



Creating Dignifying and Fulfilling Jobs in Ghana

Empowering innovation and enhancing the chain value of agricultural
products

TKS

x



mastercard
foundation

Executive Summary

Problem

90% of graduates are unable to find jobs due to declining interest from youth to work in agriculture.

70% of 15-24 year olds stopped working in agriculture due to a **lack of passion and interest**. As a result, the sector employs just 28.6% of Ghana's workforce. More than **1 million youth are unemployed** with more than half working less than full time with low incomes.

Solution

Digitizing the agricultural sector to provide high-skilled jobs for youth and increase agro-processing.

A collaborative platform (MasterFarm) for sharing agricultural research and innovations, complemented by in-person training provided by **AIESEC** in Accra and Ashanti region. The program aims to **teach new agricultural technologies** to participants in Accra, who will then partner with farming communities in Ashanti Ghana to implement and test these solutions.

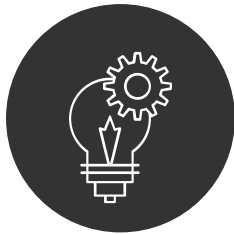
Impact

Agro-processing could create around 4 million jobs by 2030.

The Agricultural tech industry is expected to grow to \$500 billion by 2030. Creating **1.3 million jobs directly and another 3.6 indirectly**. Providing jobs in technology and processing will not only benefit the economy but provide **fulfilling work for Ghana's growing youth population**.

Why Ghana is perfect to create 30 Million jobs for youth

Ghana is prepared for a technical revolution, when successful it will be scalable to other African countries with similar qualities.



Well-educated youth population

93.48% literacy rate in 2020, with 547,000 enrolled in tertiary education. This will create a **highly skilled workforce**.

Politically & economically ready

Ghana is the **9th most politically stable** African country, and has the **8th highest GDP**



Interest of top tech companies

Google opened its first AI lab in Accra.

Twitter is making Ghana it's African headquarter

Alibaba is investing in African entrepreneurs

Mastercard is already making an impact

Mastercard has **existing programs** of innovation and teaching in Ghana that will make executing our solution simple.



Escalating youth unemployment and dwindling enthusiasm for traditional agriculture

Something needs to change in Ghana as it faces increasing challenges from, youth, climate, and finances

Loss of interest in Agriculture from youth

Over the last 10 years, the percentage of the workforce in agriculture has **declined from 52% to 28.5% in 2020**. 70% of youth stopped working in agriculture due to a **lack of passion and interest**.

Ghana's agriculture is not prepared for climate change

Climate change impacts **45,000 Ghanaians yearly** with at least **10,000 going into poverty** due to the climate impacts. By the year **2050, income could reduce by up to 40% for poor households**. Substantial rainfall has negatively impacted crop growth and caused many to die out. Yearly the amount of rainfall has increased by **40%**.

Lack of access to finance & technology to develop agriculture

Access to finances is a major challenge for individuals, the financial inclusion rate in Ghana was only 58% in 2017. 44.6% of Ghanaian firms describe access to finance as a major constraint. Ghana is ranked **112th** position out of a total of **132** countries in terms of innovation. (By the GII)

We reached out to over 100 graduates and experts

36% of youth told us their biggest concern is having an appropriately paid job, while 26% of them wanted a solution to improve their agriculture industry

"There are many young people that graduate from college and end up not working in the field they studied, there are no jobs for them. I don't even know if I'll have a job in computer science."



Henry Arhin Darfour
Student at University of Ghana

"There are not many jobs for people with a degree in Bsc. Environmental Engineering in Ghana. It is just a few like land surveyors, environmental scientists, water treatment plant operators, environmental consultants. I would like to work in the ministry of food and agriculture"



Abdul-Aziz Alhassan
Member of Parliament for Environmental Engineering students Association

 **More Feedback
and Validation**

Ghana's agricultural sector is ready for new technology

74% of rural Ghana have access to electricity making it easy for agriculture to develop

Ghana is ranked **8th in Africa for access to technology**, reducing the amount of infrastructure needed for Agricultural technology.

