

Mobile Banking Assessment in the Autonomous Region of Bougainville: An assessment of Mobile Banking among Community Roadwork Contractors and Cocoa Farmers in the Autonomous region of Bougainville

AROB Mobile Banking Assessment report compiled by William Apa, The Centre for Excellence in Financial Inclusion, Port Moresby, Papua New Guinea.

September 2017

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Published by The Centre of Excellence in Financial Inclusion (CEFI)
Port Moresby Post Office Building
Level 1
Port Moresby, NCD
Papua New Guinea

ISBN: 978-9980-89-983-5

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ACKNOWLEDGEMENTS

AROB Mobile Banking Assessment was conducted by The Centre for Excellence in Financial Inclusion (CEFI) in partnership with MiBank and Market Development Facility (MDF).

This report was prepared with the cooperation and support of the Transport Sector Support Program (TSSP), Agmark Arawa, Arawa Fresh Produce Limited, CPL Buka, DJ Lodge Arawa, Buin Inn, MiBank Buka, BSP Buka, and John Murray of Arawa.

Thank you also to the ABG officers in Buka, Employees of Reasons Bar & Grill Buka, Arawa Widows Association, and the 100 Community Roadwork Contractors and Cocoa Farmers in AROB who took time away from their busy work schedules to participate in our various workshops, focus groups, in-depth interviews, and answer questions for our quantitative survey.

A further thankyou to Augustine Birie from CEFI, Boniface Aipi from Bank of PNG, Kavaea Evara from MDF, and Victor Onavui from MiBank who contributed towards the successful completion of this assessment and the report.

ACRONYMS

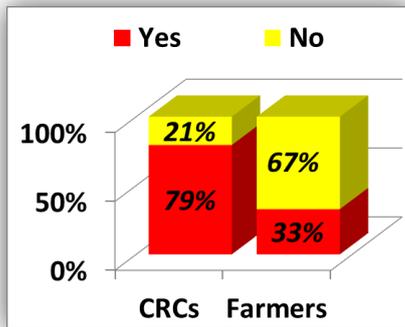
ABG	Autonomous Bougainville Government
AFPL	Arawa Fresh Produce Limited
ANZ	Australia New Zealand (ANZ) Bank
AROB	Autonomous Region of Bougainville
ATM	Automated Telling Machine
BPNG	The Central Bank of Papua New Guinea
BSP	Bank of South Pacific
CCIC	Copra and Cocoa Industries Corporation
CEFI	The Centre for excellence in Financial Inclusion
CRC	Community Roadwork Contractors
DAL	Department of Agriculture and Live Stock
EFTPOS	Electronic Fund Transfer at Point Of Sale
ENBP	East New Britain Province
ESP	East Sepik Province
LLG	Local Level Government
MBE	Mobile Banking Ecosystem
MDF	Market Development Facility
MNO	Mobile Network Operator
MSME	Micro Small Medium Enterprise
NGO	Non-Government Organisation
NIP	New Ireland Province
PNG	Papua New Guinea
SME	Small Medium Enterprise
TSSP	Transport Sector Support Program

GLOSSARY OF TERMS

Cash-in	This is the process whereby a customer credits his MiCash account with cash. This is usually done via bank branch or an agent who takes the cash and credits the customer's MiCash account.
Cash-out:	This is the process whereby a customer deducts cash from his MiCash account. This is usually done via a bank branch or an agent who gives the customer cash in exchange for a transfer from the customer's MiCash account.
Community roadwork contractor	Community roadwork contractor is a person living along the road in AROB who is engaged to do minor road cleaning and maintenance work. Tasks include grass cutting, drainage clearing, pothole filling, etc.
Literacy	The capacity to read a written letter.
MiCard	MiBank issued debit card to customers banking with MiBank
MiCash	Customer's transaction account with MiBank
MiPei	MiBank's bulk payment system where payments advise is sent to MiBank and amounts are transferred from the customer's accounts and deposited into each customers' accounts
Mobile Banking	A situation where banking transactions are conducted using mobile phones.
Mobile Money	A mobile phone-based service facilitating electronic transfers and other transactional and non-transactional financial services using mobile networks.
Mobile Money Agent	This is a person or business contracted to facilitate mobile banking transactions for users. Two most important activities are cash-in and cash-out (i.e. loading value into the mobile money system, and then converting it back out again). They also register new customers and provide front-line customer service such as teaching new users how to initiate transactions on their phone and earn commissions for performing these services. Agents typically conduct other kinds of business in addition to mobile money.
Mobile Money Wallets	Mobile money wallets are mobile money accounts that allow the account holder to conduct transactions from their mobile phones. These transactions includes receiving payments in exchange for goods and services they offer for sale, making payments for goods and services they receive, and sending money to other account holders.
Over the Counter Transactions (OTCs)	OTCs is where the senders or receivers do not use their own mobile money accounts and conduct transactions over the counter in cash with an agent who executes the electronic payment on their behalf

