



Chocothon Report

November 2017

Introduction

According to the World Cocoa Foundation, the cocoa sector supports the livelihoods of 40 to 50 million people worldwide, including more than 5 million smallholder cocoa farmers who grow this valuable crop. Cocoa features strongly in different cultures in modern history, evolving over the years, until it became an important commodity that thousands enjoy all over the world in its different forms.

Cocoa production is based on smallholdings and intensive farming: according to the World Cocoa Foundation, 80 to 90 percent of cocoa production comes from small, family farms, that typically range between 2 and 4 hectares (5 to 10 acres). Cocoa production takes place in tropical areas of Africa (73 percent of total production), Asia (13 percent of total production), and the remaining 13% in central and south America. Once cocoa beans are harvested, fermented, and dried, they are exported to main chocolate producing countries located in the temperate band, in Europe and Northern America.

There is an urgent need to re-invent the cocoa value chain, ensuring both the traceability and the adoption of sustainable practices by farmers, particularly small holders. Climate change, access to the market, traceability, pests, diseases, and low productivity are some of the challenges the cocoa system is facing right now.

According to the World Economic Forum, there is an urgent need to promote “smart-agricultural growth,” as opposed to an indiscriminate approach to agricultural growth. For example, that leveraging big data to harness an unprecedented wealth of information. The game changing potential of big data can support the decision making



with regard to farm management, and increase the producers' resilience to market price volatility.

Hence, it goes without mentioning that if we want to continue to enjoy chocolate in the future, we need to take stock of the challenges that the actors within this sector are facing, and leverage the existing technologies to face these challenges.

Chocothon, January 2017

Chocothon is a sustainable innovation initiative that aims to empower and connect cocoa farmers in order to create new opportunities for them and other value chain stakeholders in cocoa production. The concept of the Chocothon has been conceived and presented by the Google Food Lab, Future Food Institute, the Trade for Sustainable Development, and the Business School Lausanne. Its first event was held in January 2017 in Accra, Ghana.

The problem statement couldn't be any clearer: the cocoa sector was unsustainable in many ways, threatening thereafter to put an end to chocolate as we have grown used to consuming it. A multi-actor approach that targets the issue in Ghana itself is a promising approach that is also much needed to tackle this issue.

In Ghana, the cocoa sector involves a category of farmers who need to become more autonomous, they are small producers, not always united in consortia and cooperatives, and the level of illiteracy is quite high. The idea was to use digital tools to overcome these impairments, by for example, creating tools to circulate skills and information about plant diseases, management strategies, raw material prices, among many other variables.

The Chocothon in Ghana has conceived three concepts for digital tools that, using a simple smartphone could potentially help farmers improve their practices, product quality and their incomes.



Chocothon DC, October 2017

Building on the success of the Ghana event, A two-day Chocothon DC has been a to collaborate on creating, prototyping, hardware and software tools which address some of the challenges of cocoa farming. The event has been made possible thanks to the support of World Cocoa Foundation, the World Bank, and Valrhona Chocolate. Teams had the opportunity to present their solutions to the top cocoa companies, governments, and non-governmental organizations working on sustainable cocoa during the annual World Cocoa Foundation Partnership Meeting on October 25. The main expected outcomes for partners are participants have been set in terms of innovation exposure, access to valuable players (both people and organisations), and rapid creation experience.

Challenges

The co-design challenges were selected based on input from different actors in the cocoa sector.

A) Deforestation and sustainability of the cocoa sector

Climate change and deforestation is threatening the sustainability of cocoa. There is an opportunity for better crop monitoring and agroforestry tracking throughout the cocoa farming process through better data. How might we leverage remote sensors and available technologies to improve data tracking to support decision making and improve transparency?

B) Diversifying agricultural activities for better incomes

Cocoa farmers need to diversify their activities, which means producing other crops to make the most out of their lands, enjoy diversified diets, ensure ongoing and regular



incomes (outside cocoa seasons) as well as enhance the agricultural biodiversity. In this case they will also need to access market channels that bring them closer to the consumers, and help them secure alternative incomes. How can digital technology help farmers get access to the market to get alternative and regular incomes?

C) Coaching farmers

Real time communication to and from farmers can improve traceability, farm management, and overall efficiency. How might we create tools that facilitate the coaching and servicing of farmers?