According to the **FAO** (Food and Agriculture Organisation), **just 24.4% of agricultural land is being cultivated**

The **average age of farmers is 45-55 years old**, from our research young people don't want to work in industries with people that are not their age.

Agricultural technology has a CAGR of 12.61% over the next 5 years

Globally the agri-tech industry is expected to reach **\$500 Billion by 2030**. Africa has seen a **44% growth rate** between 2016 -19.

The Bill & Melinda Gates Foundation has pledged **\$1.4 Billion to help small hold farmers in sub-Saharan Africa** and Asia develop climate-resilient work practices.

Ghana produced **1.05 million tons of cocoa beans in 2020/21**, making it the second largest exporter globally and the agricultural industry globally valuable.

Africa needs to increase food production by 70% to feed its projected population of 2.4 billion by 2050.

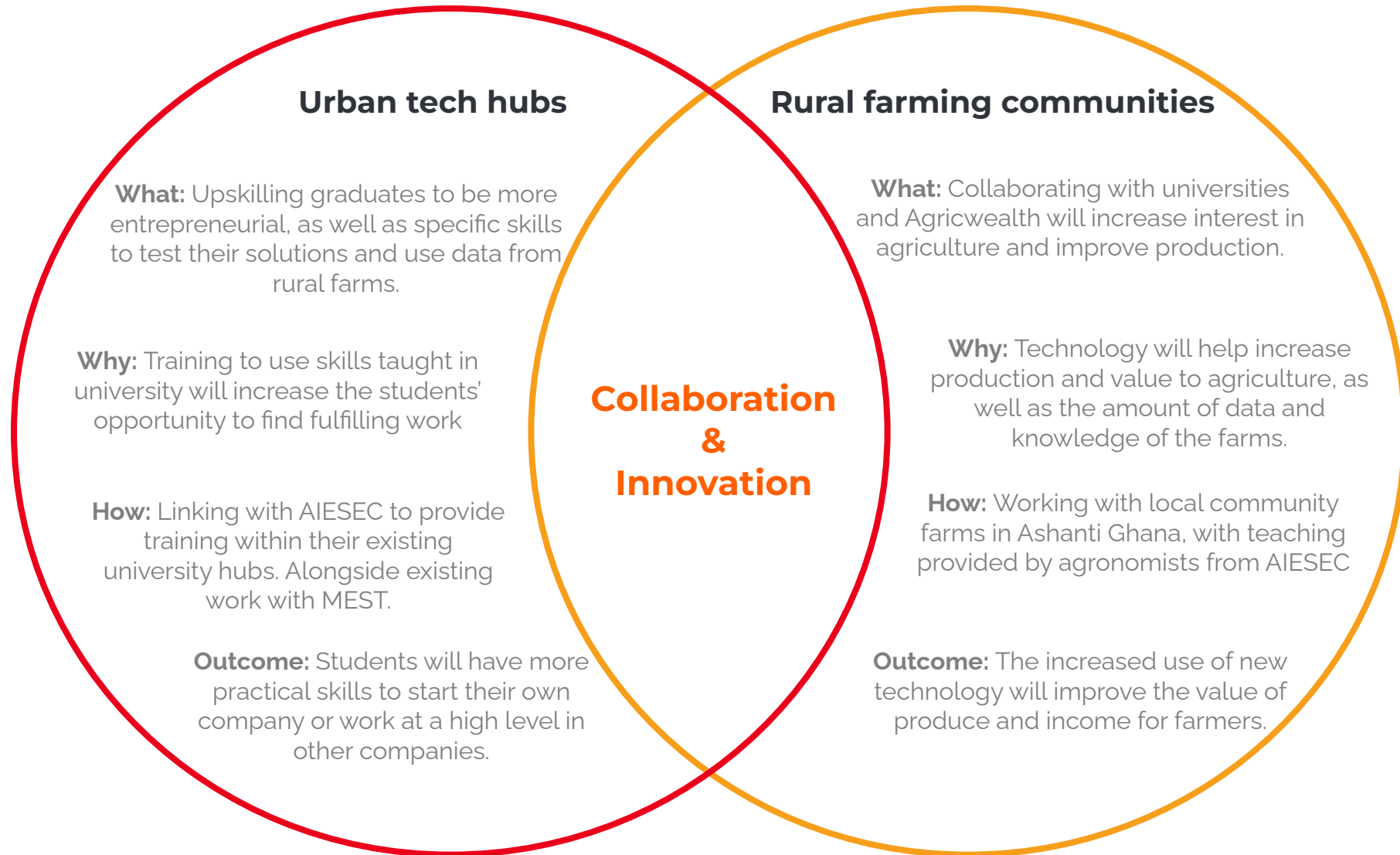
The rate of **desertification** has increased to **20,000 hectares per year** due to variable rainfall patterns and an **increase in average temperature by 1.4°C**

