

Access to Finance for Cocoa Farmers in Indonesia

*An Updated Report and first conclusions of the
Agribusiness Financing Facility (AFF) integrated in the
Sustainable Cocoa Production Program (SCPP) in Indonesia*

14 March 2016





About Swisscontact

Swisscontact was established in 1959 by representatives of the Swiss private sector and academia with the aim to promote sustainable economic, social and environmental development by supporting people to develop the skills they need to contribute to local commercial life. Presently, Swisscontact is working in 32 countries, implementing more than 100 projects.

For over fifty years, Swisscontact has found that people possessing relevant market skills are those who have the greatest capacity to succeed in, and help transform, local economies. As an organization, Swisscontact is best known for its training programs that provide rural producers, micro and small business owners, young entrepreneurs, and women, with the capacities to improve their livelihoods and incomes. Swisscontact believes that education, training, and skills development - especially in good agricultural practices in rural areas in developing countries - have the greatest potential to address issues related to food security, health and nutrition, as well as community and economic development.

Swisscontact is headquartered in Switzerland and has been engaged in Indonesia since 1972, conducting several large projects yearly with an overall volume of more than ten million USD per year. Swisscontact maintains offices in Medan, Jakarta, Sanur and Makassar.

Head Office

Hardturmstr. 123
CH-8005 Zurich
Switzerland
Phone +41-44-454-17-30
Fax +41-44-454-17-97
Email: info@swisscontact.ch
www.swisscontact.org

Country Office

THE VIDA 5th Floor 01-04
Jl. Raya Perjuangan No. 8
Kebon Jeruk, West Jakarta 11530
Indonesia
Phone +62-21-2951-0200
www.swisscontact.org/indonesia

Regional Office Sumatra

Komplek Taman Setia Budi Indah I
Jl. Chrysant Blok E No. 76
Medan 20132
Indonesia
Phone/Fax: +62-61-822-9700

Regional Office Sulawesi

Gedung Graha Pena Lantai 11,
Jl. Urip Sumoharjo, No. 20
Makassar 60234
Indonesia
Phone/Fax: +62-411-421370

About SCPP

The Sustainable Cocoa Production Program (SCPP) is a large public-private partnership in Indonesia between Swisscontact and the Swiss State Secretariat for Economic Affairs (SECO), the Sustainable Trade Initiative (IDH), the Embassy of the Kingdom of the Netherlands, the International Fund for Agricultural Development (IFAD), and the Millennium Challenge Account Indonesia (MCA-I) with current funding approved for the period from 2012 to 2020. On the national level SCPP works with the Ministry of Home Affairs, while its multinational private sector partners include Barry Callebaut, BT Cocoa, Cargill, Ecom, JB Cocoa, Mars, Mondelēz International, Nestlé, and Olam (taking over of ADM Cocoa).

By implementing effective development strategies, SCPP enhances the economic, social and environmental sustainability of cocoa production. The current Program phase is designed to improve by 2020 the well-being of 130,000 smallholder cocoa families, increase productivity, meet the demand and quality standards of the cocoa industry, as well as to increase income and support job creation in the cocoa sector in 50 districts across 12 provinces in Sumatra, Sulawesi, and Eastern Indonesia regions.

The Program has introduced a holistic approach to foster improved competitiveness of the Indonesian cocoa sector, which involves:

- (1) Farming good practices and technology transfer system;
- (2) Nutrition and gender sensitivity integration;
- (3) Farmer organization, market access and certification;
- (4) Integrated agribusiness financing;
- (5) Stakeholder management and networking platforms.
- (6) Environment protection and reduction of greenhouse gas emissions

With the adoption of the Sustainable Development Goals (SDG) in 2015, the impact of SCPP can be linked directly to those goals. 11 out of the 17 SDG are directly addressed by SCPP, contributing to improving the livelihood of smallholders, protecting the environment and reducing inequalities.

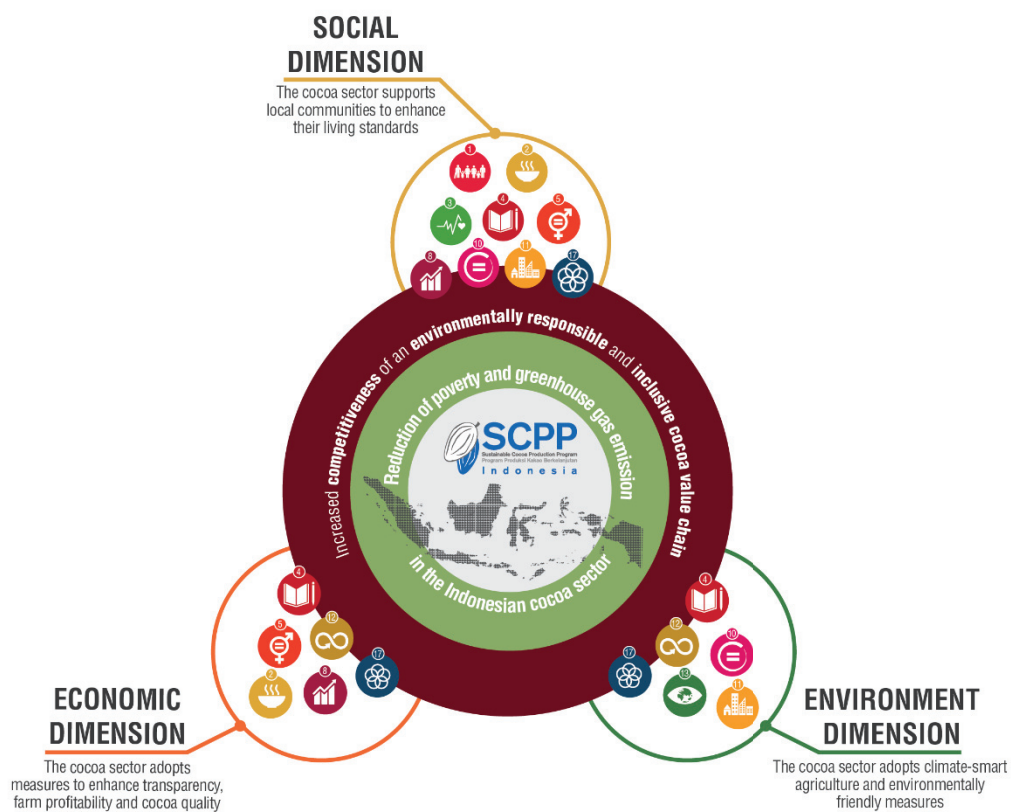


Figure 1: People, Profit, Planet: The three dimension approach of SCPP

About the Agribusiness Financing Facility

The Agribusiness Financing Facility (AFF) is a subcomponent of SCPP, co-designed and financed by SECO, with the objective to increase Access to Finance (A2F) for cocoa farmers in Indonesia. With better A2F it is expected that farmers can purchase better agri-inputs, rehabilitate their farms and buy additional land, which leads to the overall program objective of increasing the income of cocoa farmer households by 75%.

AFF expects the bankability of farmers to improve and the finance service providers' understanding of the farmers and their organizations will increase. This means that appropriate lending schemes will be developed and implemented by financial service providers and farmers and farmer organizations will



have access to both loans and savings. Furthermore, Business Development Service (BDS) providers will be enabled to provide sector-specific services to the cocoa sector. For this, effective collaboration and institutionalization is necessary at the sector level. Knowledge on sustainable, efficient and effective supply chain approaches must be developed and shared, of which the present report will address.

Outputs of AFF include strengthening structures and functions in the cocoa market, supporting institutions for cocoa development as well as strengthening national and international stakeholder exchange and learning.

This particular approach includes demand and supply side activities: Financial Literacy Training for cocoa farmers to train them about planning and record keeping, understanding of a bank's expectations and reasons for loan repayment as well as the promotion of savings, which is deemed as the most suitable tool for cocoa farmers. Accumulation of own funds reduces risks for farmers and financial institutions significantly. AFF will train financial institutions on the cocoa sector and cocoa financials to enable banks to understand the cocoa sector better and allow them to develop more appropriate, commercial products. The profit incentive will drive financial institutions to promote long-term development in the market and serve cocoa farmers as an attractive target group. Value chain finance will be elaborated and the organizational capacity of farmer organizations will be strengthened to act for the benefit of its members. Other activities facilitate sector collaboration, eases loan analyses through data and provide information about Cocoa Finance to stakeholders in Indonesia and worldwide.



Content List

About Swisscontact	1
About SCPP.....	1
About the Agribusiness Financing Facility.....	2
Content List	4
List of Figures	5
List of Tables.....	6
Introduction	7
The Starting Point.....	7
SCPP Monitoring and Result Measurement (MRM)	8
CocoaTrace - Program Management and Cocoa Value Chain Software.....	8
Cocoa Farmer Household Assessment in SCPP	9
Cocoa Farmer Demographics	10
Poverty Scorecard	12
Cocoa Farm Specifics.....	13
Categorization of Cocoa Farmers.....	14
Assessment-Based Tailor-Made Capacity Building	17
Farm Income	20
GFP Baseline Assessment.....	21
Loan Evaluations	21
Saving Behavior.....	32
Data on Bank Accounts	35
Influence factors on the Cocoa Farm Gate Price	38
Land Certificates.....	40
Additional Income to Cocoa.....	42
About Interest Rates	43
Unsubsidized Fertilizer Perception	45
Financial Information and Perception.....	46
Improved Access to Finance – Bottlenecks and Interventions	53
Market Overview	53
Barriers to Financial Inclusion for Cocoa Farmers	53
Interventions.....	53
Final remarks.....	56



List of Figures

Figure 1: People, Profit, Planet: The three dimension approach of SCPP	2
Figure 2: Access to Formal Loans and Savings	8
Figure 3: SCPP Working Area	9
Figure 4: Age Distribution of Cocoa Farmers	10
Figure 5: Farmer Education.....	10
Figure 6: GAP Participants by Gender.....	11
Figure 7: GNP Participants by Gender.....	11
Figure 8: GFP Participants by Gender	12
Figure 9: Poverty Level.....	12
Figure 10: Household size	13
Figure 11: Cocoa Farm Size Distribution	13
Figure 12: Garden Composition	14
Figure 13: Categorization of Farmers by Professionalism and Farm size	15
Figure 14: Yields and Tree of different Farmer Categories	15
Figure 15: Yield differences between best and worst farmers.....	16
Figure 16: Professional Farmers related to Education.....	19
Figure 17: Unprofessional Farmers related to Education	20
Figure 18: Provincial Distribution of Data sample	21
Figure 19: Loan Experience of Cocoa Farmers.....	21
Figure 20: Loan Experience by Professionalism	22
Figure 21: Loan Experience by Gender	22
Figure 22: Loan Experience by Age	23
Figure 23: Loan Use.....	23
Figure 24: Loan Sources for Cocoa Farmers.....	24
Figure 25: Share of Bank loans on all loans.....	25
Figure 26: Farmer Experience with Bank loans.....	25
Figure 27: Formal Loan Experience by Professionalism.....	26
Figure 28: Formal Loan Experience by Age	26
Figure 29: Percentage of all Borrowers related to Education.....	27
Figure 30: Percentage of formal Borrowers related to Education.....	27
Figure 31: Formal Loan Experience by Education	28
Figure 32: Percentage of Farmers with # of loans	28
Figure 33: Repayment of Loans before end of term.....	29
Figure 34: Disbursement Time: Banks vs. Trader.....	29
Figure 35: Collateral Need: Banks vs. Traders.....	30
Figure 36: Loan Disbursements by Cocoa Price Range	31
Figure 37: Average Loan Amount Disbursed to selected Farmer Types.....	31
Figure 38: Average disbursed Loan Amount by selected Source and Collateral	32
Figure 39: Cocoa Farming Savings.....	32
Figure 40: Reasons for not saving	33
Figure 41: Percentage of all Savers related to Education	33



Figure 42: Percentage of formal Savers related to Education	34
Figure 43: Formal Savers related to Education	34
Figure 44: Bank Accounts.....	35
Figure 45: Account Holding by Professionalism.....	35
Figure 46: Account Holding by Gender	36
Figure 47: Future Money Needs	36
Figure 48: Knowledge on Interest Rate and Fees for Saving Accounts.....	37
Figure 49: Distance to Bank vs. Account Holding.....	37
Figure 50: Cocoa Price 2012-6/2015	38
Figure 51: Cocoa Price Distribution amongst Farmers.....	39
Figure 52: Price differences for selected Farmers	39
Figure 53: Price differences for selected Farmers (II)	40
Figure 54: Farmer with formal Land Title.....	40
Figure 55: Notarial Deed by Professionalism	41
Figure 56: Notarial Deed by Gender	41
Figure 57: Notarial Deed by Age	42
Figure 58: Additional Income	42
Figure 59: Additional Income by Professionalism.....	43
Figure 60: Additional Income by Gender	43
Figure 61: Perception: High Interest Rates	44
Figure 62: High Interest Rates by Professionalism.....	44
Figure 63: High Interest Rates by Gender	44
Figure 64: High Interest Rate by Loan Experience	45
Figure 65: Perception: Unsubsidized Fertilizer is Profitable	45
Figure 66: Unsubsidized Fertilizer is profitable by Professionalism	46
Figure 67: Unsubsidized Fertilizer is profitable by Gender	46
Figure 68: Perception: Sharing profits is better than paying interest for a loan	47
Figure 69: Perception: Various topics	47
Figure 70: Perception: Trust.....	48
Figure 71: Perception: Cocoa Farms for Sale	48
Figure 72: Cocoa Farms for Sale by Province	49
Figure 73: Value of Cocoa Farm per Hectare by Professionalism	49
Figure 74: Value of Cocoa Farm per kg Cocoa produced by Professionalism.....	50
Figure 75: Expenses to be postponed in case of emergency.....	50
Figure 76: Postpone loan installments by Loan Experience	51
Figure 77: Source of money for urgent expenses	51
Figure 78: Borrowing in case of urgent expenses despite having own savings.....	52

List of Tables

Table 1: SCPP Working Area.....	9
Table 2: Assessment-based tailor-made Capacity Building	18



Introduction

The Starting Point

A lack of data is a significant bottleneck for financial institutions and development organizations. Through an advanced program management database, Swisscontact's Sustainable Cocoa Production Program (SCPP) is able to identify critical and interesting data relations. Baseline data and first conclusions of the Agribusiness Financing Facility (AFF) are summarized in this report.¹

The report gives an insight into the wealth of data SCPP has accumulated. However, much deeper (and statistical) analyses

should be done. The sample size of the report is more than double the size of the first report in May 2015, and now consists of 17,429 farmer household members, out of a total of 59,386 farmer households included in the program.² All were recipients of the Good Financial Practice (GFP) training provided by SCPP (54.6% female, 45.4% male). This financial literacy training is aimed at the household member who usually handles the money and is focused on planning and record keeping, loans and its requirements and obligations as well as the promotion of savings as a tool to have "sufficient large lump sums" for planned or unplanned expenses and/or investments.

The present update includes substantial input on the content by Swisscontact's private sector stakeholders and academics. Thus, it comes with more useful information and more comprehensive data. However, the report is based on quantitative data and more in-depth, qualitative research is needed on some of the conclusions and especially unexpected relations.

Major developments occurred on the ground since the last report, such as the introduction of branchless banking products, the restarted small business credit programs from the Indonesian government (KUR, Kredit Usaha Kecil) and more players entering the cocoa sector. However, those developments are not yet represented in the presented numbers, but will contribute to the future Access to Finance for cocoa farmers in Indonesia.

As a general conclusion, overall Access to Finance is still low for Cocoa Farmers. 26.78% (May 2015: 35.29%)³ of the farmers are financially included. 23.83% of the farmers have formal savings, while 7.16% have formal loans from both banks and cooperatives. Both numbers contain the 4.21% of farmers, having both savings and loans.

"Without data you're just another person with an opinion." (W. Edwards Deming)

The Sustainable Cocoa Production program has loads of data.

¹ Please feel free to contact id.info@swisscontact.org if you have specific analytical wishes. We will see how we can include them in future reports.

² All data from the baseline report are from Swisscontact's Sustainable Cocoa Production Program internal management information system as per 20 November 2015, if not otherwise indicated

³ (May 2015: number) refers always to the previous AFF Baseline Report from May 2015 and shows major differences, just because of the different sample size.

Access to Formal Loans and Savings (Cooperatives and Banks)

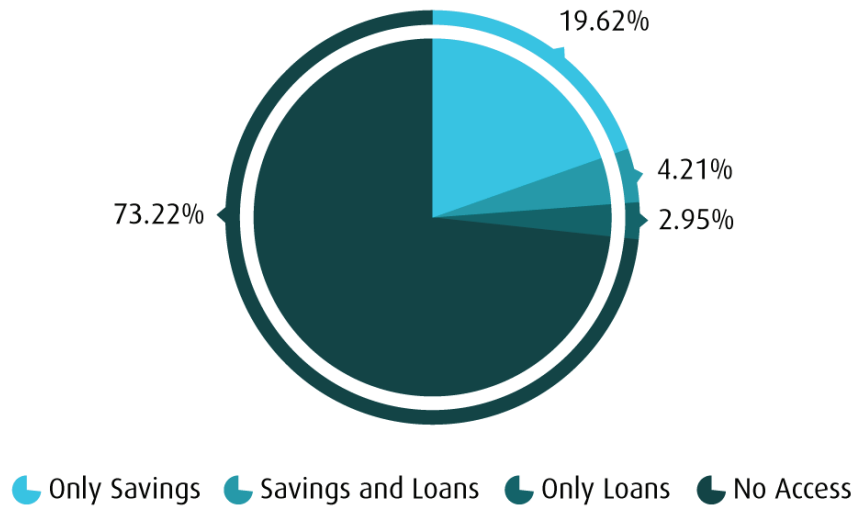


Figure 2: Access to Formal Loans and Savings

SCPP Monitoring and Result Measurement (MRM)

One of the advantages of SCPP compared to other programs is its wealth of data. SCPP collects quantitative and qualitative data from the program’s participating farmers on various topics (Good Agricultural Practices, Nutrition, Finance, Post-Harvest handling, etc.). The data is collected before or during the first trainings (baseline survey), using mobile applications from which data is uploaded directly to the SCPP program management database called CocoaTrace. There, the data is available in real-time to private sector partners, donors and SCPP staff. To measure improvements, regular surveys (post-line) are conducted. At least 10% of all farmers are surveyed each year.⁴

For the present baseline assessment, 17,429 farmers were surveyed (and trained in financial literacy) and the data from financial questionnaires were combined with farmer data about Good Agricultural Practices. The data were collected between September 2014 and November 2015. It takes about 30 minutes per farmer and provides SCPP with sufficient information to learn about the farmer’s situation and develop a proper approach to improve access to finance on a large scale. Post-line surveys have not yet been conducted, due to the rather short period between training of the first farmers and the deadline for this report.

CocoaTrace - Program Management and Cocoa Value Chain Software

CocoaTrace is a cutting-edge application used to collect, evaluate, illustrate and report relevant data from every smallholder farmer household involved in the SCPP. The application includes important information such as farmer and household’s demographic data, details of every cocoa orchard, the number of cacao trees, productivity, prevailing pests and diseases, application of best practices, number of trainings and training days, maps containing farm locations, buying stations, and so on. The application is also equipped with various formulas to analyze baseline and survey data and present it in the application dashboard allowing users to quickly read farmer’s statistics.

In addition to its use described above, CocoaTrace can be used for internal control within the certification system. Farmers will benefit from the higher level of ownership in the data produced and can be offered premium prices for their cocoa – ultimately reimbursing their efforts in improving farm

⁴ CocoaTrace is developed by PT Koltiva, an Indonesian software startup supported by SCPP

management, transparency and traceability of cocoa production. The application can also be used for a number of other purposes such as creating a more efficient farmer’s business analyses when they apply for a loan, calculating efficient use of agricultural inputs and facilitating audits and program evaluations. When fully integrated with the farmer organizations and supply chain partners, CocoaTrace can help farmers to achieve sustainable production with a better pricing to improve their livelihood.

Cocoa Farmer Household Assessment in SCPP

SCPP works in 1,272 villages located in 200 sub districts from 23 districts in 7 out of the 10 most producing cocoa provinces in Indonesia. The total number of households participating in the SCPP has reached 59,386.⁵ This amounts to 29.11% of all villages in 60.42% of all sub districts in the respective regions. For example, in the 5 districts (out of 23) in Aceh, SCPP works in 85.25% of all sub districts, reaching out to 37.07% of all villages in those sub districts. Household members are trained in Good Agricultural Practices to increase their household income through improved productivity, Good Nutrition Practices for healthier nutrition in-take and Good Financial Practices.

