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## ***Feasibility Study SCBF FSW – 13***

### ***FINAL REPORT***

#### ***Developing sustainable financial services for cocoa farmers in Ghana***



## **Thanks**

Swiss Microfinance Holding SA, Allianz SE and their partners from the cocoa value chain, Lind&Sprüngli AG, Barry Callebaut AG, Armajaro Ghana and Nyankopa Ghana would like to express their gratitude to the Swiss Capacity Building Facility for the co-funding of this initiative. Building on an in-depth analysis of the economic strategies of cocoa farmers it has enabled the development of an innovative holistic finance approach allowing cocoa farmers to develop their activities and their livelihoods. Several value chain partners intend now to take up the developed products and delivery mechanisms and expand them to a large number of farmers in Ghana and Ivory Coast. These two countries are the world leaders in cocoa production and the developed innovations could be relevant for hundreds of thousands of cocoa producing families.

SMH would also like to thank the staff of Armajaro and Nyankopa for their strong commitment to this initiative and their valuable support.

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## Executive Summary

This initiative has been funded by the Swiss Capacity Building Facility, SMH and the value chain partners. It initiated the development of a sustainable approach of financial services for cocoa producers. In a larger sense it explored the possibility to integrate an inclusive finance approach into a value chain. Cocoa is the first export commodity in Ghana and Ivory Coast. It employs millions of families as primary producers and the development of the value chain is highly strategic for both countries. For the chocolate producers cocoa tends to become a rare resource because of rising chocolate consumption in emerging markets. As a consequence, they seek to develop sustainable sourcing models able to secure their medium and long term sourcing by creating a more organized relationship with the farmers.

At the same time most of the cocoa producers are living under or close to the poverty line and are highly vulnerable. Many of them are unable to invest in their farms in order to develop production and to maintain soil fertility.

In a holistic approach taking into account the cocoa production on one side and the household activities and expenditures on the other side, the financial situation in different types of farming families is assessed. In a second step the understanding of the demand for financial services in terms of products and delivery mechanism is developed and the hypotheses are again tested with potential clients. Key findings are:

- a) Almost all cocoa farmers are excluded from formal financial services and this is an important constraint, not only for their business, but also for their long-term asset building strategies.
- b) The major part of the cocoa income is invested in education expenditures. Investing in school education appears as the most accessible and the most rational way out of poverty. Financing school costs is the most important motivation for cocoa production.
- c) The overarching phenomenon is high vulnerability. Lifetime events like severe illness, accidents and death of a family member make families fall back into poverty and oblige to withdraw children from school. Lifetime events are also the key driver for over indebtedness of cocoa farmers. Many of them are losing their cocoa plantations to moneylenders.
- d) In absence of access to formal financial services farmers have difficulties to manage their cash flow from cocoa income. They pay a very high price for services from moneylenders and often they lack resources for farm inputs and school fees in the right moment. This has a strong and direct impact on farm productivity.
- e) The first priority of farmers is clearly the reduction of vulnerability, cash flow management and investment in productive assets come second.
- f) As a consequence, insurance and appropriate forms of savings are the first priority in the demand of these farmers; credit is appropriate for those of the farmers who have an already more consolidated economy. Many farmers are well aware that they are in a too fragile situation to absorb credit.

This report proposes a strategy how to conceive the provision of the most needed services with high quality but with reasonable costs that enable sustainability:

- Rather than to create a complete financial infrastructure, use of existing information and service providers: cocoa sourcing database of Armajaro/Nankopa, GSM networks for a basic payment system, association of existing insurance companies....

- Start with a competitive insurance package for all farmers, covering the most important life cycle risks: death, accident, terminal illness, and invalidity.
  - Establishment of a current account for all farmers, accessible through the mobile phone.
  - Establishment of savings plans for education and other purposes
  - Establishment of a credit facility for productive purposes.
- ii. The most important investment will be financial education since only few of the farmers have been exposed to formal financial services before.
- iii. The study proposed to establish the concept and to test the methodology with a limited investment on the basis of a 1-year pilot with 10,000 farmers. In the course of the project partnerships and alliances evolved. The key player, the sourcing company decided to go directly to a full scale roll out after the dry runs with farmers had shown the high interest of the producers. A second chocolate producer joined and decided to expand the technology to Ivory coast. An extension to the cashew value chain is at present under investigation.

## I. Introduction

Often small farmers have difficulties to participate in a productive and secured way in outgrower schemes. One of the main reasons is the lack of appropriate and reliable financial services. In most cases banks are not interested to cover these clients. While applying traditional banking and microfinance technologies, transaction costs for this client segment are high and ticket sizes are small. Purchasing firms sometimes try to substitute banks, often providing loans for crucially needed inputs in order to boost productivity. For them having farmer credits on their balance sheet represents an additional risk and freezes productive capital.

SMH as a company investing in inclusive financial services is aware of these challenges. Considering that outgrower arrangements will be a key element for bringing agriculture forward, SMH is working together with Allianz SE on a Holistic Outgrower Finance Model seeking to build a win-win situation between Agribusiness/Food Companies and their contract farmers through the provision of sustainable financial services, while overcoming key transaction cost constraints that prevent microfinance institutions to work with small farmers in Africa.

Lindt&Sprüngli and ARMAJARO responded positively to the idea and engaged together with SMH and FIDES on a fresh view on the question of financial services for cocoa producers. Barry Callebaut and its Ghanaian subsidiary Nyankopa joined in a second stage.

This document resumes the key results of the project based on field research conducted on the ground in Ghana. It illustrates what SMH/FIDES can analyze and propose under the Holistic Outgrower Finance Approach to face the value chain's challenges in terms of sustainable financial services.

## II. Development Relevance

### 1. County Context

Ghana is considered one of the more stable countries in West Africa since its transition to multi-party democracy in 1992. Formerly known as the Gold Coast, Ghana gained independence from Britain in 1957, becoming the first sub-Saharan nation to break free from colonial rule.

Gold, cocoa and more recently oil form the cornerstone of Ghana's economy and helped fuel an economic boom. Until recently Ghana was hailed as a model for African growth but since 2013, its economy has endured a growing public deficit, high inflation, and a weakening currency, resulting in its seeking an IMF bailout.

Population and Economic indicators		
<b>Population</b> (2015).	<b>27,409,893</b>	
<b>GDP growth</b> (2015). Please use following source (with hyperlink): <a href="http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG">http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG</a>	<b>3.9%</b>	
<b>Inflation</b> (2015). Source with hyperlink: <a href="http://data.worldbank.org/indicator/FP.CPI.TOTL.ZG">http://data.worldbank.org/indicator/FP.CPI.TOTL.ZG</a>	<b>17.5%</b>	
<b>Economic Freedom Index</b> (Rank among 185 countries). Source: <a href="http://www.heritage.org/index/explore?view=by-region-country-year">http://www.heritage.org/index/explore?view=by-region-country-year</a>	<b>56.2</b>	
<b>Governance Indicators</b> (2015)(Score -2.5 to +2.5). Source: <a href="http://info.worldbank.org/governance/wqi/index.aspx-reports">http://info.worldbank.org/governance/wqi/index.aspx-reports</a>	<b>Voice and Accountability</b>	<b>0.51</b>
	<b>Political Stability/Absence of Violence</b>	<b>0.03</b>
	<b>Government Effectiveness</b>	<b>-0.26</b>
	<b>Regulatory Quality</b>	<b>-0.03</b>
	<b>Rule of Law</b>	<b>0.12</b>
	<b>Control of Corruption</b>	<b>-0.18</b>

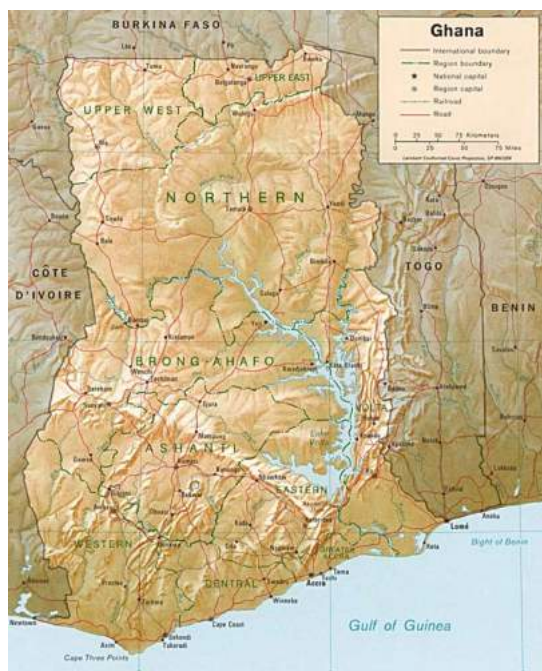
Poverty indicators	
<b>GDP per capita</b> (current USD) (2015). Source: <a href="http://data.worldbank.org/indicator/NY.GDP.PCAP.CD">http://data.worldbank.org/indicator/NY.GDP.PCAP.CD</a>	<b>1'370</b>
<b>Gini Index</b> (0= equality 100= inequality) (2005). Source: <a href="http://data.worldbank.org/indicator/SI.POV.GINI">http://data.worldbank.org/indicator/SI.POV.GINI</a>	<b>42.8</b>
<b>International</b> (at 1,25 USD/day), <b>national and rural poverty headcount ratio</b> (year). Source with hyperlink: <a href="http://data.worldbank.org/indicator/SI.POV.DDAY/countries/all?display=graph">http://data.worldbank.org/indicator/SI.POV.DDAY/countries/all?display=graph</a> <a href="http://data.worldbank.org/indicator/SI.POV.NAHC/countries/all?display=graph">http://data.worldbank.org/indicator/SI.POV.NAHC/countries/all?display=graph</a> <a href="http://data.worldbank.org/indicator/SI.POV.RUHC/countries/all?display=graph">http://data.worldbank.org/indicator/SI.POV.RUHC/countries/all?display=graph</a>	<b>(2005) 25.2</b> <b>(2012) 24.2</b> <b>(2012) 37.9</b>

**Table 1: Economic indicators**

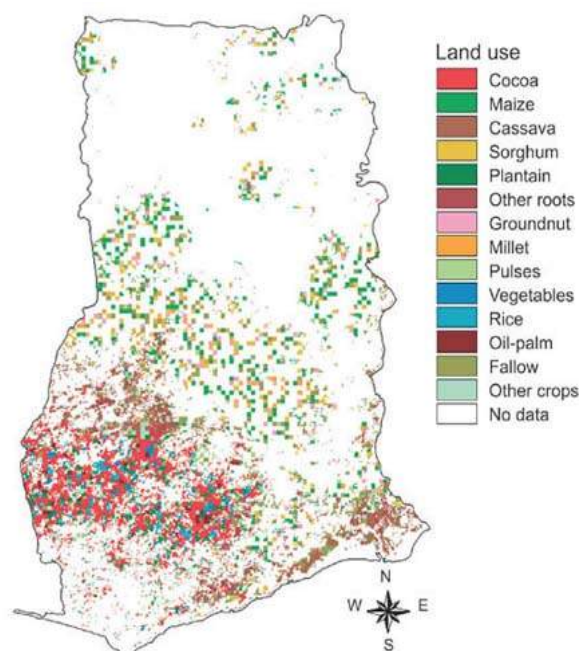
About 2/3 of the population is still living in villages and smaller towns. The majority of the population is still working in agriculture and cocoa the most important cash crop.

## 2. Value Chain Context

Cocoa is the main agricultural export of Ghana, the country is the second largest cocoa exporter in the world, just after neighboring Ivory Coast. Ghana has a climatic gradient from the savanna areas in the north to the forest areas in the southern half of the country. Cocoa production is located in the country's forestall areas: Ashanti Region, Brong-Ahafo, Central Region, Eastern Region, Western Region, where rainfall is above 1000 mm. All cocoa, except the part smuggled out of the country, is sold at fixed prices defined by the Cocobod (Cocoa Marketing Board).



*Map of Ghana*



*Land use mapping (Source: FAO)*

**Fig.1: Maps**



In Ghana the cocoa production has steadily risen from 300,000 tons in 1995 to 900,000 tons in 2014 . The main factors that have contributed to the increase in Ghana's cocoa production are the support measures of the government-owned cocoa marketing board COCOBOD. These include increases in farm gate prices, introduction of pest and disease control programs, the introduction of packages of hybrid seeds, fertilizers, insecticides and fungicides, improved marketing facilities and the repair of roads in cocoa growing areas. An important factor is also the expansion of the cocoa growing area, especially in the Western Region. The harvested area increased from 1.0 million ha in 1995 to 1.6 million ha in 2010. This expansion has led to large-scale deforestation. Most cocoa farms are small, 2 ha or less. Because of inadequate management and low input use the planting of potentially high-yielding Amazon hybrids has hardly increased and the average yield of the majority of the farmers has remained low, about 400 kg per ha. Another reason for the low average yield in Ghana is the age of many cocoa fields. Cocoa has mainly benefited from existing soil fertility after deforestation. After one generation the soils are now exhausted and require a shift to considerable fertilizer input levels in order to maintain production, and replanting with other higher yielding varieties. In this context the lacking access to credit is a major constraint for most of the farmers.

Ghana Cocoa Board reforms have led to a hybrid system whereby despite all exports being controlled by the state, there are now about 25 private companies buying the crops from the farmer. Farm gate prices are fixed by the Government.

The hybrid system seems to be overall appreciated by the supply chain actors:

- The state, which maintains a monopoly on all exports makes a substantially higher return from taxation than other countries;
- The buying companies, who compete for the purchase of higher volumes of the export crop on non-price terms throughout the cocoa belt areas;
- The farmers, who are guaranteed a minimum floor price regardless of their geographical location.

The limits of the system are that it is not favoring long term investment and that the farmers, lacking access to financial services, do not have the resources to engage the renovation of their cocoa plantations.

### 3. Financial Sector Context

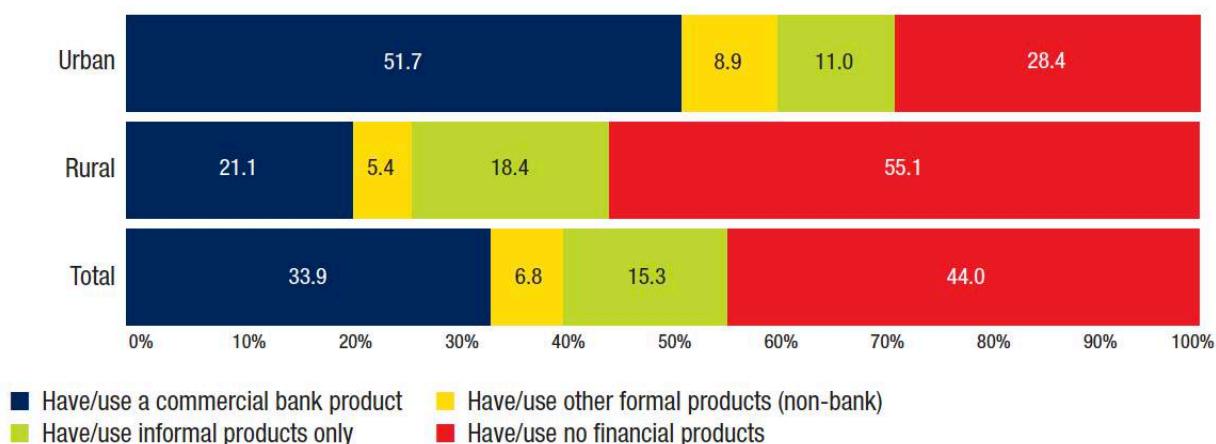
Probably more than any other country in sub-Saharan Africa, Ghana has an enabling environment for inclusive financial services, authorizing a broad range of institutions and services. This has led to a vivid network of microfinance institutions, focusing to a large extend on urban areas.