By using technology to monitor soil and optimize sampling **yields can increase by 25 bushels per acre.**

According to the WHO, **more than 250 million Africans are undernourished** due to a lack of food production.

Our Solution

By having two programs collaborate, both people in rural and urban Ghana benefit from the increase in knowledge and skills, aided by the MasterFarm app.



Agricwealth words on our solution

Improving innovation within agriculture, Agricwealth has agreed to partner with us.

“Increasing the value chain of agricultural products is the first thing to do to improve farmers and Ghanaian’s life conditions. The sector indeed also needs innovation for this to happen.”



Evans Kyere-Mensah

Founder of Agricwealth-Ghana



Increasing the agricultural value chain with Agricwealth

Agricwealth will provide the on-ground training for the rural program as well as being connected to a large community with over 10,000 at the yearly summit



Agricwealth Ghana is an **agribusiness** company committed to **enhancing the value chain** of agricultural products in Ghana. Through its programs and initiatives, the company provides farmers with the tools and resources they need to **increase** the **quality** and **value** of their agricultural products, leading to **higher incomes** and **economic growth**.



Agricwealth also promotes **sustainable** agriculture practices such as soil conservation, organic farming, and water conservation. The company **works closely with farmers** to implement these practices, ensuring environmentally and socially responsible agricultural practices.



Besides its commitment to promoting the economic **empowerment** of **women** in agriculture, Agricwealth is dedicated to promoting **food security** in Ghana by ensuring access to nutritious and affordable food.



AGRICWEALTH

...inspiring our generation through agriculture



**Program Details &
Partnership Agreements**

Teaching innovation with AIESEC in Accra

We have partnered with AIESEC Ghana to train students in their existing university hubs, they will take care of sourcing and hiring professionals



AIESEC Ghana is a youth-led organization that has been **creating economic opportunities** for young people in Ghana for over 50 years. Through its various programs and initiatives, AIESEC Ghana has created **over 10,000 jobs** in diverse fields such as **education, agriculture,** and **entrepreneurship**.



AIESEC Ghana is also committed to **empowering innovation** and entrepreneurship among young people. Through its flagship program, the Global Talent program, AIESEC Ghana provides Ghanaian youth with **opportunities** to work and learn abroad, exposing them to new cultures and ways of thinking.



AIESEC Ghana is also committed to **social impact** and has made significant contributions in areas such as **education, health,** and the **environment**. AIESEC Ghana believes that young people have the power to create positive change in their communities and is committed to **supporting** them in this mission.



**Program Details &
Partnership Agreements**

A collaboration platform for innovators and farmers

MasterFarm website and app will allow farmers to gain more knowledge and tools, and for entrepreneurs to test and improve products. Exclusive use for the people involved in the program.



Learn new skills

There are online courses given by professionals to teach new techniques to farmers, to help them adapt to climate change.



Interact with the community

Chat with other farmers and entrepreneurs to develop your ideas to improve.



