY 2017 CAMBODIA

DRONE INVESTIGATION

Trekkers: Ed Henderson, Olivia Hendy, Zoe Cahill, Nadine McAndrew and Kevin Lou.

Team Leader: Ned Loneragan

PROOF OF CONCEPT

Trekkers: Sophie Sanderson, Stephanie Tan, Jessica Riley, Erinn Woan and Michael Kuhne

Team Leader: Blake Pearson

EXECUTIVE SUMMARY

PROJECT EVEREST FARMED

FarmEd is a venture operating within Project Everest which has commenced in order to meet the failing efficiency of the Cambodian agricultural sector, and to mitigate food insecurity through provision of agricultural expertise. Project FarmEd promotes education on crop rotation and nutrient controls, pest and disease management, and a range of other skills to increase crop yield and therefore food security. The venture aims to achieve profit and successful growth through the initial selling of tailored consultancy reports to individual farms, during development of the cognitive educational application.

The Drone Investigation team within FarmEd aims to collect and collate data through application of drone technology and soil testing. This data allows for formulation of the consultancy reports, which provides the basis of the FarmEd application.

The Proof of Concept team is responsible for the management and acquisition of stakeholders, who are partners, consumers or potential sources of information. Additionally, Proof of Concept sets consultancy report price points, models its impact, to then sell and distribute the reports to consumers.
Currently reports have been sold for $30, $50 and $100 USD, but the exact determining factors of prices have not yet been set in stone. These price points were made through assumptions, estimations and negotiations involving client income and land size. These variable prices therefore introduce scalability to the project, making FarmEd a sustainable venture.

Furthermore, currently Project Everest is not a registered business within Cambodia and thus no money exchange could occur. In its place is a memorandum of understanding was issued to clients, acting as a contract between farm owners and Project Everest.

PROJECT EVEREST

Key Resources

- Drone
- Soil testing kits
- Professionals (consultants)
  - Agricultural experts
  - Environmentalists
  - Engineers
  - Researchers (PhD)
  - Scientists
  - Students (trekkers)
  - Weather informants

Key Partners

- Ministry of Agriculture
- Dr Tan (USYD)
- HURREDO-Yon Kim
- CEDAC
- CE SAIN
- IDE
- Farmers we sold to (Sela Chamm, Phong Saret,Sang Kung, Lee Win

Key Activities

- Consultancy - giving site-specific advice on how to improve overall farm yield and in turn, revenue
- Visit individual farm
- Asking farmer questions about their farms
- Creating feedback consultancy report

Value Propositions

- Social value propositions

We deliver a face-to-face consultancy service that aims to increase the efficiency and effectiveness of farmers at a local level.

- Impact measures

Various problems to do with farming in a tropical environment which include: Pest issues, weather prediction, soil conditions, chemical and fertilizer treatments.

- Customer value proposition

Farmer: Receive consultancy services that will increase the value of their produce, and therefore increase the yields received from the produce.

- Exponential Technology

Use of exponential technology and soil tests to analyse farm efficiency in terms of nutrients and therefore yields. I.e. Drones

- Development of tailored consultancy

Villagers: Receive better quality produce and larger yields from farmers.

Customer Relationships

Farmers

- Increases in yields and food quality as well as lowered production costs. In turn revenue and profits will increase to improve financial security.
- These have been established by providing consultation to the farmers.
- Closer relationship with farmers through face to face consultancy

Customer Segments

- High end commercial farmers
- Farmers willing to implement consultancy
- Geographic constraints based on resources

Channels

- Face to Face Farm visits
- Village Visits
- Word of Mouth
- Through NGO's

Cost Structure

- Labour - consultants, agriculture experts
- Purchase resources (storage risk), pH kits
- Vehicle for transport and petrol
- Marketing and advertising
- Printing fee
- Insurance
- Communication

Revenue Streams

- Consultancy fee
- Selling data to NGO's
- Potential to advertise application
- Potential funding from venture capitalists

CONTENTS

PRODUCTS AND SERVICES

Our 2017 July FarmEd Proof of Concept team is at the stage of making the first sales of Project Everest's consultancy report. This report is the minimum viable product (MVP) for the 'FarmEd' cognitive application for use by smart devices, which is currently undergoing development. The consultancy service entails agricultural expertise which is tailored to the specific needs of farmers in Cambodia. It incorporates weather, soil, market and drone technology data to provide farmers with time and location specific farming advice.

The FarmEd Drone Investigation team is entrusted with collection of this data through drone utilisation and soil testing. The introduction of topography measurements and plant health assessment through drone technology this month has provided useful information that can be collated to generate yield data. This includes elevation data, landscape changes due to rainfall, and land size against recorded produce. The amalgamation of pitching to make sales and data collection achieved by our teams within FarmEd resulted in construction of our MVPs, which are then delivered to the clients.

PRODUCT OUTLOOK

According to the five year FarmEd plan constructed by the February team, the July team commenced 'Year 1' of the plan through initiation of the consultancy report sales, and consolidation of stakeholder relationships with NGOs and individuals in Siem Reap. This was partially enabled by improving upon the old consultancy report to farmer Sela Chham (refer to 'Sales' in this document for further details) in February. This plan entails the overarching pathway of what our project will need to follow in order to launch our products in the market.

The service sold in the first two years of the plan is the consultancy report, which then transitions to the FarmEd application in the following years when the consultancy reports have been proven viable. This will be achieved through a convincing number of sales and positive feedback resulting from predicted agricultural prosperity of our clients' farms. The application can then be implemented and sold as an interactive product in the third to fifth years of the plan. The fifth year (2021) will then involve improvements that can be made to the application based on consumer feedback.