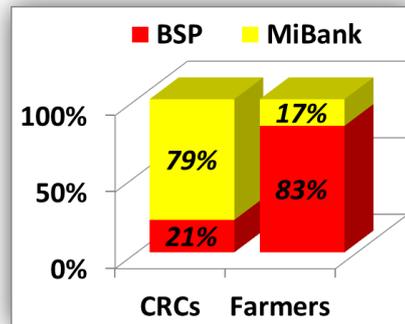
MOBILE BANKING AND COCOA FARMERS IN AROB

Do you have a bank account?



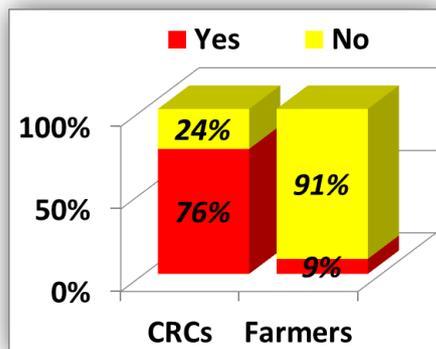
A higher proportions of respondents CRCs have a bank account than the farmers

Which banks do you have bank accounts with?



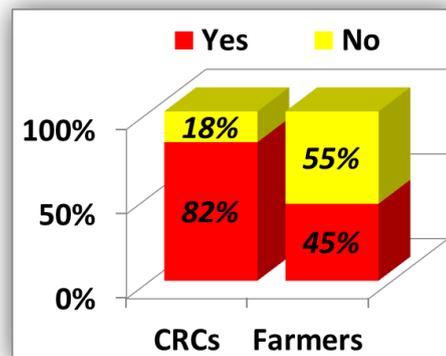
A higher proportion of CRCs bank with MiBank than farmers

Are you aware of mobile banking?



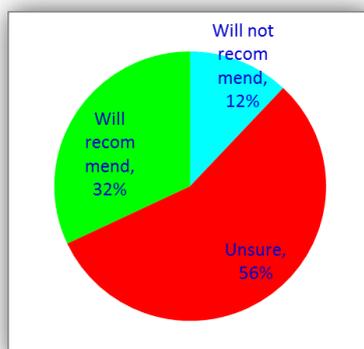
A higher proportion of CRCs are aware of mobile banking than farmers

Do you have a mobile bank account?



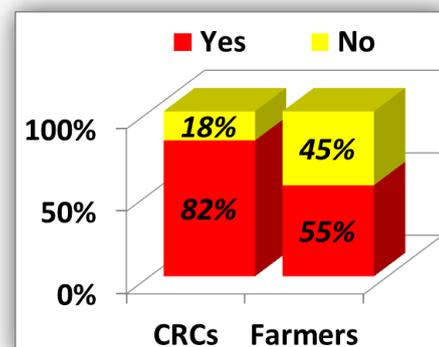
A higher proportion of CRCs have a mobile bank account

Are you likely to recommend mobile banking to others?



A higher proportion of respondents are more likely to recommend mobile banking to others

Do you own a mobile phone?