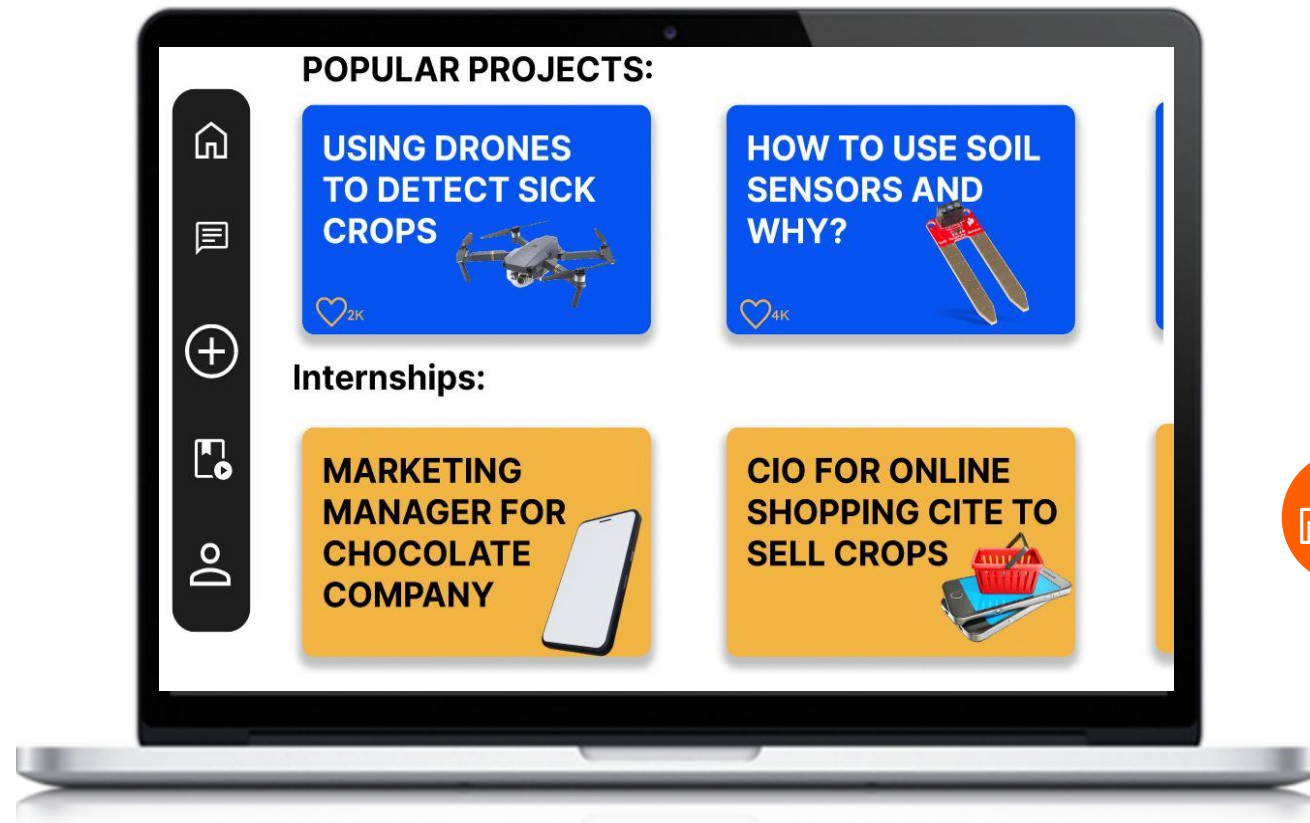
Post your project

Entrepreneurs can post their projects to get support, advice and financial backing