The application will have the same content as the consultancy reports, however the interactive nature of this product and instant data generation through the cognitive

computing system will result in much greater efficiency of agricultural expertise delivery. This enhanced product will therefore help to achieve food security, improve nutrition and promote sustainable agriculture to ensure the livelihoods of farmers.

THE MARKET

CUSTOMER BASE

Project FarmEd has a very large customer base in Cambodia, as agriculture comprises approximately 67% of the country's workforce (World Bank 2015) and contributes 37% to the country's GDP (FAO 2012). The country's agricultural resources consist of 3.7 million ha of cultivated land; 75% of which is devoted to rice and 25% to other food and industrial crops (FAO 2014). In Siem Reap Province specifically, there is 251 792 ha of cultivated land that our service is applicable to (Cambodian Investment Board, 2017). In light of these statistics, we have an extremely large customer base which comprises all individuals or coalitions of farmers that desire to improve their crop yields and agricultural efficiency in Siem Reap Province. Nevertheless, future teams should consider expansion of the customer base to Battambang, for reasons that will be outlined in the following section.

TYPE OF MARKET SEGMENTATION	EARLY STAGES	ESTABLISHED STAGES
DEMOGRAPHIC	High income farmers	Farmers of all income ranges
PSYCHOLOGICAL	Farmers who are open to implement modern deviations from traditional farming techniques	FarmEd will redefine agricultural procedures, removing psychological barriers to implementation
GEOGRAPHIC	The consultancy report is restricted to the Siem Reap region with possible expansion to Battambang	There will be a smartphone application that will be accessible to the entire Cambodian region. The consultancy report will act as a complementary product to the smartphone application and may have geographic constraints

PHASE 1 - HIGHER SOCIOECONOMIC FARMERS

We are currently in phase 1 of growth and our primary target market is higher-socioeconomic farmers. This strategic target market choice allows us to increase revenue, which will be funnelled back into the business. This revenue will allow us to scale-up to enable greater flexibility in adjusting price points, which would ultimately enable us to provide affordable services to the low-socioeconomic sector in future. During the month, we noted that higher-socioeconomic farmers were scarce in Siem Reap. However, numerous stakeholder meetings expressed Battambang, the 'bustling capital of the North-West (USAID 2010) to have the greatest density of high-income rice farmers.

OPPORTUNITY FOR EXPANSION TO BATTAMBANG

In contrast to Siem Reap, Battambang has 618,079 ha of cultivated land which is directly applicable to our service (Cambodian Investment Board, 2017). This is in excess of double Siem Reap's cultivated land area. Battambang possesses Cambodia's most fertile soil situated on the Tonle Sap Lake, which permits the growth of diverse agricultural products. Additionally, the province has a very well-developed irrigation system, including 3 dams. Battambang comprises 6.5% of Cambodia's land total. Battambang accounts for 10% of Cambodia's wet season rice production (around 670,000 tonnes) and is the country's largest commercial rice miller (362,000 tonnes). Battambang is the largest producer of corn in Cambodia, yet grows considerable quantities of soy bean, green bean, cassava, peanut and fruits. Moreover, ⅔ of Battambang's agricultural produce is exported to Thailand. In Battambang, 90% of the population work in agriculture (USAID).

PHASE 2 – 3 PACKAGE DEALS FOR 3 TIERS OF FARMERS

Once sufficient revenue is made, we will have the flexibility to target three tiers of farmers (low, medium and high socioeconomic) with disparate packages tailored to the needs of each market segment. At this point, a clear definition of the socioeconomic status' of farmers has not been reached and stronger metrics need to be determined before establishing these varying levels. Currently, we have been gauging the status of the farmer based on land size, crop yield, access to technology and location.

PHASE 3 - MOBILE APPLICATION DEVELOPMENT

The FarmEd team in January discovered that higher-socioeconomic farmers generally have smart devices, internet access, and medium to high household

disposable income. This signifies the great potential in the future to develop a FarmEd application, which is currently being developed by the R&D Team in Sydney. However, it is recommended that future teams do not work on the app yet. A major roadblock to the development of this app is the necessity to have a phone, stable internet connection and data, which rural lower-socioeconomic farmers would find difficult to habitually possess.

CONSUMER INTERACTIONS

Once a consumer has purchased a consultancy report package, the FarmEd drones team is invited to the consumer's farm to conduct soil testing and drone mapping of their farm land. This data is then sent to our agricultural experts in Sydney, and converted into a consultancy report that contains recommendations for farmers. Upon completion of the consultancy report, the in-country team will print and translate the report into Khmer, then provide traditional face-to-face consulting. This involves personal delivery to the farmer and explanation of what the report entails. Options for translation include: Pyramid ($22 per page) or sourcing university students (currently sourced for free). For future teams, we recommend finding an 'implementation manager' or alternatively, 'long-term consultant'. This role would be a reputable individual from a potential partner organisation, who would supervise consultancy report implementation whilst Project Everest is not in country. Please see 'Future Recommendations' for more information regarding this.

We anticipate farmers to choose our service when we visit their farms from either direct invitation, referral by organisations or door-knocking. Moreover, farmers will select our product over other competitors due to the personalised nature of our service, as opposed to much broader applications and farmer mentoring services of generic agricultural knowledge

CURRENT SALES

The July team sold four consultancy reports. Sales were made to stakeholders of varying backgrounds, incomes and relationships with Project FarmEd. These sales manifested the appeal of our consultancy report to a diverse range of farmers. This should build confidence for our future teams to target more clients and expand networks. Please refer to the 'Sales Progress' spreadsheet in the Proof of Concept Drive.

The first sale was made to Sela Chham, a small-scale farmer with two farm plots. He cultivates a variety of crops for his restaurant, and has a subsistence farm at his home. Chham had previous contact with the February Team. They provided a sample consultancy report which found the product to be viable as his agricultural

productivity increased. This sale was made based on trust, which was built through ongoing contact, and the viability of the sample consultancy report. The only persistent problem was a pest issue with red ants. Chham paid $30 USD for a reviewed report that included specific consultancy for red ant eradication.