With a strong backing from the authorities the market has evolved positively during the last decade. The last available data (2014)<sup>1</sup> show that 27% of the adult population have access to savings and 11% have access to lending. These overall positive figures hide that progress made is largely concentrated in urban areas. For the 2/3 of the population that is living in rural areas progress has been less significant. The Finscope study<sup>2</sup> based on field data of 2010 shows that only one out of 4 rural adults has access to formal financial services whatsoever:

<sup>1</sup> <http://datatopics.worldbank.org/financialinclusion/> ; <http://data.worldbank.org/indicator/IQ.CPA.FINS.XQ>

<sup>2</sup> Finscope Ghana 2010, <https://www.finmark.org.za/finscope-ghana-2010-2/>





**Fig. 2: Financial inclusion in Ghana**

Almost no institution is reaching out significantly to cocoa farmers, a low-income segment of several million people.

Main reasons for almost complete exclusion of cocoa farmers from formal financial services are high transaction costs in remote areas and small ticket sizes in savings and credit. For insurance services the inclusion level is even far lower. The “Landscape of Microinsurance Report 2015”<sup>3</sup> indicates an overall premium volume of less than USD 5 million and payouts for claims of less than USD 1 million for the entire country in 2014. Still only a minor part of these payouts has gone to rural areas. While being exposed to a wide range of forms of vulnerability, rural Ghanaians have almost no access to formal insurance. The financial inclusion challenge of access to good quality financial services for the rural majority of the Ghanaian population remains.

#### 4. Stakeholder Context

While Ghana is the second largest cocoa exporter worldwide and cocoa is the first export product of Ghana, cocoa producing farmers are one of the poorest and most vulnerable population groups. The SCBF funded project associated a group of institutions motivated to improve farmers lives through better and more stable income. One of the preconditions for the modernization of the cocoa production and the improvement of livelihoods is access to appropriate financial services and the objective of this project was to develop an approach able to overcome existing obstacles for more inclusive financial services.

The project associated:

- **Allianz SE** is the largest insurance company worldwide and at the same time the most important private investor. Allianz was associated to this venture through its “Emerging Consumers” team that is developing innovative approaches for financial services. Furthermore, **Allianz Ghana Ltd**, the local subsidiary of Allianz Group, is interested in the development of microinsurance and is participating as risk taker for micro insurance.
- **Swiss Microfinance Holding SA (SMH)** participated with its experience and know how in the development of financial services for rural areas. SMH does not exclude to invest in a second step in upcoming initiatives.

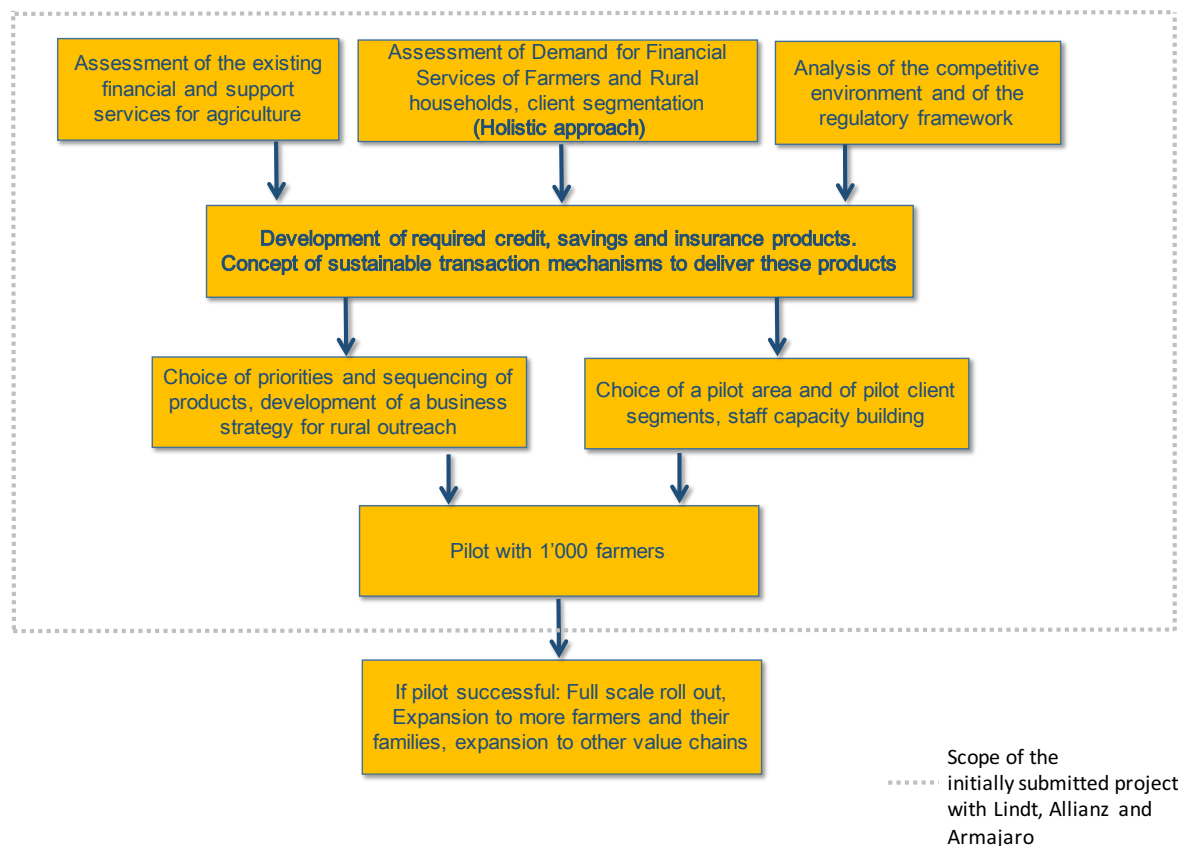
<sup>3</sup> Landscape of Microinsurance Report 2015, [https://www.microfinancegateway.org/sites/default/files/publication\\_files/the\\_landscape\\_of\\_microinsurance\\_in\\_ghana\\_2015\\_0.pdf](https://www.microfinancegateway.org/sites/default/files/publication_files/the_landscape_of_microinsurance_in_ghana_2015_0.pdf)

- **Lindt & Sprüngli AG** is an important Swiss premium chocolate producer with a strong commitment for responsible sourcing. As premium producer the company is particularly interested in sourcing from Ghana, a country known as high quality cocoa producer. In an environment in which cocoa becomes a rare resource, Chocolat Lindt is seeking to develop a long term partnership with Ghanaian farmers.
- **Armajaro Ghana Ltd** is one of the largest buyers of Ghanaian cocoa beans, trading around 80,000 tons of cocoa produced by Ghanaian farmers each year. The company implements sustainability programs and community initiatives with thousands of smallholder farmers. Armajaro Ghana Ltd is a subsidiary of Ecom Agroindustrial Corp. Ltd, a commodity trader based in Pully, Switzerland.

These initial partners have later been joined by

- **Barry Callebaut AG**, a company based in Zurich, Switzerland, is the most important chocolate producer worldwide. Barry Callebaut has recently bought a Ghanaian cocoa sourcing firm, **Nyankopa Ltd.** and is also very active in the cocoa business in neighboring Côte d'Ivoire. The company is investing heavily in its own sustainable sourcing concept and sees this project as a solution provider for crucially needed financial services that are a pre-condition, enabling farmers to modernize their farms and to increase income.

Overall the mapping of the project has been initially:

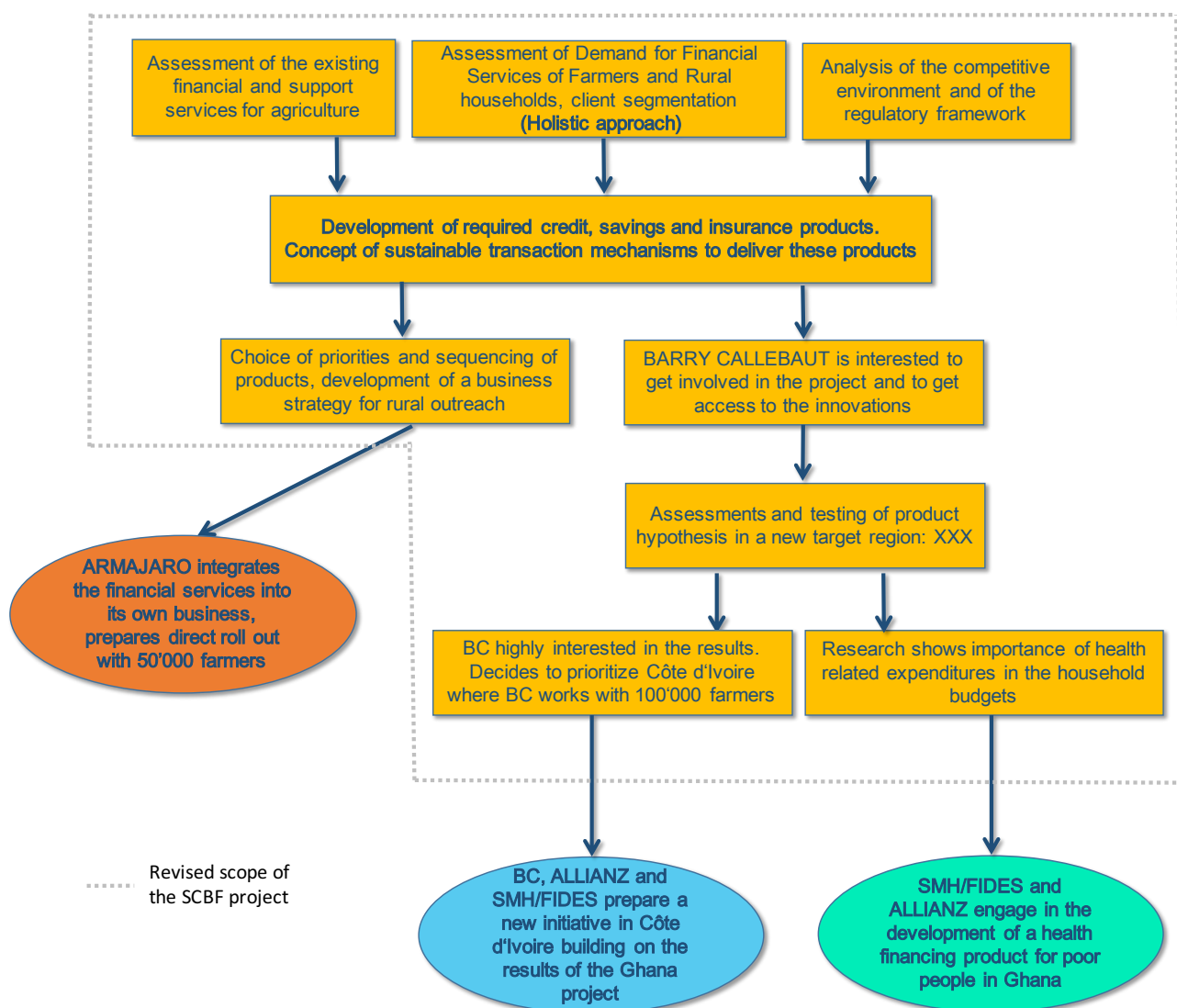


**Fig.3: Project concept**

As detailed later in this report, the initial setup has been modified. Given the results of the research documenting the strong demand for financial services for cocoa growers, Armajaro has chosen to develop its own financial services based on the project and to offer them to a large number of farmers directly and without passing through a pilot phase. At the same time other chocolate producers started to be interested in the project. Barry Callebaut and its Ghanaian subsidiary Nyankopa joined the project and asked for the validation of its research findings to the Eastern region in which Nyankopa works with a large number of farmers. This second phase of research had two outcomes:

Barry Callebaut understood the importance of financial services and suggested to its partners to transfer the findings to Côte d'Ivoire, a country with strategic importance for the company, through the creation of a new cocoa grower financing initiative there. Ghana would then follow in a second step, when the structures of Nyankopa would be consolidated (the company has been entirely restructured recently by the new owner BC).

Thus the overall setup has moved to the following:



**Fig.4: Revised project concept**

One of the results of the research in the Eastern Region was a much better understanding of the health care related expenditures in rural families. As a result, the development of a health financing tool for poor people has been started by Allianz and SMH/FIDES as a separate initiative.

The rationale behind these evolutions will be detailed in the following chapters of this report.

## 5. The Holistic Outgrower Finance Model

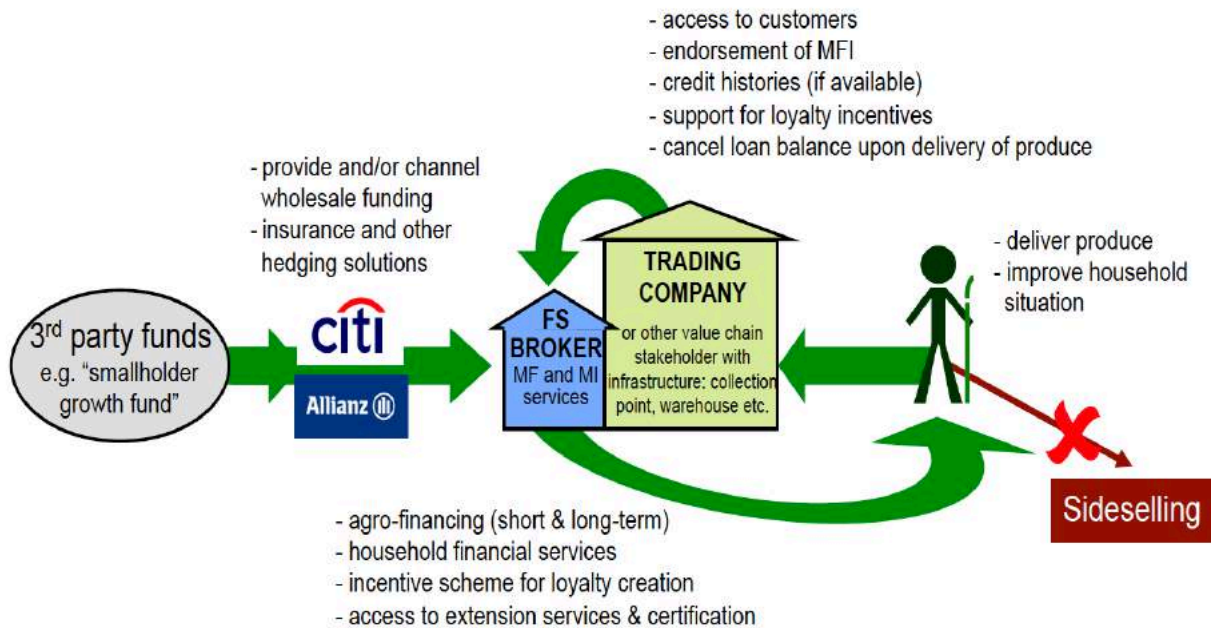
The key innovation of the **Holistic Outgrower Finance Model**<sup>4</sup> is to address smallholders' financial and risk management needs in a more holistic way by going beyond traditional value-chain-financing and offering smallholders a range of customized financial services that stabilize and improve their overall income while taking into account their longer term strategies.