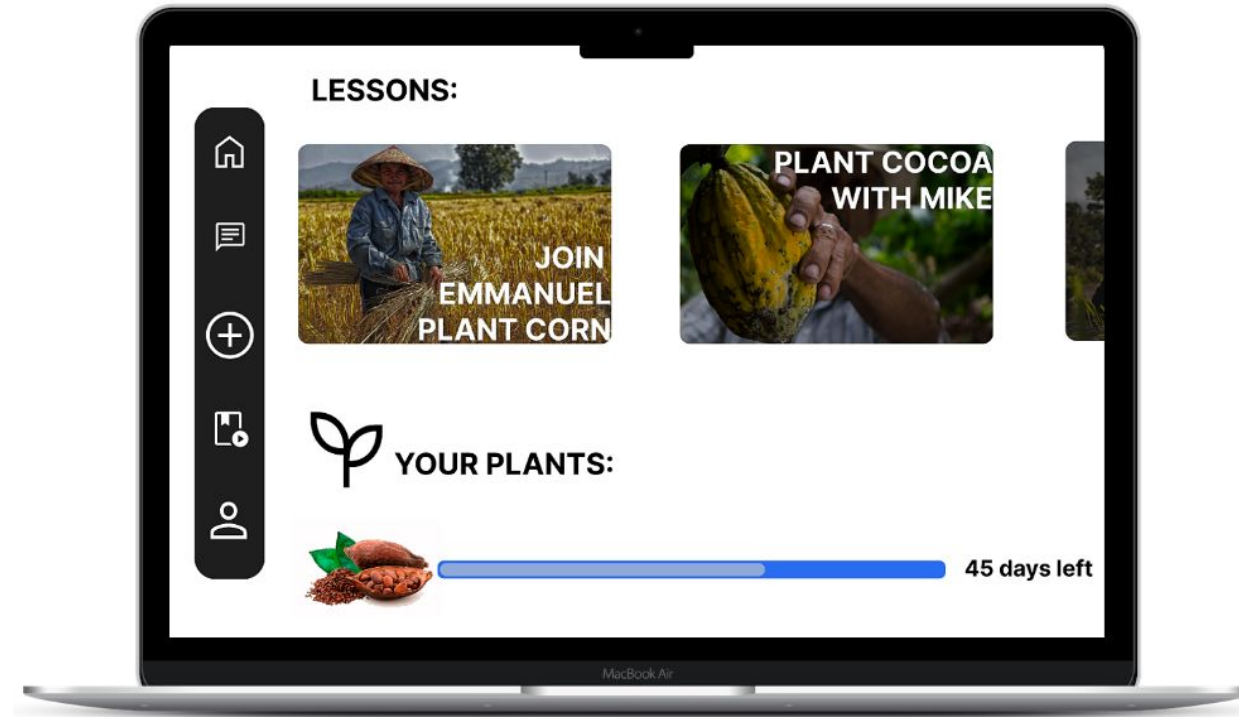
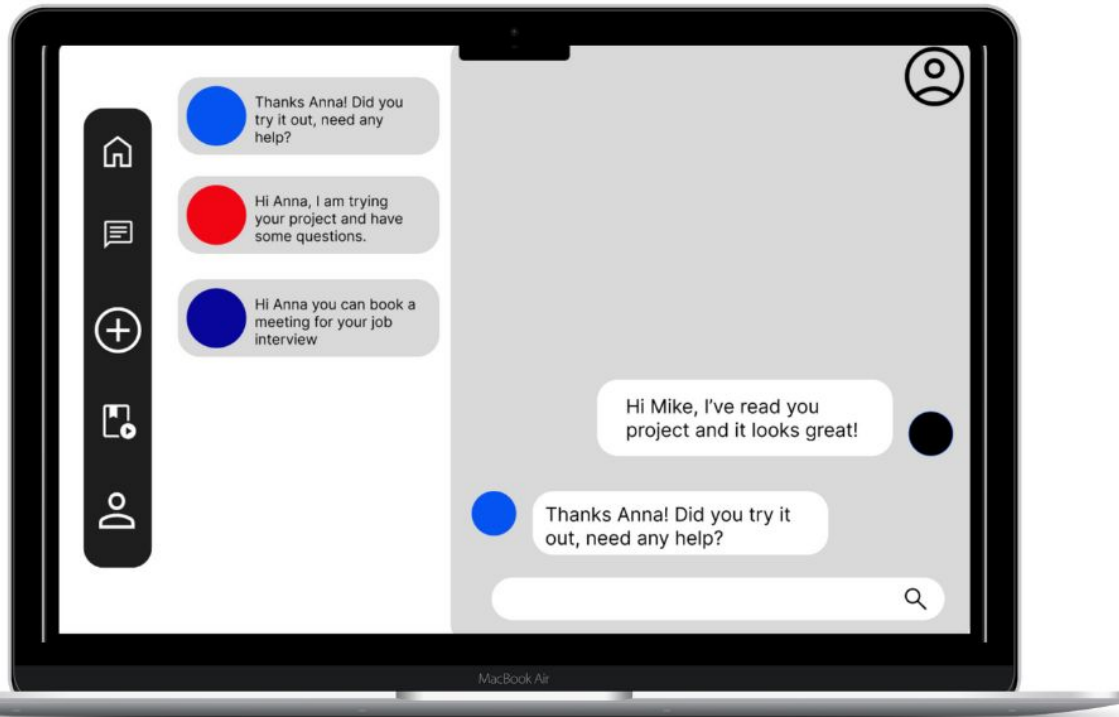
Look for job opportunities