The second sale was made to Phong Saret, a subsistence farmer associated with CE SAIN. This contact was newly established. The purpose of this sale was to integrate the consultancy report with the sustainable agricultural techniques developed by CE SAIN. This report was sold for $30 USD, in which his farmer technician informed us was not costly for him considering his daily income of $10 USD. This information gave us confidence to re-evaluate our price points in accordance with stakeholders land sizes and incomes.

The third sale was made to Mr Sang Kong, through iDE (International Development Enterprises). Kong is a higher socioeconomic farmer. To help achieve Kong's main aim of unused land utilisation for greater crop diversity to hence increase profit, we sold him a consultancy report covering 5 ha of his plot for $50 USD, and $10 USD/Ha after that. For this sale, we implemented strategies to tailor the price point based on his land size, both utilised and underutilised. Kong has expressed interest in purchasing of our consultancy service for his unused land if he is satisfied with our service. Ongoing contact with Kong is especially of great importance.

The fourth sale was made to Mr Lim Wee Gian. The price point was adapted to the income and land size. Mr Lim previously paid $600 USD for a generic consultancy service. This was indicative of how much high-income commercial farmers would pay for consultancy reports. The report was sold for $100 USD covering 6 ha. He is in the process of expanding his farm and may be interested in further reports.

CONSUMER WILLINGNESS TO PAY

We have a multitude of interested stakeholders that we established relationships with primarily at our formal group meeting. However, they did not wish to commit without hard evidence of the success of our consultancy report in a Cambodian context (not Fijian). Ultimately, they requested solid proof in the form of a consultancy report from a Cambodian farmer.

The final farm visit was with representatives from ADDA - Agricultural Development Denmark Asia. This visit was to explain and show this organisation how our project works. This entailed explaining drone technology, soil testing and the consultancy reports. Visits like these are important to the future of FarmEd as it ensure potential sales for future teams and the viability of the product.

We recommend future teams to organise an event with new and old stakeholders, involving presentation of a client of our successful consultancy service, like Sela Chham (please see the 'further recommendations for further details).

Moreover, owner of Penda Homestay, Mr Vichet, may purchase our service. Nevertheless, it is unlikely because he requested our tenancy of his demonstration plot for $1000 USD annually; payment of a salary that equated to that of a hotel staff member, including deduction of the consultancy report price (we began at $60). We have a potential demonstration plot elsewhere that we would not need to pay for and would be freely maintained (CE SAIN Technology Park Sale and Mr Sang Kung).

MARKET RESEARCH

STATE OF THE MARKET

AGRICULTURE

26.6% of Cambodia's GDP is accounted for through Agriculture, which is a large contribution despite its decreasing rate (World Bank 2016). Almost 80% of the Cambodian workforce is employed in the agricultural sector, hence reductions in poverty have been shown to be linked to the improvement and growth in agriculture in Cambodia (International Bank for Reconstruction and Development 2015). However, agriculture in Cambodia are also facing challenges. One of the challenges is that millions of landmines remain in fields from warfare and this is restricting availability of cultivable lands. Another challenge is lacking reliable irrigation system. Many farmers either use poor quality river and groundwater or just rely on rainfall.

MOBILE PHONE USAGE

As of September 2015, 94% of Cambodians claim mobile phone possession, and 99% are reachable through some sort of phone. Out of this, 39.5% of users own at least one smartphone, most of which display Khmer (Mobile Phones and Internet in Cambodia 2015).

AGRIBUSINESS (COMMERCIAL AGRICULTURE)

Is weak currently in Cambodia due to the lack of infrastructure and the nature of land ownership. Lack of development of agribusiness has led to poor regulation, food production and food security in Cambodia (International Bank for Reconstruction and Development 2015).

NGOS/AID

According to The Cambodian NGO Database 2016, there are currently 799 NGO Projects in Cambodia, with 547 of them being Foreign NGOs. Furthermore, Foreign Aid dropped by 14% in 2015, being the first fall since 2004, falling from $970 million to $830 million by the end of 2015. However, we found the most prominent provider of Foreign Aid to be USAID, based on our conversations with farmers.

MARKET TRENDS

1. Larger farms becoming larger, smaller farms becoming smaller.
2. Wider amount of mechanisation.
3. Greater access to financing - growing microfinance institutions.
4. Growing privatisation of rice mills.
5. Farmers close to Siem Reap town tend t
6. apply organic farming system, while farmers in rural regions still use extensive amount of pesticides.

CONSUMER WANTS AND PROBLEMS - FIELD RESEARCH APPROACH:

- Farmers do not want to learn in a typical classroom environment which becomes tedious for them as it is too time consuming (Angkor Wat Put 01).
- Fluctuating market prices of crops at certain times of the year can be problematic for income stability (Angkor Wat Put 01).
- Lack of government regulation on import taxes and quality control makes the desired decline of imports difficult (Angkor Wat Put 01).
- The use and distribution of fertilisers is not regulated properly by the government. An outcome of this is the lack of education of the harsh chemicals in fertilisers and pesticides, which are causing sicknesses (Angkor Wat Put 01). These farmers want awareness for of the detriments of using pesticides and how to properly utilise them to avoid malady.
- Cambodians may have cultural barriers which affects their reluctance to accept education in modern farming techniques or other deviations from traditional agricultural methods (Angkor Wat Put 01).
- Most farmers are subsistence farmers who struggle to expand to sell their surplus (Sok Sam Nang 01)
- Parang Biodiversity Conservation Centre (PBCC) wants to:
  1. Stop illegal fishing, which is difficult as the lake is open for all to use
  2. Stop deforestation
  3. Protect wildlife. (Sok Sam Nang 01)
- Farmers are selling their land for instant capital instead of investing time and money to improve their agricultural productivity (Sok Sam Nang 01).
- Subsistence farmer Sela Chham wants crops all year round which is difficult in the harsh consequences of fluctuating weather conditions and climate change in Cambodia, such as droughts and flooding.