The Holistic Outgrower Finance Model seeks the for-profit provision of a broad range of responsible and value-adding financial services to communities of smallholder farmers who are tightly integrated into the distribution or supply chain of a central agricultural unit, e.g. a major input provider, a commodity trader, or a supply chain manager. This central Sponsor is used as the entry point for access to the so-called outgrower farmer communities. Financing of input and production is therefore often one of the key services on offer. However, holistic outgrower financing goes beyond pure value chain financing. It aims to cover all agricultural and non-agricultural financial needs of smallholder farmers, their families, communities and associations. By strengthening their access to financial services, the sponsor is set to benefit as well, e.g. through increased demand for inputs, increased productivity of farmers, better quality of outputs and higher sponsor loyalty. Generally, the closer the cooperation or even symbiosis between Sponsor and Financial Service provider is, the higher the chances for success. In a nutshell, the holistic outgrower model targets to align interests in a longer term strategy:

1. The farmer and his family can engage in a sustainable asset building strategy, decreasing vulnerability and strengthening income while increasing production
2. The sourcing firm is stabilizing its supply and can build necessary extension and supply services
3. The financial service partner(s) use the trading company as a multiplier, allowing to reach a large number of clients and to overcome the cost barrier in rural areas.

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<sup>4</sup> The holistic outgrower finance model has been developed by a working group of Allianz, Citi Bank and FIDES.



**Fig.5: Principles of the institutional settings of a possible holistic outgrower finance approach**

First discussions between Allianz, SMH/FIDES, Armajaro and Lindt had led to the common decision to explore on the ground in Ghana the feasibility of sustainable financial services for cocoa farmers involved with Armajaro and Lindt in the framework of a Holistic Outgrower Finance Model. The basis has been a term sheet agreed between the parties and describing the content of the study and co-funding by SCBF. The objective has been to assess the overall feasibility and to define the most important products and delivery mechanisms for financial services. The approach is intended to be rolled out at a scale that is relevant for development in terms of outreach and resources provided (100,000 farmers from which Lindt is sourcing cocoa).

The intention is to build a business strategy on the results of the field study providing key elements in terms of volumes, risks, costs and technologies required. This study is focusing on the demand side first:

1. It includes an in-depth understanding of the economic and social strategies the outgrowers develop;
2. It takes in account at the same time the production and the household.
3. It completes the economic analysis of the present situation by an assessment of the longer-term dynamics (evolution in the past and projects for the futures) through appropriate tools.

### III. The starting point of the methodology: Understanding the client needs

The approach is seeking to conceive products and delivery mechanisms based on a sound understanding of the situation of the farmers including short-term challenges and longer-term strategies.

The analytical approach is not limited to production. It is considering at the same time the household (first level decision making and consumption unit and the farming system (production unit). The case of the

Ghanaian cocoa growers shows in an impressive way how these two entities are interlinked, how decisions on production level are pre-determined by household<sup>5</sup> strategies.

The information gathered includes the following elements:

Household composition and organization:

Household composition and organization analysis	
Internal	External
<ul style="list-style-type: none"> <li>• Members</li> <li>• Roles/Responsibilities</li> <li>• Rules/Organization</li> <li>• Objectives</li> </ul>	<ul style="list-style-type: none"> <li>• Relationships</li> <li>• Responsibilities</li> <li>• Organizations</li> </ul>

Household economy:

Economic analysis focusing on how the households make their living. This living is made from the assets they have and the generating incomes' activities they undertake. As households are not just part of a value chain, they pursue global objectives out of their farms. Often there is competition between production and household related expenditures.

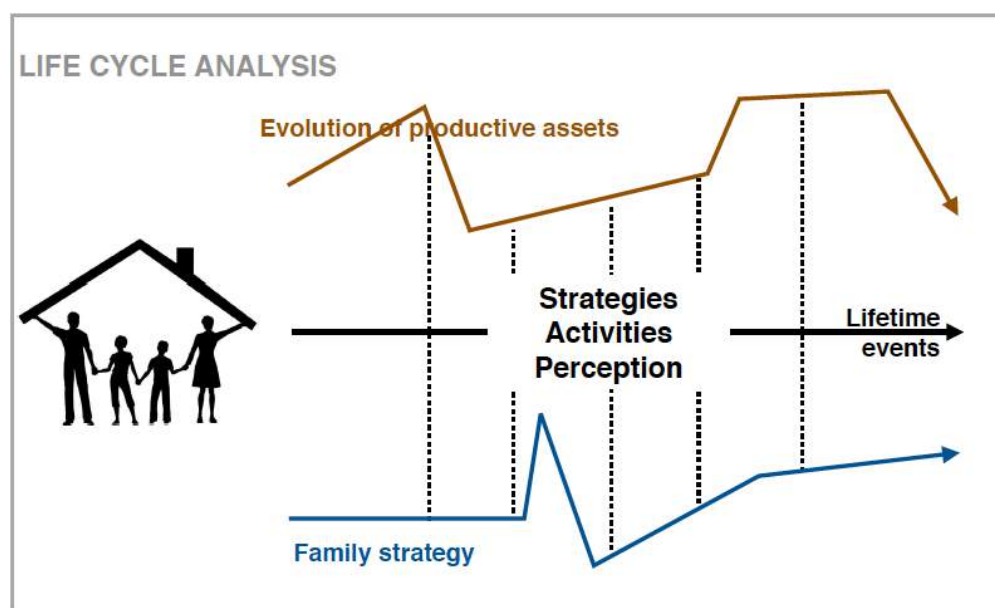
A cash flow management analysis completes the household analysis situating all events (incomes and expenses) in a calendar.

Economic analysis of the household		
Assets/Activities —> Incomes	Financial practices	Objectives —> Investments
<u>Assets</u> <u>Lands, machines, houses, ...</u>  <u>Monetary activities</u> <u>Activity System (on-farm, non-farm, off-farm)</u>  <u>Non-monetary activities</u> <u>Exchanges, gifts</u>	<u>Individual/Groups</u>  <u>Formal/Informal</u> Banks, IMF Family, friends  <u>Services used</u> Credit, savings, insurance  <u>Destination</u> Activities, Household, events expected or unexpected	<u>Origin</u> Activities/Investments Household (food, clothes, transport, health, social events...)  <u>Frequency</u> Expected/Non-expected  <u>Priorities</u>

<sup>5</sup> We are considering as a household here the group of family members eating from the same « pot », means in the given African context in general an enlarged family. Cost of the « pot » can be defined as well as contributions of family members. The cash flow is combining income and expenditure items related to production and to family investment/consumption. One person, the head of the household, manages main expenditure decisions.

Economic analysis of the household	
<----- Cash flow management (calendar) ----->	

This analytical “photography” of the situation of a farming family is completed by a lifecycle approach under which for a selected number of farms the longer-term evolution is analyzed. The “life story” is collected by a number of structured discussions with the family and enables to understand the past including the strategies to build the present assets, the key events in life and the forms of vulnerability to which the farm has been exposed. In a second step the social and economic objectives are discussed in order to understand what the farmer wants to achieve in terms of development of his farm and his household.



**Fig.2: Life cycle analysis as tool for identifying long term strategies and key elements of vulnerability**

The analysis of the economy of a number of families, combining production and household related challenges, leads to a more precise understanding how these farmers handle their money and the subsequent demand for financial services. The findings are discussed in focus groups in order to crosscheck relevance of detected phenomena and processes.

In a second step the in-depth case studies are related to the general farmer database<sup>6</sup> in order to extrapolate findings to a larger group.

During an intensive field work the main methodological tools have thus been:

- Semi-structured interviews, using a guideline, are conducted to members of the household and to the outgrower scheme stakeholders;
- Focus group discussions are organized to obtain and validate results;

<sup>6</sup> Lindt has the objective to achieve full traceability of cocoa sourcing up to farm level until 2017. The sourcing database including the identification of the farmers can be completed by additional information and used for the provision of financial services.



- A life story giving a voice to people, enabling them talk easily about their past and their future, allowing to understand their strategies beyond surface.

## IV. Results from the field

Research results can be resumed as follows:

### 1. Farming systems are combining cocoa production with food production

Almost all categories of farmers combine cocoa production with a variety of food crops (bananas, maize.,).

Whereas cocoa serves as a source of cash income, food crops are mainly cultivated for self-consumption. Depending on the wealth of the family food is also sold in order to finance unforeseen events or current expenditures.

### 2. Households are highly cocoa dependents

Cocoa is the main activity for almost all households interviewed. Whereas cocoa generates the lowest per day income of all crops, it represents in average 70 to 80% of the total households' cash income. Cocoa is the crop grown for cash. On the other hand, food crops are planted in the intercropping phase of cocoa plantations. When cocoa trees are young, food crops grow that are covering the soil are also reflecting a risk management strategy. These food crops are mainly used for self-consumption. Even if labor remuneration is better for food crops production, households prefer to produce also cocoa because it has a well-structured value chain. Households are sure to be paid in cash per bag delivered.

This cocoa dependency has as a consequence an important cash flow management challenge, since payment is seasonal twice a year. Almost no cash income is generated during the other seasons.

### 3. Child education as the key objective

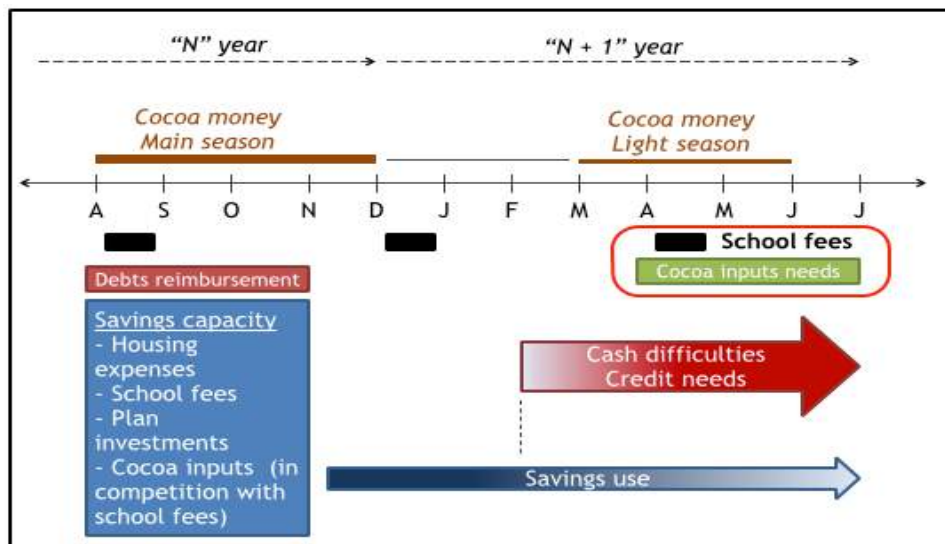
Almost all households expressed high motivation to send their children to school as far as they can reach the highest education levels. Education is an economically rational solution to get out of poverty. Seen with the farmers' eyes the future of cocoa production is very uncertain: land is scarce, soils have been depleted and fertility has not been maintained, plantations are old, input prices are high, etc. Education as core social objective represents in average 2/3 of the households' total monetary expenditures. In case of arbitrage between production related expenditures like fertilizer and education related expenditures in most of the cases scarce financial resources are allocated in priority to education. The number of children and the reached level of education determine the schooling expenditures. This strategy to invest almost any money available in school education is economically rational. It is probably the most accessible way out of poverty for these farmers.

### 4. Cash flow management as a key difficulty

- Cocoa income is in general the major part of the cash income and concentrated on a few months per year. Households generate income during the two cocoa seasons. The main season (September to January) accounts for about 90% of the cocoa incomes and the light season (April to June) for about 10%.
- Managing the income of the main season is going to be strategically crucial for the households' living conditions during the whole year, especially when cocoa is the only source of cash (households with

high cocoa dependency). Outside the cocoa season households spend for housing (food, clothes, etc.), schooling (first and second term) and some input expenditures (pesticides). The period after cocoa payment are the wealthy months when households eat better quality food, spending until 3 times more for food consumption than during the other months of the year.

- The capacity of the household to save and to retain money from being spent is a key element in income management. The inaccessibility of formal savings mechanisms for most of the farmers is one of the key constraints identified in this context.
- Households start using their savings in order to cover their main expenditures after January. Unfortunately, these savings don't cover the needs of the whole year. Depending on the level of wealth and the need to cover unforeseen events households start to struggle after 2 to 5 months (worst to best cases) paying for education, production and household expenditures.
- During the most difficult months (from June to August), farmers have to pay school fees and cocoa inputs (fertilizer + pesticides) at the same time. This competition forces households to choose between these two important needs. In all cases, they choose according to their main objectives, being education the most common case. However, households will try at least to buy pesticides rather than fertilizer because they are less expensive and at the same time crucial against the pests that could destroy the entire future yield, whereas fertilizer has only a production increasing effect.
- In absence of formal savings opportunities and of access to credit farmers have difficulties to finance production inputs and household expenditures at the same time. Households go for credits with relatives/friends, PCs<sup>7</sup>, and/or moneylenders. These debts are normally paid back with the first harvests during the main season, in September and October. In the case of credits with moneylenders (generally for 3 to 4 months, with 100% interests, or 1% per day) they risk losing their cocoa plots if they fail to pay back. Farmers are paying considerable costs for not having money at the right moment.



**Fig.6: Cash flow constraints over the year**

<sup>7</sup> PC = Purchasing Clerk. This is the correspondent of the cocoa trader in the village. In general PSs are more influential and wealthier farmers. They often have a moneylender function that they combine with the cocoa sourcing activity and their own production. In many cases PCs are working for several sourcing companies.

## 5. Vulnerability: impact of lifetime events as overwhelming element

Almost any type of farming household can fall back into extreme poverty following a lifetime event (accident, death, illness...). The immediate impact is in general that children have to leave school and that critical input for cocoa production (pesticides, fertilizer, hired labor) cannot be afforded any more. By this mechanism events on family level impact directly the cocoa production.