A higher proportion of CRCs own and operate a mobile phone

EXECUTIVE SUMMARY

- MiPei system was introduced in AROB in November 2016 by MiBank in partnership with TSSP to pay TSSP's Community Roadwork Contractors (CRC) through electronic banking. Funds accessed through mobile phones, MiCard, and over the counter at any MiBank Branch or MiBank Agent.
- MiPei rollout has increased banking among residents of AROB. A comparative analysis among CRCs and cocoa farmers revealed that more CRCs have bank accounts than cocoa farmers. This means that MiPei facilitated the increase in banking among CRCs in AROB.
- MiPei system deployed a “push strategy”, where opening a MiCash account and linked to Mobile Banking and MiCard were compulsory for CRCs as all payments by TSSP were done through the MiPei system.
- TSSP and MiBank partnership is a contractual relationship between TSSP and CRCs. The Agmark and cocoa farmer relationship is a transactional relationship. There is no binding agreement between Agmark and cocoa farmers. Cocoa farmers are free to sell their cocoa to any buyer of their choice and anytime they wish to sell. Employing a “Push Strategy” will not produce similar results as that of MiBank and TSSP experience. A strategy including a combination of push and pull strategy will work better. MiBank needs to create demand among cocoa farmers and MSMEs for mobile banking so that they demand mobile banking and engage Agmark and other cocoa buyers to service the demand.
- BSP introduced the tablet digital payment system in early 2016. However, the system is not used for cocoa buying and selling. Agmark, CPL, and AFPL all have the BSP tablets in their establishments. However, the tablets have not been used since launch. No evidence of launch awareness among cocoa farmers and TSSP workers in the quantitative phase. Hence, no evidence of demand from the cocoa farmers to use the tablets .
- MiPei has many tangible benefits and they include;
 - reductions in security risks of handling large sums in cash
 - reductions of fraud associated with cash handling
 - reductions in cash requirements contributing to minimising cash shortages
 - reductions in queues in banks and time wastage
 - elimination of cash handling fees
 - elimination of cheque cashing fees
 - increase in savings by account holders
 - providing access to banking services to CRCs
 - creation and maintenance of banking transaction records for CRCs which can be referred to for loan assessment purposes.
- Low levels of awareness and interest in Mobile Banking and Digital Banking among cocoa farmers and other MSMEs in AROB. The lack of awareness and interest is attributed to inadequate marketing support and people's general banking experiences and interests
- Factors discouraging cocoa farmers and MSMEs from having bank accounts are;
 - bank charges and fees
 - accessibility to banks in terms of travel hardships attributed to distance, road conditions, and travel costs

- long queues in banks
 - liquidity issues with other micro banks.
- Digicel is the major Mobile Network Operator (MNO) in AROB. BMobile Vodafone and Telikom have limited accessibility. Digicel infrastructure setup and accessibility is wider. However, due to vandalism, some places do not have mobile network access.
 - Road coverage throughout AROB. The issues are with the condition of the roads. There are several kilometres of unsealed roads and more than seven rivers in South Bougainville without bridges.
 - AROB is now the second largest cocoa producing province in PNG after East Sepik Province. AROB was the leading cocoa producer in PNG in the 1980s until the Bougainville Crisis in 1989. In 2016/17 cocoa season, AROB's volume estimate is 13,000 tones. At the current market price of K5.08 per kilogram of cocoa (K320/bag), this equates to K65 million going into the hands of the cocoa farmers in AROB. *(Source: International Cocoa Organisation, 2017. Quarterly Bulletin of Cocoa Statistics - Volume XLIII No. 1 Cocoa Year 2016/17. International Cocoa Organization)*
 - If all farmers were to be paid in cash, BSP's cash handing fees of 1% alone is K655,000. However, cocoa buyers that buy in cash charge 6% cash handling fees as they pay for the risk of handling cash, including insurances, logistics, and security hire, which equates to K3.9 million.
 - Merchants and agents charge a cheque cashing fee of 5%. If all payments were done in cheque then 5% cheque cashing fees equates to K3.3 million.
 - With the introduction of mobile banking to cocoa farmers, there will be a savings of K4 million annually. This will be passed onto the farmers as it is a deduction from the cocoa published price.
 - Cocoa pricing is competitive and cocoa farmers do compare prices and go to the buyers with the highest daily published prices. Cocoa farmers do shop around before they settle down with one buyer and sell their cocoa.
 - Cocoa farmers sell both wet beans and dry beans depending on their situation and need for cash. Cocoa dry beans fetch a much higher price than wet beans. Following are situations where cocoa farmer sell wet beans;
 - Farmers without fermentries sell wet beans, either because they started farming recently or their farms are too small and cannot produce the volumes to justify setting up a fermentry. A fermentry setup cost is around K7,000.
 - When farmers have urgent need for cash and there is no alternate ways to find the needed cash, they sell their wet beans to the aggregators for cash.
 - During low seasons when cocoa volume is not sufficient to warrant fermenting and drying. Fermenting and drying requires time and costs for wood, etc. If volume is insufficient, farmer sells wet beans to other farmers who then ferment and dry the aggregate volume.

- AROB is a matrilineal society where daughters inherit family land. With land ownership comes decision making authority for individual families as well as positions in community decision making. It is evident from the AROB experience that women play an active role in cocoa farming, harvesting, and selling, and women also engage in many other SMEs and that includes hotels, guest houses, hire cars, and bank agents.
- MiBank (Micro bank) is the preferred bank among village cocoa farmers and other MSMEs in AROB. They feel BSP is for employed people and business men and women who bank with larger sums of money.