Evaluation criteria:

Step 1

1. Understanding of the problem: does it understand the overall challenge? 30%
2. Fitness of the solution: does it strike the problem? 40% to what extent does the solution address the problem? does it respond to an actual need or a perceived need?
3. Presentation: understandability of the concept 30%

Step 2

1. Network practicability: complexity level of the system of actors involved in providing data or authorize processes 30%
2. Economic reliability: quality of business model (is the business model realistic?) 30%
3. Urgency: how much this solution is actually required 40%



Speakers

Carole Seignovert - Valrhona, CSR program

Carole Seignovert is Head of Sustainability for Valrhona, a high-end chocolate company selling chocolate to chefs. She's in charge of Live Long, Valrhona's sustainability programme. From supporting cocoa farmers to halving the company's environmental footprint by 2025 or training young people into gastronomy jobs, Live Long's aim is to embed sustainability at the heart of the company. She started her career in South America. First at BNP Paribas Investment Banking and then as a consultant for TechnoServe, working on Base of the Pyramid initiatives and supporting smallholder farmers with business advice. She then relocated to London to coordinate a multi-million pound Lloyds Banking Group financial inclusion programme and then worked as an International Projects Director for Business in the Community, supporting FTSE100 companies with their sustainability strategy.

Suzanne Ngo-Eyok - WCF Country Director, Ivory Coast

Suzanne is the Director of WCF's Cocoa Livelihoods Program and is based in its Abidjan, Cote d'Ivoire office. Following a consultancy career in London with institutions including Type Museum Trust, Whitechapel Gallery and the Ghanaian High Commission, Suzanne began the West African stage of her career in 2009 as Senior Partner Advisor at Esoko, the Accra-based agricultural information service. Specializing in value chain management, she developed and maintained public-private partnerships, while creating sustainable management information systems for partners across the region. Suzanne then moved to the first of a number of major USAID projects, beginning with the Expanded Agribusiness and Trade Promotion Project (E-ATP), where, as an



Institutional Capacity-Building Specialist she strengthened the business capabilities and civil society components of the project and its partners across West Africa. At the same time, she was heavily involved in developing advocacy, and in developing sustainable public-private partnerships in collaboration with PPP and access-to-Finance specialists. Suzanne next went on to hold two simultaneous positions with other USAID-supported projects in the sub-region. As Agricultural Trade & Business Environment Specialist for the USAID West Africa Trade Hub – an umbrella organization for a diverse range of trade promotion projects – she was engaged in identifying and developing partnerships between the Trade Hub and private sector stakeholders, national governmental bodies, ECOWAS and UEMOA. At the same time, she worked as Institutional Capacity-Building Advisor to the Borderless Alliance, a USAID-backed private sector alliance of stakeholders in regional trade before joining the Kuffor Foundation in Ghana

Mentors

Along the way, the three working teams have been supported by:

Pierre Costet - Valrhona, Taste and Cocoa Quality Department

Pierre Costet has been manager of Valrhona's Taste and Cocoa Quality Department since 2010. Young agronomist with a specialization in Food Industry, he fell in love with the cocoa in Madagascar, 20 years ago. After dedicating himself to the search and development of the best cocoa beans for the long term needs of Valrhona supplies, he is now managing a team whose sole purpose is Taste and cocoa R&D. This is one of Valrhona's most specific expertises, which includes creating or developing with Valrhona's partners innovative flavoured and sustainable cocoas.

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Vincent Manu - WCF Country Director Ghana

Vincent is the Country Director of World Cocoa Foundation in Ghana and the Country Coordinator of WCF's Cocoa Livelihoods Program in Ghana and Nigeria. He has been in development practice for about 15 years. In the cocoa sector, he worked with Solidaridad as Country Manager of its Cocoa Programme in Ghana where he helped to establish the programme and raised funding to scale up and expand to Nigeria, Cote d'Ivoire and Cameroon. He facilitated the set-up of Kookoo Pa (a farmer organization)



and several cocoa sustainability projects for NGOs and private companies such as Cargill, Touton, PBC Ltd. Noble Resources, Transmar, and others. He previously worked as the National Programme Remediation Officer and later National Programme Manager of Ghana's National Programme for the Elimination of Worst Forms of Child Labour in Cocoa (NPECLC) at the Ministry of Employment and Labour Relations, where he set up Ghana's national remediation interventions towards eliminating worst forms of child labour, and coordinated the development of Ghana's Hazardous Child Labour Activity Framework (HAF) as the main guidance document for remediation. He started his development practice at Centre for the Development of People (CEDEP) where he was a Programme Coordinator and coordinated child labour interventions, youth development initiatives and development research and community development projects. Vincent conducted the feasibility study and co-founded MGI Microfinance in Ghana.

Manuel Kiewasch - WCF M&E Information Systems Manager

Developing and maintaining World Cocoa Foundation's monitoring and evaluation data system is Manuel's main role as the organization's Information System Manager. He strengthens WCF through his experience of monitoring and evaluation systems and technical proficiency in information management technologies. He has a background of international development work in East and West Africa and natural resource management in Europe. He enjoys data-crunching and visualization with R and Python and built WCF's CocoaAction Hub and Online Farmer Economic Model together with a team of programmers from BitBamboo

(<https://hub.cocoaaction.org/econmodel/public/>). Besides data science and web applications, he is an avid supporter of open-technology and GIS-mapping. Manuel holds a B.Sc. in International Environmental Management from the University of Cottbus (Germany), an M.Sc. in International Development and Management from the



Lund University (Sweden) and a second M.Sc. in Management and Information Systems for Change and Development from Manchester University (UK).