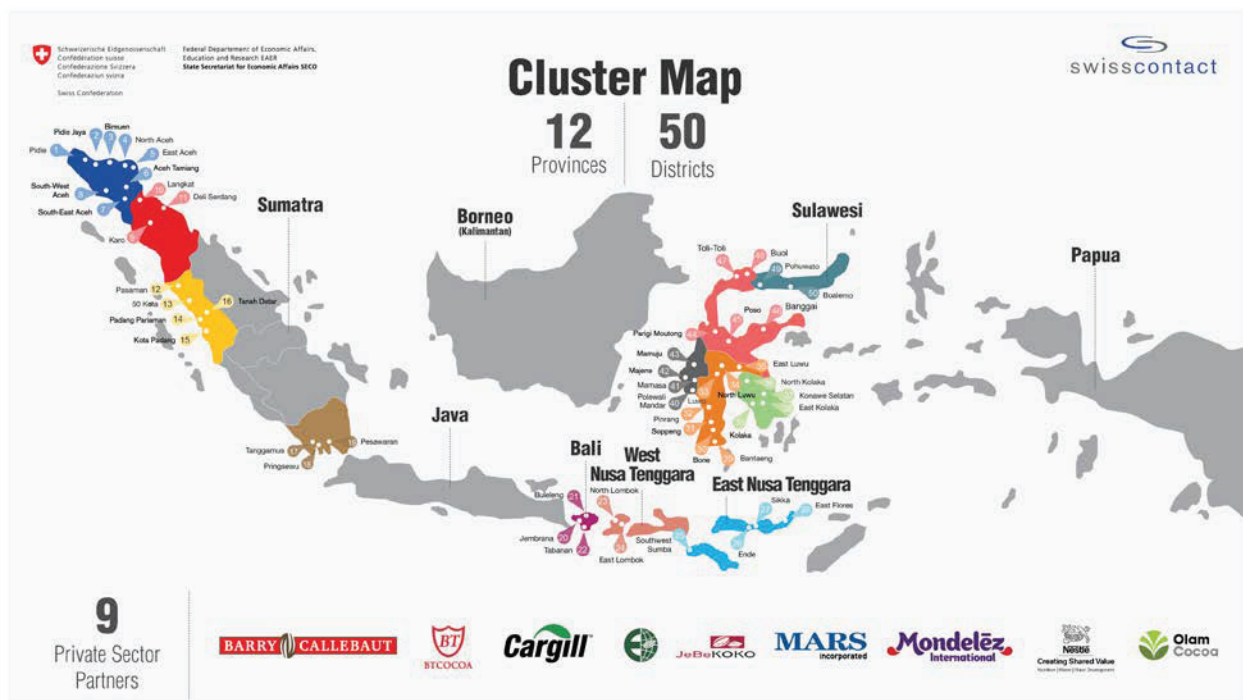


Figure 3: SCPP Working Area

	Districts	Sub districts	Villages
Aceh	21.74%	85.25%	37.07%
Sulawesi Barat	40.00%	50.00%	29.54%
Sulawesi Selatan	20.83%	43.75%	20.88%
Sulawesi Tengah	45.45%	64.71%	25.13%
Sulawesi Tenggara	23.08%	41.03%	24.19%
Sumatera Barat	15.79%	71.43%	33.47%
Grand Total	24.21%	60.42%	29.11%

Table 1: SCPP Working Area

⁵ Number of locations as per December 2015. Since the program activities are ongoing, the number of districts, sub-districts and villages is currently continuously increased.

Cocoa Farmer Demographics

The average age of cocoa farmers participating in SCPP is 44.7 years. The life expectancy in Indonesia is 69 years for men and 73 years for women.⁶ 22.99% of the farmers are young.⁷

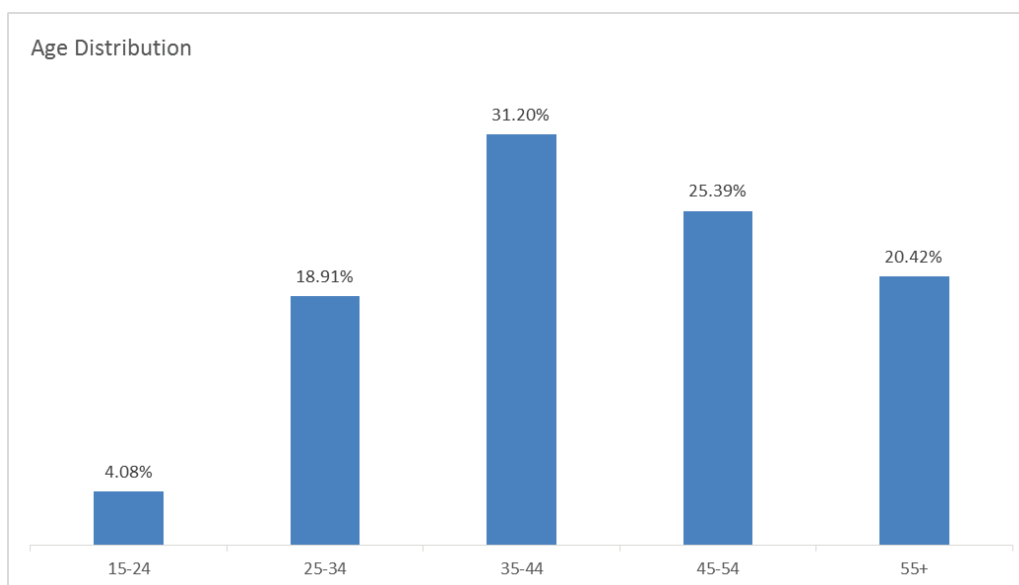


Figure 4: Age Distribution of Cocoa Farmers

38.46% of the farmers have completed elementary school, while only 2.70% of the farmers did not go to school at all.⁸

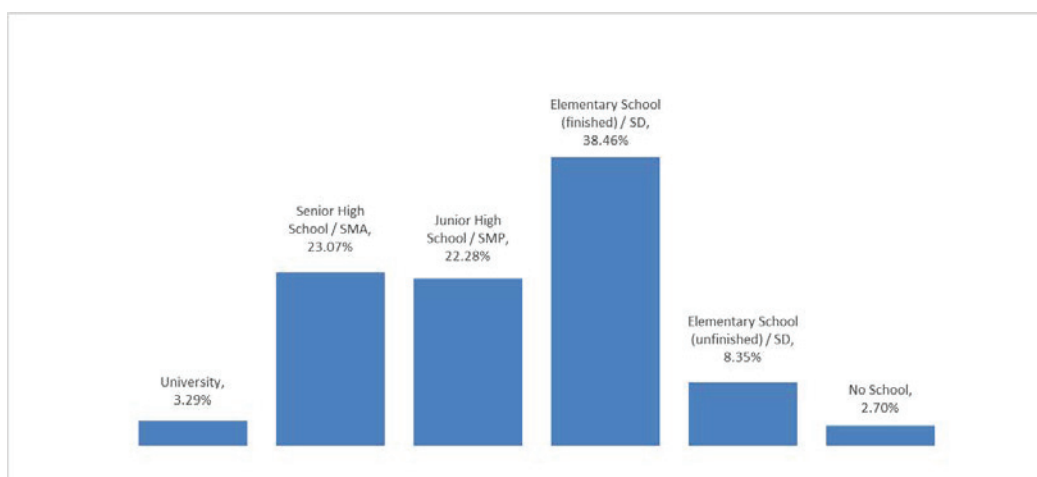


Figure 5: Farmer Education

The gender of the registered farmers, who are participating in SCPP's Good Agriculture Practice (GAP) training is 81.3% male and 18.7% female.

⁶ WHO, 2012. Life expectancy at birth

⁷ The Age Distribution chart was changed according to the ILO definitions, which regards young people to be under the age of 35.

⁸ For 1.85% of the farmer no information regarding school attendance is available.

GAP Participants by Gender

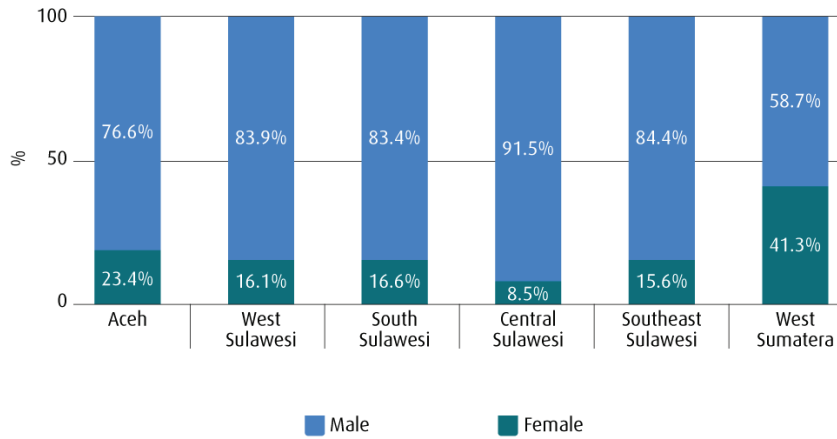


Figure 6: GAP Participants by Gender

Women account for 76.7% of participants in the Good Nutrition Practices (GNP) Training, but there are regional differences.

GNP Participants by Gender

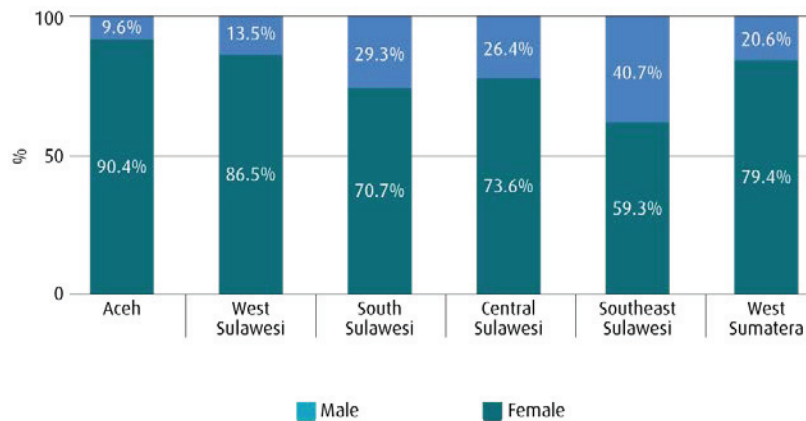


Figure 7: GNP Participants by Gender

The gender of the participants in the Good Financial Practice (GFP) training is more equally distributed, with large differences across the provinces. While in South-East Sulawesi 77.2% of the participants were women, in West Sulawesi the majority were men.



GFP Participants by Gender

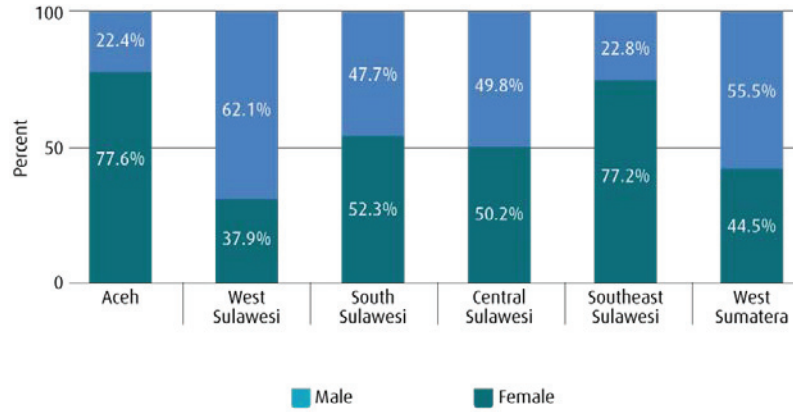


Figure 8: GFP Participants by Gender

Poverty Scorecard

SCPP uses the latest update of **Progress out of Poverty Index** (PPI) developed by the Grameen Foundation and recommended by the Committee on Sustainability Assessment (CO-SA). By collecting data using simple questionnaires, SCPP can estimate the family members' daily income⁹ and whether or not it falls below the national poverty line (7,893 IDR/day) and the two international poverty lines of 1.25 USD/day and 2.50 USD/day.

About 60% of the farmer households live on less than 2.50 USD/day (headcount). There is obviously a direct relation between family size and income per person. The average farmer household has 3.3 members. The data below shows that in Aceh, for example, 7.7% of the cocoa farmers and their household members live on less than 1.25 USD/day and another 45.5% from 1.25 to 2.5 USD/day.

Rate Below Poverty Level

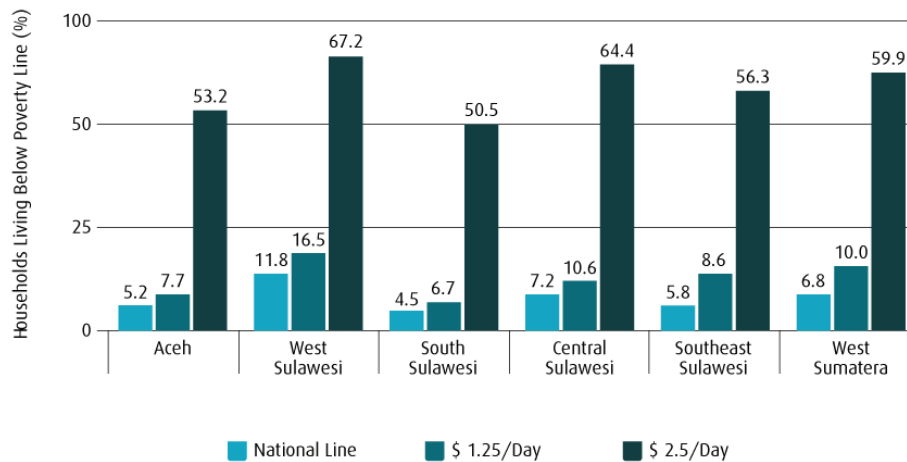


Figure 9: Poverty Level

⁹ Actually the word used is "expenditure", but we deem the word "income" to be more relevant.

While there are only a small number of single member participating in the program (7.7%), most of the households consist of 3 (23.1%) and 4 (22.9%) members.

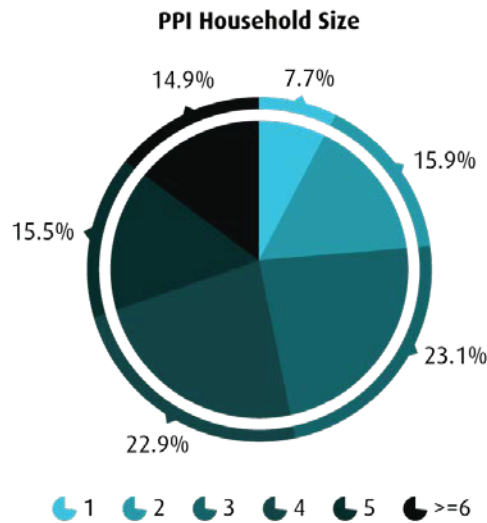


Figure 10: Household size

Cocoa Farm Specifics

Most of the cocoa farms recorded are medium sized (48.2%). 61.3% of the farms are larger than one hectare.¹⁰ The average farm size is 0.99 hectare per cocoa farmer household. The 10,912 certified farmers participating in the SCPP have an average of 1.13 ha, 13% more land than uncertified farmers

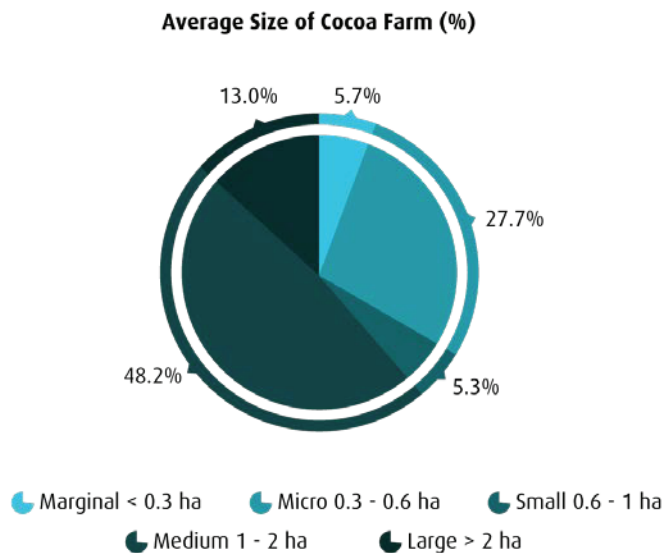


Figure 11: Cocoa Farm Size Distribution

As expected, the vast majority of the farms consist of productive trees (71.0%), while the 11.5% of old trees have sufficient potential for replanting and increased production. More densely planted trees bear additional income potential.

¹⁰ This number differs slightly from the categorization later, because of different sample sizes (GFP: 8,067 farmers vs. overall data from 60,000+ cocoa farmers).

Garden Compositions (%)

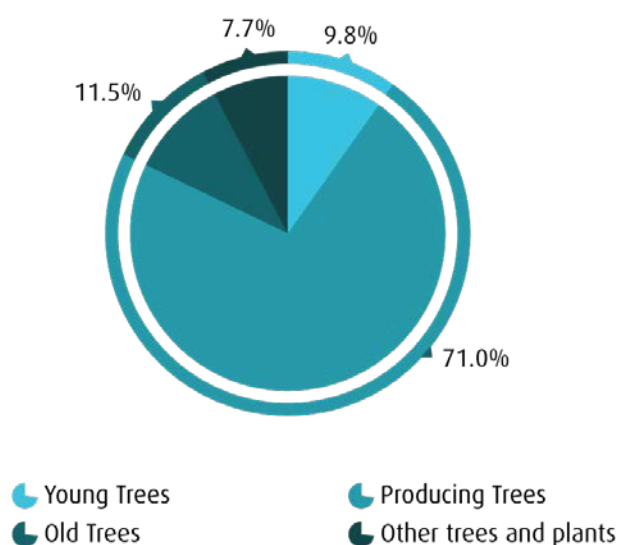


Figure 12: Garden Composition

Categorization of Cocoa Farmers

Professionalization	Production (kg/ha/year)
Professional	> 1,000
Progressing	500 to 1,000
Unprofessional	< 500

Land Size	Ha
Large	2 or more
Medium	1 to < 2
Small	< 1

One of the most important outcomes of our data analysis is the categorization of farmers into professional, progressing and unprofessional categories,¹¹ and subcategorizing them into small, medium and large in terms of farm size. This leads to different approaches in targeting farmers, especially in the sense of formal Access to Finance. Unprofessional farmers produce less than 500 kg dry cocoa beans per hectare in a year. They could increase production through proper pruning, sanitation and denser planting, with strict replacement of old trees. There would be no need for heavy agri-input investments at this stage of development. Cash flow wise, it would be more advantageous for these farmers to go to the farm daily for regular maintenance. For progressing and professional farmers the situation looks different. These farmers could achieve much higher production through better planting material and/or better farm inputs as their yields prove that basic agriculture practices are applied. For that segment, access to finance is crucial.

The majority of farmers have a medium sized farm (44.59%), while many have small farms (41.79%) and only 13.62% are considered large farmers. 12.29% of the farmers are considered professional and 31.43% as progressing. There is a lot of potential to support unprofessional farmers and bring them into the progressing category.¹²

¹¹ Another option would be to categorize them into traditional, semi-intensive and intensive.

¹² The difference of large farmers in the table (12.29%) and the chart above (13.0%) come from different sample sizes (GFP: 17,429 farmers vs. overall data from 60,000+ cocoa farmers).

	Unprofessional	Progressing	Professional	Total
Small	22.96%	13.85%	4.97%	41.79%
Medium	26.94%	14.40%	3.25%	44.59%
Large	6.38%	3.17%	4.06%	13.62%
Total	56.28%	31.43%	12.29%	100.00%

Figure 13: Categorization of Farmers by Professionalism and Farm size

By definition, professional farmers have higher production per hectare than unprofessional farmers. Therefore, they have a higher cash flow per hectare and would be preferred over unprofessional farmers for business loans.¹³

Industry interest focuses on the 43.72% of professional and progressing farmers, considering training cost and production potential. That is a trade-off to stakeholders from the development-cooperation side, which view farmers with a low production as a target group to improve the livelihoods of poor farmers.