Farmer, companies and entrepreneurs can post job opportunities and people can apply straight through the app



MasterFarm overview: Learn & Collaborate

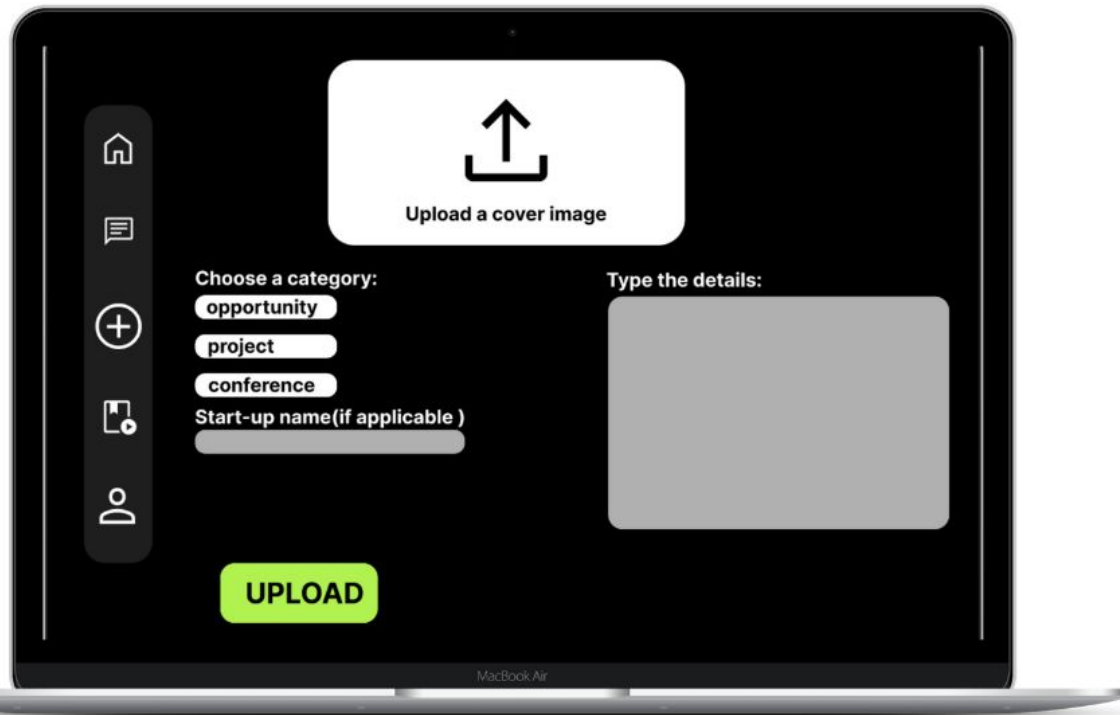
Along with the in-person lessons, the learn section is to source global knowledge in agriculture and strengthen the community



 **Interactive website**

MasterFarm overview: Opportunities

Companies, farmers and entrepreneurs can post jobs and students can apply all within the app.



Approximate costs for the project

We have based the costs on data we have received from both AIESEC and Agricwealth, however, they are only approximations

Cost of a training session <u>Details</u>	1,400\$
Cost of two training session for both AIESEC Ghana and Agricwealth	5,600\$
Cost for two training session of each programs for a year	302,400\$
Cost of MasterFarm app developpement	17,150\$
Total costs for the first year	491,350\$
Total cost for 3 years	1,131,150\$

Implementation plan

Take contact with AIESEC Ghana and Agricwealth, **build** the **partnership**, and define **numbered goals**.

Now

End of
2023

Develop the **MasterFarm** app and launch services. Create an **advertisement** campaign, to touch all the Ghanaian population, even rural.

After more than a year of the program running, **analyze** where we are compared to the goals, and eventual slight **readjustment** of the methods.