A high percentage of these lifetime events leads to borrowing from moneylenders with the cocoa plantation as collateral. Often the credit cannot be paid back in due time. In this case the cocoa plantation is lost. In some villages visited during the study more than 70% of the farmers had lost their plantation already. Over-indebtedness is a largely underestimated problem in the region.

The described mechanisms are to a large extent valid for all cocoa farmers. However, their impact on the day-to-day farm management and on the longer-term asset building strategies is different, depending on the level of wealth and the type of farming household. Factors of differentiation have been identified and allow describing farm types with different constraints and demand for financial services.

All types of farmers have also in common considerable expenditures for healthcare. These expenditures are related to the mentioned lifetime events, but also to often occurring minor events, like diarrhea of children or malaria. In their sum these treatments require a considerable amount of expenditures, situated in average between 10 and 20% of the overall spending. These expenditures are difficult to manage since they vary strongly from one year to another and require sometimes mobilizing considerable amounts of money. The most important reason for health care expenditures are infectious diseases and, above all, malaria.

## 6. Typology: a lifecycle of situations

The assets, the objectives and the strategies in terms of financial practices allow elaborating a dynamic typology. The different types identified have been defined according to the following elements that we assessed as key differentiation factors:

- Household head age (young, middle, and old age);
- Assets: cocoa plantation (land ownership status, land size, and plantation age); and
- Schooling expenditures, particularly Senior High School (SHS)/University expenditures, being these expenses the main differentiation criteria among the types.

These three elements are the main determinants of financial practices of cocoa growers: accumulation of savings (informal/formal), methods to manage cash flow, shock absorption capacity in case of unforeseen major events, use of loans and source of financing (relatives, friends, PC, moneylenders). Based on the combination of these criteria main types of farms could be defined.

This typology is reflecting the present situation of households assessed in the framework of this research. Additional life cycle research allowed us to understand how this typology can evolve over time, how one type can evolve towards another one. Indeed, life stories show three main periods of households' life based on assets evolution and household head age:

1. **Young age (>30 years old):** At this age the labor force is stronger than the capacity to buy cocoa plantations. At the same time family expenditures are still low. Sharecropping arrangements (abusa<sup>8</sup> or abunu contract) are set up to start as a cocoa farmer (care-taker). During this time, households invest labor force and money to a large extent on their cocoa plantations. In most cases children are not yet attending school and household costs are low. Farmers concentrate on asset building, in general in form of cocoa plantations. Share cropping arrangements are often the first step towards full ownership through investment, cash expenditures outside farming being still limited. Heritage is another way to start as cocoa farmer. Those who started as owners, inheriting from their parents, don't share the cocoa production and have the possibility to accumulate assets at a higher speed.
2. **Middle age (30-60 years old):** after years as care-takers, successful cocoa farmers have become owners. They have entered into an accumulation process of land and capital. However, education expenditures increase faster than cocoa incomes (especially when children go to SHS or University). Depending on the level of assets previously accumulated farmers are more or less armed for the education challenge. Education becomes at this period of their life the most important objective to achieve and the most important expenditure item.
3. **Old age (>60 years old):** At this period, cocoa farmers are not strong enough to keep on working on the field. They decide to give their land to young care-takers who are looking for plots to work while sharing the cocoa production with the owners. Education expenditures are lower than before. However, these older farmers often keep on financing education of their grand children or the youngest child that is still studying.

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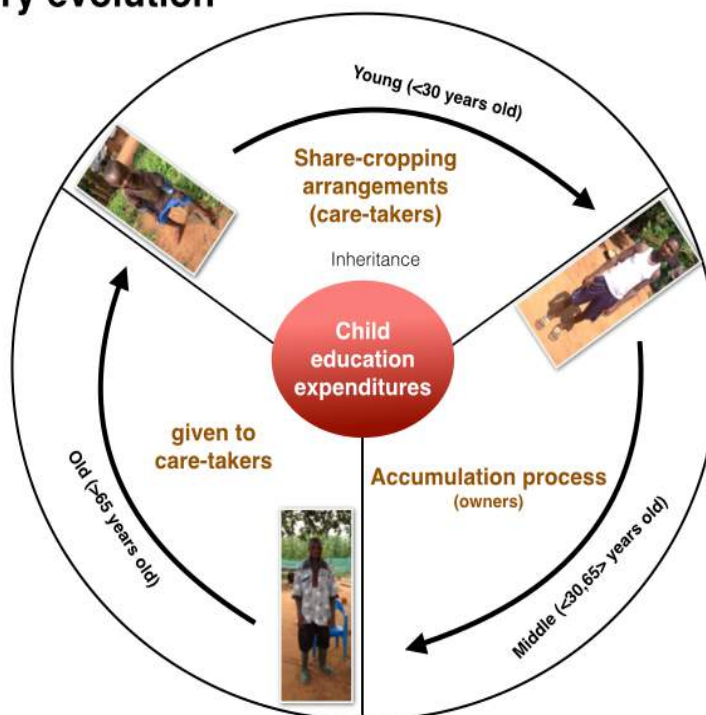
<sup>8</sup> These contracts are to a large extent labor – land exchanges between generations.

Abusa: During the early years of plot establishment or replanting the tenant lives by selling the food crops he planted among the cocoa as shade crops. During the early years of fruit bearing he is allowed to keep all the cocoa harvested. However, when the cocoa comes into full bearing, the abusa land tenant is allowed to take one third of the cocoa plantation as his own land, the rest going to the landowner.

Abunu: a landowner cedes a plot of land to a farmer who clears it and creates a plantation. When this plantation starts producing, the production is shared equally between the landowner (assignor) and the farmer (taker). The latter also obtains a right to use the land over the long term (a period that is rarely specified but implicitly linked to the 'life' of the plantation).

This kind of arrangement is very common and allows young people and migrants without land to become cocoa growers.

## Life story evolution

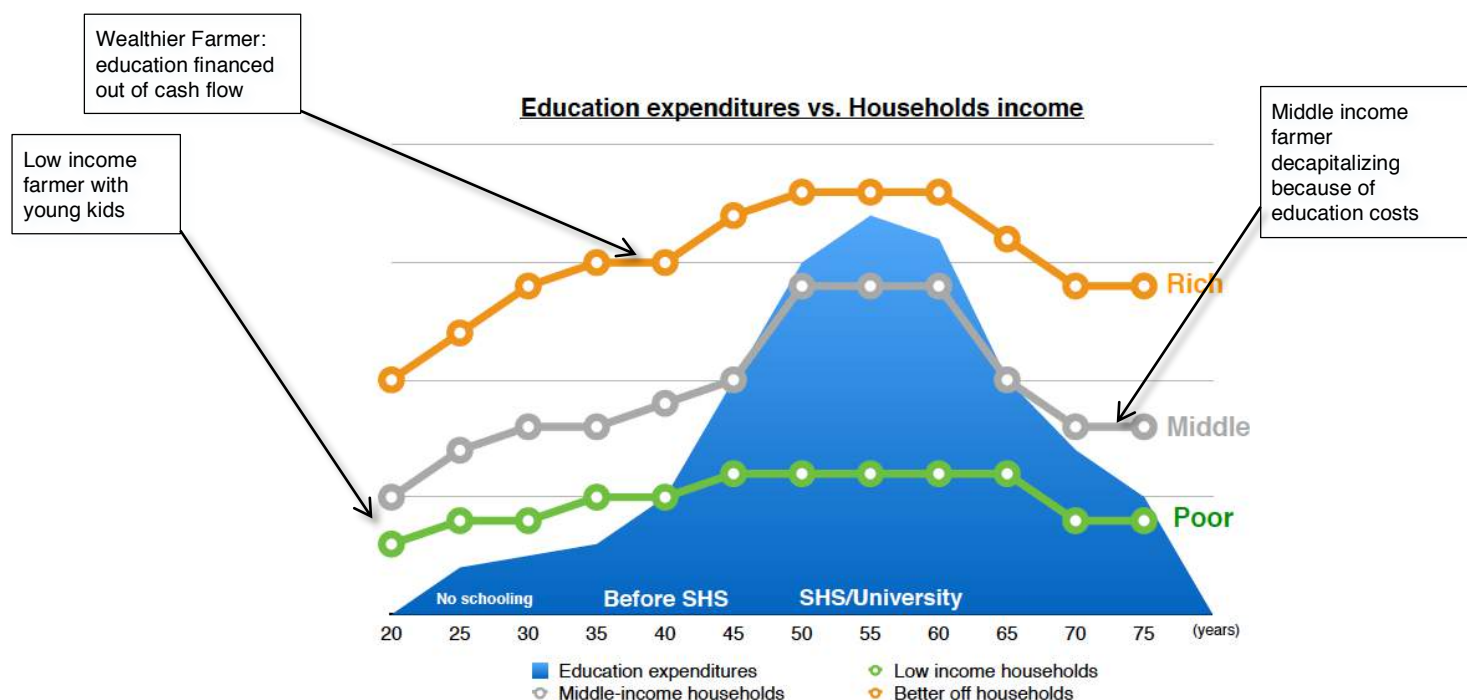


**Fig.7: Typical periods of constitution of a cocoa farm, of asset building and of disinvestment**

Farm evolution is strongly determined by children education expenditures. Depending on the level of household income, three main scenarios can be defined:

1. Poor households: They are facing relatively quickly difficulties to cover child education expenditures. Children can reach to Primary and Junior High School (JHS) making some efforts to pay fees and/or materials. However, Senior High School (SHS) level becomes a real problem. SHS expenses for 1 child are equivalent to up to 20 cocoa bags<sup>9</sup> (price for the cocoa season 2014-2015), the average cocoa production per household per year. As a result, children drop out of the system and start working with their parents. In general, 60% of total children drop out at this education level due to financial constraints, and many others have to interrupt temporarily their school attendance until the household has again the capacity to finance some education.
2. Middle income households: they can afford covering education expenditures for several children in SHS. However, they struggle in general during a part of the year and during this time they mobilize loans paying high interest rates. In most of cases, some children stop studying during some years in order to save money and come back to school once they gathered the needed amount. These households are often managed successfully, but remain highly vulnerable
3. Rich households: this minority can cover child education out of the cash flow or by selling some assets.

<sup>9</sup> Calculated on the basis of cocoa prices and education costs in 2014



**Fig.8: Education expenditures and their impact on asset building. The more farmers have accumulated before children reach school age, the less their production capacity is affected by education expenditures**

The assessment on enterprise and household level reveals in an impressive way the existence of clear lifetime strategies:

- Creation of cash income through cocoa production while food is secured by subsistence agriculture.
- Asset building phase when the family is still young and no school fees have to be paid. Entrance into cocoa for poorer people and migrants mainly through share cropping arrangements, for wealthier families mainly through donation or heritage.
- A broad social consensus for a clear objective to come out of poverty through school education. Education related expenditures are the main cash expenditure item for all categories of farmers and cocoa production the means to generate this cash.
- The capacity to implement this longer-term objective is unequal, strongly dependent from the level of cash generated and from the capacity to absorb shocks.
- In absence of formal savings and credit mechanisms cash flow management remains difficult, expensive and risky.
- Life cycle analysis show an important level of vulnerability linked to major shocks like accidents, disease and death of family members. For many households the success of the lifetime strategy remains a dream because of these shocks. The lack of coverage of these events transforms almost all farmers in bad risks for a bank.

As a consequence, two key areas appear, in which good financial services can make a difference and have an immediate economic and social impact on the cocoa producing families:

- ✓ **cash flow management through savings and credit instruments**
- ✓ **a response to the high vulnerability through appropriate insurance mechanisms.**

Field testing with focus groups and individuals showed a clear order of priority with most of the farmers: decreasing vulnerability and strengthening self reliance through appropriate insurance comes first, cash flow management second. The exposure to vulnerability is considered as potentially “life threatening”, whereas the cash flow question is perceived as key for improving farm income and having money at the right moment.

## V. Sustainable financial services identified

### 1. The basic insurance package

#### Rationale

As mentioned above, the analysis of the evolution of cocoa producing households shows that lifetime events like death of a family member are important turning points in the longer-term asset building strategies. They frequently drive the whole farming household into a debt crisis resulting in the incapacity to invest into cocoa production. To a large extent over-indebtedness and subsequent losses of productive assets are related to these lifetime events.

90% of these events have a cost lower than the annual cocoa income of the household. An insurance coverage enabling a payout equivalent to the annual cocoa income would thus tremendously reduce the impact of lifetime events. Testing of insurance product hypothesis with cocoa farmers during the study showed the high interest they have in such coverage once they have understood the concept.

The risk profiles of the cocoa farmers analyzed in the framework of this study are very broad including a variety of risks ranging from natural disasters and pest, health, theft, to traffic accident and divorce. For this reason, it would not make sense to offer specialized insurance for each of these risks. This would be much too costly and the probability that the next upcoming event is uncovered would be high. As a consequence we conclude to cover **life, accident, disability to work, and terminal illness through a formal insurance package**<sup>10</sup> and to develop a response to the wide variety of smaller and more frequent risks through savings. Savings are a low cost multi-risk insurance mechanism that gives a more cost-effective coverage for minor shocks. The challenge will be to offer an efficient savings mechanism with low transaction costs and high flexibility.

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<sup>10</sup> A more universal instrument for coverage of current health expenditures has also had its starting point under this SCBF project especially through the assessment of health expenditures. It is now treated separately under a new project.



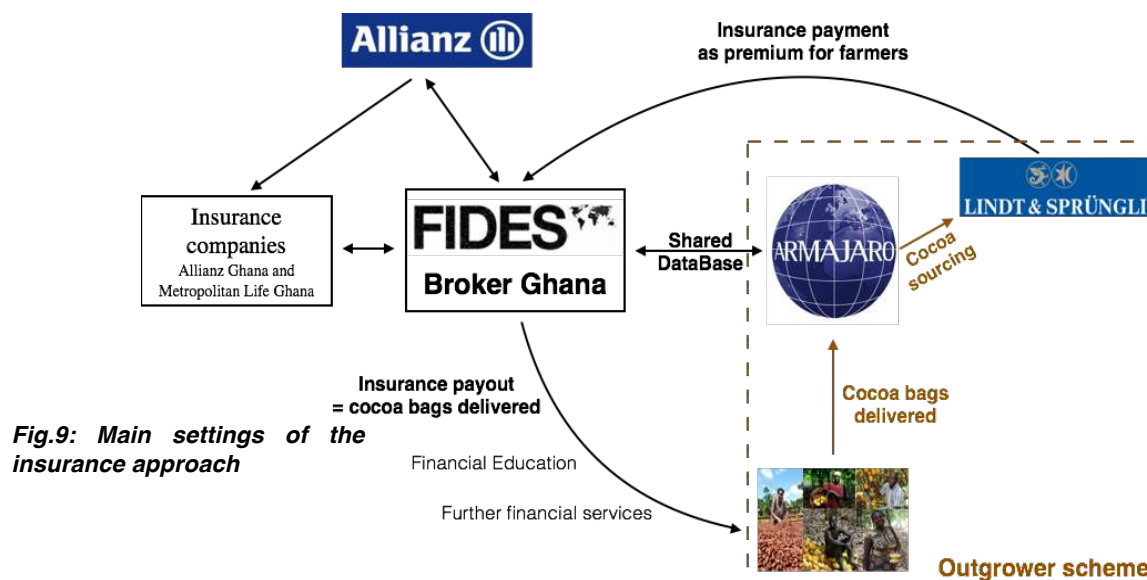
## Delivery mechanism for the basic insurance package

The objective is to provide a high quality insurance package at the lowest cost possible to all households of cocoa farmers that are selling their cocoa to a given sourcing firm, no matter to which type they belong. This avoids adverse selection and enables reaching a critical size quickly.