TABLE OF CONTENTS

1.0	Introduction	1
2.0	Background and rationale for the AROB Mobile Banking Assessment	2
2.1	The Autonomous Region of Bougainville	2
2.2	Banks in AROB	3
2.3	Mobile network operations	5
2.4	Infrastructure – land, sea and air	6
2.5	Cocoa production	8
2.6	TSSP and mobile banking and reasons for engagement	11
2.7	The purpose of the assessment	11
3.0	Assessment methodology	12
3.1	Desk research	12
3.2	Qualitative research	12
3.3	Quantitative research	12
3.4	Sampling	13
3.5	Sample size	14
4.0	Main findings	15
4.1	The TSSP experience with MiPei	15
4.2	Cocoa farmers’ potential for mobile banking	18
4.3	Other stakeholders operations and thoughts on mobile banking	20
4.4	Agents and merchants in AROB	22
4.5	Lending opportunities.....	24
5.0	Cost benefit analysis	25
6.0	Conclusion	27
7.0	Recommendations	29
8.0	Action plan	31
9.0	Appendices	32

1. INTRODUCTION

Cocoa is the leading cash crop in the Autonomous Region of Bougainville (AROB) with 70% of AROB households participating in cocoa production and sales. Other major commodities in AROB are copra and alluvial mining. AROB is the second largest cocoa producer in Papua New Guinea (PNG), after East Sepik Province (ESP). In the 2016/2017 cocoa season, AROB production estimate was 13,000 ton and K65 million in revenue for the cocoa farmers in AROB. (*National Research Institute, 2010, Papua New Guinea District and Provincial Profiles, PP 155*)

Cocoa farmers in AROB, like many other farmers in Papua New Guinea, face many obstacles in their crop production, harvesting, transporting, and selling. Farmers work in very difficult conditions to grow cash crops and take them to the markets to fetch better prices. Banking services is one such obstacle that the cocoa farmers in AROB are faced with that inhibits cocoa production and optimising on their earnings from cocoa.

MDF and MiBank recognise this struggle and have been working in partnership with Agmark to introduce mobile banking to the cocoa farmers in AROB to alleviate the access to finance and access to banking issues that the farmers are currently facing.

MiBank and TSSP rolled out MiPei payment system in November 2016 with MiCash and MiCard in AROB where the CRCs are paid using the MiPei system and customers access their funds from their MiCash accounts using their mobile phones or their MiCard (debits card).



Figure 1: Cocoa pods on a cocoa tree

The AROB Mobile Banking Assessment was initiated by MiBank in partnership with MDF and CEFI to evaluate the TSSP and CRCs' Mobile Banking program and capture learning to roll out mobile banking among cocoa farmers and buyers in AROB.

2. Background and rationale for the assessment

2.1 The Autonomous Region of Bougainville

Autonomous Region of Bougainville (AROB) is located on the eastern end of PNG and shares external border with Solomon Islands (SI) and provincial borders with New Ireland (NIP), East New Britain (ENBP) and Milne Bay provinces. It has a population of 289,195 (2017 estimate) and a



Figure 2: Map of Papua New Guinea

total land area of 9,384 km². The population density of AROB is 31 per square kilometre, which is higher than the national population density of 17 per square kilometre. AROB has fertile volcanic soil. Natural vegetation is very thick and the forests grow back very quickly after clearing. (Source: NSO 2011 National Population Census extrapolated to 2017).



Figure 3: First Roman Catholic Missionaries to set foot in PNG was at Kangu Beach. Fr Jean Baptist Perpezat arrived in Kangu Beach, Buin, in 1903 from Shortland Islands, Solomon Islands.

AROB is the entrance to PNG for many services including religion, education, and administration. The region is rich in history, culture, flora and fauna. It has huge potential for development in tourism, fisheries, agriculture, logging, and mining. With existing seaports, airports, and road networks, access to markets in PNG and abroad is feasible.

Panguna in AROB was the world's largest open cut copper mine until its closure on the 15th of May 1989. Panguna mine was generating 44% of PNG's export revenue. It opened in 1969 under the subsidiary of Bougainville Copper Limited. . (Source: www.bcl.com.pg/company-history/)

Before mineral explorations and mining in AROB, copra and cocoa were major income earning commodities for AROB. Large plantations of copra and cocoa were established both in Buka and mainland Bougainville and labourers were brought in from the densely populated highlands provinces to work on the plantations. Copra and cocoa were major revenue generating commodities until the production and exportation of copper concentrate and gold in 1969.

During the years of Panguna mine operations, copra and cocoa were still producing and exporting but the mining operations shadowed cocoa and copra revenue to AROB. After the closure of the Panguna mine, copra and cocoa are now taking the front stage to generate revenue for AROB.