SWOT ANALYSIS:

STRENGTHS (INTERNAL):	WEAKNESSES (INTERNAL):
Access to continual research and development in Sydney, with home-based agricultural students. Individualised reports constructed from face to face contact. High quality human resources - intellectual university students from broad backgrounds Large manpower on the ground (during project time) for the stage at which the project is. Access to a range of modern technology, and financial backing to some degree. This technology includes the Phantom 3 (drone) and related software (DroneDeploy); Access to data storage center - Azure; Access to IBM Watson's artificial intelligence and $12000 grant.	Lack of full-time staff in Cambodia. This has a range of negative impacts. a) Lack of human resources to staff a demonstration plot. b) Lack of ability to maintain contact with stakeholders. c) Opportunity cost of getting on top of the project in first week and formulating handover document in last week. d) Providing current data for reports. e) Reputation prone to be easily tarnished by lack of commitment. Lack of specific agricultural students for FarmEd project - would make writing consultancy reports easier. Access to capital - due to the nature of a lean business model, PE is limited to the amount of money it may be able to invest in certain ventures. Leads to lack of resources and lack of innovation. Not officially registered as a business within Cambodia - disables legal collection of sales.
OPPORTUNITIES (EXTERNAL):	**THREATS (EXTERNAL):**
GDP growth has been significant in Cambodia growing "at an average annual rate of over 8% between 2000 and 2010 and at least 7% since 2011" (The World Factbook, CIA). Provide opportunity for development of a larger economy with significantly more money and better environment for a business to exist. Labour force by occupation: agriculture 48.7% (The World Factbook). Significant employment in the target industry means that a) large social change can occur and b) significant economic opportunity. Extent to which agribusiness has developed has been relatively poor creating an opportunity to develop alongside commercial companies as the industry grows. Would help with the scaling of PE dramatically.	Competition from incumbent NGOs, aid organisations, charities and businesses. These businesses are established with wider network bases and have access to substantially larger pools of money. Cultural barriers - farmers may not wish to abandon traditional farming techniques or may find it hard to adopt Lack of education of farmers may make it hard to interpret, read and implement both the reports produced and later on the app. Lack of internet or use of smartphones in certain areas will make use of app difficult. Commercialisation will detract from the significance of the competitive advantage of tailored individualised reports for small farms.

Growth of microfinance institutes means greater means of accessing funds and greater disposable income to spend on reports and app. Technological value adding will scale providing significant benefits to FarmEd. 14% of Cambodians live below the national poverty line and many more lie just above it (Asian Development Bank 2017). There is therefore significant opportunity to change people's lives as many are still living in poor conditions. Through promoting agricultural growth poverty has shown to be reduced significantly (International Bank for Reconstruction and Development 2015).	Despite the use of mobile phones being relatively widespread the actual use of smartphones still sits on around 39.5%. The slow industrialisation and mechanisation of the agricultural industry in Cambodia may detract from the necessity of PE's project, in the long term. Government corruption and political angst with neighbouring countries. Leads to poor rule of law, bad policy making, bad policing of imports and exports. Lack of irrigation to rice farms. Climate change - worsening and unpredictable factor that is hard to manage.

MARKETING STRATEGY

BRANDING

Project FarmEd has immense potential to combat the key issues of food insecurity on a global scale, while providing financial security to stakeholders in participant countries. The product aims to establish, embody and define brand values to create clarity of organizational culture and associated product offering. The product aims to create positive association with Project Everest (PE) brand, and stakeholder relationships for future FarmEd teams and other PE projects in Cambodia. The success of the brand will encourage repeat purchase and create brand equity in agricultural consultancy sector. The product is tailored towards high income farmers but as the product develops it will horizontally integrate the brand to appeal to low to medium income farmers. It is essential that the brand does not ostracise low and medium income farmers while the product reaches the maturity stage of development and the cognitive smartphone application is developed. The success of FarmEd as a product will develop the Project Everest brand and encourage transfer of equity across to other Projects building the Project Everest brand and developing brand awareness in Cambodia.

CHANNELS OF COMMUNICATION

Project FarmEd is in the introduction stage of the product life cycle, therefore it is necessary to incorporate a marketing communications mix that minimizes costs and utilizes our competitive advantage of free skilled labour through trekkers. FarmEd aims to create a base for communication channels for the future and represent our brand and organizational image through the positive assimilation of integrated marketing communications into the business plan.

PROMOTION BY ASSOCIATED ORGANIZATION

FarmEd has contacted farmers through developing relationships with communities and established NGOs. Project Everest has provided positive brand association by developing these relationships. This has resulted in access to a network of farmers and NGO's that FarmEd would otherwise not have had access too. This has resulted in access to consumers who value the consultancy report and are willing to pay for it

WORD OF MOUTH

In the introduction stage of the product life cycle FarmEd has focused on promotion through word of mouth. Word of mouth acts as the primary form of communication between villagers and farmers alike and therefore is the major form adopted by Project Everest for the obtaining of information and pitching of sales. Word of mouth ensures successful tracking of product implementation and success. Promotion will be achieved by the success and value of the product to increasing productivity.

POINT OF SALES

FarmEd has had to communicate with potential consumers at the point of sales. While testing the minimum viable product and business concept. Communication about the product and value has been done directly at the point of sales. This is aided by having access to large amounts of skilled labor through the forms of trekkers.