This objective, to create the capacity to grow and to reach out to a large number of cocoa farmers, led under this project to rethink completely the delivery mechanism and the association of institutions.

Key elements of the new delivery mechanism are:

- There is no separate new distribution channel with brick and mortar branches envisaged. To a large extend existing structures are used, they are rather completed and improved than replaced.
- The distribution of in insurance is closely tied to the cocoa sourcing channel and relies to a large extend on the sourcing infrastructure.
- With each bag of cocoa delivered the client gets coverage equivalent to the value of bags for one year. Bigger producers thus get a higher coverage than smaller ones. Insurance per household is initially limited to 50 bags in order to avoid that in a society bags are registered on the name of the most vulnerable members in order to maximize payout. The farmer attaches to each bag a bar code that identifies him as the supplier. This code is used for traceability purposes as well as for insurance.
- The link with the cocoa production in terms of ticket size and insured households enables avoiding the creation of a complete selling structure. The insurance distribution could rely on the database of the cocoa buying company (ARMAJARO or NYANKOPA here). The database would require overhaul integrating additional information in order to become a shared database<sup>11</sup>.



**Fig.9: Main settings of the insurance approach**

- At enrollment in the system the farmer signs a framework contract and he gets a free current account with a microfinance institution that he can

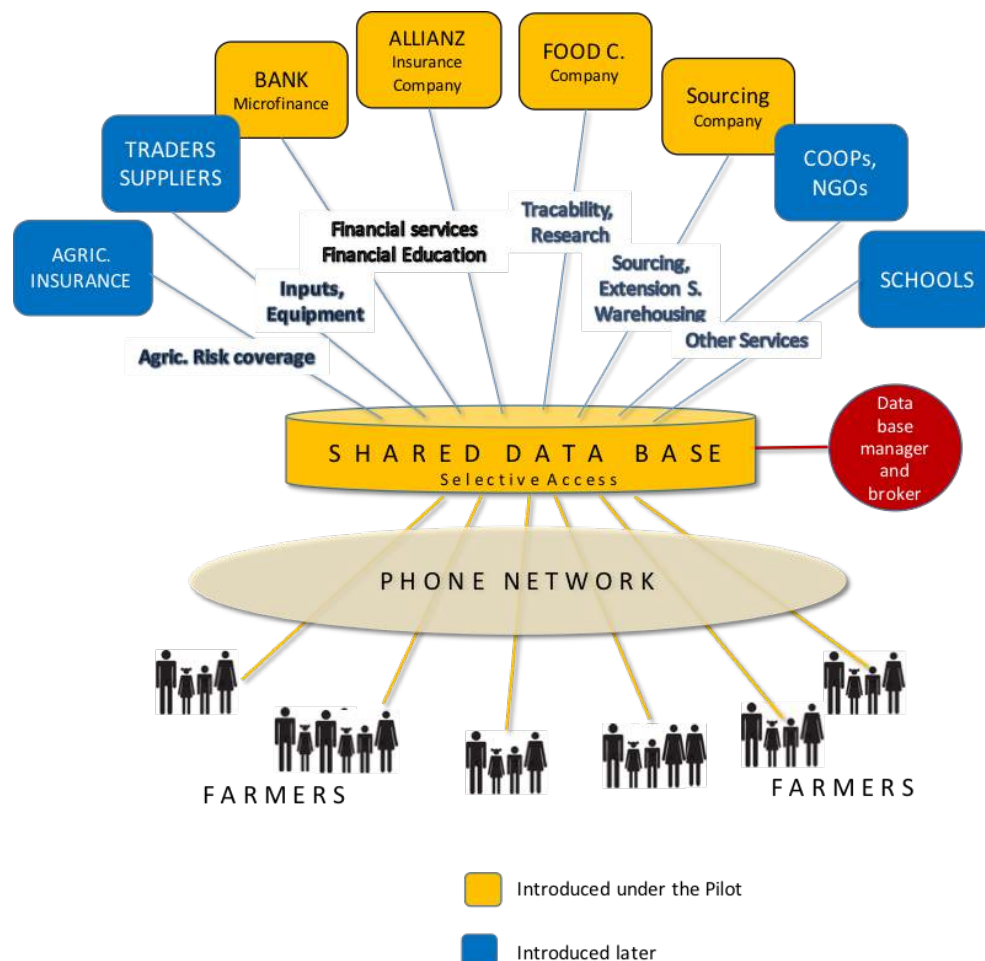
<sup>11</sup> The use of the Armajaro cocoa database in the framework of financial services would require important adjustments that have been analyzed. Up to now traceability up to the PC is insured, to the individual farmer only partially. Furthermore, the introduction of a biometric identification tool for the clients of financial services and beneficiaries of claims is a key feature to be introduced.

operate with his mobile phone. Through his mobile phone the farmer will then be able to check his insurance coverage, his level of savings and operate payments. This will be another step of financial inclusion and enable a first level of cash flow management and savings.

The underlying structural idea is to further develop the sourcing database that in any case needs to be overhauled in order to comply with new requirements of traceability and security. Like in the Amazon business model, the sourcing company is improving its own performance with a better IT-tool, and is offering access to the database to other service providers in the sense of a market place. Those external agents can provide services that improve cocoa production like extension services, input supply, machinery services, insurance, credit, etc., or also other commercial services that would use the database against remuneration. Any payments related to those services go through mobile accounts provided by financial institutions and mobile phone companies. The immediate benefit for the sourcing company is twofold:

- It is expected that the new services offer will largely increase the loyalty of the farmers to the sourcing firm.
- The sourcing firm can shift from cash payment to mobile payment for its sourcing activity. This is a considerable gain of productivity and security.

The following graphic resumes the setup:



**Fig. 10: Organizational setup of the delivery mechanism**

The database can either be run by the sourcing company itself or can be outsourced. In the scheme it is outsources to the insurance broker that would use its MIS capacity and experience. The expansion can be progressive, with an initial priority for improved sourcing and basic insurance coverage of the farmers.

### Product costs: partner negotiations

SMH/FIDES declared its readiness to participate in the creation of a specialized insurance broking company in order to underline with its investment the feasibility of the developed approach, and invited the other stakeholders to consider participation. The Broker enters in contract with ARMAJARO as a key partner for providing inclusive financial services to those farmers, from which the company is buying cocoa and with whom it wishes to enter into a long-term relationship. Lindt&Sprüngli intends to finance the insurance coverage as part of its program.

The final risk takers are the insurance companies Allianz Ghana and Metropolitan Life Ghana. A group contract defines information flows, procedures and decision-making processes between the client, the broker, and the insurance companies. It complies with current regulations in Ghana and international best practices in micro-insurance in order to keep costs on a reasonable level while fulfilling high standards of security and transparency.

The two insurers participating in the initiative, Allianz and Metropolitan, have offered an insurance package at a cost of 1.9% p.a. of the insured amount.

Based on 2016 cocoa prices the overall volumes and amounts insured could be the following:

Weight of cocoa sourced (tons)	Item	Cocoa price	Insurance Premium 1.9%
0.064	1 bag of 64 kgs	USD 122.50	USD 2.33
0.670	assumed average production per farmer	USD 1'282.38	USD 24.37
1.000	Cost per ton	USD 1'914.00	USD 36.37
3.200	50 bags, max. insured amount	USD 6'124.80	USD 116.37
6'700.000	Production of 10 000 farmers (year 1)	USD 12'823'800.00	USD 243'652.20
30'000.000	Production of 45000 farmers	USD 57'420'000.00	USD 1'090'980.00

## **Table 2: Cost of insurance coverage**

An insurance coverage of nearly 1'300 USD for an average farmer in case of loss of a life or a severe accident is very substantial in the given environment and will avoid the pledging of farm land with moneylenders in most of these cases.

On the other hand, the calculation shows that already the coverage of a limited number of farmers, 45'000 is the the group from which a small sourcing company buys its cocoa) provides a substantial level of premium per year and allows to develop a limited, but sustainable broker function

Since the beginning, Lindt&Sprüngli has been considering the possibility to pay this insurance package as a premium for its farmers (2.33USD per bag). This creates an insurance coverage in an amount of USD 1'282 for an average farmer. This pricing is very competitive. If a farmer would like to buy such coverage in the market he would probably not be able to access it in rural areas and in towns he would have to pay a much higher price.

While farmers will be able decrease their vulnerability by access to insurance and cash flow management tools, it is expected that the sourcing company will benefit from considerable indirect economic benefits: lower drop out rates of farmers, less side-selling, higher productivity of the farms through the capacity to finance inputs, better quality of product, additional sale of inputs.

## **Strategy to enter the market**

Starting with a pilot group of 10 000 farmers allows to streamline procedures for client incorporation, financial education and claim settlement during year 1. In a second step this first pilot operation allows rapidly to measure the effect of the insurance program on improving farmer retention. A robust Cost-Benefit-Analysis can be constructed from these pilot findings. Partners will follow up together the operations in order to analyze the workflow and in order to agree on further improvements of the setup.

During the first year the initial product is the insurance package. To all insurance clients a low cost current account is offered as soon as underlying arrangements with mobile phone providers are made. A financial education program is implemented on a permanent basis (initial training for new clients and regular refresher courses for existing clients). This opens up the opportunity to propose further financial services as savings and credits. Then progressively a set of savings and credit products can be introduced in year 2, covering the main demand segments and offered through an associated microfinance institution.

## **Term sheet for the basic insurance package for cocoa farmers**

A detailed term sheet has been elaborated, discussed and agreed upon with the two participating insurance companies. The following key items are extracted from the term sheet:

<b>1</b>	<b>Participation</b>	Membership is open and restricted to persons who are Cocoa Producers who have sold at least one bag of cocoa to a Cocoa buying Company, and are 18 years and older but not older than 64 years at entry. The insured will not be required to go for an HIV testing before cover is accepted. Therefore, a claim will not be dishonored on the grounds that the
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		claimant was HIV positive on the date of claim.
<b>2</b>	<b>Scheme structure</b>	<p>The scheme works on a group insurance basis with 2 insurance companies, Allianz and Metropolitan. The Cocoa buying Company will be the Master Policy Holder.</p> <p>With each delivery, a cocoa producer will be given a bundled policy under the two master policies mentioned above. Therefore, a cocoa producer may have multiple bundled policies equivalent to the number of deliveries that the producer has made to the Cocoa buying Company. This means the sum to be assured per one farmer will be between the price of one bag of cocoa and a maximum of the price of 50 bags of cocoa.</p>
<b>3</b>	<b>Broker</b>	Both insurers will appoint a broker to administer the scheme and to serve as the single contact point for the Cocoa buying Company and the insured persons.
<b>4</b>	<b>Term of policy</b>	The producer policy term is one year (starting from the commencement of cover)
<b>5</b>	<b>Covers</b>	<p>1 Death (natural cause)</p> <p>2 Permanent total disabilities (natural cause) - accelerated death benefit</p> <p>3 Terminal illness - accelerated death benefit</p> <p>4 Accidental Death</p> <p>5 Medical costs (from bodily injury following an accident)</p> <p>6 Accidental Disability</p>
<b>6</b>	<b>Commence-ment of cover</b>	<p>Cover will commence on the next day after a cocoa bag has been delivered, registered (bar coded and scanned) and the delivery has been paid for by the buying company and the payment of the commensurate premium. An SMS will be sent to the cocoa producer to confirm commencement of cover. A cover will run for a year.</p> <p>There is no waiting period</p>
<b>7</b>	<b>Insured persons</b>	Cocoa producer and 1 additional person as indicated on registration. Against additional premium payment other family members might be insured
<b>8</b>	<b>Payment of benefits</b>	<p>1 On the first death (natural or accidental) of a Cocoa producer or the additional person insured; or</p> <p>2 On the first disability (natural or accidental) of any one of the two insured lives; or</p> <p>3 On the first terminal illness claim from either of the two insured or</p> <p>4 On the first medical cost claim.</p> <p>Only one benefit will be paid per policy.</p>
<b>9</b>	<b>Amount of Benefit (Sum Assured)</b>	<p>Value of the cocoa bags delivered up to a maximum of the value of 50 bags at the price per bag determined by the Government of Ghana.</p> <p>The cocoa producer will be able to inquire his current sum assured at any time via SMS/USSD.</p>
<b>10</b>	<b>Premium</b>	1.9% of the insured amount for Member + 1 dependent

## Other financial products 1: next generation savings, starting in year 2

After the launch of insurance and free savings accounts, the next priority will be cash flow management in order to facilitate input finance for cocoa production. Each farmer can choose to set aside on his savings account a part of the cocoa payment. This savings effort would be completed by an overdraft. The level of the overdraft would be determined by the level of savings, the number of bags of cocoa delivered during the precedent 3 years and the existing credit history. A behavior based score calculated from these elements would enable a rating of clients and a payout without major on-farm due diligence procedures. The overdraft can be used for input supply in farm shops or be transformed into cash in order to pay school fees or other expenditures.

Well-structured savings and credit programs can benefit from the experience of SMH/FIDES in building microfinance banks. They can be prepared in year 1 in terms of institutional set up, staff training and establishment of systems. They would then be rolled out massively in year 2.

Savings and credit services and the related delivery mechanisms will be subject to a separate concept note.

## Other financial products 2: A tool for managing health care costs

Cocoa growing families spend important amounts of money for health care of family members. Especially in the second phase of the research in the Eastern areas these costs have been analyzed. About 18% of the income of these families is needed for basic health cover, with strong variations from one family to another and from one year to another. Nearly 80% of the costs are caused by infectious diseases.

Whereas health care costs are considerable and often not affordable, it appears that only a minority could pay on a regular basis the cost of an insurance cover. Based on this finding the team has started to



develop and to test the hypothesis of a voluntary health care savings and credit product in order to enable the poorer part of the population to access quality health care when needed. This approach is now subject to a specific project and demand assessment of other client segments has started. Allianz is also partner of this venture.

## Implementation of the approach

Initially it was foreseen that the approach would first be tested under a pilot with 5'000 cocoa farmers, associating FIDES, Allianz, Armajaro and Chocolat Lindt, the initial partners of the venture. This has not materialized as planned.