Many government agencies, business organisations, Non-Government Organisations (NGOs), and donor agencies see the role of cocoa and copra in AROB and continue to provide support to rebuild the copra and cocoa industries. A lot of investment and effort has gone into copra and cocoa farming in AROB. (Source: <http://www.wikipedia/the-autonomous-region-of-bougainville/>)

2.2 Banks in AROB

MiBank and Bank of South Pacific (BSP) have branches in Buka and representation throughout AROB. Following table shows the numbers of branches, sub branches, rural banks, ATMs and agents of both MiBank and BSP in AROB.

BSP has one Branch in Buka, a Sub Branch in Arawa, and a Rural Bank in Buin. A total of 7 ATMs, 5 in Buka and 2 in Arawa, and a further 11 agents. 4 BSP agents in Buka, 4 in Arawa, and 3 in Buin. A number of merchants in Buka, Arawa, and Buin with EFTPOS machines. (Source: *Field research, August 2017*)

	Buka	Arawa	Buin	Total
Branches	1			1
Sub branches		1		1
Rural Bank			1	1
ATMs	5	2		7
Agents	4	4	3	11
Merchants				0
Total	10	7	4	21

Table 1: BSP setup in AROB

MiBank has one branch in Buka and a total of 12 agents throughout AROB. 2 agents in Buka, 1 agent in Kokopao, 1 agent in Wakunai, 4 agents in Arawa, 2 agents in Tinputz, and 2 agents in Buin.

	Branch	MiCash Agents	Total
Buka	1	2	3
Kokopao		1	1
Wakunai		1	1
Arawa		4	4
Tinputz		2	2
Buin		2	2
Total	1	12	13

Table 2: MiBank setup in AROB

Source: *Field research August 2017*

2.2.1 Mobile banking

Mobile banking offers tasks that are performed at a bank branch or a desk top computer performed on a mobile phone. These transactions includes checking account balances, transferring money to other accounts, setting up alerts, paying bills, paying for airtime credits, viewing bank statements, insurance payments, and bank loans enquiries. (Source: <http://achieve.usbank.com/my-money/what-is-mobilebanking-and-what-are-its-benefits/>).



Figure 4: Mobile banking

Mobile banking was launched in PNG in 2010 and the four commercial banks, BSP, ANZ, Westpac, and Kina Bank offer mobile banking services to their customers. Major microfinance institutions also offer mobile banking services to their customers. Mobile banking is a vehicle to facilitate the financial inclusion initiative in PNG. With wide spread accessibility of mobile phones, mobile banking looks promising. With the exponential expansion of mobile phone accessibility and usage around the world, mobile banking has developed very fast and providing access to banking services to the unbanked population both in developing and the developed world. (Source: International Finance Corporation, *Mobile Financial Services Its role in banks and in the market*, January 2014)

In AROB, both BSP and MiBank offer mobile banking services to their customers. MiBank in partnership with TSSP introduced mobile banking in November 2016. MiBank uses the MiPei system for bulk payments made by TSSP to CRCs' into customers' accounts, MiCash accounts. Customers access funds through MiCard, Mobile Phones, and over the counter services at any branch or MiBank Agent.



Figure 5: Artist impression of MiBank mobile banking in AROB

ANZ, Westpac, and Kina Bank do not have any branches but their mobile banking systems do work in AROB. One can still access their accounts using their mobile phones if they were linked to their mobile phones.

2.2.2 Mobile ecosystem

Mobile Banking Ecosystem (MBE) is a self - sustaining financial system within a secluded area where there is minimum external intervention. MBE is able to sustain itself effectively when bottlenecks are clearly identified and corrected. AROB is a secluded environment, however, the current MBE is not functioning well as there are instances of frequent cash shortages in some areas and excess cash in other areas.

Cash shortages are a frequent occurrence in AROB in different sectors. One reason cited is abnormal demand for cash during peak periods and these are seasonal peak periods in cocoa seasons and Christmas festive seasons. Another reason cited is that the Chinese communities conducting businesses in AROB do not deposit their money in the formal banking systems but rather store their cash in other places. Bougainvilleans are following the Chinese tradition in saving money outside of the formal banking system. *“It is a tradition in this country where the Chinese communities store money outside of the banking systems. However, AROB business men and women are now learning to store money outside of the banking system. That causes cash shortages,”* says the branch Manager, Mrs Seeto, BSP AROB.

In order for an effective Mobile Banking Ecosystem to exist, there must be a reliable Mobile Network Operator (MNO), a reliable Bank or Financier, a community willing to participate in the mobile banking ecosystem and an effective banking system trusted by the communities to be able to deposit and withdraw funds.