COSTS OF OPERATIONS

COSTS OF PROVIDING REPORT	AMOUNT
Labor of agricultural consultancy,	Approximately $20 per hour
Cost of printing	Approximately $2 per report
Cost of trekkers in country-Varies every month	$2200 (per person per month) (July 2017 Polina Pashkov)
Life time value of drone assume 5 year life	$2000/5 =$400 per year
Soil testing kits	Approximately $25.57 -100 tests
Cost of fuel/tuk tuk	Varies on distance

PAST AND FUTURE AND CURRENT CAMPAIGNS

Implicitly Project FarmEd has implemented a price penetration strategy into the market delivering the consultancy report well below the market price for the product. This has been done to gain a foothold into the Cambodian marketplace and to test if there is demand for agricultural consultancy. It is suggested that future campaigns raise the price of the consultancy report to test the true value and elasticity of the product.

FarmEd is only in country for 4 months of the year. This limits the capabilities of FarmEd to be able to execute successful marketing campaigns. In conjunction with FarmEd product being in the introduction stage of the product life cycle this has meant that there are no past future or current marketing campaigns.

COMPETITOR ANALYSIS

CURRENT COMPETITION

FarmEd aims to address the gap in education of farmers. Through extensive research and connecting with local and international organisations we have learnt that farming techniques are acquired through observation and cultural inheritance most of which are outdated and inefficient. Currently, organisations such as HURREDO and iDE provide agricultural consulting free of charge. Yet these consultancies lack accuracy and are less effective as they are being taught in off site facilities. FarmEd aims to reconcile these problems through an efficient soil testing process, drone mapping and plant analysis to produce a individualised consultancy reports.

AGRIBUDDY	
Overview	AgriBuddy is a current tech based solution in Cambodia servicing a growing user base that connects farmers to agricultural advice. Currently AgriBuddy lacks the ability to scale their service and does not provide tailored agricultural advice.
Products/Services	AgriBuddy is a network based agricultural organisation that aims to connect the billions of people in the developing world to a rural network. Their services are diversified across four sectors: Developing a credit scoring and distribution system that connects farmers to financial institutions. Setting up a rural marketplace. Supporting and monitoring the community of farmers to facilitate exporting. Collecting data to solve farm problems.
Competitive Advantage	As a result of their extensive partnership network, they have a greater capacity to connect farmers, and are uniquely able to facilitate financing.
Target Market	Low income farmers with an unreliable credit rating.

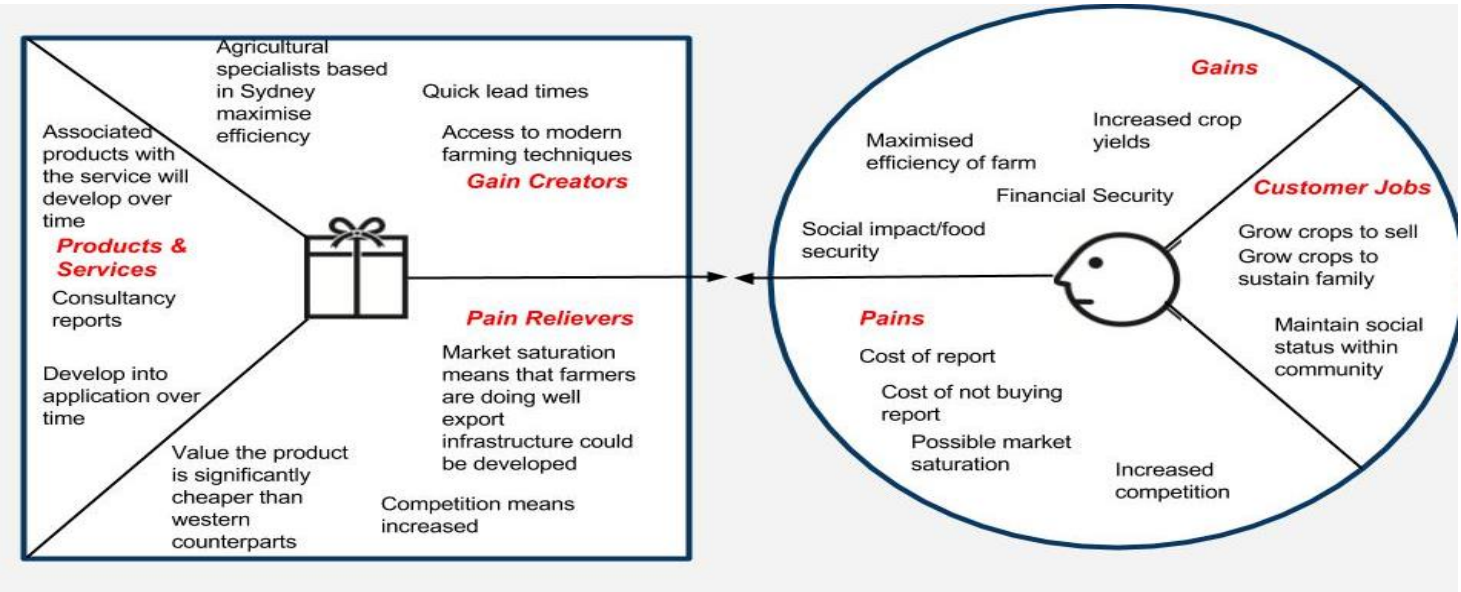
HURREDO	
Overview	HURREDO is a Cambodian non-profit and non-governmental organisation that attempts to alleviate poverty in rural communities, particularly by working with women, children and families in order to create a sustainable future.
Products/Services	HURREDO offers free agricultural consulting and work with various farming networks such as IRRI and Farmers Group, meaning the have access to majority of the market. Set up small demonstration plots of subsistence vegetable gardens using high quality soil to introduce more efficient farming techniques.
Competitive Advantage	They are well established, reputable, highly networked and have extensive knowledge in agricultural issues.
Target Market	Low to middle income farmers