Armajaro has analyzed in detail the results of the research conducted under this project that showed that financial services are crucially needed and can be viable when choosing the right approach. Given the proposed technical link with the sourcing database, Armajaro has analyzed that the provision of financial services to cocoa farmers could become a business line for itself. As a consequence, the company has decided to build its own financial services team and to implement the insurance product immediately on a larger scale. As a first step Armajaro has requested insurance coverage from Allianz Ghana for 50'000 cocoa farmers. Upon request of Allianz, FIDES has given its green light to the new initiative that will create much bigger outreach than initially foreseen.

Barry Callebaut and its sourcing company Nyancopa have joined the initiative as a new Swiss industry partner to the venture. Barry Callebaut also wants to implement financial services with Allianz and SMH/FIDES based on the result of the common study phase on the ground. For strategic reasons Barry

**SMH/FIDES and ALLIANZ engage in the development of a health financing product for poor people in Ghana**

Callebaut intends to start in Ivory Coast and initiate financial services in Ghana in a second step. In Ivory coast Barry Callebaut is sourcing cocoa from more than 100'000 farmers and intends still to double its activity during the next years. Other arguments for a start in Ivory Coast first are:

- the company runs an ambitious extension program in this country and sees financial services as an element that will ease implementation of many improvements in the

cocoa farms.

- Barry Callebaut has already a partnership with a savings and credit institution in Ivory Coast and sees the here developed insurance services as a complement.
- An expansion to Ghana is programmed in a second step.

As already mentioned the findings of this feasibility on health care provision to cocoa farmers, health care costs and cost coverage are now integrated in a new project on building a specific account on phone for health care cost, associating savings, credit, insurance and medical literacy. It associates Allianz, SMH/FIDES and Vodaphone. The project is still in an early stage, but initial results are very promising.

As a last development UNILEVER and its sourcing firm OLAM have requested to investigate on the demand for financial services in the cocoa value chain in Ghana. This ongoing research shows that cashew growers have the similar bottlenecks in their development and that the exclusion from financial services is here also a major constraint for creating income and for decreasing vulnerability. An extension of the model envisaged for cocoa growers can be envisaged.

## VI. Conclusion

In a financial inclusion logic, the project targets developing financial services for cocoa farmers in Ghana.

**BC, ALLIANZ and SMH/FIDES prepare a new initiative in Côte d'Ivoire building on the results of the Ghana project**

This group of 1 million farmers is producing the Nr. 1 export good in a country that is the second largest supplier of cocoa worldwide. At the same time cocoa farmers are poor and vulnerable, child labor and over indebtedness are frequent. Cocoa farmers are largely excluded from formal financial services, small amounts and high transaction costs prevent classical finance institutions to reach out significantly to cocoa growing areas, whereas financial

services are necessary in order to develop production and to renew the cocoa plantations.

This project, co-funded by SCBF, associates chocolate producers, sourcing firms, the insurer Allianz and SMH. As a starting point it has put a strong focus on the economic activities of the cocoa producing households and the demand for financial services they are expressing. Several months of field research associating economists and staff of the sourcing firms have been invested on understanding the cocoa farmers and the economic strategies they are developing. Key results were:



- The majority of the cocoa farmers operates an exist strategy for the next generation. They do not want their children to become cocoa farmers. They are investing heavily in school education, school related expenses being often the first expenditure item of the family. The interest of cocoa growing, even if it is not well remunerated, is that it provides the necessary cash.
- In their demand for financial services the farmers have clear priorities. Before thinking about increasing production and cash flow management the farmers want to decrease the vulnerability of their family. Cash flow management comes second, in absence of accessible savings services it is very difficult to manage all production and consumption expenditures out of a single or two payments for cocoa during the year.
- Vulnerability has concrete economic consequences: Lifetime events like death of family members, accidents... are an important threat and when they occur the farm needs 8 to 12 years to recover. Kids have to be taken out of school. Building on this demand pattern the project has elaborated a very competitive basic insurance package covering with substantial amounts severe lifetime events. The participating chocolate firms are ready to finance the insurance premium as a farmer premium on the cocoa price.

As a key innovation the project has developed an approach to overcome the transaction cost challenge when operating the last mile to village level. Rather than to create an entire new infrastructure, the infrastructure for cocoa sourcing is used and adjusted. The cocoa sourcing database is further developed so that it can also deal with third party financial transactions. Similar to the Amazon model a lead actor who needs for his own business the infrastructure, runs a solid database tracking the activities with the final customer, and opens it up in a market place logic.

The setup is completed through a cashless approach, the existing mobile money transaction mechanism are used to pay services and goods.

The different services complete each other. Financial services and input supply through the database enable farmers to apply extension advice, the existence of a mobile money channel to all farmers enables cashless payment for cocoa. Most important, the offer of valuable services increases the farmers' loyalty. In an environment with Government fixed cocoa prices loyalty of supplying farmers is a central and expensive issue for sourcing companies.

After the most important financial service, the basic insurance package, the project has also finalized access to savings and to an overdraft facility in order to better manage cash flow,

Financing health care related expenditures, that is an important headache for a minority of the cocoa growers, is now addressed by a new project in cooperation with Allianz and Vodaphone targeting to develop a specific instrument for that purpose.

The project has evolved quite differently from the program that was initially planned. After the development of the key innovations the validation under a pilot with Armajaro and Lindt was foreseen. After the research and design phase that showed strong evidence that the proposed solutions would be bought massively by the cocoa growers and that those services could solve the loyalty problem, Armajaro decided to skip the pilot phase and to go immediately for full scale expansion. Considering financial services as a new field of business for Armajaro Ghana, adding additional profit to sourcing and supply activities, Armajaro decided not to open up its database to third parties, but to create its own financial services team. A first roll out of the designed insurance package to 50'000 cocoa growers will be covered by Allianz. SMH/FIDES has given its green light to this without any royalties, considering that the achievements under a SCBF funded project should have a public good character.

SMH has used the remaining resources of the project to validate the approach in Eastern Ghana with Barry Callebaut, having two persons on the ground in the cocoa growing areas during several months. In Eastern Ghana the cocoa production is older and the soils are even more degraded. While overarching

elements are the same, the general economic level of the families is even lower and health issues are more important. The work with Barry Callebaut has largely confirmed the pertinence of the insurance led financial services approach.

Given the much more important sourcing activity in that country, Barry Callebaut has favored the roll out of the approach in Ivory Coast. This country has strategic importance for Barry Callebaut, the company targets to work with up to 300'000 farmers in 2020. This does not exclude Ghana, one reason to put Ghana in second position was that Nyancopa has been bought recently by Barry Callebaut and is in a process of restructuring. The initiative in Ivory Coast is now subject to a specific project co-funded by SCBF.

The health care cost findings with cocoa growers have meanwhile been deepened and the research has been expanded to other vulnerable population segments. Allianz and Vodaphone have taken up that issue and engage together with SMH/FIDES in the development of a specific financial instrument.

Overall the project has rather overachieved than underachieved initial expectations, even if the evolving partner relations have made it longer than initially foreseen. The developed products and delivery mechanisms will finally be rolled out to a much larger number of cocoa growers than planned. New partners have joined and the strategic alliance with Barry Callebaut, the biggest chocolate producer worldwide will accelerate the process. An expansion to other value chains can also be envisaged. A first step is done in Ghana with UNILEVER through an assessment of the cashew value chain.

## VII. Attachment: Life stories of Ghanaian cocoa farmers



*“Preparing tomorrow under today’s constraints”*

LIFESTORIES  
of  
COCOA PRODUCING HOUSEHOLDS  
in  
WESTERN GHANA



## INTRODUCTION

These life stories are extracted from a SCBF funded study on financial services for cocoa producers and their families in Ghana, conducted with farmers producing for Armajaro and Lindt. They tell us how households have evolved, helping us to understand their strategies. The life story is a strong tool giving a voice to people, enabling them to express their view about their past and their future. This inside view is complementary to the classical micro-economic analysis conducted in parallel; both together enable an in-depth understanding of strategies and constraints, make us understand strength and limits of coping mechanisms when farmers face adverse situations, allowing us to identify financial services that can really make a difference.

The main conclusion of this study on financial services for cocoa farmers were:

- i. Almost all cocoa farmers are excluded from formal financial services and this is an important constraint, not only for their business, but also for their long-term asset building strategies.
- ii. The major part of the cocoa income is invested in education expenditures. Investing in school education appears as the most accessible and the most rational way out of poverty. Financing school costs is the most important motivation for cocoa production.
- iii. The overarching phenomenon is high vulnerability. Lifetime events like severe illness, accidents and death of a family member make families fall back into poverty and oblige to withdraw children from school. Lifetime events are also the key driver for over indebtedness of cocoa farmers. Many of them are losing their cocoa plantations to moneylenders.
- v. In absence of access to formal financial services farmers have difficulties to manage their cash flow from cocoa income. They pay a very high price for services from moneylenders and often they lack resources for farm inputs and school fees. This has a strong and direct impact on farm productivity.
- vi. The first priority of farmers is clearly the reduction of vulnerability, cash flow management and investment in productive assets comes second.
- vii. As a consequence insurance and appropriate forms of savings are the first priority in the demand of these farmers; credit is appropriate for those of the farmers who have an already more consolidated economy. Many farmers are well aware that they are in a too fragile situation to absorb credit.
- viii. The report proposes a strategy how to conceive the provision of the most needed services with high quality but with reasonable costs by associating existing insurance and banking institutions and by using modern technologies. It concludes that these services, if appropriately designed, can be provided on a sustainable basis.

## **STORY 1: John KANGA (25 years old) — A young care-taker starting from scratch**

Coming from Togo, he arrived alone to Ghana pursuing a better life, one with more opportunities. Now, his household is composed of his wife (24 years old), his 4 years-old daughter currently studying in a private kindergarten, and his 2 years-old son not schooling yet.

At this stage of his life, he is into an investment/accumulation perspective. After years of hard work, he reached to arrange two different share-cropping contracts as a care-taker; a 12 acres plot in abunu<sup>1</sup> and a 4 acres one in abusa<sup>2</sup>. To complement the household's incomes, he and his wife sell their labor force working in others people's plot. The size of his household and its low expenditures give him the opportunity to save some money. He can therefore invest or set new activities searching to diversify his incomes; his wife has recently set a peaty trade food business. He is aware of his children's future and wouldn't like to have financial constraints as his parents when he was young. His children must go to the school reaching the highest education levels in order to have a better life, better than his, out of the cocoa plantation.

In 2009, he had to stop studying because of financial problems. He decided then to come to Ghana to find a job. As a migrant, he struggled to find a share-cropping contract in Kwasi Addeikrom, Western Region. Fortunately, a widow proposed him a 0, 5 acres abusa contract. However, this little plot didn't produce enough

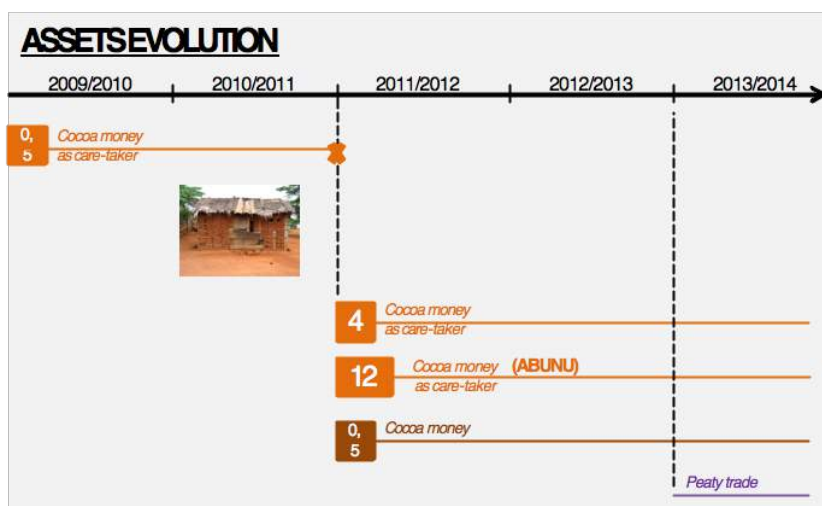


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<sup>1</sup> Share-cropping contract under which an owner gives to a care-taker a virgin plot to plant for him. They share 1:1 the expenditures and the incomes. To set the contract, the care-taker has to pay an amount of money to the owner. At the end of the contract, when the plot is fully producing, the land is split into two. The care-taker becomes then the owner of the half of the plot.

<sup>2</sup> Share-cropping contract under which an owner gives to a care-taker a plot producing already cocoa to work for him. The owner pays then all the plot's expenditures and gives 1/3 of the production to the care-taker as a payment.

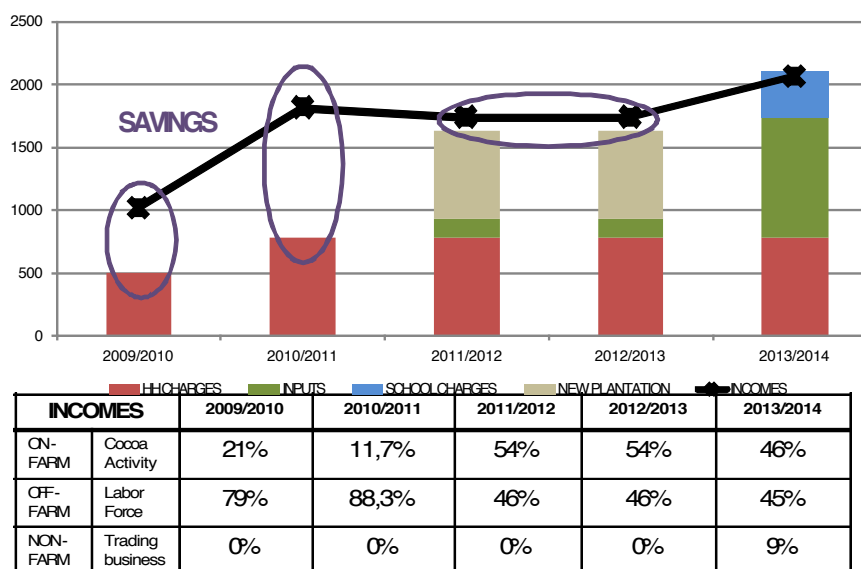
cocoa to get by and he needed to sell his labor force. A year later, he got married and bought a house with his first savings. The familial labor force was not absorbed in the 0,5 acres plot. His wife had to sell as well her labor force. The incomes increased and allowed them to save enough money to set up an abunu contract of 12 acres in 2011 leaving the small and no profitable abusa contract. The first years of the abunu plot demanded a lot of investments which were hopefully covered by the incomes generated from a new 4 acres abusa contract and some cocoa produced from the abunu contract (0,5 out of the 12 acres).



During the high investments years, the labor force sell kept contributing important incomes to the household. From his little savings (2011-2013), his wife could set a petty trade food business. In 2014, he suffered an accident not being able to make the weeding on his plot. He had then to hire some people increasing his cocoa plantation expenditures. The same year, his 4 years-old daughter started schooling in a private kindergarten. The expenditures were then higher and difficult to cover. However, food

crops were produced and helped feeding the household even if cash was missing.