2.2.3 Benefits of mobile banking

Mobile banking offers many tangible benefits to both the banks and customers. Since its introduction, mobile banking has grown exponentially. Many commentators in the finance profession see mobile banking as a vehicle to introduce banking to the 2 billion unbanked population of the world. *“Approximately 2 billion adults—more than half of the worldwide adult population—do not have a registered bank account at a financial institution”*. *“Papua New Guinea (PNG) has some of the highest unbanked rates in the world owing to a set of interrelated challenges including geographically dispersed communities; low population density; low financial literacy; relatively underdeveloped telecommunication and banking infrastructure; and diverse cultural and language groups. (Source: Dr Tim Grice, (2015), Financial Inclusion, Mobile Money & Papua New Guinea Resources Sector, pp. 5)*

Benefits of mobile banking includes;

- Increase in access to basic banking services, hence, facilitating increased economic activity
- Reductions in risk of cash theft and increase in control over personal financial resources
- Faster and efficient payments from consumers, businesses, and government
- Improved convenience and reductions in cash in the economy
- Lower transaction costs
- Improved transparency and auditability
- Improved competition through reduced barriers to entry for fee-for-service banking models.

[Javelin Strategy & Research](#) found the average cost per mobile transaction to be just 10 cents, while an in-person transaction at a physical branch is \$4.25. Of course, these figures do not mean every mobile transaction saves \$4.15. However, much of the overhead in retail banking could potentially migrate to the mobile and digital channels, which would result in cost savings for financial institutions.

Source: Mobile Banking Adoption: Where Is the Revenue for Financial Institutions? Fiserve, 2016

2.3 Mobile Network Operations

All three Mobile Network Operators (MNO), Telikom, BMobile Vodafone, and Digicel provide mobile communication service in AROB. However, network reach and accessibility is variable among the three MNO. Coverage is good among all three MNO in the main centres of Buka, Kokopao, Arawa, and Buin. As we go further out from the main centres, mobile network accessibility is poor for Telikom and B Mobile Vodafone. Digicel has wider network coverage. Some locations are without mobile network access and are due to land owners sabotaging Digicel towers. Land owners sabotaged Digicel towers, claiming that Digicel not paying land rentals as and when due.

At the time of the assessment, there were several locations with poor or nil accessibility.

“Towers were built by Digicel in key strategic locations but land owners pulled them down due to non – payment of land rentals.” Community leader, Nakovis, South Bougainville.



Figure 6: Post courier cutting of Digicel solar panel recovery by AROB policemen, The Post Courier, 6th September 2017.

2.4 Infrastructure

AROB is connected by road, sea and air transport. Major airports currently in operation are Buka Airport, located in Buka and Aropa Airport, located in Arawa. Buka Airport is currently in use by Air Niugini for flights into AROB while Aropa airport is being used by third level airlines only at the time of this assessment as it is not suitable for Air Niugini planes. Third level airlines include Travel Air and PNG Air.



Figure 7:- Map of Road networks in AROB

Both Buka Island and Bougainville mainland have road access to most villages, schools, hospitals, and other basic services. In Bougainville mainland, the trunk road runs from Kokopao to Buin, connecting Arawa, Panguna, Nagovis, Siwai and Buin from the south coast and back through Tabogo, Sirowai, Aropa, and Arawa on the north.

Some villages are inaccessible during wet seasons as many rivers in South Bougainville along the Panguna-Buin highway do not have bridges. Sometimes people spend up to a week waiting for water levels to go down so cars can cross the rivers.

There were instances where rivers wash away trucks away when trying to cross the rivers in wet season. Most vehicles in AROB are 4x4 Toyota Land Cruisers.

AROB has many islands and is also well connected with sea transport. Main wharves are in Buka, Kokopao, Arawa, and Buin. Most cocoa volume and heavy goods are transported by sea transport while transport to the smaller islands in by sea.



Figure 8: Pulling a Toyota Land cruiser 10 seater out of a river in South Bougainville



Figure 9: Crossing a river in South Bougainville



Figure 10: Feeder road in South Bougainville



Figure 11: Main road to Panguna from Arawa

2.5 Cocoa production

Cocoa value chain includes farmers, aggregators, transporters, buyers, and exporters. Tasks involve farming, harvesting, fermenting, drying, sorting, grading, packing, transporting, selling, storing, and exporting.

Farmers involved in farming and harvesting. Some farmers do the farming and harvesting by themselves while others get hired labourers to perform the tasks of farming, harvesting, and postharvest handling.

Fermenting and drying process is done by farmers and aggregators. In the drying process, firewood is used. Bundle firewood in AROB costs K5.00 per bundle.