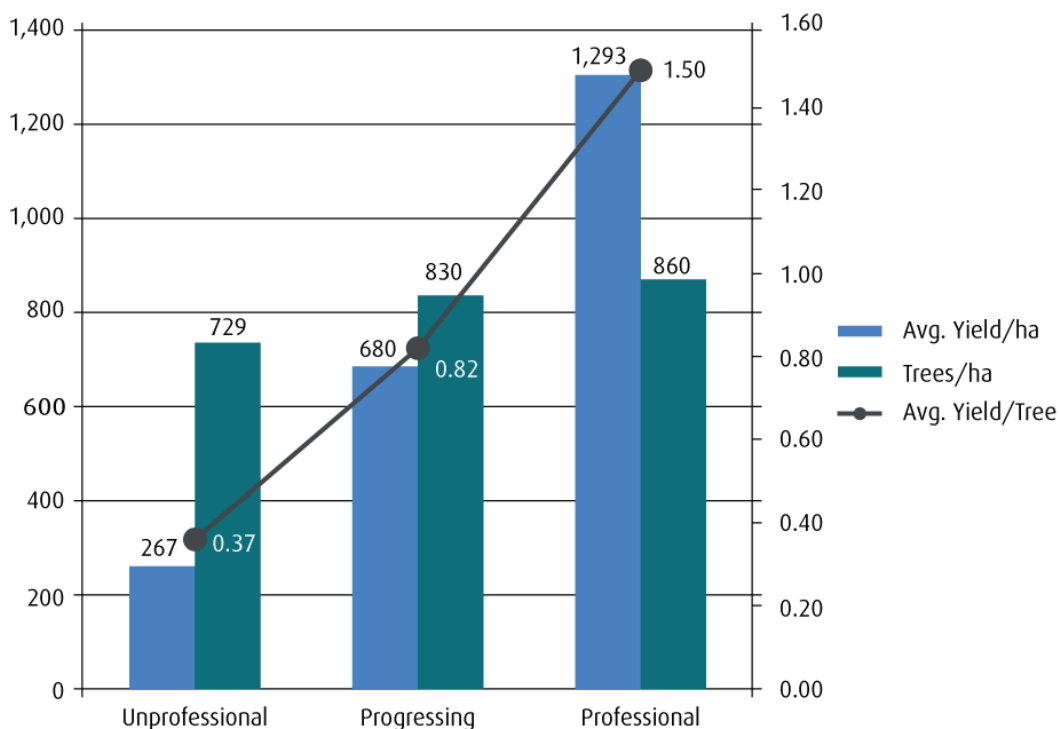


Figure 14: Yields and Tree of different Farmer Categories

¹³ The limitations of a categorization lay in the categorization criteria. Instead of yield per hectare, also yield per tree could be used.



Professional Cocoa Farmers have 17.97% more trees per hectare (860 vs. 729) and a 4.05 times higher yield per tree (1.50 kg/tree vs. 0.37 kg/tree) compared to unprofessional farmers, leading to 4.8 times higher production per hectare (1,293 kg/ha vs. 267 kg/ha).

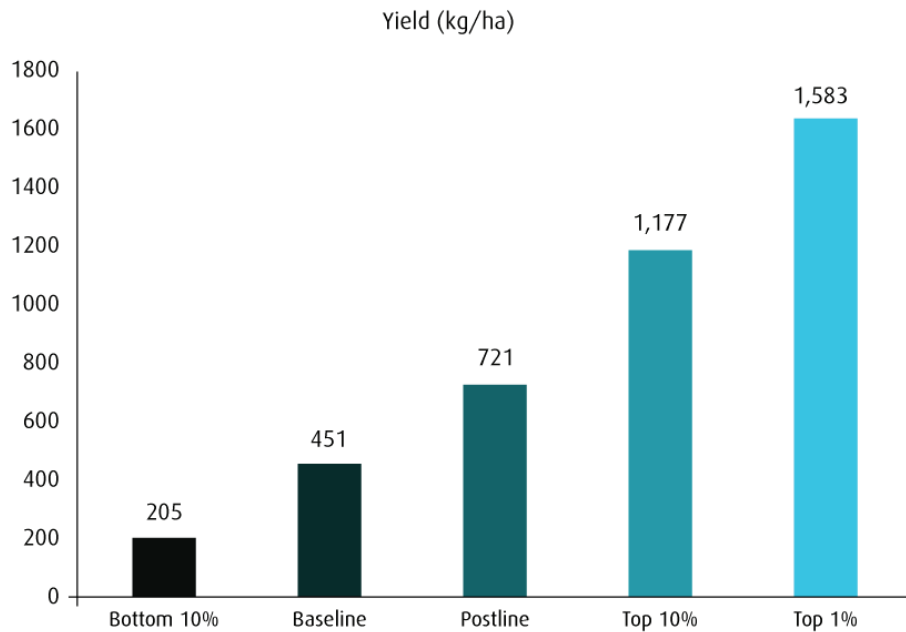


Figure 15: Yield differences between best and worst farmers

It also can be seen that the top 10% of the farmers have on average 1,177 kg/ha, a much higher farm yield than the bottom 10% with just 205 kg/ha.

Assessment-Based Tailor-Made Capacity Building

In conclusion, the following training and access to finance needs can be summarized:

Size	Category	Situation	Training Need	Access to Finance	Loans
Small	Unprofessional	Yields could be improved, limited investment capacity	GAP, Financial Literacy	Starting with smaller savings for small agro-input purchases (and apply GAP)	Not creditworthy, also not with collateral, insufficient cash flow, high risk, knowledge of cocoa to be increased
	Progressing	Shows acceptable yields, production has potential to increase (depends either on GAP or on agro-inputs), land size too small	GAP, Financial Literacy	Smaller loans for agro-inputs, rehabilitation, savings for agro-inputs	Considered a potential loan client for very small loans, yield to be increased
	Professional	Has sufficient experience in cocoa, land size too small, with more land, economic situation could be improved	Financial Literacy, Business Training	Loan for smaller pieces of land, ca. 0.5 ha (also used as collateral), savings	Considered a good potential loan client, but with limitations because current land size and cash flow
Medium	Unprofessional	Needs more knowledge, little cash flows from cocoa, land size could support an acceptable income	GAP, Financial Literacy	Starting with smaller savings for small agro-input purchases (and apply GAP)	Not creditworthy, also not with collateral, insufficient cash flow, knowledge of cocoa to be increased
	Progressing	Shows acceptable yields, production has potential to increase (depends either on GAP or on agro-inputs), land size is an issue	GAP, Financial Literacy	Smaller to medium loans for agro-inputs, rehabilitation, savings	Considered a potential loan client for small to medium loans, yield to be increased

Size	Category	Situation	Training Need	Access to Finance	Loans
Large	Professional	Has sufficient experience on cocoa, knowledge to be applied to new land	Financial Literacy, Business Training	Loan for medium sizes of land, 0.5 to 1 ha (also used as collateral), savings	Considered a good potential loan client.
	Unprofessional	Better knowledge to be gained, little cash flows from cocoa, although land size would be sufficient to have a decent income	GAP, Financial Literacy	Starting with savings for agro-input purchases (and apply GAP)	Not creditworthy, also not with insufficient cash flow, high risk, knowledge to be increased
	Progressing	Shows acceptable yields, production has potential to increase (depends either on GAP or on agro-inputs), land size sufficient for the moment	GAP, Financial Literacy	Smaller loans for agro-inputs, rehabilitation, savings	Considered a potential loan client if loans, yield to be increased
	Professional	Has sufficient experience in cocoa, knowledge to be applied to new land	Business Training, Farm/Staff Management, Financial Literacy	Loan for land, 1ha or more (also used as collateral), savings	Sufficient cash flows / income, considered good potential loan client

Table 2: Assessment-based tailor-made Capacity Building

Looking at education relating to the above classifications returns a clear picture: the better the education, the more likely a farmer is classified as a professional farmer. Farmers with university and senior high school degrees are overrepresented amongst the professional farmers, while farmers who did not finish elementary school are significantly underrepresented.¹⁴

(The following chart type shows under-/overrepresentation of respondents compared to their overall representation in the data sample. As an example: If 3.29% of all farmers have a university degree (as it is; see Figure 3), but 6.58% of the farmers with university degree had a formal loan, than they would be 100% overrepresented in access to formal loans. This gives a much better idea about the real situation than absolute numbers.)

Professional Farmers Related to Education

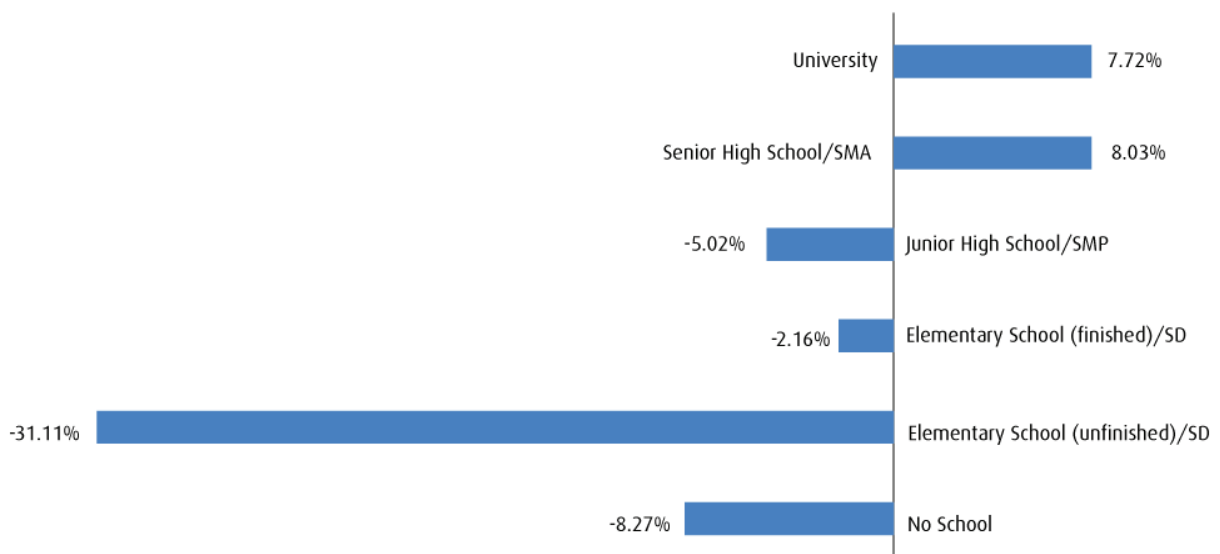


Figure 16: Professional Farmers related to Education

To confirm that information, unprofessional farmers were analyzed as well. Except for university absolvents, the picture is confirmed. Farmers with a university degree and farmers who did not finish elementary school are likely to be an unprofessional farmer.

¹⁴ The sample size of university and no school attendance is with 80 resp. 56 farmers amongst all professional farmers rather low.

Unprofessional Farmers Related to Education

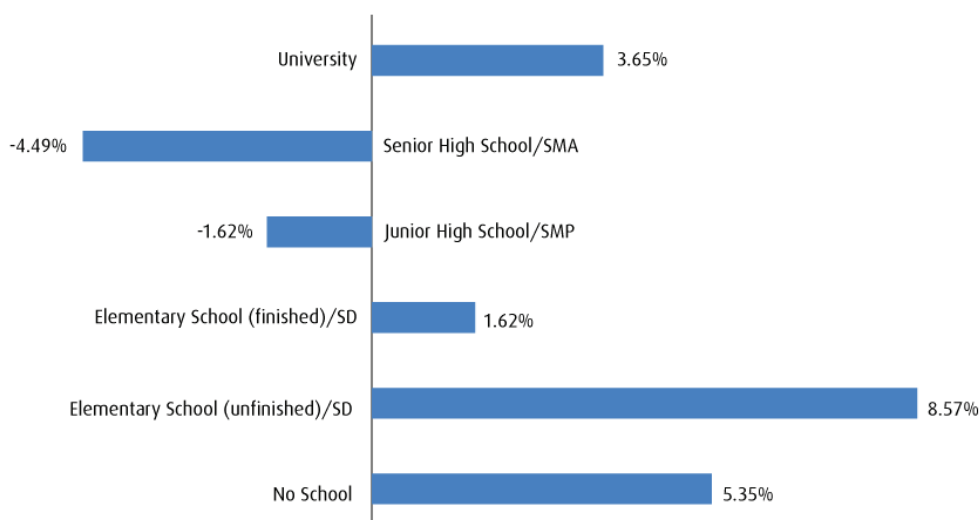


Figure 17: Unprofessional Farmers related to Education

Farm Income

One of the conditions for program participation is that farmer households earn at least 50% of their income from cocoa. The average is at the moment 80%. The income depends on several factors mainly related to production and price. Production depends on the application of GAP, agri-inputs, but also weather, pests, diseases and input costs. The price depends on the world market price of cocoa (in USD), the IDR/USD exchange rate, quality of beans, competition amongst traders/off-takers, distances, etc. A simple example calculation is shown in the table below.¹⁵

Yearly Revenue for 1 hectare	Example 1	Example 2
Production (kg)	500	1,000
Price (IDR)	36,000	36,000
Total Revenue	18,000,000	36,000,000
Costs		
Inputs	2,000,000	6,000,000
Labor	1,200,000	1,700,000
Total costs	3,200,000	7,700,000
Annual Profit from Cocoa farming	14,800,000	28,300,000

¹⁵ That is a 92 USD/month net in example 1 and 177 USD/month net in example 2. Considering the average household size of 3.3 members and 30 days/month, the household in example 1 live on 0.93 USD/day (headcount) and the household in example 2 live on 1.79 USD/day. Both below the poverty level of 2.5 USD/day and in the first example even below the national poverty level.

GFP Baseline Assessment

In the following provinces the data were collected:

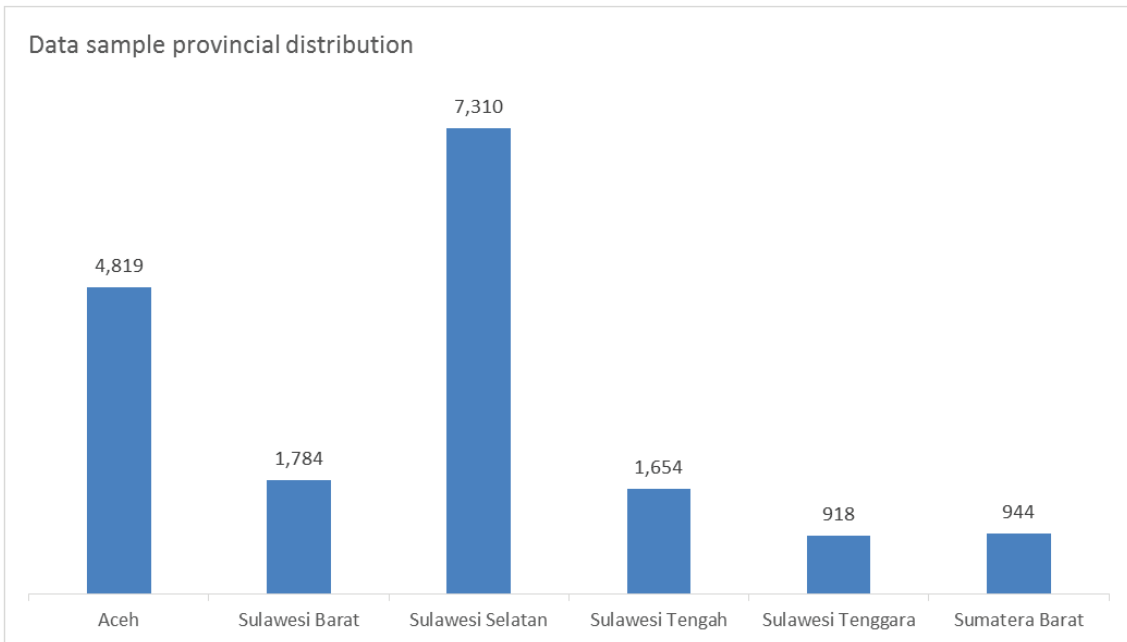


Figure 18: Provincial Distribution of Data sample

Loan Evaluations

42.66% of the cocoa farmers have experience with loans from various sources, while 57.34% don't have any loan experience.

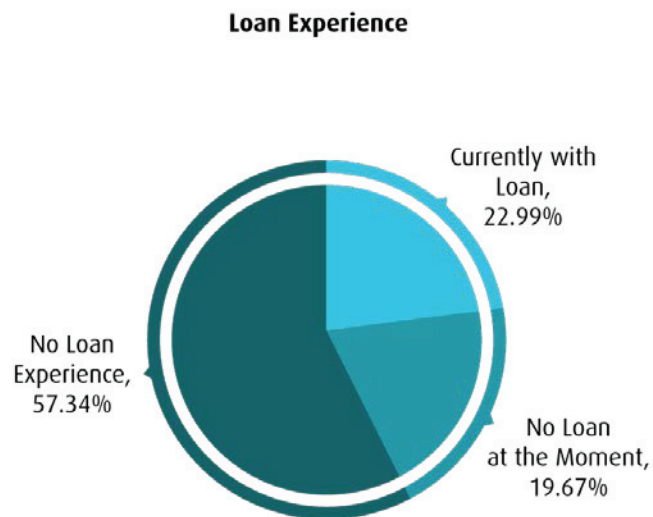


Figure 19: Loan Experience of Cocoa Farmers



Professional farmers have more loan experience (from all sources) than unprofessional ones.

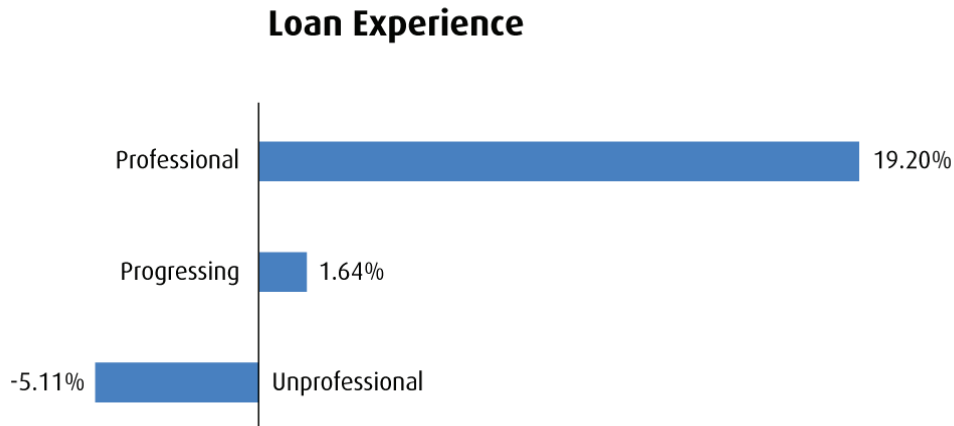


Figure 20: Loan Experience by Professionalism

Women are significantly underrepresented in accessing loans. While 41.60% of the GFP participants were men, they received 82.46% of all loans. The ratio applies almost at the same rate in access to formal loans, where women are underrepresented at 68.17%.

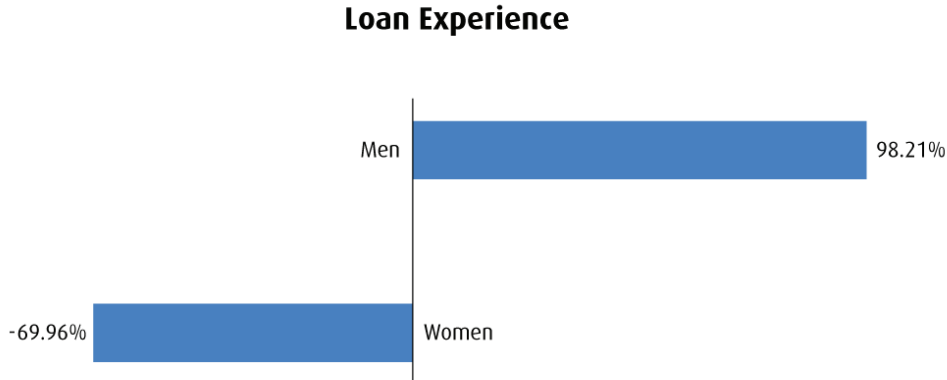


Figure 21: Loan Experience by Gender

Younger people use loans more often. Reason might be due to larger financial needs in that early phase of life and at the same time they have no assets built yet, but they could also show less risk aversion. Debts would then become an opportunity to complete plans faster.



Loan Experience

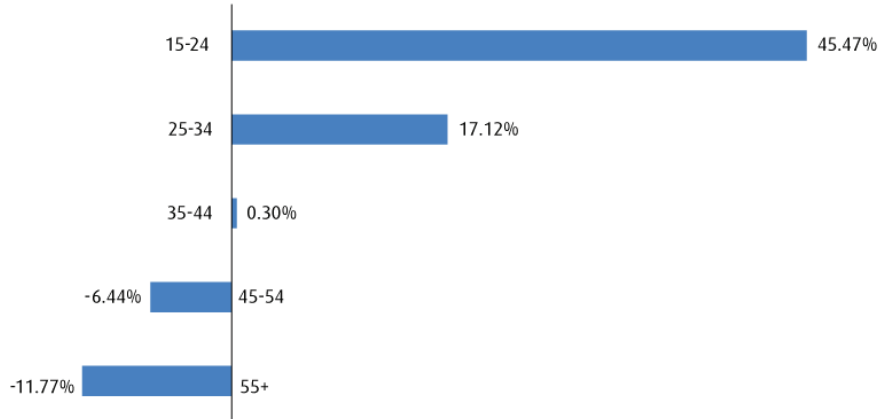


Figure 22: Loan Experience by Age

From a banking point of view, not all loans are used wisely. The green bars in the chart below show the productive use of loans (whereas buying land depends on the situation) and the blue bars show non-productive use.¹⁶ Productive use should be preferred, since a loan usually costs interest, which must be paid. School fees (34.38%) and daily expenses (30.94%) should not be financed by a loan. During rehabilitation, the income of the household might decrease temporarily (to have a higher production after a few years). In that case, loans might be needed to cover income losses. That would increase the non-productive loan use. Farmers need to consider all factors carefully before taking this option.

