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# COFFEE INNOVATION

## SMS Mobile Soil Testing

Accessible Diagnosis of Coffee Farm Fertilizer Needs



## CHALLENGE

Misuse and under/overuse of fertiliser due to low fertiliser prices and lack of information on actual soil composition (fertiliser needs) has a substantial negative impact on farming profitability (lower yield and higher fertiliser costs) and the environment.

## INNOVATION

### TRANSPARENT & INCLUSIVE BUSINESS MODELS

SMS with AgroCares (technology provider) delivers innovative services with data solutions to measure nutrients and other key parameters in soil (SoilCares), ultimately leading to sustainable yield and production increases. The AgroCares solution consists of a measuring tool (the Scanner) and intelligent applications that run on a smartphone via App or web-based solutions, from which a report is available within a few minutes after testing.



## COMPANY DESCRIPTION

In 2010, Atlantic Commodities Vietnam Ltd. (ACOM) established Sustainable Management Services Vietnam (SMS Vietnam) as a service provider. Its mission is to create sustainable value for rural communities growing coffee in the Central Highlands and to reinforce ACOM's supply base for Robusta and Arabica coffee. SMS Vietnam provides training, certification and other value-adding services to farmers linked to the supply chain.

### NUMBER OF STAFF

23



## COST-BENEFIT ANALYSIS

### EFFECTS ON REVENUE

FROM THE SERVICE,  
\$3,660 EUR WAS RECEIVED

### COSTS

1. MOBILE DEVICES (+LICENSE FEE): 10,300 EURO
2. COLLECTING 250 SOIL SAMPLES AND SENDING TO THE NL; APPROX. 3 EUR PER SAMPLE
3. SAMPLES FOR CALIBRATION: 2,000 EUR
4. ANNUAL LICENSING FEE FOR 10 MOBILE DEVICES-APPROX 26,000 EUR
5. HIRING TEN FULL TIME FIELD ADVISORS FOR 8 MONTHS AND TRAVEL COSTS (TO FARMS) APPROX 45,000 EUR (WILL DEPEND ON LOCAL SALARY LEVELS.)
6. PROJECT MANAGER (XX%) - 9,370 EUR
7. FARMER TRAININGS TO SOCIALISE THE SOIL TESTING SERVICE, DEPENDS ON NUMBER OF FARMER TRAINED (BUDGETED FOR ONE YEAR BUT NOT ACHIEVED DUE TO COVID19: 10,000 EUR FOR TRAININGS OF 3,200 FARMERS)
8. COMMUNICATION MATERIALS - UP TO 4,500 EUR



## PREPARATION

### TIMELINE

THE SCANNERS CAN BE ORDERED AND SHIPPED WITHIN SEVERAL WEEKS. CALIBRATION WITH AGROCARES DATABASE ABOUT 9-10 MONTHS.

### MATERIALS & EQUIPMENT

- AGROCARES NUTRIENT SCANNERS
- BLUETOOTH PRINTERS- SMARTPHONE CONNECTED TO AGROCARES APPLICATION FOR RESULT & RECOMMENDATION

### STAFFING REQUIREMENTS

PROJECT MANAGER/TEAM LEADER (50%) FULL TIME  
FIELD ADVISORS (ONE PER MOBILE SCANNER, HERE 10)  
IDEALLY MARKETING STAFF (20% FOR EXAMPLE)



## LESSONS LEARNED

### CHALLENGES

The main setbacks linked to covid-19 were linked to the ability to gather farmers for training sessions and workshops, to introduce the service and explain its benefits before the fertilisation cycle. The main challenge not directly linked to covid-19 is linked to adoption of a new service which farmers have to pay for.

### TAKEAWAYS

- Select field officers for having a network of farmers they were used to working with, as potential beneficiaries of the service. Provide support and follow-up to field officers by members of our team to feel comfortable with the promotion of this service, and understand the context in which it was set up (Crop Doctor model) so they are more effective advocates.
- Assess the sales & marketing skills of the field officers and support where necessary. The service price might have impacted adoption, this question will be answered once surveys on adoption and farmer perception are completed



# RESULTS

As a result of SMS's trial,



2,418

FARMERS VISITED & ADVISED



1,000

FARMERS PARTICIPATED



401

FARMERS APPLIED TESTING



US\$300/ha

SAVED PER YEAR



Photo provided by SMS

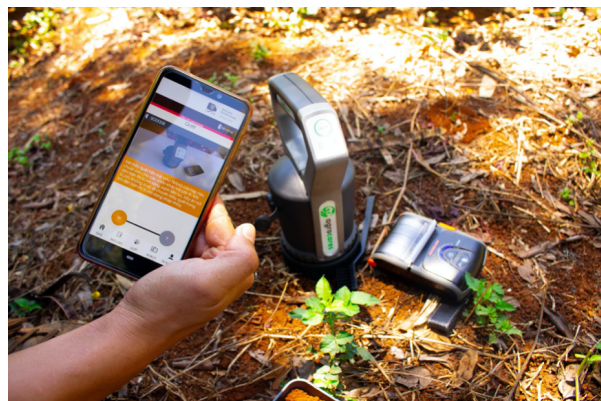
# IMPLEMENTATION

1



REGION CALIBRATION WITH SOIL SAMPLE COLLECTION SHIPPED TO AGROCARES

3



PURCHASE OF SCANNERS AND LICENSES

2



ADJUSTMENT OF RECOMMENDATIONS TO FEED THE APP (& TRANSLATION) – TO BE DONE FOR EACH REGISTERED CROP

4



TRAINING OF FIELD OFFICERS BY AGROCARES TEAM



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**MISSION**

The Fund's objective is to increase profitability of small-holder coffee farmers, and foster greater, more equitable value distribution in the supply chain through promoting innovative farming systems, transparent and inclusive business models, and access to new markets.

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