Jessica Custer - Fair Trade USA, Sr. Supply Chain Manager

Jessica Custer, Sr. Supply Chain Manager at Fair Trade USA, works with stakeholders across agricultural supply chains to achieve and maximize the impact of certification. Focusing on small-scale farming predominantly in coconut and tea commodities, Jessica has trained and collaborated with Fair Trade implementers and representative committees of Fair Trade farmers across Asia, West Africa, and Latin America. Prior to Fair Trade, Jessica's Fulbright research explored turning waste into money in Peru and her MBA Without Borders experience advising female entrepreneurs on go-to-market business strategies in India developed her unique ability to connect and redesign the dots to optimize for sustainable human and environmental impact.

Gesina Beckert - Fair Trade USA, Business Development Manager

Gesina Beckert, Business Development Manager at Fair Trade USA, supports CPG companies to meet their consumers demand for responsibly sourced ingredients. Gesina has extensive experience in both qualitative and quantitative primary research, as well as secondary research in consumer and behavioral change space. With a background in business development for consumer tech in Silicon Valley and new to working in the food industry, she brings a fresh eye to tech in sourcing and provides great insights into consumer demands.

Jonathan Cooney - Global Lead on Green Competitiveness, World Bank Group

Jonathan Cooney is the Global Lead for Green Competitiveness at the World Bank. He co-leads the organization's work to support private sector in developing countries to successfully compete in growing climate-related sectors with a focus on innovation.



Previously he was the Program Coordinator of the World Bank's Climate Technology Program (CTP) at the World Bank. During his tenure, the program scaled considerably to establish a network of seven Climate Innovation Centers to support firms to innovate commercial climate solutions for local markets and grow their businesses. Over this time, the CTP brought in five donor partners with over \$70 m committed. Jonathan has also worked in the World Bank energy sector. Prior to the World Bank, Jonathan worked at the International Energy Agency (IEA) where he led teams to review country energy policies, negotiated with governments on policy recommendations and published books on energy policy. Jonathan was also a financial consultant to the private power sector for over seven years, structuring project finance for greenfield IPPs and acquisitions in the US, Latin America and Asia. In addition, he developed and marketed a renewable energy cooling technology for the Caribbean market. Jonathan holds an MBA from INSEAD (France), and MS and BS degrees in engineering from Brown University (USA). He has written ten books on international energy policy and holds two US patents in clean energy technology.

Prasanna Lal Das - World Bank

Prasanna Lal Das works on data strategy in the Trade & Competitiveness global practice at the World Bank Group where he recently led the development of the World Bank Group's open trade and competitiveness data platform (<http://tcdata360.worldbank.org/>). He is currently exploring the role of IoT to deliver government services, and the role of big data in value chains. Prior to this, Prasanna led the Bank Group's open financial data program (finances.worldbank.org). Prasanna has also worked extensively in the private sector helping companies develop strategies to use information as a competitive business asset.

Prasanna holds a Masters degree in Modern Indian History.

Alexandra Endara - International Development Consultant World Bank Group



Alexandra advises the World Bank InfoDev's Clean Technology Program (CTP) on best practices to design projects for knowledge and skill development for the program's global Climate Innovation Centers. She focuses on online knowledge exchange and dissemination of lessons learned from the field. Previously, Alexandra led the delivery of the World Bank's online course for social entrepreneurs "Innovative Business Models for Better Impact." She also implemented a service-tracking and monitoring program to enhance local progress monitoring systems in Nepal, Zambia, and Bolivia under the World Bank's Governance Global Practice. As part of her work with the World Bank's Rural Alliance Program, Alexandra trained social entrepreneurs and government officials in mechanisms to enhance communication channels between agriculture cooperatives, suppliers, and the Ministry of Agriculture in Bolivia. Additionally, she managed the development and implementation of an ICT-based feedback mechanism to improve communication between citizens and the Municipality of La Paz. Her fieldwork experience includes conducting primary research with stakeholders, identifying and assessing needs and requirements for project development, and designing implementation processes. She holds a Master's in Latin American Studies from Georgetown University, School of Foreign Service and a Bachelor's in Sociology from the University of California, Los Angeles (UCLA). Originally from Ecuador, Alexandra is fluent in English, Spanish, and Portuguese.