THE CENTRE FOR EXCELLENCE ON SUSTAINABLE AGRICULTURAL INTENSIFICATION AND NUTRITION (CE SAIN)	
Overview	They aim to foster private sector innovation, agricultural research, education, and training, and public sector capacity building through improved collaboration and knowledge sharing. This leads to improved food and nutritional security.
Products/Services	Implementation of agricultural 'technology' with in field practical application. This includes crop rotations, testing plots, sacrificial plants, etc (a range of innovative ideas).
Competitive Advantage	CE SAIN is funded by USAID and run out of the Royal University of Agriculture in Phnom Penh. Also has university undergraduate interns from the University of Battambang meaning to access to intellectual capital.
Target Market	Middle to high income farmers

ADDA-READA PARTNERSHIP	
Overview	*Agricultural Development Denmark Asia (ADDA)* is an NGO that works to improve their agricultural practices in order to increase their crop yields and profits. *The Rural Economic and Agricultural Development Agency (READA)* is an NGO with local and international operations that attempts to eradicate long-lasting poverty by using socially and environmentally sustainable approaches.
Products/Services	Together these organisations facilitate Farmer Field Schools where local instructors receive training to implement a field school course for local farmers in more efficient growing (usually 3-4 months long).
Competitive Advantage	Well established with a large network of partner organisations. They utilize self-help initiatives to implement their work and they operate regular classes to reinforce the learning.
Target Market	Low income farmers and low literacy communities

INTERNATIONAL DEVELOPMENT ENTERPRISES (IDE)	
Overview	An international non-profit organisation that works with both farmers and within the market to improve farming practice and quality of life in the agricultural industry.
Products/Services	iDE's Cambodia Agribusiness Development Facility (CADF) identifies market opportunities and constraints for small-scale farmers and then designs solutions that are implemented by local private service providers.
Competitive Advantage	They have a vast network and knowledge of the industry.
Target Market	Commercial farmers and high - middle income farmers

UNIQUE VALUE PROPOSITION



FARMED - CURRENT SERVICE	
Social Value Proposition	The customer value proposition to the farmer is derived from the successful implementation of the tailored consultation report enabling food security for farmers. The aim is to increase yields and crop sustainability, increase the value of their produce as it is of higher quality due to better conditions, minimise wastage and costs involved with resources whilst minimising the amount of time spent on the farm. This provides farmers with time for other activities (i.e. employment and/or leisure) and an increased quality of life.
Impact Measures	Impact measures involved with agriculture primarily include pest and disease issues, weather prediction (seasonal variation), soil conditions, chemical/organic treatments. Farmers often have a language/communication barrier. This minimises the impact ability of the report. Research has also highlighted that both negative and positive with previous NGOs reduces interest and willingness to work with Project Everest. Due to the tailoring of the report to each farm, farmers have the opportunity to sell increased yields to markets. Produce may be sold at a higher price due to increased quality and potential unique products from specific/specialised farms.
Exponential Technology	The use of exponential technology has enabled more specific and accurate assessment of farms and therefore more effective consultancy reports. It also enables assessment at a fast rate; the turnover for reports from the day of data collection 7 days. The use of drones and basic soil tests to analyse farm health and productivity in terms of nutrients and colour detection. Exponential technology therefore enables an increase in efficiency.

OPERATIONS AND LOGISTICS

METHOD OF DELIVERY OF SERVICES

1. MAKE CONTACT

The first step to delivering a consultancy report is contacting a farmer. This is either done directly to the farmer, or through an intermediary contact. FarmEd teams often send emails and make phone calls to people of importance, such as chiefs or community workers. This allows us to reach multiple farmers through a single contact, and opens the opportunity for the initial contact to help translate with Khmer farmers.

FarmEd teams will evaluate stakeholders that were contacted with previous teams and find out the farmers who are worthwhile to reconnect with. The FarmEd drone deploy team has created a "farmer wants a drone" sheet listing possible contacts including NGOs, local business holders (farmstay, hotel, restaurant), villages, and input sellers. Not all listed possible contacts will be contacted, but it is good to have more listed.

2. PROOF OF CONCEPT TEAM PERSPECTIVE OF A FARM VISIT

When the Proof of Concept team arrives at a farm, they conduct qualitative research to find out what the farmer grows, what they use the produce for and their agricultural techniques. Their pains and gains are also discussed through empathy. After a tour and extensive discussion, the Proof of Concept team pitches to the farmer to potentially acquire a sale of the MVP.

3. DRONE INVESTIGATION TEAM PERSPECTIVE OF A FARM VISIT

When the Drone Deploy team arrives at a farm, they set up the drone for land and crop analysis. Meanwhile, other members of the team collect soil samples to assess their properties which are indicative of soil and plant health.

Drone and Soil Investigation

- Drones team maps out the farmland and takes soil samples for testing
- FarmEd prefers mapping large scale farms like rice paddocks, rather than small scale farms. Many farmers have small vegetable farms just to feed the family.
- To collect the soil, dig at least 5 cm into farm soils and place it in a labelled container. One field should at least have soil samples from 2 different locations.

Collection of qualitative information from interviews and observations

- The Drone Team uses an interview template to help to help remind the team what information should be collected.
- Photos of pests, diseases and special features of the farm would be taken.

Drone mapping and soil analysis following the farm visit

- Drone photos will be uploaded to Drone Deploy to make a 2D map for plant health analysis. This process takes hours.
- Soil testing includes testing soil pH, type and stability. The team also tests soil nutrients when there is a requirement for construction of a consultancy report.

Record farm meetings and collate data in central data base

- The drone investigation team then comes in to provide quantitative measurements of crop properties along with the drone mapping expedition.