Loans Used For

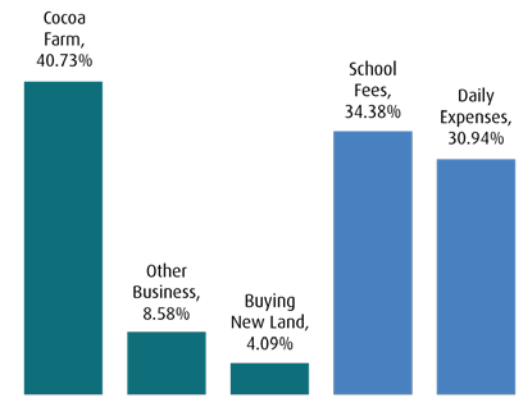


Figure 23: Loan Use

¹⁶ Multiple answers allowed



Professional farmers are less likely to use loans for productive purposes, but are also less likely to use loans for daily needs. For these farmers, the loan purpose tends to be related to emergencies. This indicates that business investments for the cocoa farm and for other business are financed from current cash flow.

Formal loans are used significantly more often for other business investments (20.83% compared to 8.58%) and purchasing additional land (7.21% compared to 4.09%), yet still too often used for school fees (31.72%) and daily expenses (23.98%). Surprisingly loans from banks and cooperatives are less often used for farm inputs (29.81% compared to 40.73%).

Most of the loans come from informal sources (blue bars), mainly from family, friends and traders. To a much lower extent loans come from formal sources (green bars), banks and cooperatives.

Loans Source

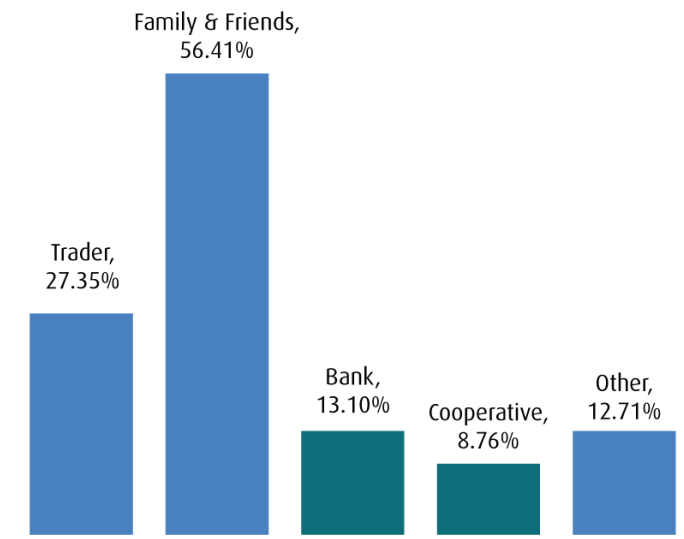


Figure 24: Loan Sources for Cocoa Farmers

From all farmers with loan experience, 13.10% received a loan from a bank.

Loan from Banks

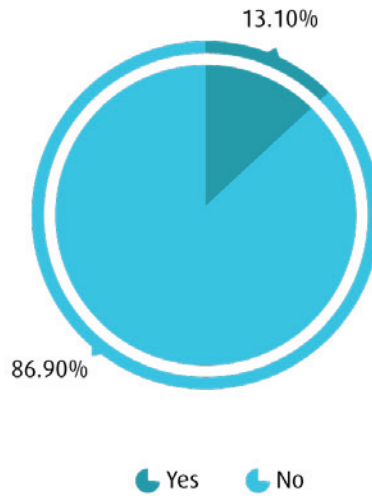


Figure 25: Share of Bank loans on all loans

From all farmers, only 5.31% have ever received a loan from a bank. 17% of the Indonesians borrow from banks,¹⁷ whereas currently 1.91% of the farmers have a loan outstanding with a bank.

Loans from Banks to All Farmers

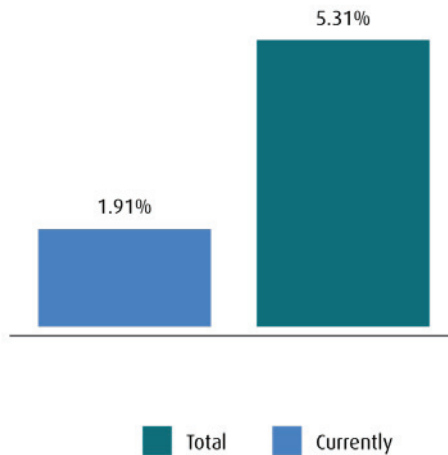


Figure 26: Farmer Experience with Bank loans

¹⁷ IFC: Mobile Banking in Indonesia, p.39

9.35% of the key farmers have experience with bank loans. An explanation for this could be a better reputation (that’s why they were chosen by their group members as leader of the group).

As expected, unprofessional farmers are underrepresented in having received loans from banks. Progressing farmers are slightly more overrepresented than professional farmers. This might be because professional farmers have higher cash flows and might have less financial needs. However, it shows that financial institutions chose farmers with higher cash flows.

Loans from Banks

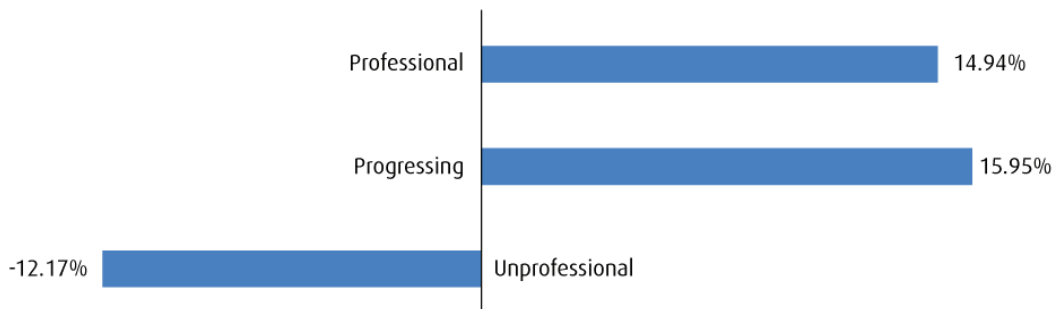


Figure 27: Formal Loan Experience by Professionalism

Farmers below the age of 25 are significantly underrepresented in access to formal loans, while they are heavily overrepresented in the overall loan experience. This could be due to multiple reasons. One reason could be the lack of collateral (as shown later on the data of land titles), or mistrust of young people. The data indicate that banks focus on farmers between 35 and 54 years of age.

Loans from Banks

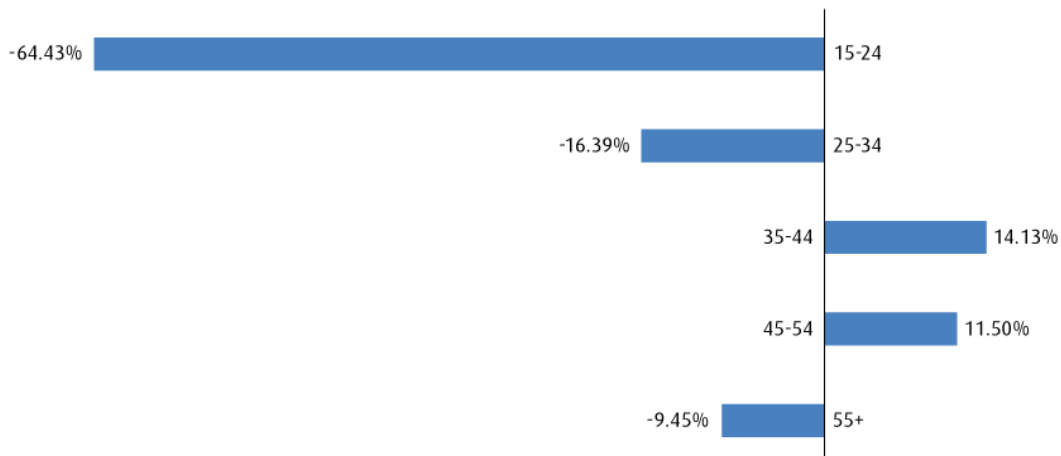


Figure 28: Formal Loan Experience by Age

Interestingly, farmers who receive a better education tend to not borrow money. An explanation for this might be that farmers with university degrees might have higher incomes, and if they have additional income (or the use of savings) they can then better support consumption and absorb shocks.¹⁸

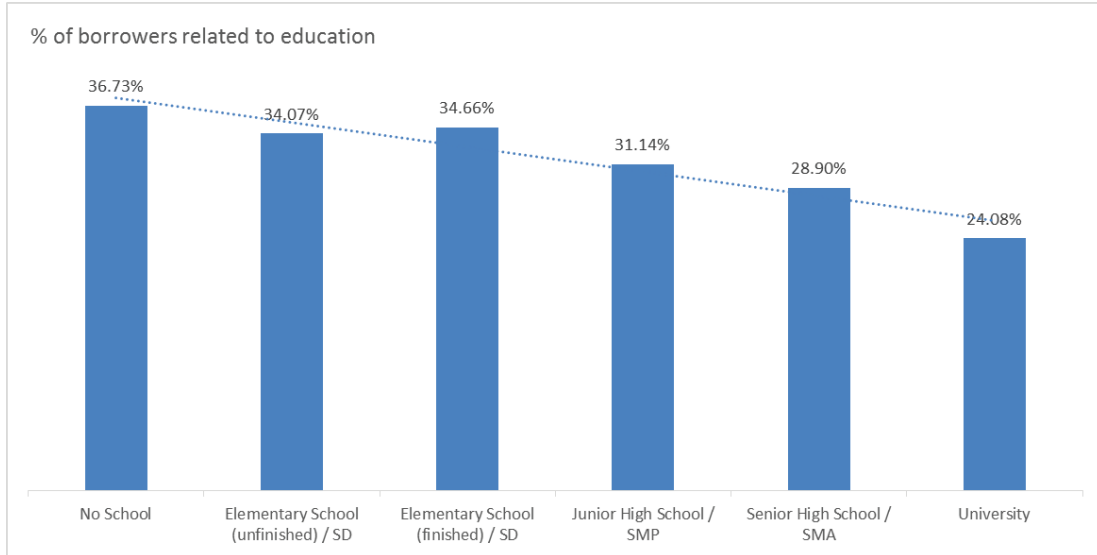


Figure 29: Percentage of all Borrowers related to Education

Looking at formal borrowing only, it can be said that the more educated a farmer is, the more access to formal loans he/she has. While 13.79% of farmers with a university degree have access to a formal loan, only 6.28% of the farmers who only completed elementary school do.

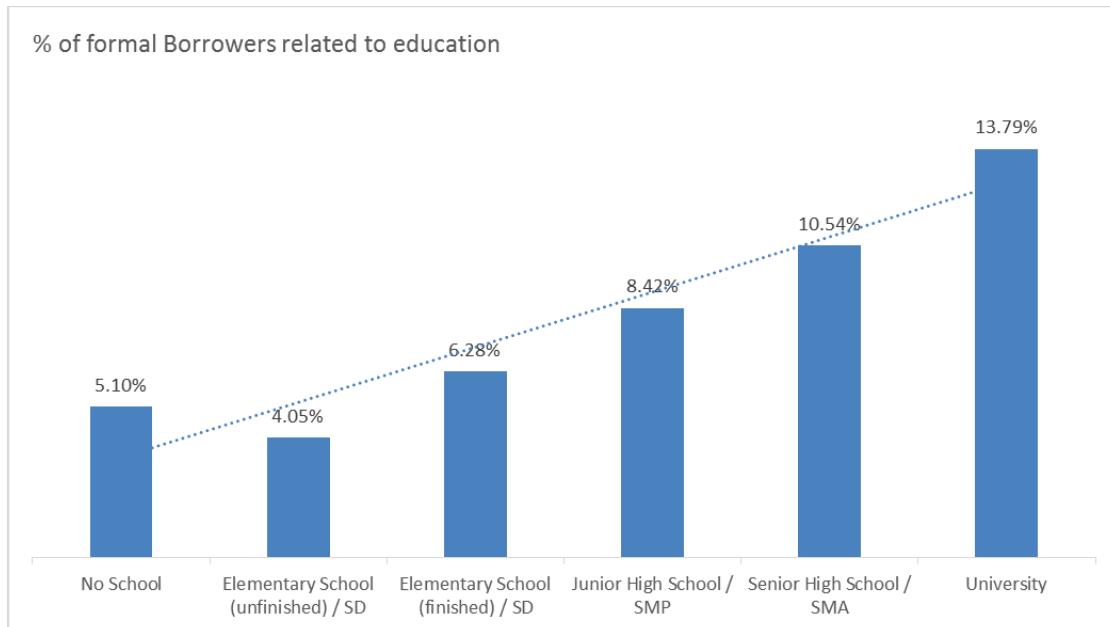


Figure 30: Percentage of formal Borrowers related to Education

¹⁸ The percentage shown is the percentage compared to all farmers with the respective education. 34.07% of all farmers who did not finish elementary school, borrow money from formal and informal sources.

This is also illustrated in the next chart, with a significant overrepresentation of well-educated farmers having access to formal loans compared to less educated farmers. This indicates that banks focus on clients with at least a junior high school degree.

Formal Borrowers Related to Education

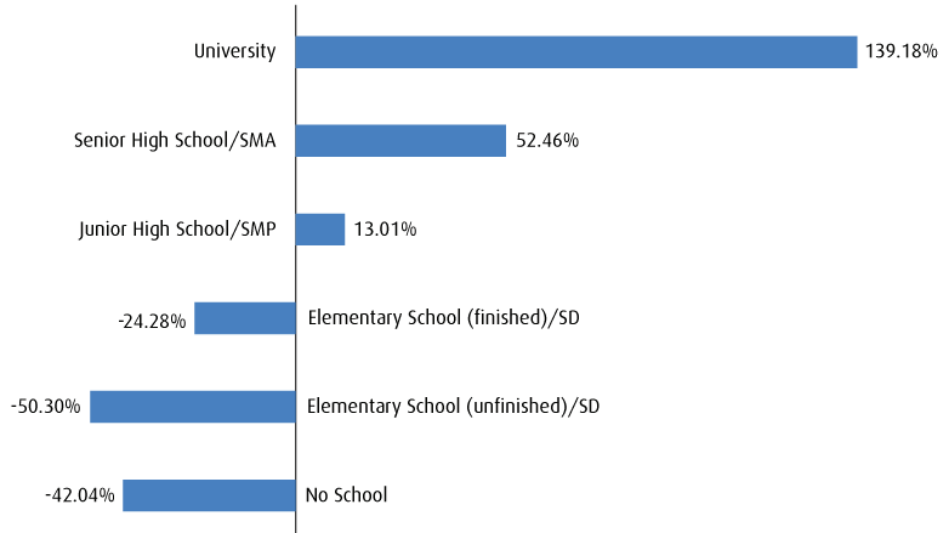


Figure 31: Formal Loan Experience by Education

Most of the farmers with loan experience have had two loans in the past (47.83%), while there are 25.80% of farmers with four or more loans.¹⁹ The low number of farmers with only one loan indicates that access to finance without credit history seems to be difficult.

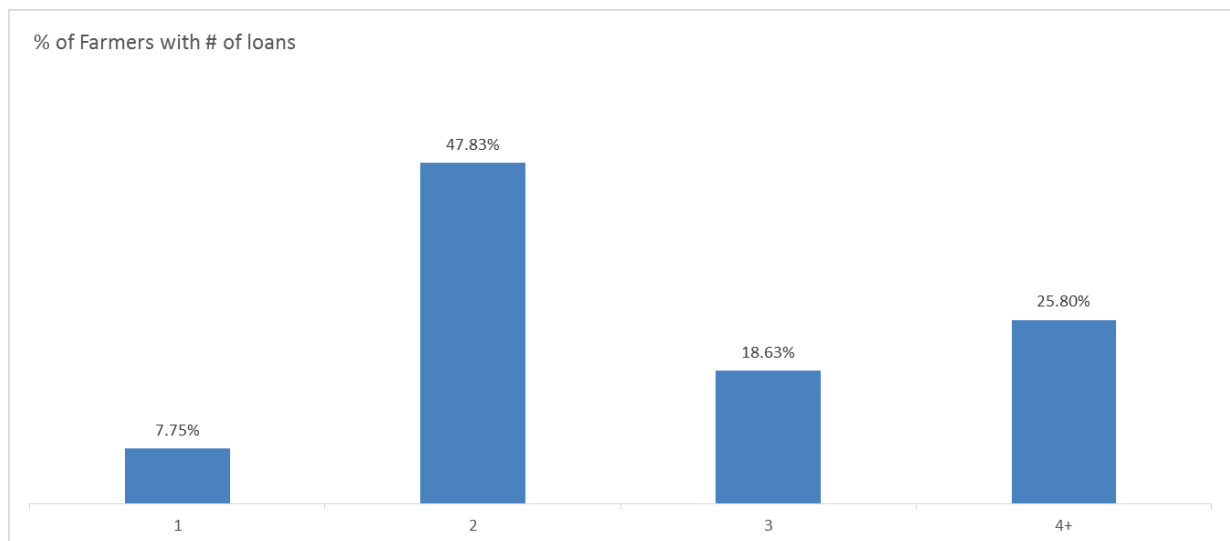


Figure 32: Percentage of Farmers with # of loans

¹⁹ There is a rounding error of 0.01%.

56.82% of all farmers with loan experience have repaid a loan earlier than agreed (whereas loans from traders, family and friends might not have a fixed term anyway). This shows that farmers value flexibility in repayment terms.

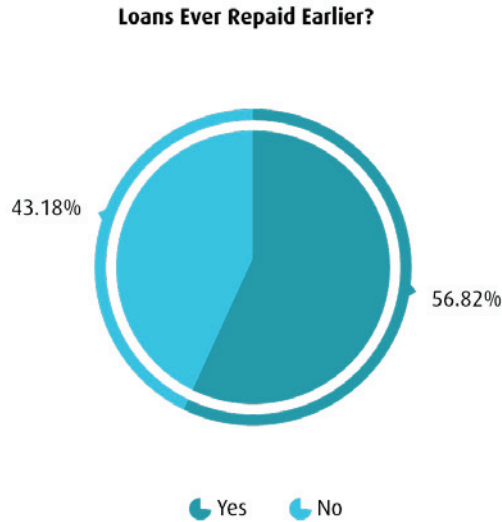


Figure 33: Repayment of Loans before end of term

Differences between traders and banks can also be seen by the time it takes to disburse loans (where traders are much faster) and the need for collateral (where banks almost always need to have collateral).

Loan Disbursement Time Bank vs Trader

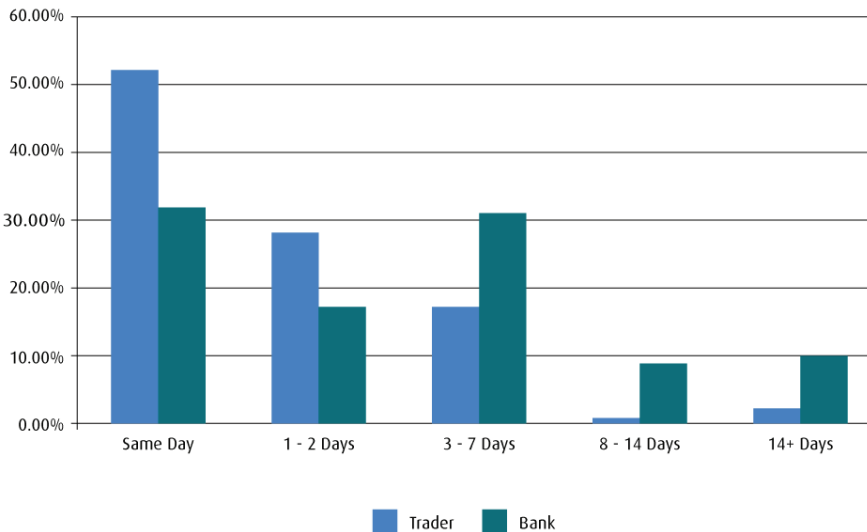


Figure 34: Disbursement Time: Banks vs. Trader

Indonesian Banking regulation does not require banks to secure loans through collateral. However, with collateral, the need to build a loan loss provision in case of arrears can be reduced significantly. Since the loan loss provision is a direct cost driver, this has to be taken into serious consideration by any bank.²⁰ 30% to 70% of the value of provided collateral could be deducted from the outstanding loan amount in arrears, if mentioned in the regulation as collateral. This shows two needs: 1) a good loan analysis to ensure repayment as agreed, and 2) an efficient repayment collection mechanism (in case a loan enters into arrears), or an easy-to-seize, valuable and easy-to-sell collateral for outstanding amounts in arrears, so that a loan never enters into any category where high loan loss provisions have to be built.

Obviously, traders do not have the same restrictions. Their advantage is the close relationship with the farmers in their regions, knowing not only the hard facts like production, but also the soft facts like character or family situation.