Anupa A Pant - Private Sector Specialist, The World Bank

Post qualification experience of 15 years of which 11 years in private sector development covering the wider aspects of climate smart agribusiness, climate change adaptation, early stage financing, value chain promotion, gender and social inclusion. Currently I have been working in the field of entrepreneurship and SME development as part of the global agribusiness team with a focus on building the capacity of agribusiness SMEs on technicalities of business, industry expertise, governance and environmental & social standards to help them become investible. Prior to joining World Bank Group, worked as an Sub Sector Advisor in GIZ and as a Relationship Manager at



Nepal Investment Bank. Also a business educator, taught Fundamentals of Marketing at Undergraduate level. I hold a Master of Science in Information Systems from Central Michigan University, USA and a Masters in Business Administration from Kathmandu University, Nepal.

Heather Pfahl - Mars

Heather has 15 years of executive management and socio-economic, environmental development experience. Over the past ten years she has built effective intercultural teams, designed and successfully operationalized organizational strategies, managed stakeholders and developed sustainability benchmarks and evaluation methodologies for programs in over a dozen countries. Heather successfully engaged private sector and public donors to develop multi-million dollar integrated programs globally; which increased the socio-economic well being for communities, with a focus on women and children. She is now Senior Socio-Economic Impact manager at Mars Incorporated.

Teams and projects

Team one - GeoCocoa

Did you know that we don't have an idea about the location of majority of cocoa farmers in West Africa? As much as 80% of farmers are not organized in cooperatives which means that there is no way to track where cocoa is actually coming from. Currently there is a lot of awareness and publicity happening around deforestation caused by cocoa farmers. An article reported by Mighty Earth estimates say that 80-90% of forests in the Ivory Coast have been destroyed by legal and illegal farming.

We are building an app that calculates deforestation risk at a farm location based on remotely sensed satellite data. It will calculate historical deforestation from 2000-2016 and the remaining dense forest within a given range of the farm.



We will design this as an general app that can be used by farmers or truck drivers as they collect cocoa. Eventually, this App could also be used by consumers to track individually where the cocoa in their chocolate bar comes from.

This information would help companies to trace their sources to bring more transparency for their company and their consumers. It will put power into the hands of everybody involved in the supply chain! By assessing the risk of certain farms, we could improve the general risk profile of cocoa farms, The more we know about the risk, the more risk mitigation techniques can be developed.

We need this as a tool to improve the current situation. Data empowers.

Who is it for?

Companies, Traders, Farmers, Governments, Consumers - anyone within the cocoa supply chain will benefit from visibility into the origin of produced coco.

What is the vision?

In an ideal world, each and every farm would have an individual data point that would be connected to cooperatives so that we would have complete visibility into supply chains.

Sources:

<http://www.mightyearth.org/chocolatesdarksecret/>

Team 2 - Kejetia, beyond cocoa

Kejetia is the virtual marketplace where you can make the connections to buy and sell virtually everything agric beyond cocoa.



It creates value for farmers, as they can sell you produce, buy your inputs, connect to service providers, find work, and get information about GAP and your farm performance compared to average.

Ti creates value for buyers, as they can find products and suppliers and access aggregate farm data (\$ = registration fee + data fee).

It also create values for inputs supplier, as they can find customers to sell your products, and access aggregate farm data (\$ = registration fee + data fee).

Finally, it creates value for service providers, as they can find customers (\$ = registration fee + data fee)

Team 3 - Cocoa Run

Cocoa Run is a game that simulates the journey of a cocoa farmer through the challenges of production, navigating the player towards best practices and connecting the player to local service providers.

The selected winning team was Kejetia, beyond cocoa. The team won 3000\$ for the implementation of teh project.



Concluding remarks

Our biggest achievement is introducing the concept of co-design /design driven innovation in an organization with an enormous potential for impact as the World Cocoa Foundation. An important aspect of this impact is for WCF to lead by example, and stimulate a culture of innovation among the important actors in their network.

We see the potential of this concept to be replicated in other territories, not only West Africa, but in South America and Southeast Asia and the Pacific islands. Foresee moments of engagement of local stakeholders, in geopolitical areas where Cocoa is produced, is a crucial value this concept can bring.

The next step would be establishing Innovation labs with this best practice to consider. The Ghana experience continues to be a reference point. The Washington process is an outcome of the Ghana process that can support in the longer term the next stage of this initiative. A possible next goal is to put in place a world tour with moments of innovation, whereby we [Chocothon stewards] intervene on specific territorial challenges not only working on generic challenges.

Furthermore, we believe in the potential of introducing this practice to other sectors. There are various other organizations, with a focus on commodities that can only be produced in developing countries, such as the World Banana Foundation.

As far as participants are concerned, given the high quality of the participation and the room of improvement in the number of participants, we will also study how to include participants from various backgrounds, and target people with specific competencies, and studying the best way to engage them.