2025

2027

Expand this program, in **Nigeria** and **Senegal**, with the required adjustments correlated to each country.

Expand this program in **Rwanda**, and **Uganda** and start implementing it in **Kenya**, with the required adjustments correlated to each country.

2029

Who to contact



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Realistic impact by 2030

Assuming everything goes to plan the impact could be huge generating approximately 4M jobs. With environmental and social benefits which are hard to predict.

Job creation

Our solution will create **1.3 million** jobs in the agri-tech field, and around **3.6 million** jobs will be created because of that creation. In this sense, we create both **technical jobs** for the high-skilled youth, which is something that lacks in Ghana, and **low-skilled jobs** for Ghanaians that don't have any diploma.

Our **program** intends to **be replicable**, being so, it can be extended to **other target countries** (please refer to the implementation plan).

Extending this solution in **more than 5 countries** after 2029 will make it possible to achieve creating **30 million** green jobs **by 2030**.

Social improvements

Creating jobs for Ghanaians with different **educational backgrounds**, but also for **women** and both **rural** and urban residents, will have a huge impact on social conditions in Ghana.

It will lead to a **reduction** in the **unemployment** rate in Ghana, but it will also **benefit** the whole **workforce**, especially **farmers**, who currently have a hard time making money.

Dignifying agriculture jobs will bring back the youth to agriculture, **reinvigorate** this sector, and **ensure food security** in Ghana, then in Africa as a continent.

Green economy

Agri-tech will **revolutionize** the methods of food production in Ghana and contribute to a **greener economy**.

By **implementing innovation** and entrepreneurship in the agricultural sector, we'll **lead** in creating more **sustainable** agricultural **practices** and inspire others developing countries to do so.

Our actions will finally **increase** the **economical inclusion** of rural Ghanaians and improve the Ghanaian economy as a whole.

What we need from the Mastercard Foundation

To make our solution work Mastercard will have to work closely with our partners to produce effective programs as well as some funding for the program and initial start-up.



In person Implementation

International representatives who have never been to Ghana don't grasp the status quo and, more significantly, don't understand the people, which results in projects that are implemented globally frequently failing. The citizens will not support this program if the communication is ineffective.

The community will be brought on board more quickly with in-person implementation thanks to the ties made by the MasterCard Foundation.



Funding

AIESEC Ghana and Agricwealth-Ghana need your funding to both empower innovation in Ghana and revolutionize agricultural practices. This will match your job creation objective and effectively ensure food safety in Ghana and better living conditions for Ghanaian society.

Gaps

1

We can not guarantee that the program will generate 4 million jobs

After the first year running numbers and projections to get a better idea of future projections

2

Unsure on the exact costs of training

You would need to go over the costs with both AIESEC and Agricwealth.

3

We don't know how much it will cost scale to other countries

Each countries economic background is different so may cost more to implement and expand to Africa

Assumptions

1

We are assuming people will get involved with the program

It would be worth getting more personal feedback from university students and farming communities to get an idea on interest

2

We are assuming that our solution is replicable in close, developing African countries.

We did not have the whole analysis of each country we plan to expand in.

3

We are assuming farming communities will collaborate

Each region and community is different so we don't know exactly how they will work together.

Playbooks

Tiny details that you might want!



Want to learn more about the partnerships ?

[Our partnerships](#)



Where can I find the LOI with AgricWealth ?

[LOI](#)



Want to learn more about MasterFarm ?

[MasterFarm MVP](#)



Who have we talked with ?

[Outreach](#)



If this project fails, why?

[Pre-Mortem](#)



What are our sources ?

[Sources](#)

Thank you Mastercard Foundation!



We wanted to take a moment to express our sincerest gratitude for the opportunity you provided us to work on this challenge. It has been an incredible experience, and we are grateful for the time you spent creating this opportunity for us.

Your commitment to creating economic opportunities and improving the lives of people in Africa is truly inspiring. We are honored to have been a part of this effort and to have had the chance to contribute to the foundation's mission.

We hope that our recommendation can help you in any sense and lead to a positive impact, thanks to the experience you have given us.
We are truly grateful.

Sincerely,
Freya, Hande, Raphaël, Nicole

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