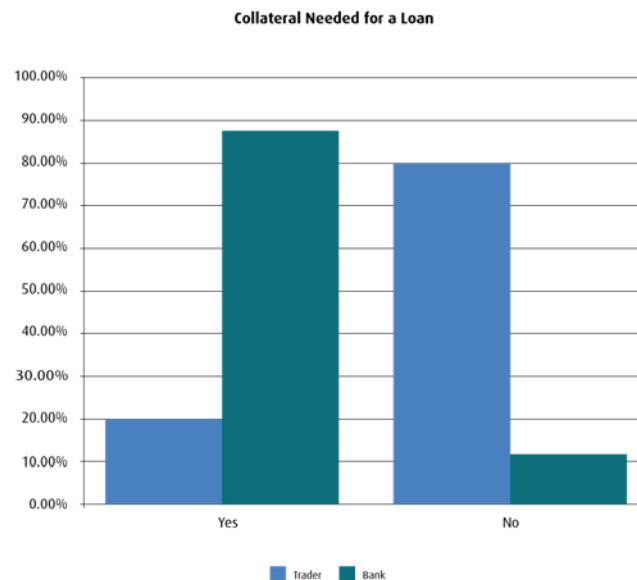


Figure 35: Collateral Need: Banks vs. Traders

Farmers stated the cocoa price on the day of the survey. The assumption was that they would quote the price they would get for their cocoa. The range quoted is wide because price depends on quality (wet, dried, fermented, moisture, fungi and insects in the beans, mold, etc.), location (collector, trader) or time.²¹ Comparing the prices the farmers quoted in relation to loan amounts borrowed, surprisingly farmers with the lowest prices stated received the highest loan amounts (from any source). By comparison, farmers who stated the highest prices received the lowest average loans (IDR 4,975,145). Further investigation needs to be done on that indication.²²

²⁰ Please refer to the respective regulation for details. BI regulation 14/15/PBI/2012 (for commercial banks)

²¹ Between September 2014 and November 2015, the time of surveying the farmers, the world market price fluctuated in a relatively small range of 2,848 to 3,360 USD/MT.

²² Only farmers who have provided a cocoa price (in total 13,843 out of 17,429) were considered. Therefore the average loan amount for all is 5,631,448 IDR higher than the 5,393,344 IDR of all farmers with loan experience (see also figure 35).

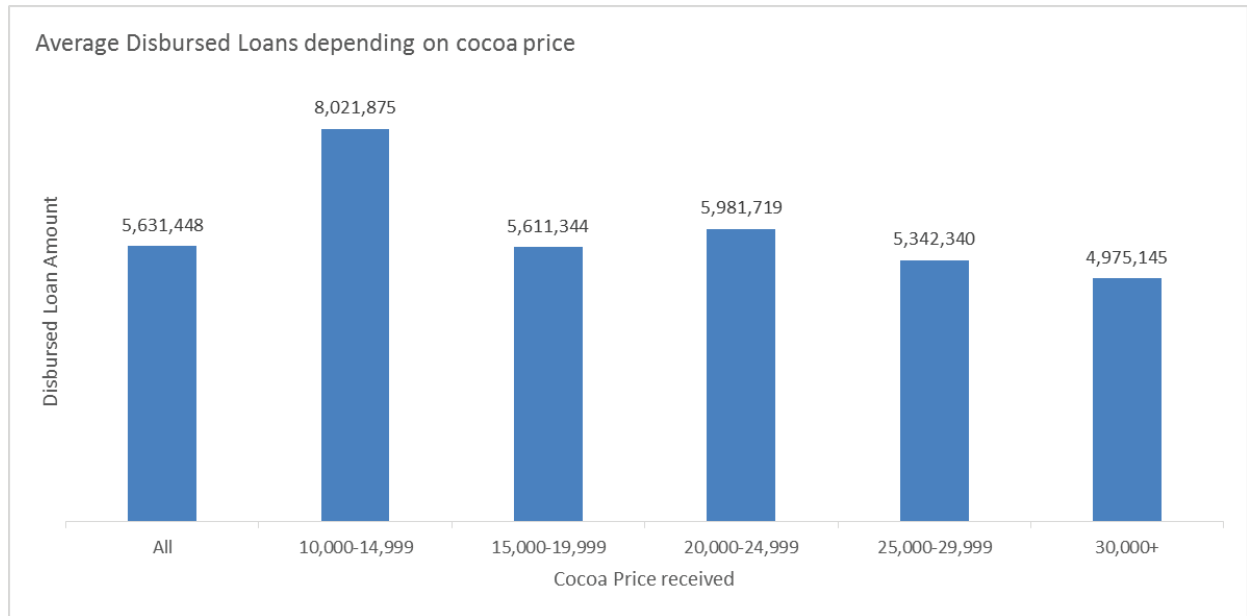


Figure 36: Loan Disbursements by Cocoa Price Range

Using data can show other interesting correlations, as illustrated in the chart below. Men get on average 10.54% higher loans than women. The breakdown of loans to women shows huge differences, whereas professionalism amongst female farmers is not reflected through the loan amount. This might be a matter of only complementary funding (thus more often using their own funds). Professional male farmers get on average 60.35% higher loans than professional female farmers. It can be also seen that older women get higher loans than younger ones.

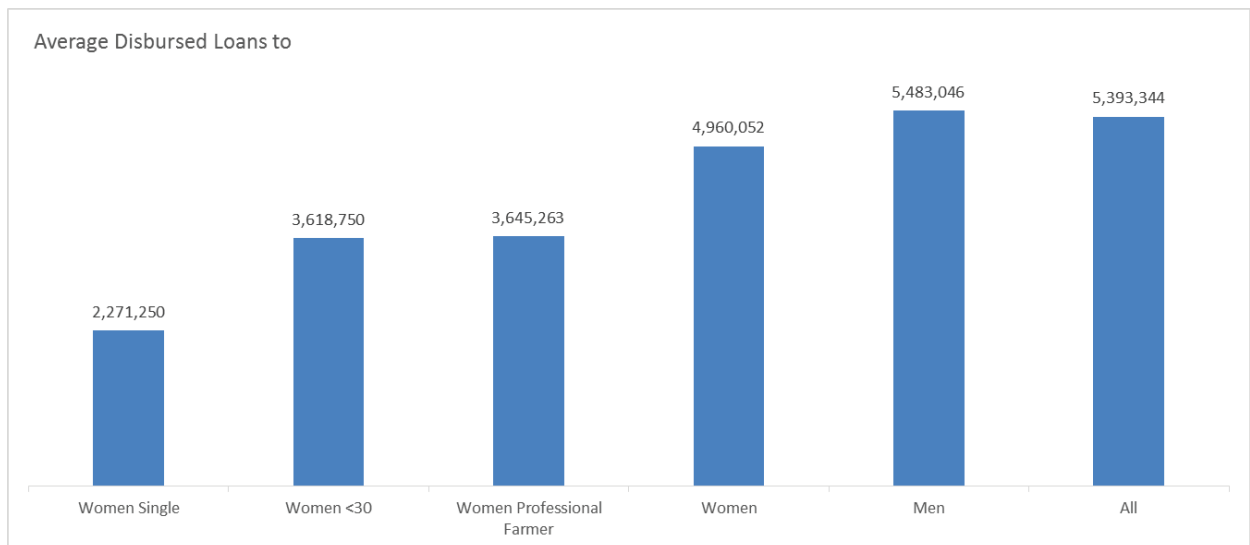


Figure 37: Average Loan Amount Disbursed to selected Farmer Types

The lowest loans are on average IDR 2,610,425 (about 200 USD) and disbursed by traders, while banks disburse on average the highest amounts. There is a 24.23% difference in loan amounts between farmers with and without a formal land title. This indicates that a land title might be helpful in getting larger loans (with all its advantages and disadvantages). However, hard collateral is in most cases needed to access formal loans.

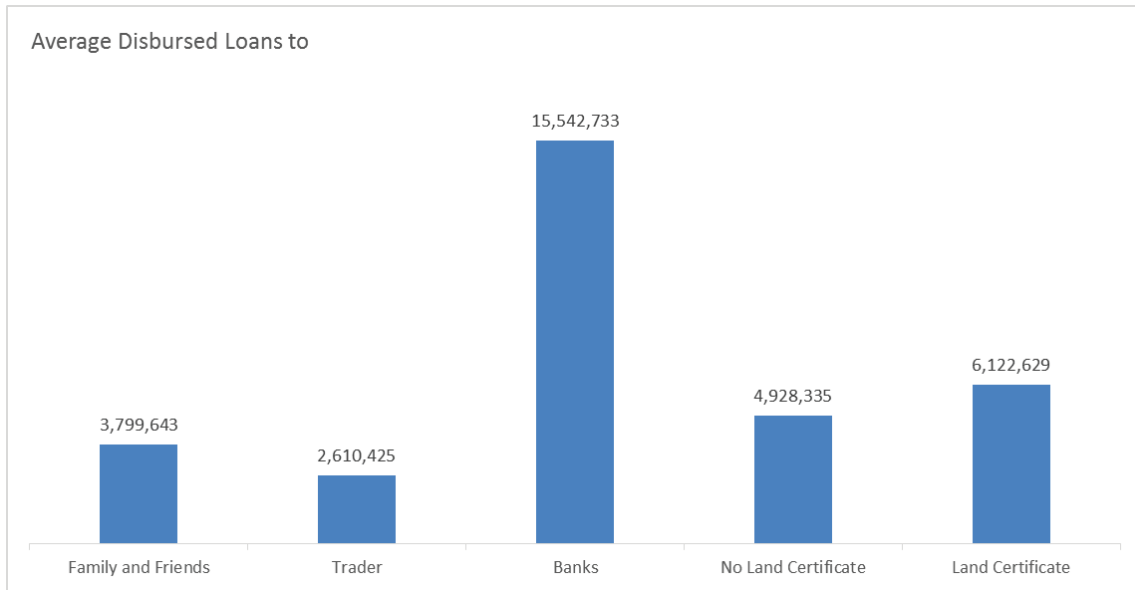


Figure 38: Average disbursed Loan Amount by selected Source and Collateral

Key Farmers (7,842,275 IDR) and Certified Farmers (6,231,365 IDR) both get higher than average loans.

Saving Behavior

40.24% of the farmers don't save at all, while 44.41% save in-cash and 15.34% save in-kind or invest in another business. These latter two could be bricks, gold, chickens etc. The saving rate of key farmers²³ is 69.83%, compared to the average of 59.75%.

First indications on saving behavior show that farmers use their income from cocoa for daily needs, due to the relatively regular income throughout the year, while savings are built with income from other crops, which farmers receive once or twice a year in relatively larger amounts.

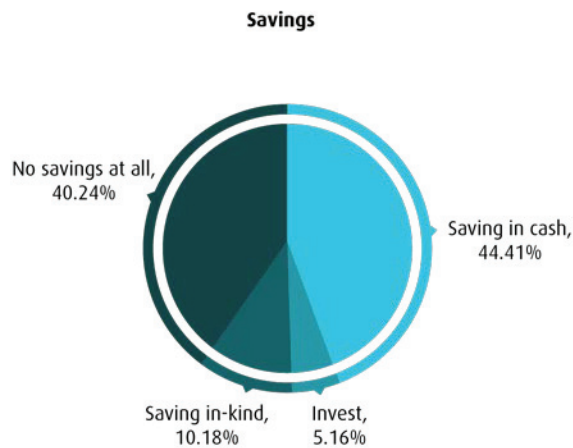


Figure 39: Cocoa Farming Savings

²³ Key farmers are group leaders of the farmer groups trained by SCPP. They get additional training to facilitate the Farmer Field Schools.

Reasons for not saving are:

Reasons for not Saving

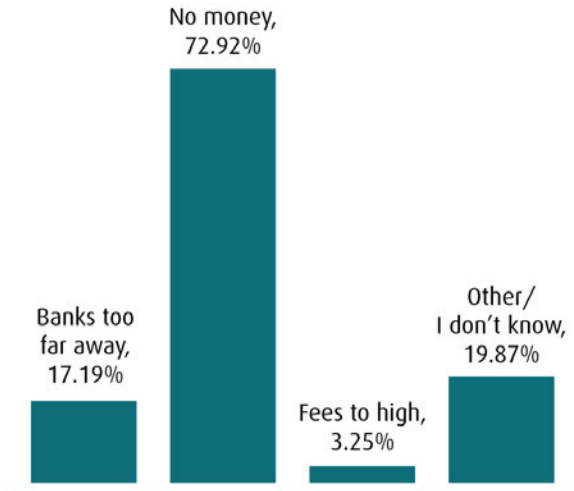


Figure 40: Reasons for not saving

62.02% of the farmers think they are disciplined enough to save. However, 39.84% out of those do not have any savings at all (24.71% of total), while 60.16% do have some savings (37.31% of total). Out of the 37.98% who think they are not disciplined enough to save, 42.07% have savings (15.97% of total).

Overall saving (formal and informal) is directly linked to education.

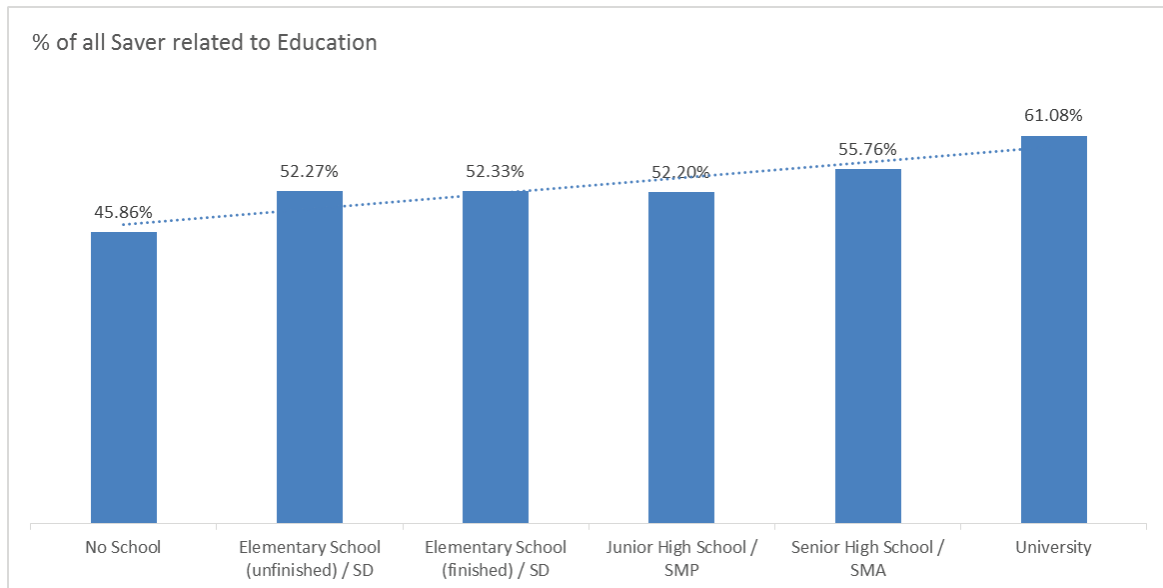


Figure 41: Percentage of all Savers related to Education

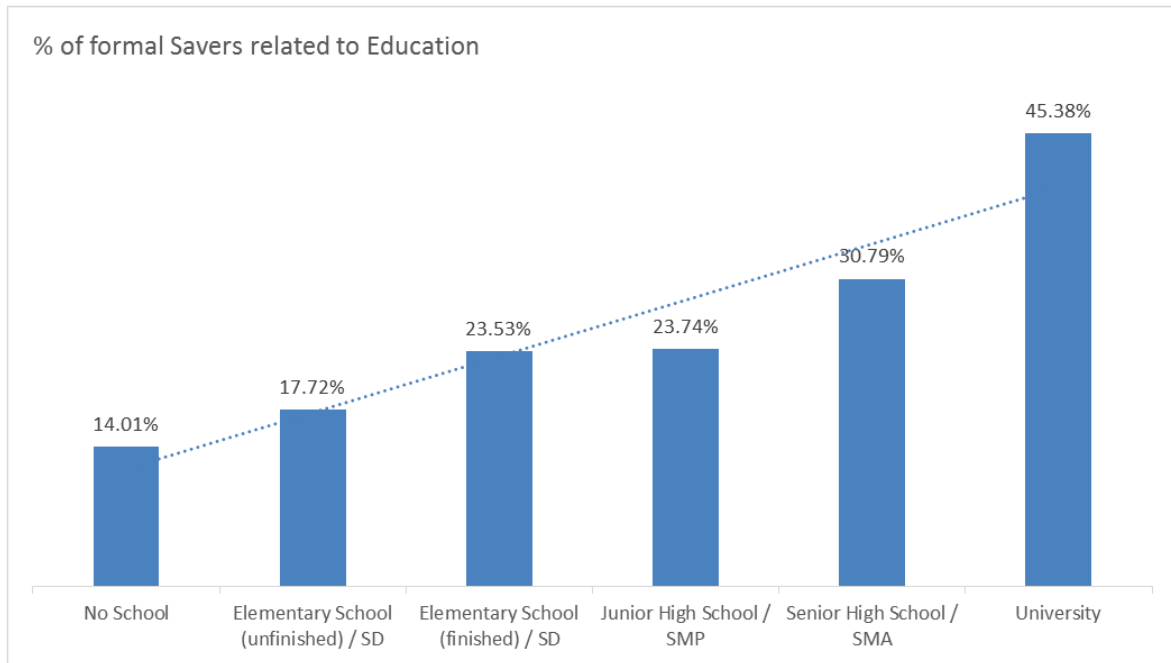


Figure 42: Percentage of formal Savers related to Education

The higher the education, the stronger the overrepresentation in formal savings. This might be directly linked to income (assuming that higher educated people have a higher income), but more likely to be a matter of making the decision to step into a formal bank to open a savings account.

Formal Savers Related to Education

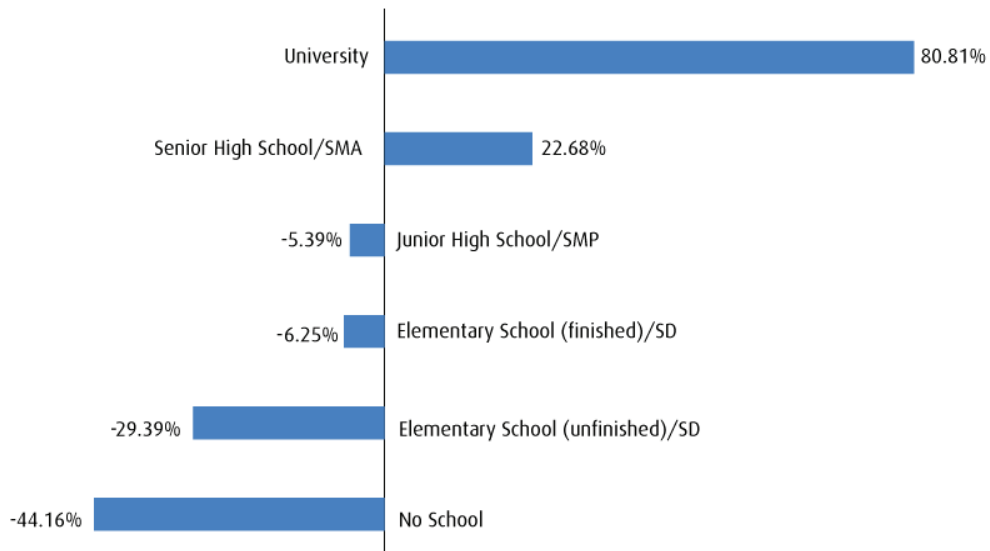


Figure 43: Formal Savers related to Education

Data on Bank Accounts

69.15% of farmers don't have a bank account. From the ones who have, 6.34% don't use the account actively.²⁴ Farmers with accounts have them in Bank Rakyat Indonesia (BRI, 88.9%), Bank Negara Indonesia (BNI, 3.5%) and other institutions [7.6%, mainly cooperatives, Bank Danamon, Bank Central Asia (BCA), Bank Mandiri and Bank Muamalat].

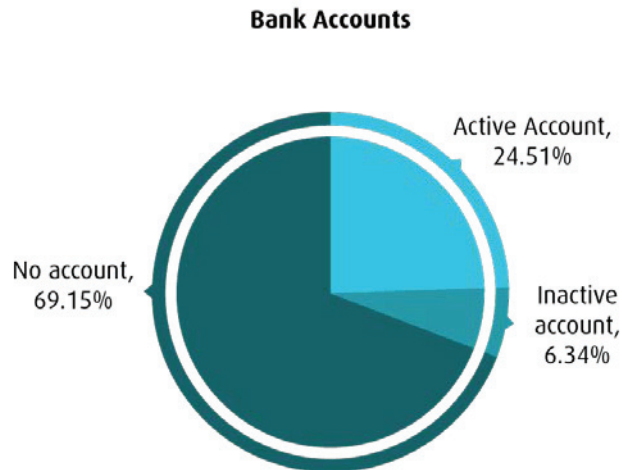


Figure 44: Bank Accounts

Professional farmers are overrepresented as account holders. A possible explanation is that they have higher cash flows and thus different needs for financial products like saving accounts.