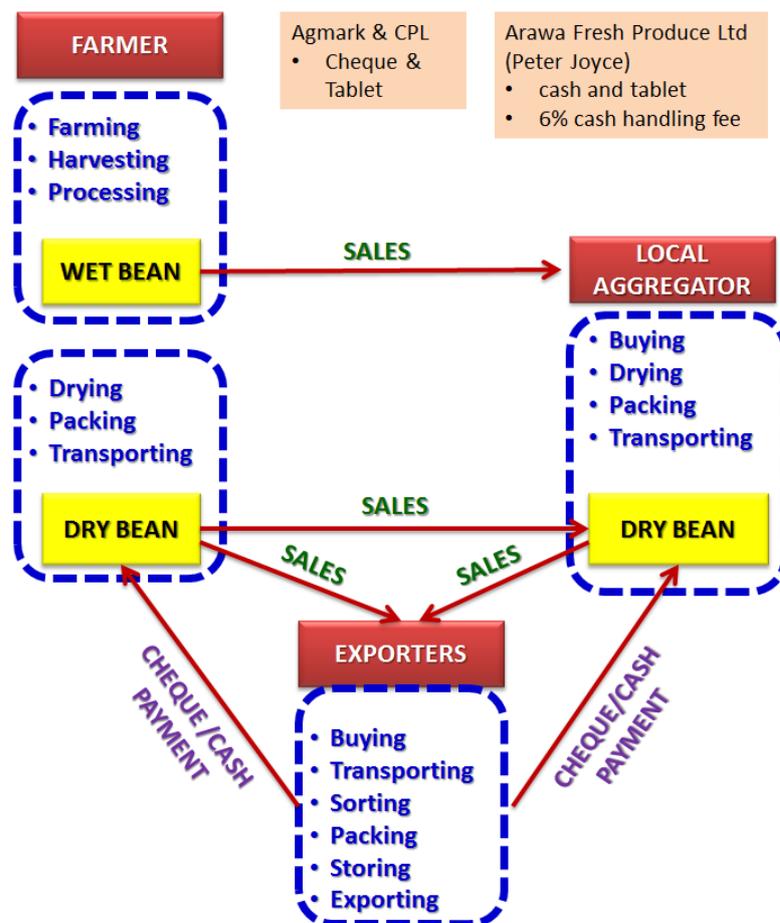


Figure 12: Cocoa value chain diagram
Drawn by the author

2.5.1 Cocoa primary processing

Cocoa primary processing involves harvesting, fermenting, drying, packing, storing, and transporting. The primary process is critical as proper postharvest handling techniques facilitate the quality and grade of cocoa. Improper post-harvest handling techniques deteriorate the quality of cocoa. Higher quality cocoa attracts a premium price and at the time of this assessment, the premium grade cocoa price was 20% above standard grade cocoa.

Cocoa beans are extracted from the cocoa pods after harvest and fermented. The fermenting and drying duration is dependent on harvest volume. A small harvest of 2-4 bags takes 2 days for fermenting and 4 days for drying while a harvest of 5 bags and above takes 4 days in the fermenting and 5 days in the drying. Dried cocoa beans are packed into 63.5kg bags and sold.



Figure 13: Cocoa farmer extracting cocoa beans

2.5.2. Cocoa selling

Farmers sell cocoa both as wet beans and dry beans. Different selling practices are motivated by different motivations. These motivations include volume, fermentry setup, and need for cash. Following are some of the comments from the respondents in the focus groups and in-depth interviews;

VERBATIM	INTERPRETATION
“Mi nogat fermentry so mi save salem wet bean. Cocoa blo mi ino planti lo sanapim fermentry.” Wet bean seller 1	“I do not own a fermentry so I sell wet beans. My volume is not enough to set up a fermentry” Wet bean seller 1
“Mi statim cocoa farm blo mi nau tasol. Mi salem sampela na mekim inap moni na kirapim fermentry” Wet bean seller 2.	“I started my cocoa farming recently so I do not have a fermentry. I will sell wet beans and make enough money and then build a fermentry.” Wet bean seller 2
“Mi salem wet bean na dry bean wantaim. Taim blo cocoa season na mi pickim planti taim mi drain gut na salem dry bean na taim blo cocoa ino planti mi salem wet beans.” Wet and dry bean seller 1	“I sell both wet and dry beans. During low seasons when my volume is low, I sell wet beans. During peak seasons when my volume is high, I sell dry beans”. Wet and dry bean seller 1
“Cocoa blo mi em gold. Taim igat hevi lo ples na mi nidim cash hariap em mi salem wet bean na kisim moni na ol narapela taim mi salem dry bean na kisim moni” Wet and dry bean seller 2.	“My coca is gold. When I need cash I sell my coca to get cash to solve my pressing needs. When I have urgent needs and I do not have cash to resolve that issue, I sell wet beans. Otherwise, I dry my beans and sell them”. Wet and dry bean seller 2
“Mi salem dry bean tasol. Price blo dry bean em bikipela na mi salem dry bean lo mekim planti money. Salem dry bean em hat wok tasol hat wok igat kaikai blong em”. Dry bean seller.	“I sell dry beans only because dry beans fetch higher prices then wet beans. I see that it is worth the work in fermenting and drying properly and selling”. Dry bean seller 1