4. **SEND INFORMATION TO AGRICULTURAL EXPERT**
5. **DELIVER REPORT**

ORGANIC DEMONSTRATION PLOT

The Cambodian FarmEd team is currently looking into the setting up or sourcing of a demonstration plot to implement the recommendations that we provide to farmers. The associated sister project of FarmEd in Fiji is in its initial stage of constructing its demonstration plot. This will allow us to mimic and streamline our own process picking up on the successes and failures of this team. We aim to set up our own demonstration plot along similar guidelines outlined in Fiji's handover document, of course tailored to Cambodia crops and climate.

In order to ensure the maintenance of our future demonstration plot we hope to enlist a plot manager or at least a group of students studying in agriculture. Ideally we hope to have both, this would provide year round coverage of the plot so that experiments and crop growth may be monitored. The large benefits of utilising a demonstration plot is it creates value for the consultancy reports, data for the application and a physical demonstration for potential customers (leading to increases in sales).

OVERHEADS

TRANSPORT:

Tuk Tuk rides are significant expenses in the operation, which are difficult to avoid since farmers are widely distributed around Siem Reap. One way to go to villages is by taking the Project Everest rental vans, which is problematic as they are not always available.

PRINTING:

Some farmers request hard-copy reports. We usually print several copies of one report, so stakeholders can deliver additional reports to other farmers.

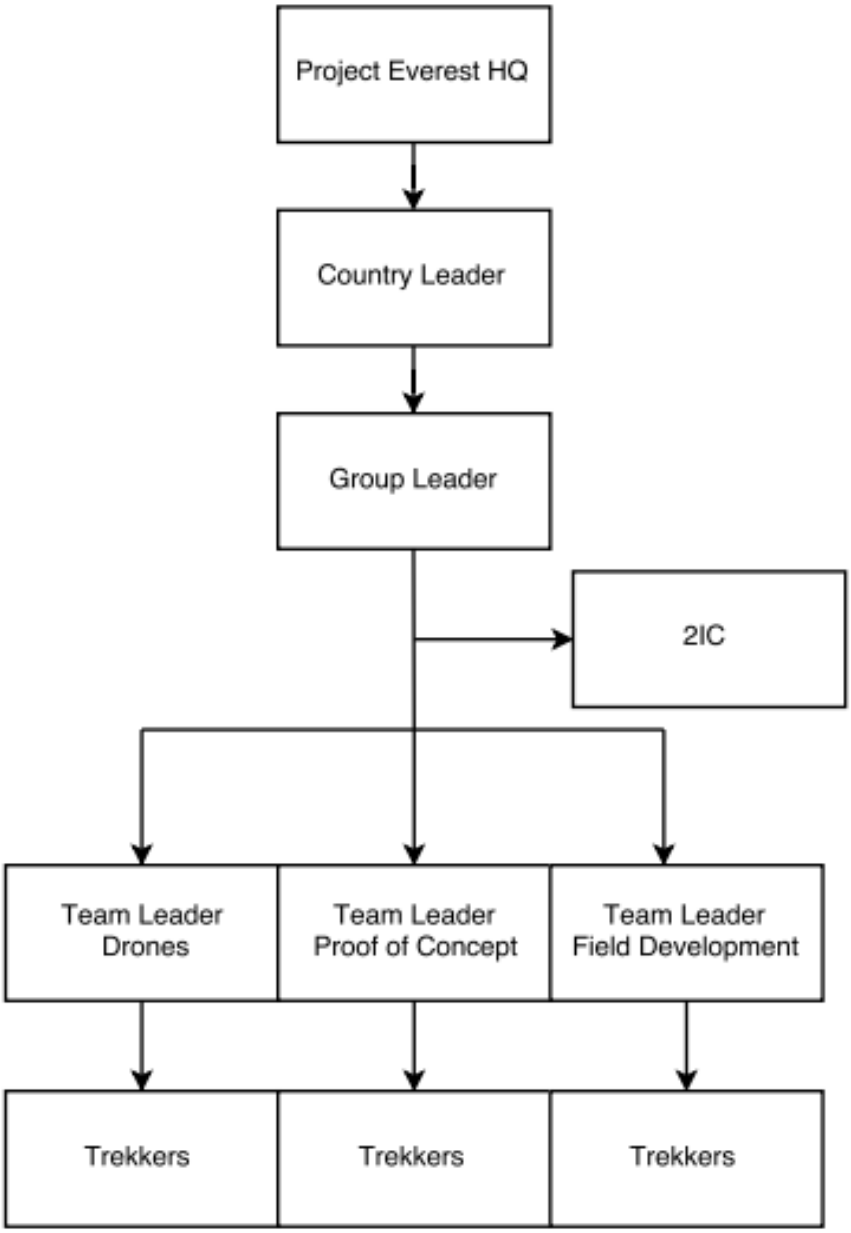
MATERIAL:

Running out of soil test kits is very problematic, as there are many soil samples to test. More kits and masking tape should be ordered.

LEGAL REQUIREMENTS

Official authorization for drone flight is required. Project Everest is authorized by Apsara to fly in farms of Siem Reap, except areas close to Angkor Wat. Permission from the farmers or village chiefs is also necessary to clarify our objectives and avoid misunderstandings.

ORGANIZATIONAL STRUCTURE



The figure above is the structure of the FarmEd Fiji team. The structure of FarmEd Cambodia is the same as that of the Fiji team, with the exception of the 'Field Development team' which should be disregarded.

COST AND PRICING STRATEGY

Currently, the price point varies depending on the farm. Throughout the month we have been assessing an appropriate price point by implementing varying prices according to cultivated land area.