Formal Savers Related to Education

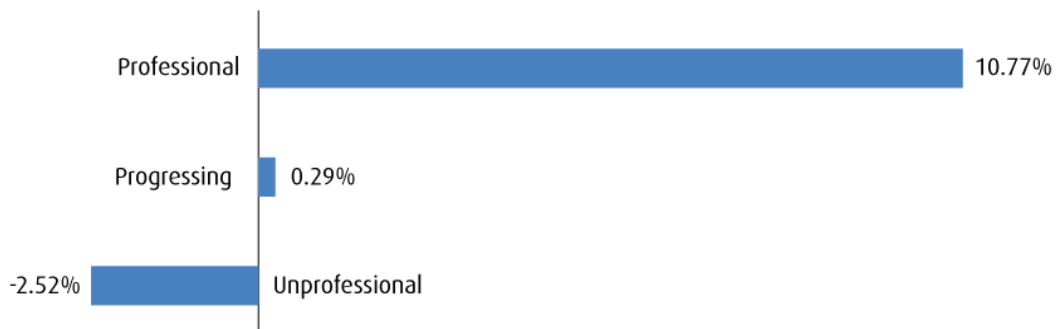


Figure 45: Account Holding by Professionalism

²⁴ Defined as at least one transaction within the last 12 months

Women tend to have more accounts than men.

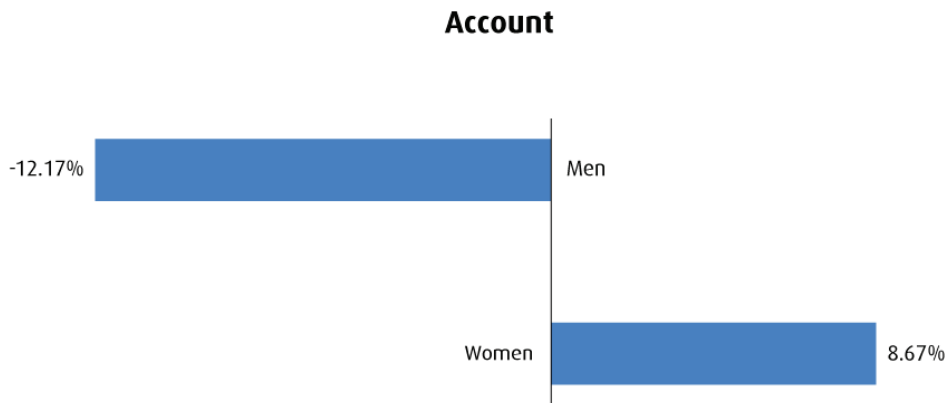


Figure 46: Account Holding by Gender

Future money needs can be identified as possible products to be offered to cocoa farmers. Most of the farmers need money to pay for school fees, farm investments and emergencies. The blue bars show the clear need for saving products, since those needs should not be financed through loans. Farm investments like fertilizer purchases could be financed through both savings and loans.

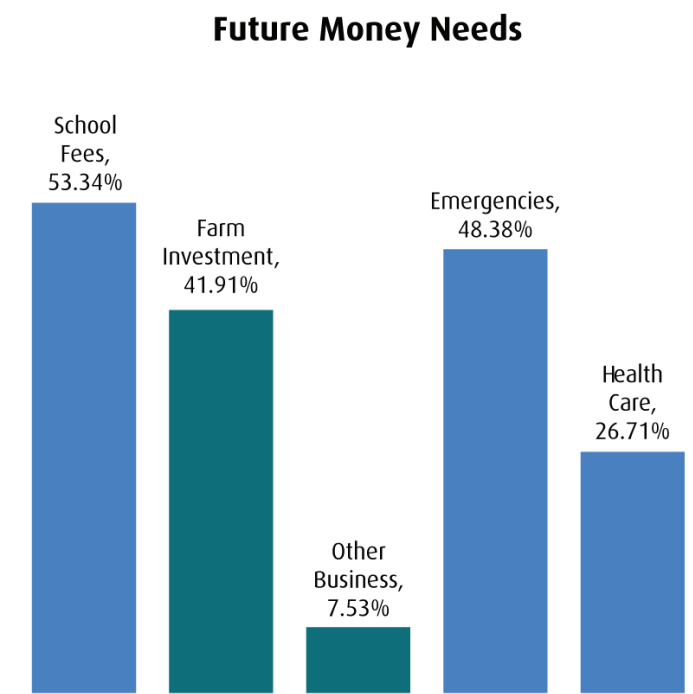


Figure 47: Future Money Needs

The knowledge of interest rates and fees for formal saving accounts is low. 83.29% of the farmers who have a saving account do not know the conditions.

Knowledge of Interest Rate and Fees on Savings

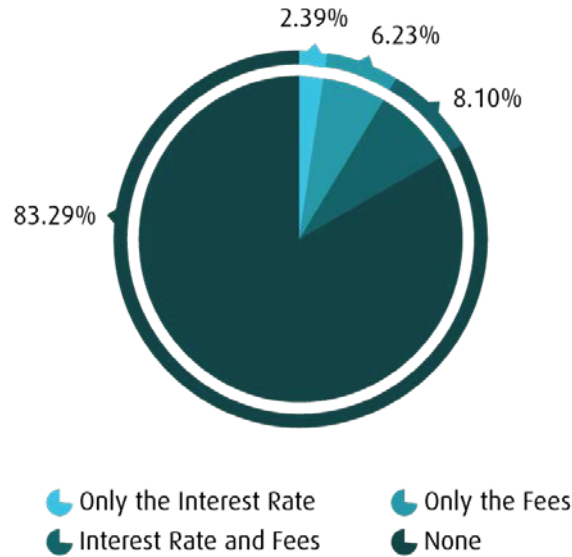


Figure 48: Knowledge on Interest Rate and Fees for Saving Accounts

The distance to banks in relation to account holding shows that distance is not a factor. Account holders living more than 10 km or more away are slightly underrepresented compared to the overall sample, while farmers living less than one km from a bank are slightly overrepresented.

Distance to Bank Compared to Account Holding

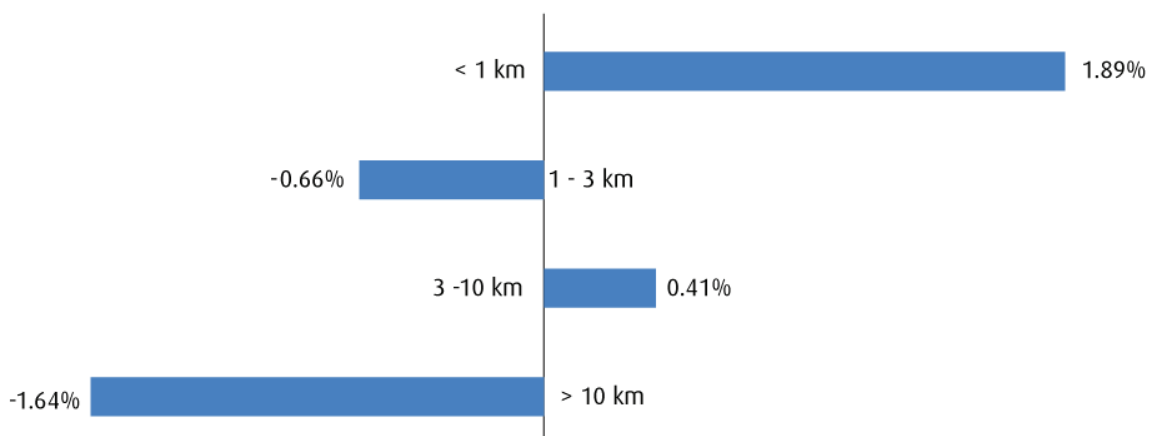


Figure 49: Distance to Bank vs. Account Holding



Influence factors on the Cocoa Farm Gate Price

Cocoa world market prices are affected by various factors including stock/grind ratios, expectations for future production/demand, global food prices, and consolidation/fragmentation in cocoa trade and processing industries. These components generally set the tone for long-term trends in cocoa prices, while trading by investment funds tend to drive movement in the short-term. For Indonesia, the exchange rate between IDR and USD must also be taken into account.

On the micro level, price factors are: the distance and competition to and between traders, quality of the beans, price negotiation skills and post-harvest processing (mainly wet, dried, and fermented).

The chart below illustrates the high farm gate price farmers receive. It is significantly higher than the farm gate price in African countries like Ivory Coast and Ghana, where the government cocoa boards set prices.

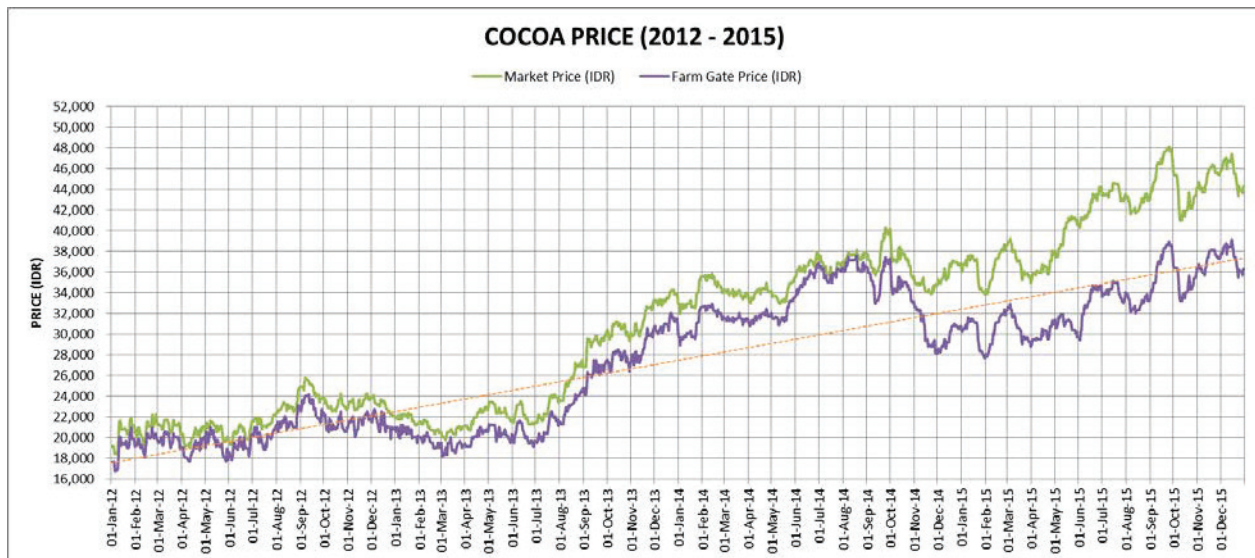


Figure 50: Cocoa Price 2012-6/2015

Source: BT Cocoa

As shown before, cocoa farmers who stating the lowest prices received the highest loan amounts. The price distribution itself is as follows, although it is not distinguished if beans are sold wet or not. For prices up to 20,000 IDR, it could be expected that beans are sold wet:

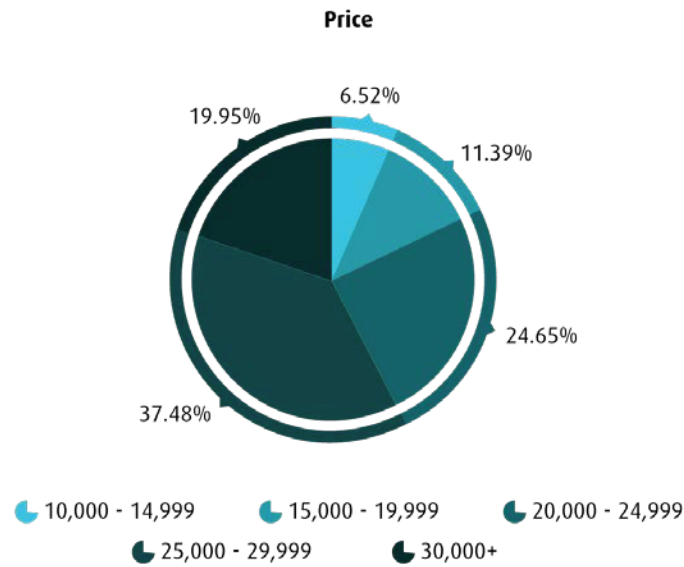


Figure 51: Cocoa Price Distribution amongst Farmers

Most interesting is that farmers with loan experience with traders get on average 9.06% higher prices than farmers with loan experience with banks (May 2015: 12.95%). The average price difference between farmers with loans from traders and farmers without loan experience is 5.61% (May 2015: 13.16%). This would indicate that the theory that the price of a loan is hidden in the purchase price is wrong. It is unclear as to why this is the case. It is possible that higher prices are paid to avoid side-selling and to ensure repayment of the loan, or a special relationship in the sense that only good friends/clients receive a loan (and higher prices). It is also noteworthy that farmers who stated that traders are rich get higher prices than farmers who don't think so (difference 3.40%; May 2015: 10.22%). Farmers with loan experience get higher prices than farmers without loan experience (difference 0.73%; May 2015: 4.88%). This might be because of tougher negotiations and higher levels of self-confidence. Compared to the first report from May 2015, those numbers came closer to the average (as it could be expected). However, there is room for additional research.

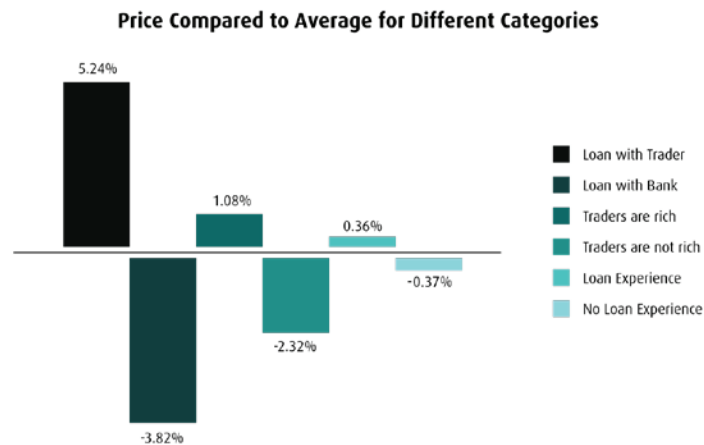


Figure 52: Price differences for selected Farmers

The price difference between men and women is less significant (although men get 2.6% higher prices). Farmers who agreed to the statement that selling wet beans is preferable over selling dried beans get on average 2.86% lower prices. And farmers who say they need a loan compared to those who don't get on average 0.58% higher prices. There is almost no price difference between professional and unprofessional farmers, nor between farmers who are satisfied with their cocoa business and those who are not satisfied. This is not conclusive and can be explained most likely by a measurement error.

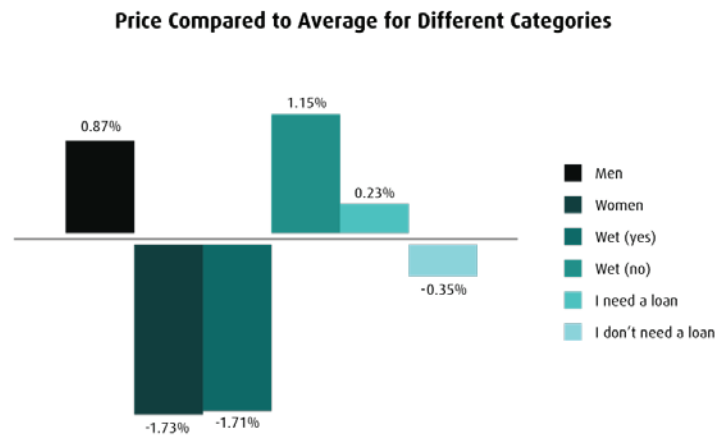


Figure 53: Price differences for selected Farmers (II)

Land Certificates

Land certificates can be used as collateral to access formal loans. Thus, it is expected that if farmers have a land certificate, they could offer valuable collateral to a financial institution. Therefore, access to formal loans should be easier with a land certificate than without.

Of the farmers who have answered the GFP questionnaire, 13.97% hold a notarial deed (BPN), compared to 21.6% of all 59,386 SCPP farmers. This difference will get smaller as more data are collected. 7.49% of the farmers with a formal land title have loan experience in banks (while 5.31% of all farmers have).

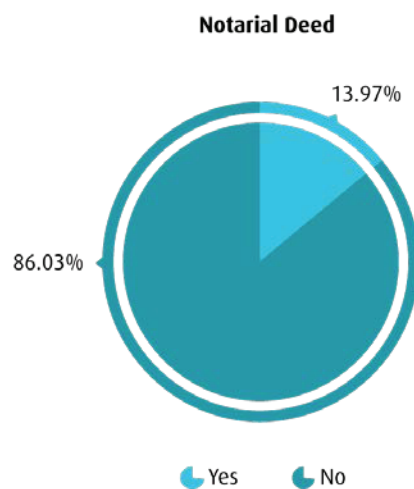


Figure 54: Farmer with formal Land Title

Professional farmers are less likely to have a formal land certificate than progressing farmers, and women are significantly underrepresented in that category. This might be due to the significantly lower access to formal loans for women, thus there would be no need to prioritize having a formal land title.

Notarial Deed

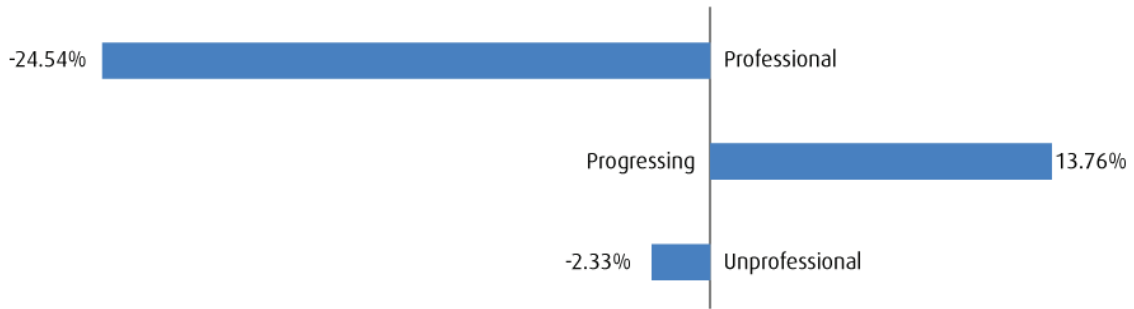


Figure 55: Notarial Deed by Professionalism

Notarial Deed

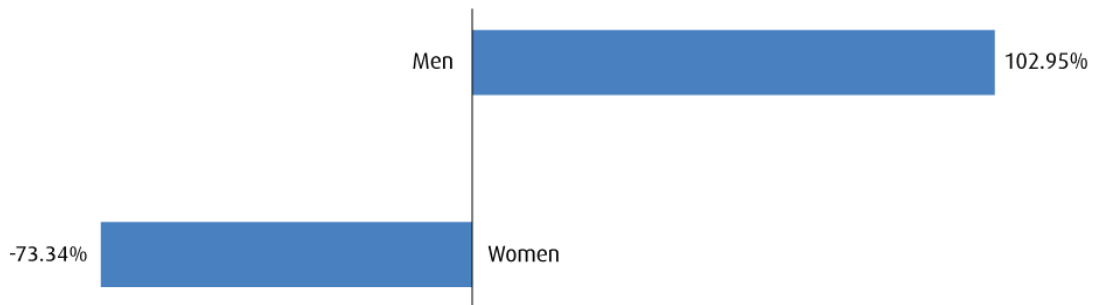


Figure 56: Notarial Deed by Gender

An older farmer with an age of 45 years or above has a formal land title significantly more often than a younger farmer. This could be for various reasons. Either in earlier times land certificates were more common (e.g. through government registration programs) or those older farmers had more funds available to afford the registration of a land title. However, this cannot explain why younger farmers have significantly less access to formal loans.



Notarial Deed Related to Age

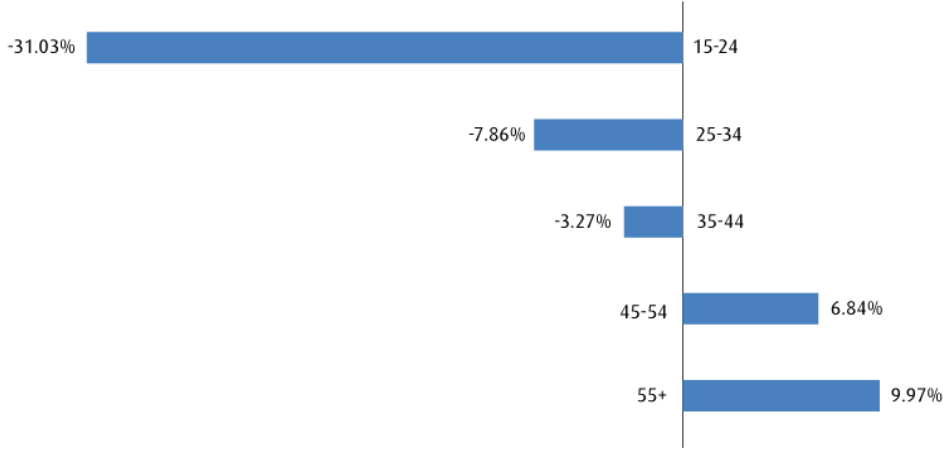


Figure 57: Notarial Deed by Age

Additional Income to Cocoa

77.07% of farmers do have additional income, mostly irregular (86.15% out of those with additional income). Regular income is usually a salary from regular employment, e.g. as a teacher. Irregular income is mainly day-labor income, but also income from other businesses and other crops.