#### HOUSEHOLD'S INCOMES AND EXPENDITURES (GHS)

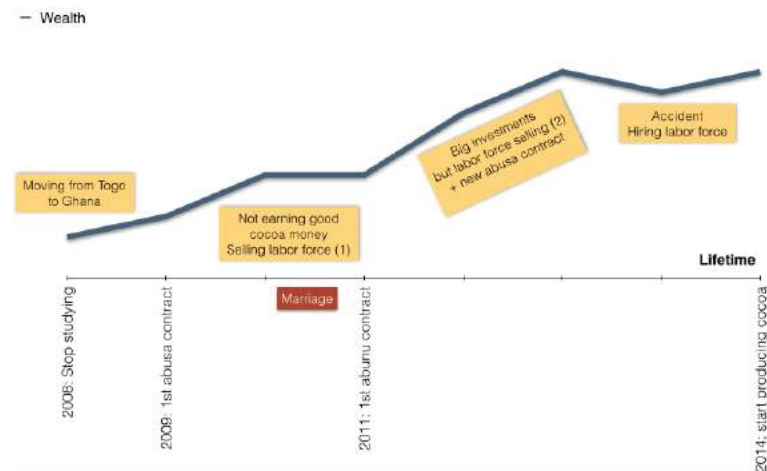


In the near future, the cocoa production will start, increasing the household's incomes. At the end of the abunu contract, after 6 or 7 years, he will become the owner of 6 acres. His wife's business wife might have grown diversifying his incomes. His children will still be young no generating big schooling expenses. However, his cocoa specialization will create a seasonal incomes generation problem. The idea of "secured incomes" (because of fixed price, market organization, etc.) can be risky due to the different challenges the cocoa production face as pests, soil fertility, productivity, climatic conditions, high inputs price, and seasonality.



In terms of financial services, a savings product (short term) could help this household to face the cocoa seasonality. Another kind of savings product (long term) can be as well proposed in order to start saving for his children's schooling expenses. A credit product can help his wife to boost his petty trade business. Because of the labor force importance, an insurance package<sup>3</sup> can be very helpful if an accident occurs.

### HOUSEHOLD'S WEALTH EVOLUTION



In conclusion, John KANGA:

- is a young care-taker with no big school expenses in a very vulnerable situation;
- has not yet secured his incomes (e.g. he is not yet the owner of his lands and doesn't produce his own cocoa);
- depends mostly on his and his wife labor force;
- doesn't have access to any financial services because he is still a care-taker with no collaterals (lands). The only person who can help him is the owner of the plot he is working on. The cocoa purchasing clerk (PC<sup>4</sup>) doesn't give him any advances or loans.

<sup>3</sup> Insurance package comprises a life, a work disability, a terminus illness, and an accident insurance. This package has been negotiated with Allianz. Even if the insurance package comprises 4 different insurances, the beneficiary can just receive one payout per year which is equivalent to the number of bags delivered.

<sup>4</sup> The purchasing clerk or PC buys cocoa to farmers at the village level. He represents one of the cocoa trade companies (e.g. ARMAJARO) to which he delivers all cocoa bags he have gathered from his village, earning a commission per bag. He is the "one" with the cocoa cash money in the village. He develops then a trade relationship with his farmers, engaging himself to pay with cash and on time for their cocoa. When farmers need cash they will ask for "loans" to the PC. In exchange, they commit themselves to sell their cocoa to him.

## **STORY 2: Erick TAWIA (50 years old) — A father facing high education expenditures**

Back to Larbikrom after many years in Accra, his household is now spatially separated. He and his second son (24 years old) live in Larbikrom, Western Region. His wife (45 years old), his 4 children (27, 17, 14, 6 years old) and his nephew (22 years old) live in Accra. The eldest is currently studying Business Studies in the Polytechnic University of Accra. He is not living anymore with his mother because he is living in the university residence. His second son works with him because he couldn't afford the university admission fees, making him stop studying for a couple of years. He plans to save enough money to send soon his son to university; he doesn't want he stays long time in the farm working with him. The third son has recently reached Senior High School 1 (SHS), his 14 years-old daughter is in Junior High 2 (JHS), and his 6 years old son is in private primary. He and his wife have different responsibilities vis-à-vis the household and schooling expenses. She looks after the two youngest children who are in primary and JHS level of education. He sends money for the household's expenses (food, clothes, etc.) and the eldest and third son's schooling expenses.

At this stage of his life, he is making a lot of efforts trying to generate incomes in all possible ways to pay his big schooling expenses. He decided to come back to Larbikrom because, for him, cocoa generates secured incomes. He inherited from his father one cocoa plot of 2 acres (1 acre currently bearing cocoa). He is also the care-taker of two other plots of 2, 5 and 3 acres. In addition, he made a food crops arrangement with a friend planting for him the cocoa trees in his intercropping phase plot as an exchange for the food crops. Due to the cocoa seasonality he asks for loans to moneylenders during the years he has to pay the admission fees. He would like all his children reach the highest education level. However there are many reaching University and Senior High



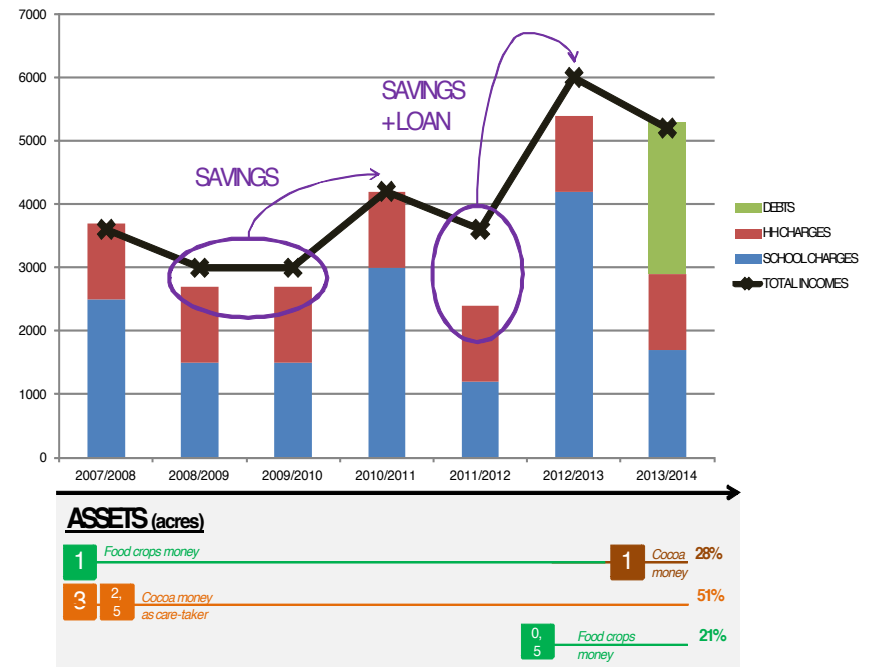
School level at the same time becoming difficult to cover all expenditures without any of them disrupts its studies for 1 or 2 years. His wife has a petty trade business in Accra.

When he was young, he was working with his father not earning his own money. After losing his first wife, he decided to go to Accra to find a job, leaving his two kids with his father. He worked there for a plumber company and got married for the second time giving birth to two children. Children grew up and the eldest one came to Accra to pursue his studies. In 2006, his father passed away and he inherited a cocoa plot in *Larbikrom*. He realized that it was a good opportunity because cocoa incomes would help him covering the increasing schooling charges.

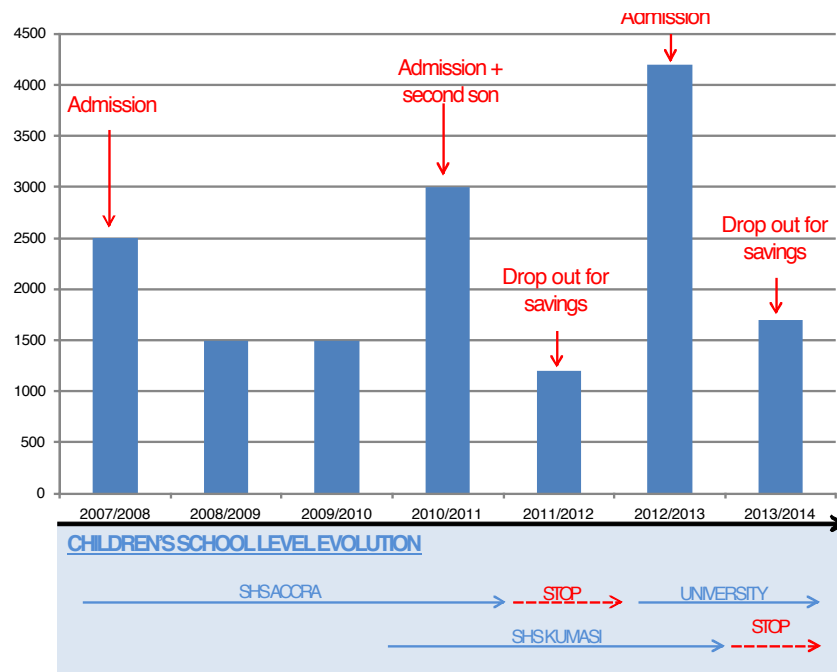
At his arrival, he planted 1 acre of the plot he inherited using his savings from his job in Accra, leaving 1 acre as virgin forest. To increase his incomes he set up two abusa contracts as a care-taker. During that time, schooling charges were increasing with his children's age and education level. The eldest started senior high level (SHS) in Accra and admission fees had to be paid. For the second and third year of SHS, schooling fees were less high because admission fees were already paid for the first year. This allowed him to save some money to pay the SHS admission fees for the second son. In 2012, the eldest son had to stop studying for one year in order to save some money to pay the university admission fees. To reach the high admission fees amount, in 2013 he had to go for a loan of 1 200 GHS with a money lender. In 2014, his second son reached the university level but couldn't pursue. He had to pay instead 100% interest (1 200 + 1 200GHS) for the loan he demanded the year before. In the near future, his other children will reach higher education level which will come with higher schooling expenses. Hopefully, his cocoa plot has recently started bearing its first cocoa beans (1 out of 2 acres). This would help him covering some of the expenditures. However, he is getting older and he needs to hire more people to work with him. This constraint will reduce his net incomes and will affect the household's

objectives. Because of his high schooling expenses, he cannot save money to invest on his 1 acre virgin forest plot. Even if he has lands, he doesn't have the capital to set a cocoa plot. He should get access to a credit to set his plot. However, in his situation a credit would be maybe used to pay his children schooling expenses. An insurance will reduce his vulnerability if he or one of his household's members suffer an accident.

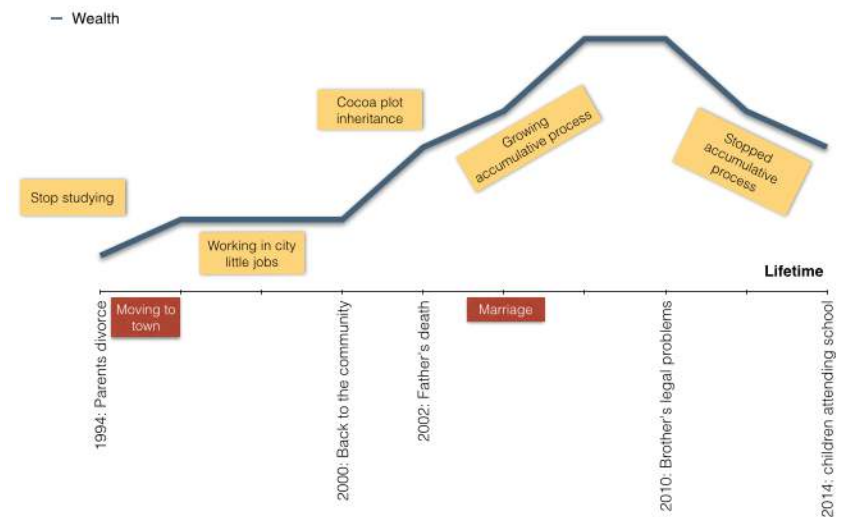
**HOUSEHOLD INCOMES AND EXPENDITURES (GHS)**



### EDUCATION EXPENDITURES EVOLUTION (GHS)



### HOUSEHOLD'S WEALTH EVOLUTION



In conclusion, Erick TAWIA:

- is a middle age small farmer (2 acres as owner) with high schooling expenses in a very vulnerable situation;
- has increased his incomes with his new cocoa production. However, his schooling expenses have increased faster than his incomes not covering them;
- often asks for loans to moneylenders in order to pay schooling expenses, risking to lose his lands given as collaterals.



### **STORY 3: Isaac FRIMPONG (31 years old) — A stopped process evolution due to familial responsibilities**

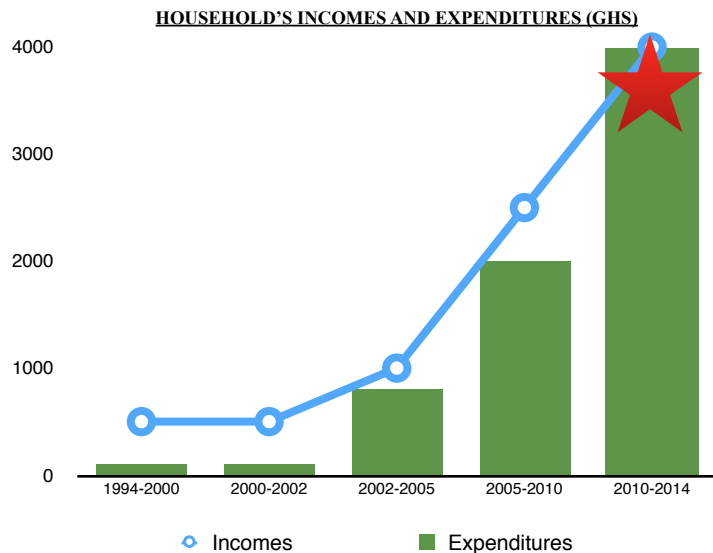
After his parents got divorced in 1994, he started getting by his own. Now, he has built a family with a 22 years-old woman in *Kwasi Addeikrom*, Western Region. They have 3 young children of 1, 3 and 7 years old. The eldest one is attending a Private Primary school in Asawinso, the nearest big town, where she lives with her grand mother.

His two cocoa plots of 1 acre each and his labor force selling have let him grow fast since he set up as a cocoa farmer. However, his growth and potential accumulation process have been stopped by a familial problem. His brother got into legal troubles in 2010 and since then he has been paying all the lawyer expenses. He cannot therefor make some savings to buy new lands or get into a sharecropping contract (*abunu*). However, he has set a food crops arrangement with a friend, planting for him the cocoa trees in his cocoa intercropping plot and getting the food crops mainly for the household's consumption. His wife started selling clothes in 2013. Her first experience was not good losing money. Now, she has learnt how this trade business works expecting to make some profits next year.