The first two sales were made at $30 USD. This price was determined primarily by halving the initial sale price for FarmEd Fiji, in conjunction with research into the average income of a Cambodian farmer (identified as $5 USD/day). Therefore, this is a viable price point for small to medium income farmers. These sales were to farms of less than one hectare.

Approaching our third sale, we established a tiered system tailored to low, medium and high-income farms. We set the price at $50 USD for 0-5 ha, and $10 USD for each additional hectare. This means that there is potential for high profits from sales to large scale farms. Using this strategy, the third sale was made at $50 USD for 5 ha. This client has unused land, which he intends to use to expand his cultivated land to 10 ha. This should be followed up by the December team.

Our fourth sale was made for $100 USD for 6 ha, as the client was a high-income farmer who had previously accessed a consultancy report from a Thai company for $600 USD (refer to Sales section for further information). This price point was established due to information provided to us by the farmer, as we perceived him to be in a position to pay more.

A solid price point **must** be established for December once the financial analysis is complete.

CONTINGENCY PLANNING

RISKS TO THE CURRENT MODEL

LACK OF IMPLEMENTATION

Problem: The most prominent risk with great potential to compromise our business model, is that *farmers will not implement our recommendations*. If this risk eventuated, the value and viability of our service would be lost entirely. This may result in perceptions of ineffectiveness of our service

Solution: To combat lack of consultancy report implementation by clients along with our team's lack of physical presence all year round, we require an *implementation manager/long-term consultant.* They would be tasked with the long-term supervision of projects while Project Everest is not in country. This role would preferably be filled by a partner organisation. This role would entail: being the first point of contact regarding interpretation and implementation of consultancy reports while PE is absent; and assisting with long-term planning for individual farms. In return for being our unpaid implementation manager, we could offer them: partnership, access to our technology and pool of information, contacts, and our services at a preferential rate.

NOT BEING IN COUNTRY

Problem: A pivotal risk to our business model is Project Farm Ed's lack of *physical boots on Cambodian ground all year round*. Resultantly, there is no consistent contact available for our consumers when they require assistance in consultancy report implementation This absence and lack of permanent contact could tarnish relationships with stakeholders, and farmers may not be able to fully implement our reports without sufficient assistance.

Solution: Mitigation through communication technology, such as email, can enable maintenance of stakeholder relationships between project months, it is also important to emphasise continued contact to new teams that enter country. The ultimate goal is to establish a demonstration plot in Cambodia, and through this we could find a key stakeholder to maintain continuous face-to-face contact.

DRONE MAPPING WITHOUT PERMISSION

Problem: The limitations imposed on FarmEd by Cambodian Government authorities. Whilst our team received verbal permission to drone map areas

excluding Angkor Park in Siem Reap, we do not have this in writing. This has posed a very significant roadblock, as stakeholders have been reluctant to permitting *drone mapping without 'official' permission* in their eyes. It cannot be stressed enough how much we need to acquire written governmental permission in order to deliver our services and maintain relationships with our stakeholders.

Solution: Obtain *written permission from MOAG.*

NOT HAVING WORK VISAS

Problem: There is a risk that the government may disapprove *trekkers to technically be 'working' on a tourist visa.* If this risk eventuated, we may be in legal strife and face serious consequences, e.g. fines, deportation.

Solution: Adverse consequences from lack of work visa possession could be mitigated through *investigation of whether our work is or could be legally non-compliant* in future, when we officially sell our product

FARMED BEING AN UNREGISTERED FOREIGN BUSINESS

Problem: FarmEd is not a registered foreign business, which may result in governmental sanctions/limitations. This poses an incredibly serious risk.

Solution: We need to immediately *register FarmEd as a foreign business*, ready for the December team to officially sell consultancy.

PERCEIVED UNDERMINING OF GOVERNMENTAL AUTHORITY

Problem: The government may not want farmers to work with us due to *their perception of our team's undermining of government authority* (assisting farmers in a capacity that the government is incapable of). MoAg partook in our formal meeting, only to make comments in Khmer to other important attendees. Additionally, MoAg has not responded to any of our emails. At this stage, we are unsure of their motives towards us, yet we must keep them happy to ensure our continuity and success in Cambodia.

Solution: we should continue to involve them in our work and inform them of our operations to simply keep them happy.

LACK OF HIGHER SOCIOECONOMIC FARMERS IN SIEM REAP

Problem: A separate risk is that there may *not be enough interested higher socioeconomic farmers in Siem Reap* to make our business viable (however, iDE did provide us with an excellent high socioeconomic contact and sale).

Solution: we need to *operate both in Siem Reap and Battambang.* We need to focus our operations in Battambang,as many of our meetings have led us to the conclusion that a pool of higher socioeconomic farmers reside there and would benefit greatly from our service (iDE sale and insights provided by Nicholas Spencer, Ibis Rice). Once high-income farmers are targeted and capital is gained, we will be able to help smaller scale farmers in Siem Reap later.

FARMERS AND STAKEHOLDERS LACKING FAITH IN OUR SERVICE

Problem: *farmers and stakeholders may not be convinced that our service will benefit them* in a Cambodian context. Whilst we provided some solid evidence of success in Fiji at our formal meeting, key stakeholders perceived us to draw inaccurate conclusions from success in Fiji to be applicable in Cambodia, where success has not yet been proven.

Solution: we need to present stakeholders with *hard evidence* of FarmEd's success in Cambodia. This would include a complete consultancy report from a Cambodian farm and accompanying evidence of results gained from such a farm. This could be potential personal testimony of Sela Chham and/or photographic evidence over time/ time lapse videos.

LACK OF A CONCRETE PRICE POINT

Problem: Our lack of a concrete *price point* at this stage could compromise our model (although, it is in progress).

Solution: To mitigate the risk of our pitch falling short due to the lack of a *solid price point,* we need to establish a concrete pricing structure.