Additional Income

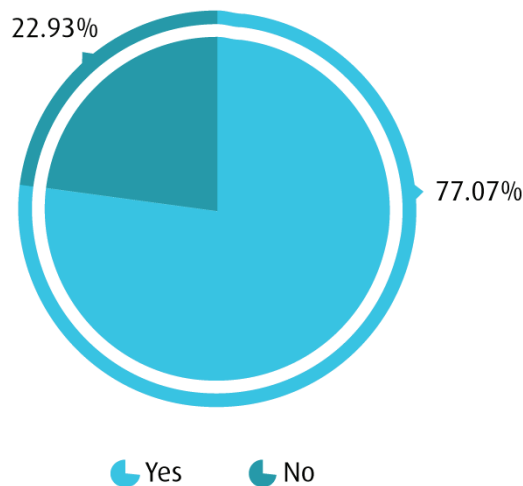


Figure 58: Additional Income

Professional and unprofessional farmers are more likely to have additional income by comparison of progressing farmers. Progressing farmers concentrate on their farm business and should have less spare time. The reason professional farmers are overrepresented needs further investigation.²⁵

Additional Income

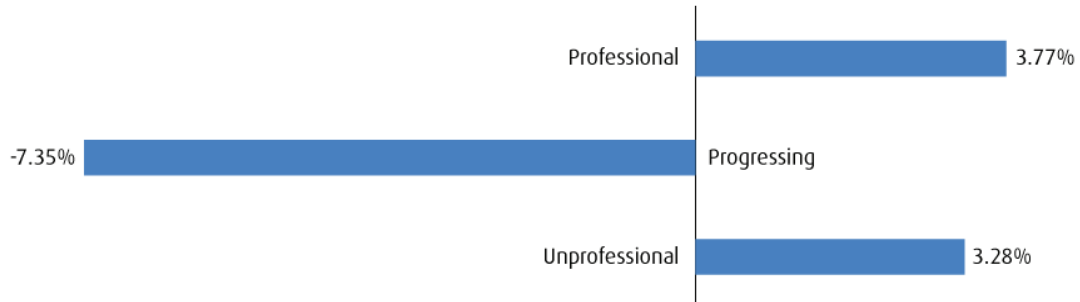


Figure 59: Additional Income by Professionalism

Women are slightly overrepresented in that category.

Additional Income

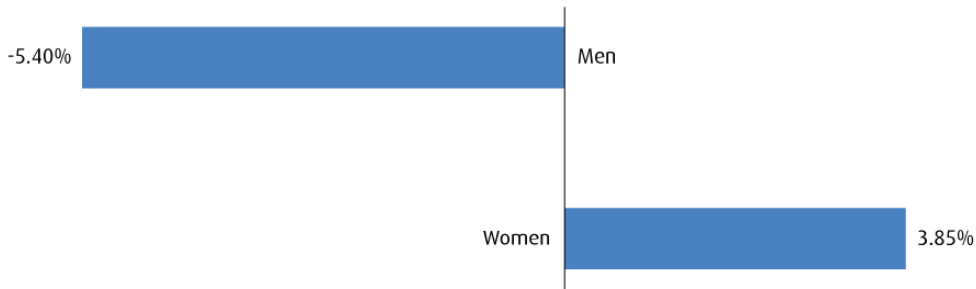


Figure 60: Additional Income by Gender

About Interest Rates

Of all farmers, 27.54% agreed on the statement that high interest rates are acceptable, as long as the farmer earns his money back. That has two implications: 1) the existence of a business mindset, and 2) price sensitivity.

²⁵ This differs from the first baseline report, where professional farmers also less often had additional income.

High interest rates are ok, if I earn my money back

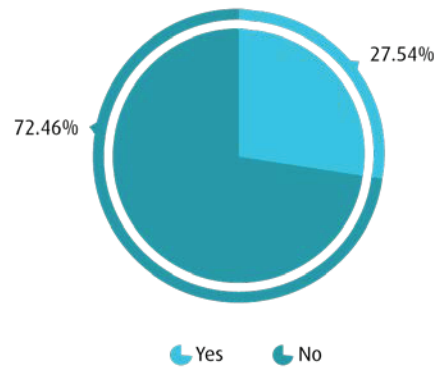


Figure 61: Perception: High Interest Rates

Professional farmers are most willing to pay higher interest rates, as long as they earn their money back, while unprofessional farmers have serious doubts about this.

High interest rates are ok, if I earn my money back

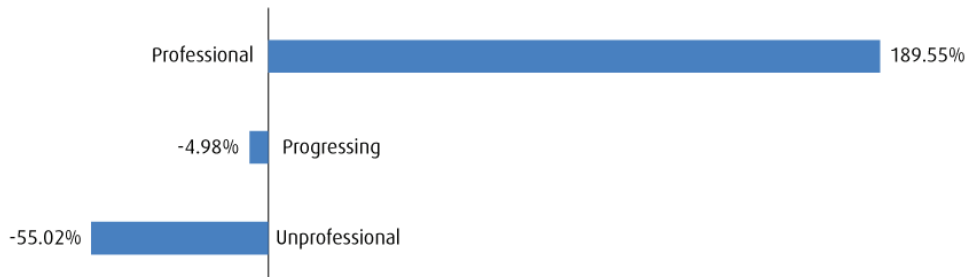


Figure 62: High Interest Rates by Professionalism

Women seem to be more risk averse in that question.

High interest rates are ok, if I earn my money back

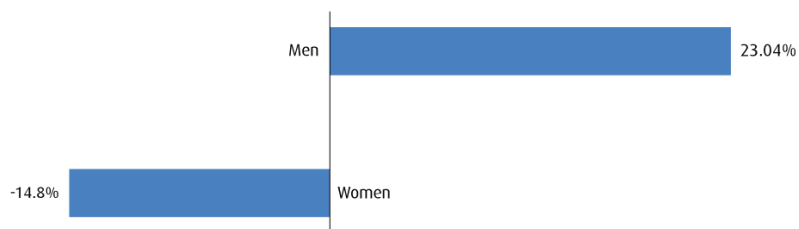


Figure 63: High Interest Rates by Gender

Farmers with loan experience are much more open to the idea of high interest rates than farmers without loan experience.

High interest rates are ok, if I earn my money back

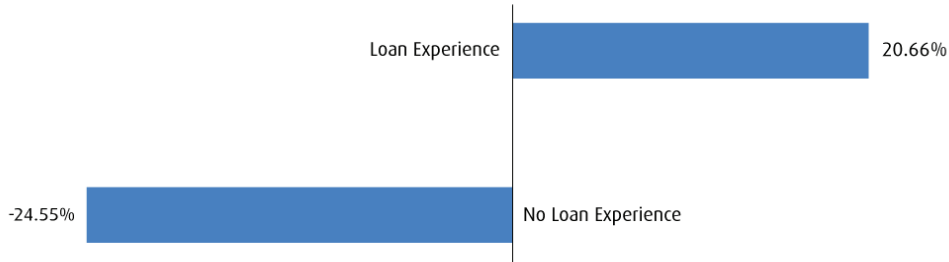


Figure 64: High Interest Rate by Loan Experience

Unsubsidized Fertilizer Perception

Many farmers in Indonesia are used to subsidized fertilizer, although it's not always available and subsidized fertilizer can lead to over-dose because of the lower price and resulting perception that more is better. Only 22.15% of the farmers agree on the statement that applying unsubsidized fertilizer can be profitable. There is a slightly higher percentage of farmers that have access to bank loans, who perceive that unsubsidized fertilizer can be profitable (6.11% vs. 5.07%; May 2015: 8.13% vs. 4.38%).

Unsubsidized Fertilizer is Profitable

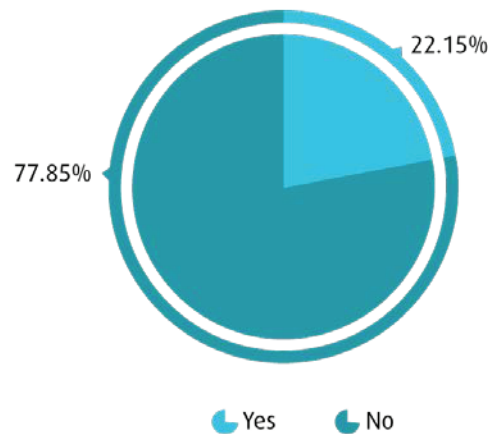


Figure 65: Perception: Unsubsidized Fertilizer is Profitable

46.90% of farmers who say that using unsubsidized fertilizer is not profitable are satisfied with their cocoa business, while the number is 56.66% for farmers who think that unsubsidized fertilizer is profitable.

Professional farmers agree significantly more often on that statement. That might be because they have more experience in appropriate fertilizer application than unprofessional farmers or are "fertilizer ready". Here lies potential for the promotion of fertilizer.



Unsubsidized Fertilizer is Profitable

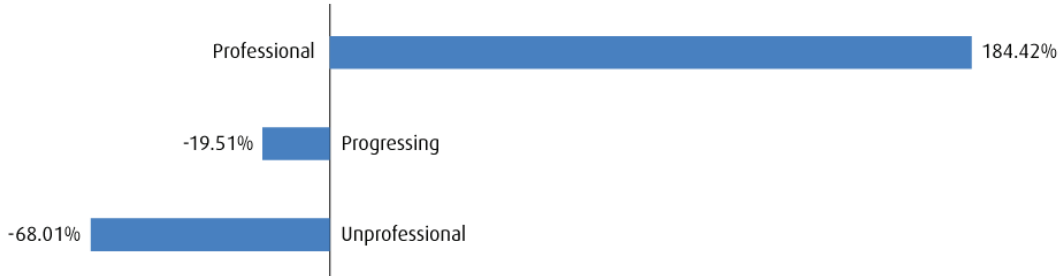


Figure 66: Unsubsidized Fertilizer is profitable by Professionalism

Women disagree more often than men. This shows that women need to be included strongly in fertilizer promotion. More educational work can be done to explain the benefits of unsubsidized fertilizer, even if it is more expensive than subsidized ones.

Unsubsidized Fertilizer is Profitable

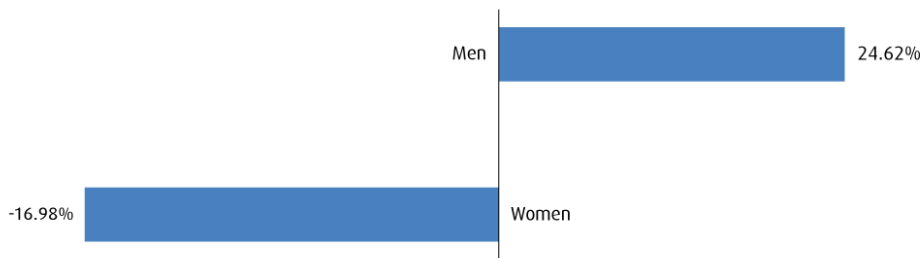


Figure 67: Unsubsidized Fertilizer is profitable by Gender

Financial Information and Perception

Part of the baseline GFP questionnaires were perceptual questions to understand the farmers better. 67.28% think that profit sharing is better than paying interest on loans. This could be because of the religious background, where interest is forbidden (although often applied) or a risk matter. For professional cocoa farmers with a much higher production than the average, profit sharing has fewer advantages, although the profit share itself was not asked. Here different shares could be realized.

Sharing profits is better than paying interest for a loan

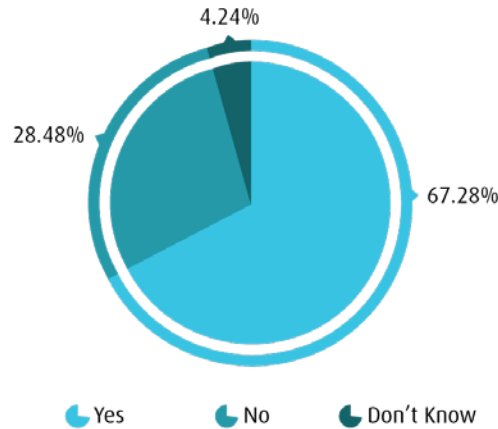


Figure 68: Perception: Sharing profits is better than paying interest for a loan

Some other perceptions are that most of the farmers think that they are good loan clients (79.84%), although only 60.23% want a loan (and think they should get one). Farmers confirm that having a loan from a trader implies that they have to sell their beans to that particular trader (64.30%). Less than half of the farmers (47.05%) think that they can pay all expenses with their cocoa income, while 96.27% think that cocoa is a profitable business.

Perception

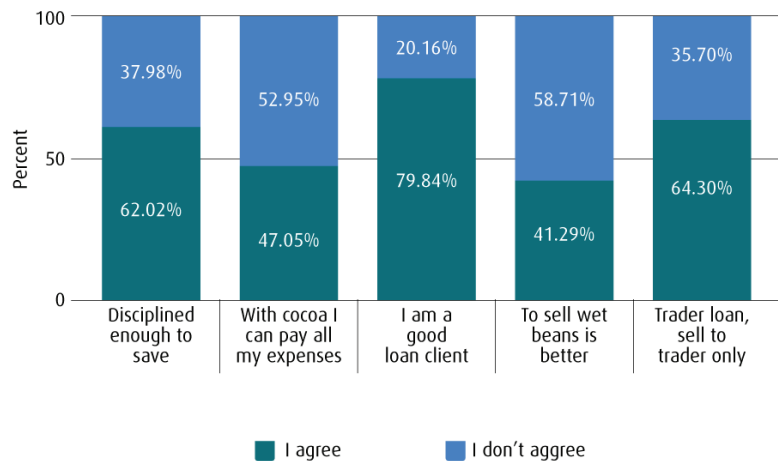


Figure 69: Perception: Various topics

85.75% of farmers trust banks to keep their money safe. This shows, that it will be a challenge to reach all farmers with access to formal savings. 78.94% of the farmers trust their group members and 56.35% would repay a loan for a group member. This is an interesting number for a possible group loan design and indicates that group loans under the current group setting seems to be less favorable.

Trust

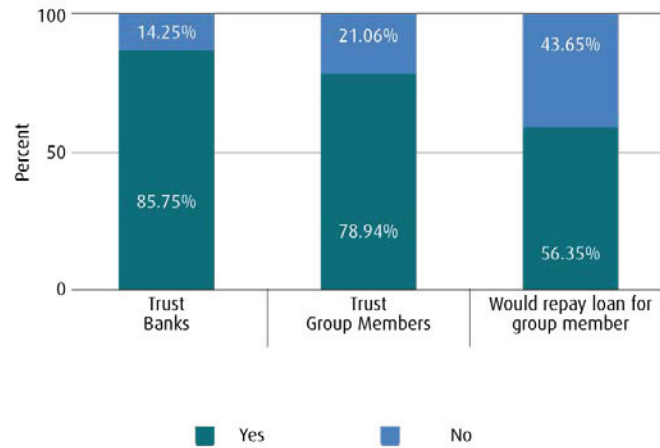


Figure 70: Perception: Trust

Asking farmers if there are many cocoa farms for sale can help us get a feel for the situation in the regions. It can also give us a feel for the individual farmer's situation, assuming that a farmer thinking about selling his farm would more likely agree to that question. 14.87% of the farmers respond with yes.

There are many cocoa farms for sale

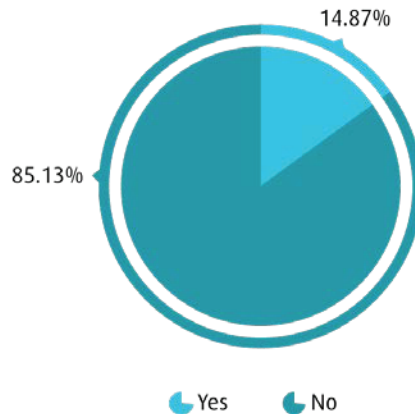


Figure 71: Perception: Cocoa Farms for Sale

Central and South-East Sulawesi as well as Aceh have to be monitored closely in cocoa sector development for two reasons: 1) there seem to be comparably more farms for sale, indicating that farmers are not satisfied with their profession in agriculture (otherwise they might change only crop, but not sell the land) or 2) they are in the need of money or planning to move. In all cases, this might affect the results of trainings. Yet this also brings opportunities for professional farmers in those regions. If land is available, they could buy an additional piece of land to increase production.

Cocoa farmers for sale compared to average

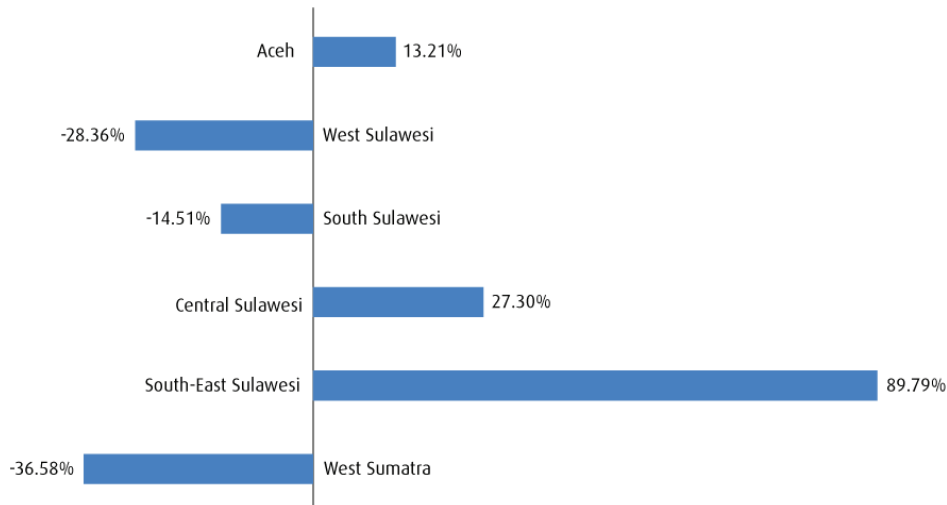


Figure 72: Cocoa Farms for Sale by Province

Further research is needed on that. Farm sales should be understood better as the future scenario may change from “farmers divide their farms between their children” to “farmers sell the farm and retire/leave inheritance.” Higher sales in Central and South-East Sulawesi may mean more ‘professional thinking’ and as those areas are often official or un-official transmigration areas, it is very possible that farmers plan to return to their home towns or to other places to enjoy their ‘pension’.

On average, farmers value their cocoa farms at 25.8 million IDR per hectare, obviously with high variations. Land prices are highly determined by location and a farm up-hill without proper infrastructure likely has a lower price than a farm right beside a main road. Professional farmers value their farms slightly higher (30.8 million IDR) than progressing farmers (29.7 million IDR) and unprofessional farmers (23.3 million IDR). However, 49.21% of all farmers value their farms in the category “Zero to IDR 10 million per hectare”, with an average value of 6.4 million IDR/ha.

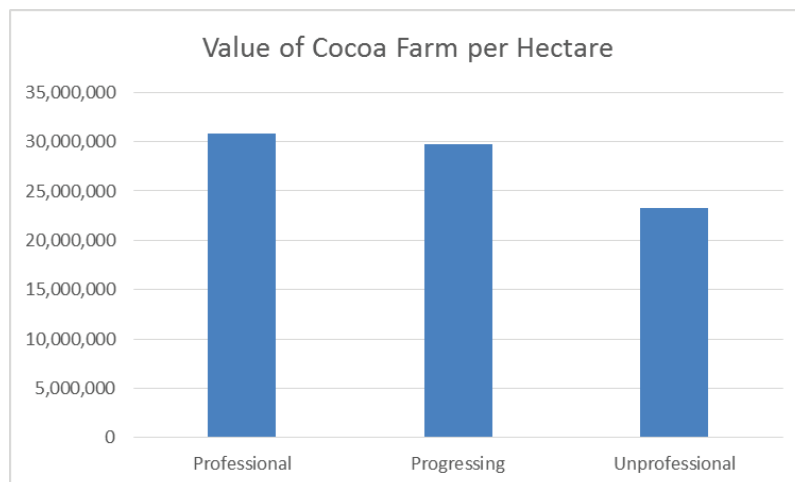


Figure 73: Value of Cocoa Farm per Hectare by Professionalism

Looking at the value of the farm per kg cocoa produced per year there are different perceptions. It can be seen that unprofessional farmers value their farm at more than IDR 80,000 per kg, while professional farmers value it at just IDR 22,000. In other words, professional farmers value their farm at less than one annual turnover and unprofessional farmers value theirs at about 4 times their annual turnover. This might create challenges when professional farmers want to purchase land from unprofessional farmers. Those 49.21% of farmers who value their farm land between zero and IDR 10 million, value their farm at IDR 14,800 per kg based on average annual production.