His parents' divorce put him into a difficult situation when he was 11 years old stopping his studies. Since this early age, he had worked in little jobs in Kumasi. In 2000, he came back to the village to help his father in his cocoa plantation. He earned little money making some savings. 2 years later, his father passed away and he inherited 2 virgin forest plots of 1 acre each. He used all his savings to buy a land and build a house. Due to the big investments a new cocoa plot demands, he decided to plant just 1 plot. He worked at the same time in other people's plot investing

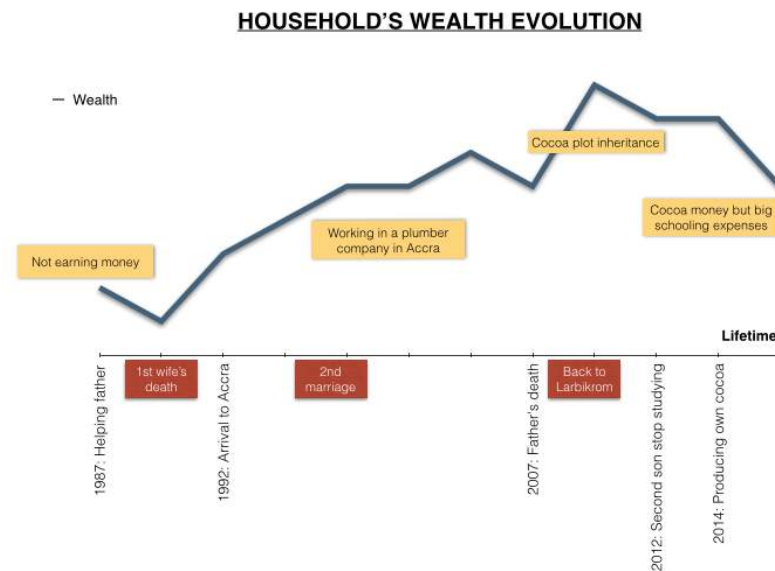


this money into his new cocoa plantation. In 2005, he got married and his cocoa plot started bearing its first cocoa beans. He decided then to plant his second plot with his wife's aid. Expenditures were increasing with the birth of his first kid but cocoa money from the first plot was enough to cover them being able to make some savings. These savings were invested on his second plot. He entered into an accumulative process looking for new lands to increase his incomes. Unfortunately, in 2010 his brother got into legal problems and he had to pay all expenditures. This unexpected event stopped his growing process. He could cover these expenditures with the cocoa money because his children's schooling expenses were not yet big. The little he could put aside was used to start a new activity. His wife started selling clothes but the first year she didn't make any profit, she even lost money because lot of people didn't pay her. Even if she had a bad experience with the clothes trading, she thinks this time will be better.



In the near future, his children's expenditures will increase with their school attendance. He will then not be able to cover both his brother's and his children's schooling expenses. As a consequence, he will probably go for loans with moneylenders getting into an indebtedness process and risking to lose his lands if he doesn't pay this money back.

As all farmers, his labor force is crucial to maintain his farm and household's life. An insurance package will cover him if something happens not risking to lose his only 2 plots. His wife's new activity must be supported in order to secure incomes generated out of the cocoa activity. These new incomes can be saved to big up the cocoa activity getting new lands.



In conclusion, Isaac FRIMPONG:

- is a young coca farmer with a small acreage (2 acres) and young children reaching the schooling age;
- has to pay his brother's expenses stopping his growing process;
- wont be able to afford his children's education and his brother's expenses at the same time in the future. He would go for loans to cover both expenses risking to lose his lands.



#### **STORY N° 4: Philip ASARE (45 years old) — A big farmer with big expenditures**

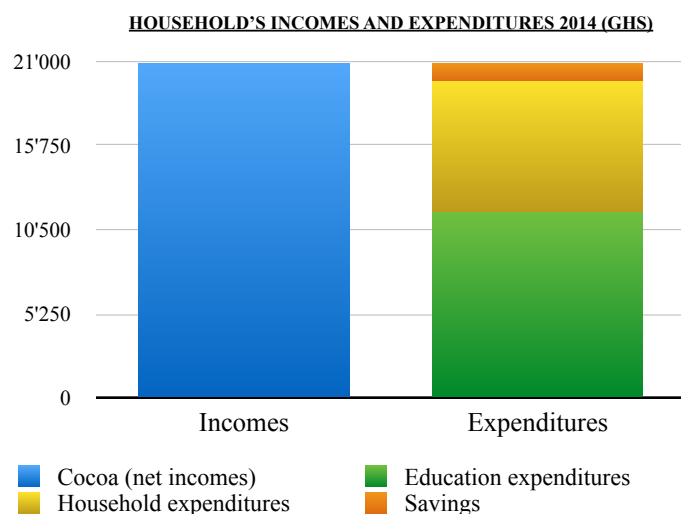
Coming from Eastern Region, as many other farmers during the 70's and 80's, he arrived to Western Region looking better job opportunities. He has now a big family with two wives, ten children, and two dependents. Each wife lives with their children in a different house, both in Larbikrom. The first wife has seven children of 23, 17, 15, 13, 10, and 8 years old. Two attend Senior High, three Junior High, and 2 Primary Private School. The second wife has three children of 10, 8, and 6 years old, attending all Primary Private School. In addition, in his first wife's house he has two dependents who attend Primary Governmental School. All his children are schooling.

As the chief farmer he is the biggest cocoa farmer of Larbikrom producing up to 150 bags per year. He has accumulated many lands which makes him a wealthy farmer. He has 3 cocoa plots. He works the 8 and 5 acres plot and gave the 6 acres plot to a care-taker. He has recently bought a 10 acres virgin forest plot where, after clearing it out, planted maize as cocoa farmers do with a new cocoa plantation. His first wife has a 4 acres plot which gave to a care-taker. She uses her cocoa money to buy clothes or little caprices to her children. He has been into an accumulative process of capital and lands in order to cover his increasing charges. His last investment, the 10 acres plot, will help him to pay his children's university fees when the moment arrives. Due to his high status, he doesn't sell his labor force being 100% cocoa dependent. He hires lot of labor force to work on his plots instead. His first wife will retake her women products trade business which had to stop when she got sick a couple of years ago.

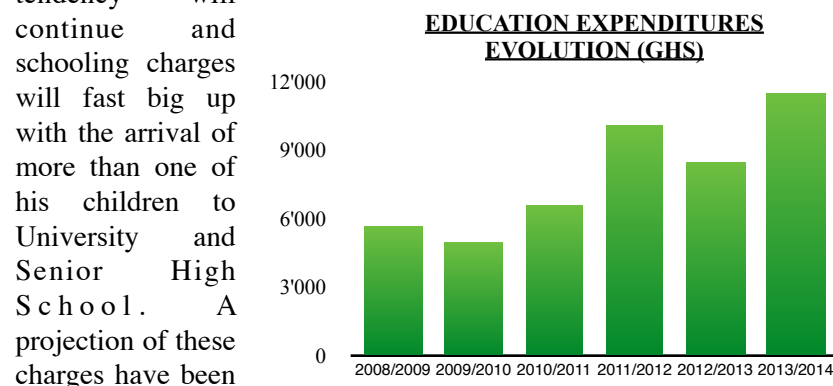
Become a chief farmer is the result of years of hard work. As many young farmers, he started in 1987 helping his father in his cocoa plantations. During that time, he got married to his first wife. 2



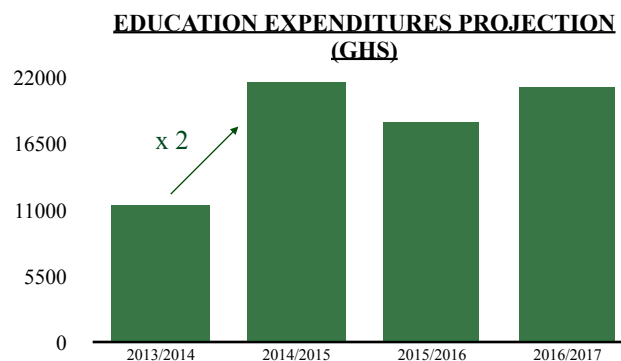
years later, his father gave him a 10 acres plot as a care-taker. From the care-taking he could save some money and rented a rice plot with his wife in 1994. The rice and cocoa selling let him make some savings. In 1997, he bought his first plot (virgin forest) of 8 acres. After 4 years of intense work he harvested his first cocoa in 2001. He left then the 10 acres care-taking plot from his father and stopped the rice production. In 1999, his wife inherited a 4 acres plot which started producing 4 years later in 2003. They earned money from their 2 cocoa plots. In 2006, his father passed away and he inherited a 6 acres cocoa plot which was already producing cocoa. 2 years later, he gave it to a care-taker. In 2010, he bought a 5 acres plot producing already cocoa. In 2009, his wife gave her plot to a care-taker and started a women products trade business. In 2011, she had to stop her business because she got terrible sick. With her savings, she could pay some of the hospital fees but her husband covered all the rest. Finally, in 2014 he bought a virgin forest plot of 10 acres. He paid the half of the price with his savings and will pay the rest the next cocoa season. The PC gave him a loan to complete the first payment for the new plot.



His 10 children and 2 dependents go all to the school. Schooling expenditures represent 55% of the household's charges in 2014. His big cocoa plantations can cover these expenditures which have increased with his children age, doubling from 2008 to 2014. This tendency will continue and schooling charges will fast big up with the arrival of more than one of his children to University and Senior High School. A projection of these charges have been made to see the impact of his children's education evolution in terms of the expenditures it represents. As expected, in 2015 with the arrival of the eldest to University and two other children to Senior High, schooling expenditures double immediately in a period of one year. Admission fees for his three children arrive at the same time demanding big amounts of money. If he keeps producing what he produced for the 2013/2014 cocoa season, schooling expenditures will represent almost 100% of his incomes. He bought a new plot to increase his incomes expecting to face his near future. However, his plot will start bearing its first cocoa beans within 3 years, in 2017. This means that even big farmers face big financial constraints due to children's education.



to increase his incomes expecting to face his near future. However, his plot will start bearing its first cocoa beans within 3 years, in 2017. This means that even big farmers face big financial constraints due to children's education.

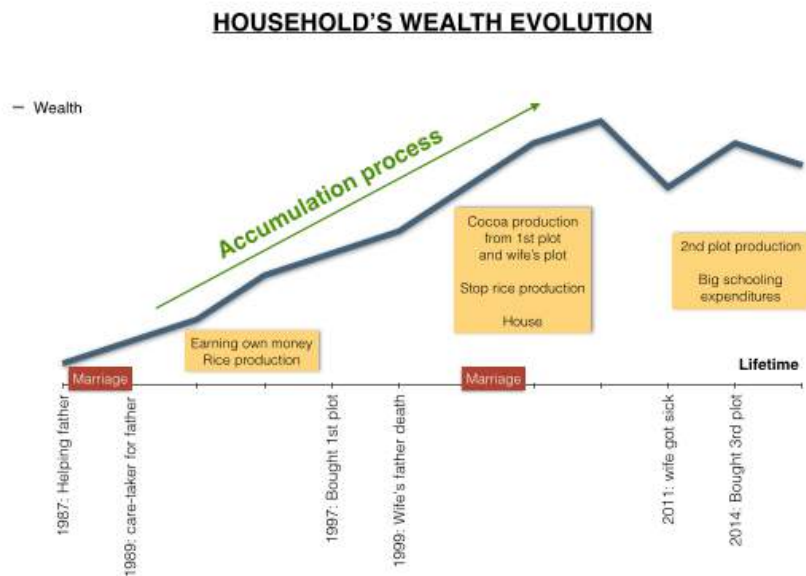


As a consequence, one or even more of his children would stop studying for a couple of years in order to save money to go back to school.

This household is almost entirely cocoa dependent. If something happens to the cocoa plantations or to the household's head big consequences would affect the household. The big investments made schooling all the children would be misused if their schooling attendance is disrupted. An insurance package, as for the other life stories, seems to be the basic financial product to be proposed to these households in order to reduce its vulnerability level.

In conclusion, Philip ASARE:

- is a big farmer with lot of lands, renting labor force to do all the correspondent activities his cocoa plots need;
- covers schooling expenditures for all his 10 children and his 2 dependents. However, this situation can change with the arrival of more than one to Senior High School or University;
- bought a new plot intending to face his near future (increasing schooling expenditures). However, the cocoa trees need more than 3 years to start bearing cocoa. There is then a gap between the cocoa plantation and the children's education level cycle.



## Conclusion

These stories extracted from a larger scale research work, provide an insight in the reality of the cocoa producing families. Household and enterprise are closely interlinked, challenges on one side lead inevitably to consequences on the other side. The overarching goal of almost all cocoa producing families is today to create a future for their children outside the cocoa farm by investing massively in child education. School and school related expenditures represent the most important expenditure item, before food and before investments and inputs in cocoa production. Out of these stories and others a general lifecycle logic is visible:

- Relative young farmers start to accumulate through sharecropping arrangements and succeed after some years to have their own cocoa plantation. This is possible since there are no or limited school expenditures, the kids are still pre-school age or in primary school that is not costly.
- When kids begin to enter secondary education the lifetime asset-building phase comes to an end and almost all investment capacity is concentrated on school expenditures. This period is in general a phase of decapitalization, depending on the level of wealth of the farmer: cocoa plantations are not renewed, insufficient quantities of fertilizer are applied and debts are accumulated. This phenomenon is accelerating when one or several of the kids enter university.
- Once the children have gone through school, the economic situation becomes again easier, farmers are older and enter themselves often in sharecropping arrangements under which the cocoa plantations are maintained with the support of external labor force.
- The overarching problem is vulnerability. Almost all lifestories include high impact of unforeseen major events like accidents and death of a family member. These unplanned major expenditures lead to indebtedness from moneylenders, and this debt dependency often leads to loss of cocoa plots. Furthermore families often have to take their kids out of school when such an event occurs. High levels of prevalence of HIV/AIDS enhance vulnerability.
- Vulnerability as an underlying principle impacting on asset building and on all activities leads to the conclusion that the introduction of appropriate insurance mechanisms through access to savings and formal insurance is a key element in order to improve at the same time living standards and cocoa production.
- The exclusion from formal financial services handicaps also the farmers in their possibilities to manage their cash flow. Incomes and expenditures do not match in the year cycle. School fees and inputs compete for the financial resources at the same period while cocoa income falls in another period. Here access to savings and current accounts would make an important difference. Credit for cash flow management and for agricultural inputs is not the first demand of the farmers and should be implemented cautiously. Only certain types of farmers can work with input credit in a meaningful way, others are already now over indebted and access to credit would not help them. Credit as an instrument will only make sense if the vulnerability problem can find a response through a combination of insurance coverage and savings. If this is not the case any adverse event occurring would make repayment of a credit very difficult and an external financial institution would always be served after the local moneylenders.

These life stories, and many others that have been collected show in an impressive way that these farmers have a clear objective, to bring the next generation of their families out of poverty through education. It appears clearly that if the required financial services are implemented alongside the cocoa value chain, a new equilibrium can be found on a higher level, with more cocoa produced and better conditions for achieving the social goals of the farmers.