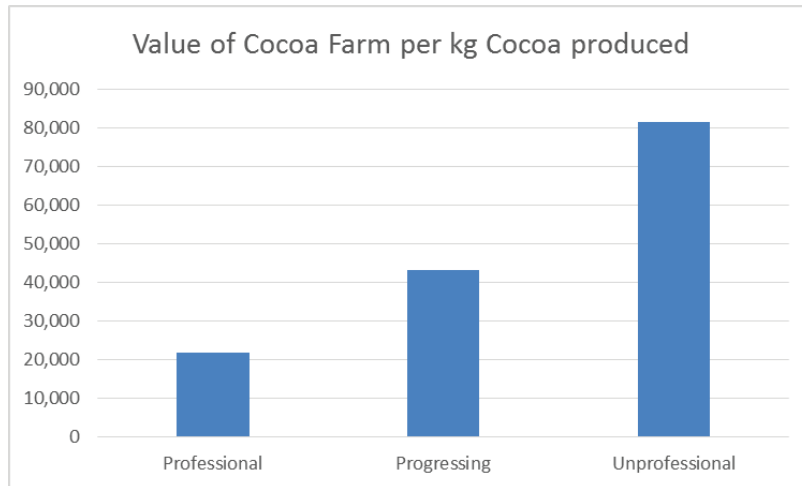


Figure 74: Value of Cocoa Farm per kg Cocoa produced by Professionalism

In case of emergencies, farmers think that farm inputs can be easily postponed (38.69%), followed by education expenses (24.00%), then health care and food expenses. Since those are typical expenses for which savings can be built, there wouldn't be a need to postpone them. However, it is questionable if agri-inputs should be postponed, since this will lead to lower production, thus less income in the future.

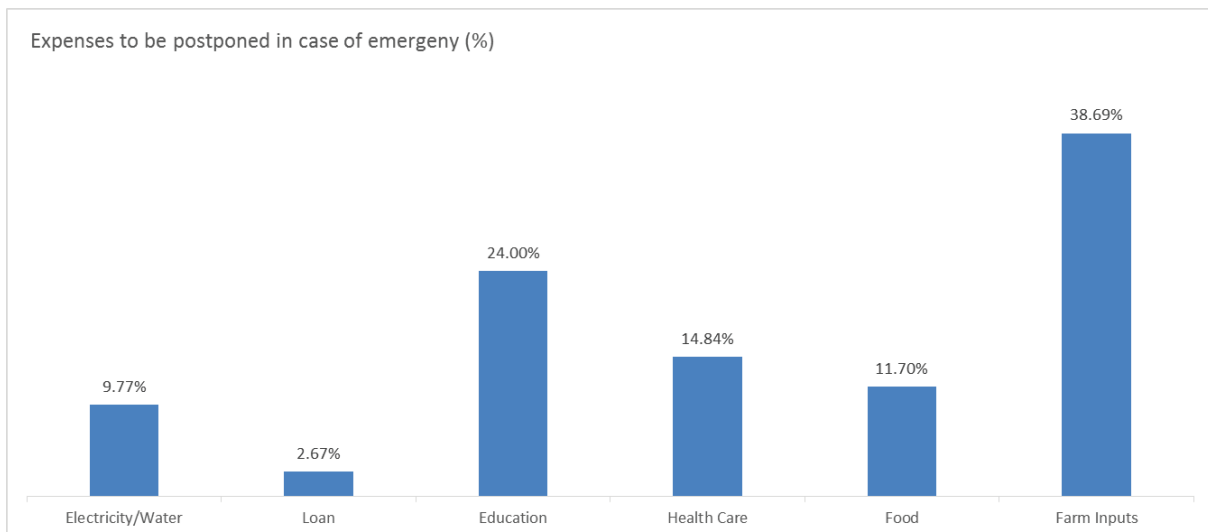


Figure 75: Expenses to be postponed in case of emergency

Of the farmers who said that loan installments could be postponed (2.67% of all respondents, see figure 74), the majority (72.10%) do have loan experience from various sources. This indicates that the lenders were not strict enough with the collection of repayments and/or that informal loan sources were much less concerned with strict repayment. However, for a financial institution this answer is not acceptable. Strict repayment has to be enforced. There might be violent situations when trying to seize collateral,

but the contractual setting permits a bank or its agent to seize. Bank Rakyat Indonesia indicates that their cocoa loans are non-performing at a ratio of less than 2%.²⁶

Farmers who would postpone a loan installment

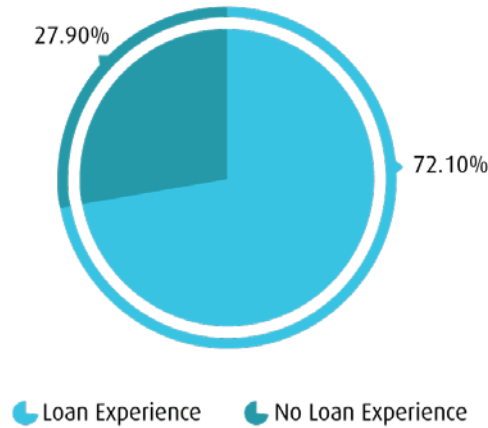


Figure 76: Postpone loan installments by Loan Experience

Not surprisingly, money for urgent expenses comes mostly from family, friends and savings. However, for a small number of farmers, money comes from harvesting their pods earlier and selling them to have money available. It should be clear that this might have effects on quality and price of the beans.

There are indications that farmers consider weddings as emergency expense, although this could easily be planned years in advance.

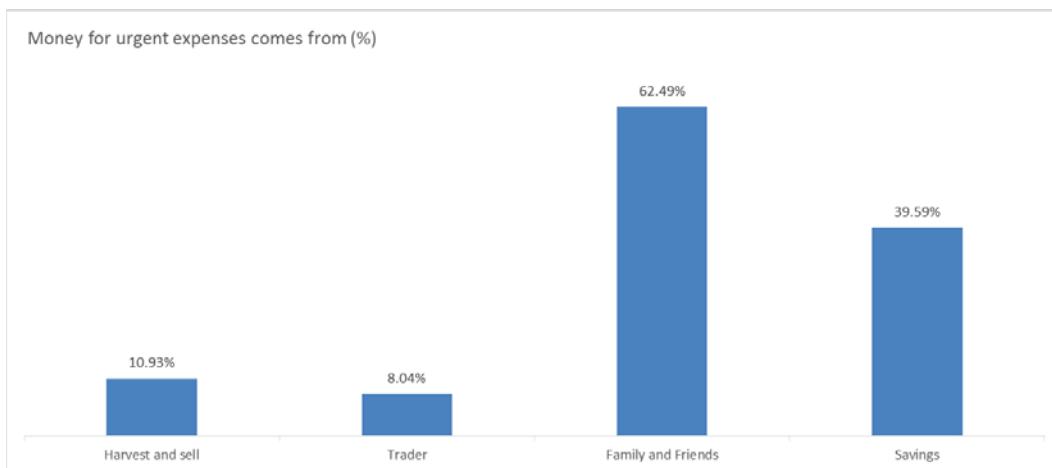


Figure 77: Source of money for urgent expenses

Of the farmers who asked family and friends for money, 44.15% had their own money, with 36.08% being liquidable and easily available. This means that they did not want to use their own savings or the emergency expenses were larger than the savings they had.

²⁶ 'Non-performing' according to regulation: More than 90 days in arrears. This requires a loan loss provision of at least 10% of the outstanding loan amount minus the considerable value of the provided collateral.

Savings of farmers, asking family and friends in case of emergency

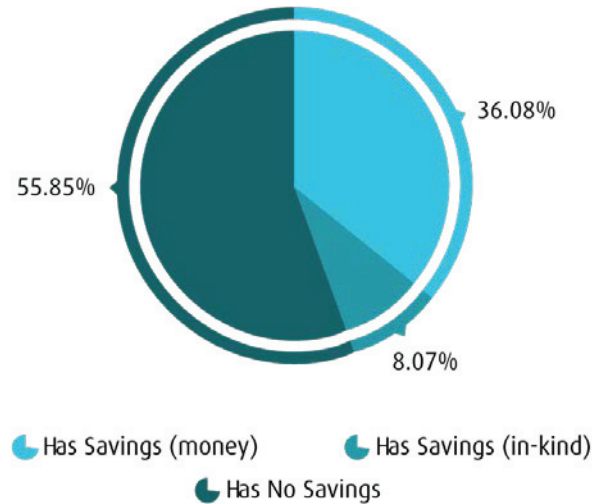


Figure 78: Borrowing in case of urgent expenses despite having own savings

84.72% of the farmers own a mobile phone or have access to one. If literate, this would be a huge potential for branchless banking products or other financial services offered through mobile phones. It could also be used for educational purposes, like an occasional SMS service on certain agricultural topics or in the case of smart phones the streaming of videos could be used with special apps/games for better cocoa farming. Especially in the case of USSD services,²⁷ virtual SIM-cards could be used. However, both coverage and use of mobile financial services is very low in Indonesia.²⁸

²⁷ Unstructured Supplementary Service Data

²⁸ Financial Inclusion Insights (2014): Mobile Money in Indonesia: 0.1% of adult Indonesians have ever used mobile money.

Improved Access to Finance – Bottlenecks and Interventions

Market Overview

Lending to the agricultural (livestock, forestry and fishery) sector accounts for 5.97% of total lending in Indonesia,²⁹ dominated by loans to large state-owned private entities. Average interest rates are 12.11% (loans from commercial banks) and 33.58% (loans from rural banks). The Non-Performing Loans (NPL) in the agricultural sector stand at 4.2%.³⁰ Although charging on average relatively high interest rates, rural banks lend 6.94% of their portfolio to the agricultural sector.

Compared to the overall lending to the agricultural sector, at 1.91%, cocoa farmers are currently underrepresented in outstanding loans from commercial banks. The most probable reason are better business opportunities in other sectors, such as retail or services. Other reasons might be severe concerns in targeting cocoa farmers due to the inherent business risks, distances/operational area and sector knowledge.

Barriers to Financial Inclusion for Cocoa Farmers

Interventions

Interventions to tackle the challenges of A2F for cocoa farmers are often interlinked. Banks in Indonesia are interested in financing the cocoa sector, but they lack knowledge of the sector in general and on financing opportunities in particular. This gap can be closed.

Capacity Building to Farmers and Financial Institutions

Better knowledge of the cocoa sector is needed for banks and proper business cases have to be illustrated. Capacity has to be built through cocoa sector training to financial institutions. Understanding the cocoa sector is an important precondition to develop appropriate products and evaluate risks accordingly. For this, Swisscontact has developed training material on the sector, written from a banker's point of view. At the beginning the training will be provided through specialized Cocoa and Finance staff from Swisscontact. Later, BDS provider and in-house training units of banks will be trained as master trainers to deliver the training to all relevant staff in interested financial institutions, starting from loan officers, credit managers, auditors, risk managers, branch managers and others.

Sector specific data are provided to banks. This includes data on crop cycles or seasonal cash flows, which items to finance (and which to not), farmer data of farmers who have expressed interest in receiving a loan as well as possible collateral to be provided.

SCPP provides financial literacy training to the member of the cocoa farmer household who usually handles the finances. The objective of that training from the bank's point of view in particular is to reduce the risk and workload for financial institutions. Emphasis is placed on planning and record keeping (for knowing the financial needs better and having supporting documents for loan analyses), loans (especially what a bank expects and why it is important to repay a loan, as it was agreed in the contract), and the promotion of savings as one tool to accumulate "usable large lump sums" for productive or non-productive objectives. Farmers learn to identify financial needs in advance and build up funds for emergencies, health care or other foreseeable expenses.

Linking Farmers to Bankers

Bank staff members are invited to villages to participate in financial literacy training directed at farmers so that they can socialize, present their products, as well as answer questions from farmers. This approach works surprisingly well; up to 50% of the farmers participating in the training use the opportunity to open a savings account during the training, and to get in contact with responsible bank

²⁹ Bank Indonesia, Indonesia Financial Statistics, I.4, March 2015

³⁰ Bank Indonesia, Indonesian Banking Statistics Vol. 12, No. 9, August 2014

staff. To extend that approach, banks are invited to special events like farmer field days and future competitions such as bankers vs. farmers might break the ice, e.g. with money counting contests or cocoa pod opening contests. Half-day trainings of bank staff on a cocoa farm seems to be a good way to increase the practical agricultural knowledge of staff. This could be done through farmer organizations as well as through interested farmer groups.

Business Cases

Business cases for banks include the mentioned concentration on the top 10% of the farmers in finance (e.g. agri-inputs), but also land financing as the most promising loan product for cocoa farmers and banks. Assuming that professional farmers can repeat their current production level on an additional piece of land, the land title of the additional piece of land serves as collateral, loan sizes are large enough to reduce (relative) operational costs and the cash flow from the existing and new piece of land ensures the repayment of a loan, land financing is a commercial attractive product. Remaining challenges are increasing land prices in Indonesia and the non-existence of land titles to a large extent.

Other business cases include financing to farmer organizations, but also offering in-kind or saving products to farmers as well as financing cocoa traders or other, larger off-takers.

Farmers have different productive loan needs in three major areas: Agri-inputs, rehabilitation/replanting, and investments (mainly in land). To tackle all three areas at once, broad knowledge is necessary. Risks are not evenly distributed in those areas. Scale can be reached through financing agri-inputs (as an in-cash or in-kind loan). Long-term perspectives can be achieved through rehabilitation/replanting and through investments in additional cocoa land.

Group loans don't seem to be feasible for cocoa farmers due to the low level of willingness to repay for group members. Such a product design needs to be considered carefully.

Categorization and Scoring

Apparently farmers weren't categorized systematically into professional, progressing and unprofessional in the past, leading to lost potential in providing loans, especially to professional and progressing farmers with higher than average cash flows. For large-scale use, data needs to be available. Swisscontact has a program management database, from which such professional farmers can be identified. SSCP experience shows that banks are highly interested in such data, since this can reduce their risk exposure significantly. Loans can be facilitated through pre-selection and data sharing, ensuring that data privacy for the farmer and his interests are balanced. Our recommendation is to first concentrate on the top 10% of the farmers, which are those who have the highest cash flows and hence a lower risk for financial institutions. After having sufficient experience and a better understanding of the sector, different target groups can be approached.

Even though it is necessary for them to access loans, young farmers are (knowingly or not) neglected by financial institutions, which results in missing a potential target group. Using existing data to pre-select farmers according to categorization such as this could decrease the workload for financial institutions and make cocoa farmers a more attractive target group. Some testing of the preselection algorithm might be needed at a certain point in time to have a better outcome.

Another intervention will be the implementation of a scoring system. Although an initial system could be introduced rather fast, fine-tuning will take time, since repayment behavior has to be considered and verified against certain farmer characteristics. The existence of data can now lead to a much better prediction of repayments and risk assessment.

Suitable Collateral

The gap between farmers with land titles and the requirement of banks for collateral needs to be addressed. Although banking regulation does not require collateral at all, banks are used to collateral to reduce the need for building loan loss provision. One option would be the support of the land registration process to increase the number of farmers with hard collateral. Other collateral (in a wider sense) like cocoa beans could be considered valuable. With easy to seize, valuable and easy to sell collateral, potential arrears could be handled well. For loans without needing collateral (those are sometimes offered, if the loan amount is below a certain limit), it would be psychologically desirable to ask for collateral, such as cocoa beans. This would make the farmer proud for being creditworthy, because he can offer collateral and it would make it clear that a loan officer collects that collateral in case of non-payment. Banks in Indonesia accept off-taker letters as a guarantee, stating that the crop will be bought, if certain minimum quality criteria are met. Providing such a letter would not be a risk for the off-taker, but could lead to significantly better access to formal loans and has to be used. The government guarantee scheme, Jamkrindo, reduces risk for banks too. 80% of the defaulting amount could be recovered through such a system. The danger is that financial institutions claim defaulting loans there, instead of collecting outstanding amounts. That could lead to the perception that loans don't have to be repaid. We do not recommend other guarantee schemes or the provision of funds to financial institutions since this could delay a market based solution.

Not every farmers is eligible to receive a loan

One of the most important recommendations is that not all farmers need a loan to increase cash flows. To do so, first and foremost labor-input is needed, meaning everyday they need to go to the farm to prune and maintain the trees. Especially because farmers categorized as unprofessional need to apply Good Agricultural Practices first. There is no need to put those farmers into debt, since this would bear a major risk for both the financial institutions and the farmers. At a later stage, Access to Finance will be needed to purchase agro-inputs. Since banks prefer to do business with credible clients only, the farmer could start with some savings to show his saving habits, his capacity to save regularly and his planning skills. For a professional impression, written records should be kept to make the loan analysis easier for a loan officer.

Branchless banking

The operational area of banks is limited and thus there is a certain travel time needed for either the farmer to go the bank or the banks to go to the farmers. While this is acceptable for farmers applying for a loan, it makes loan repayments and savings much more challenging. Ways have to be found to shorten the distance to places where financial transactions could be done. For a loan analysis this is challenging, since a loan officer should see the cocoa farm during an evaluation process. For loan repayments and savings, branchless banking products could be used. Both, branchless banking products (offered by banks) and e-money/mWallets (offered by mobile network operators or banks) exist in Indonesia.³¹ Especially the branchless banking products seem to be well designed.

Savings

While Access to Loans is still challenging because of various reasons, such as the absence of appropriate collateral and the bank's perception that agriculture is a risky business, savings could play a crucial role in cocoa farmers' financial management. Technically, a loan is nothing else than a future saving, whereas savings come with some advantages: There is no collateral needed (which most farmers don't have anyway),³² no interest to be paid, and no arrears possible. Every willing farmer could participate and

³¹ Use of mobile phones as payment systems or saving tools.

³² Only 21.6% of the cocoa farmers in Swisscontact's Sustainable Cocoa Production Program (SCPP) do have a notarial deed, which banks in Indonesia consider as good (hard) collateral and has usually a higher value than e.g. other collateral like motorbikes with ownership certificates.



even if funds are used for non-productive purposes, it is at least the farmer's own money. Disadvantages are that a lack of discipline might hinder farmers in saving (while loans are somehow a forced saving, since otherwise collateral might be lost). There might be temptation to access the funds, family, friends and neighbors might request funding for "emergencies", money might get lost if not properly stored (e.g. in a rural or commercial bank) and most importantly, if used for productive purposes, a loan could increase the income of a farmer quicker than saving, since the amount is readily available. The saving product design has to address behavioral bottlenecks.

Currently savings are based on voluntary actions. Motivating farmers to save regularly through traders for example, could lead to higher savings, providing the farmers with sufficient funds to purchase agro-inputs or getting at least some financial backup in case of emergencies. Explaining that farmers can be proud to save as well as explaining that small saving amounts will lead to the saving objective is a must from all stakeholders in the value chain.

Using cocoa bean traders as saving agents to collect savings and deposit them in individual farmers' bank accounts or make a branchless banking deposit transaction is a promising intervention to increase savings amongst farmers. The biggest constraints are trust in the product/service, literacy to use it and the question as to why a trader should act as an agent. Specific incentives have to be set, e.g. commissions paid and/or the outlook to higher business volumes in the future. Farmers need a bank account (in a branch or branchless), which might bear costs. What's more important is that farmers must be motivated to save and the trader could function as an easily accessible intermediary to do so.

Final remarks

All these interventions contribute to the increase of Access to formal Finance for cocoa farmers in order to achieve the overall SCPP target: An increase of income from cocoa by 75%. Achieving that gives the farmers and their family members a better livelihood and ensures a sufficient supply of cocoa beans for the private sector partners. More detailed or different analyses could be done using existing data, like SCPP has collected, for program management and traceability.

Farmer organizations were not part of the analysis in this report. Particular findings on business models for cooperatives (including loan business), options in capitalizing those farmer organizations and collaboration with commercial banks are shared separately.



swisscontact

Swisscontact Indonesia Country Office

The VIDA Building 5th Floor Kav. 01-04 Jl. Raya Perjuangan, No. 8
Kebon Jeruk 11530 West Jakarta | Indonesia
Phone +62-21-2951-0200 | Fax +62-21-2951-0210

Swisscontact - SCPP Sulawesi

Graha Pena 11th Floor Kav. 1108-1109 Jl. Urip Sumoharjo, No. 20
Makassar 90234 South Sulawesi | Indonesia
Phone | Fax +62-411-421370

Swisscontact - SCPP Sumatra

Komplek Taman Setiabudi Indah Jl. Chrysant, Blok E, No. 76
Medan 20132 North Sumatra | Indonesia
Phone +62-61-822-9700 | Fax +62-61-822-9600