Table 3: Remarks from focus groups

2.5.2 Cocoa aggregators

Aggregators are mostly people within the communities residing in the communities or neighbouring communities and are SMEs in the village. They own a store or a PMV business as well as cocoa farms and fermentries. They buy both dry beans and wet beans from other village farmers and do the fermenting, drying, and packing and sell to major cocoa buyers and exporters. They also provide transport and buy cocoa directly from farmers in their villages.

2.5.3 Transport operators

Transport operators providing transport to the villagers. They transport people and cargo from the villages to towns and back to the villages. They are mostly villagers and based in the villages. A cocoa bag transport fee is 4 times more than human fares. If a human transport fee was K5.00, a cocoa bag of 63.5kg is charged K20.00. Transport fees for store goods are 5% on all store goods.



Figure 14: Transporting dry beans - Wakunai



Figure 15: Transporting dry beans - Kokopao

2.5.4 Cocoa exporters

Exporters buy cocoa from farmers and aggregators and export to overseas buyers. These are large buyers with export licences. Agmark, CPL, and AFPL are cocoa exporters buying cocoa in AROB. Their methods of payments and prices they pay farmers and aggregators differ. Agmark and CPL pay cheques to cocoa farmers while AFPL pays cash. Cheque payments are generally higher than cash payments. They all have buying locations and agents in Buka, Kokopao, Arawa and Buin.



Figure 16: Cocoa in warehouse ready for export



Figure 17: Cocoa loaded to be transported to the wharf

2.5.5 Cocoa production volume

Cocoa production volume in PNG is very consistent. 2016/2017 production estimate is 43,000 tons. AROB is the second leading cocoa producer in PNG with 13,000 ton which is 32% of PNG cocoa production volume. Average buying price at the time of the assessment is K300 per 63.5kg bag. With a volume estimate of 13,000 ton, total payments made to the farmers in 2016/2017 cocoa season is estimated at K65 million.

2016/17	Volume ('000 ton)	Proportion %	Value (K'mn)
ESP	14.0	32.5%	66.2
AROB	13.8	32.0%	65.2
Madang	6.5	15.1%	30.6
ENB	4.7	10.9%	22.4
Morobe	1.7	3.9%	8.1
WSP	0.9	2.1%	4.1
WNB	0.9	2.1%	4.1
NIP	0.4	0.9%	2.0
Oro	0.2	0.5%	1.0
Total	43.1	100.0%	203.7

East Sepik Province is the leading cocoa producing province and accounting for 32.5% of PNG cocoa production volume. Madang and East New Britain (ENB) produce 6,000 and 4,000 tons respectively. Other provinces include Morobe, WSP, WNB, NIP and Oro provinces.

Cocoa is a seasonal commodity. It has high seasons and low seasons. High seasons are from April through to August of every year. In a high season, cocoa volume is four times more than a low season.

Table 4: Cocoa production volume statistics in PNG, 2016/2017

Source: (1) www.thenational.com.pg/east-sepik-is-the-best-producing-cocoa-province/

(2) <http://www.statistica.comstats/497885/production-of-cocoa-beans-in-papua-new-guinea/>

2.6 TSSP and mobile banking

The Transport Sector Support Program (TSSP) is a road maintenance program in PNG funded by the Government of Australia (GoA) through AUSAID to do road maintenance works throughout PNG. Tasks TSSP contractors perform includes road side grass cutting, drainage cleaning, road signage maintenance, and minor road maintenance works. TSSP in AROB has three coordinators managing field operations, and having one coordinator managing each district and employs over 200 contractors (team leaders) and over 1,000 Community Roadwork Contractors (CRCs). Each contractor is allocated a certain portion of the road to maintain. Allocated portions are nearest to the contractor's place of residence. Payments are done once every month after the team leader checks and confirms work done by the contractors.

TSSP in Central Bougainville disburses on average K80,000 a month among road side workers. Before the introduction of MiPei, road side workers were paid by cash. Cash disbursements had security issues and prone to fraud. This resulted in the introduction of MiPei. Benefits of MiPei include;

- Reductions in security risk
- Reduction of fraud
- Elimination of the 1% cash handing fees charged by BSP for amounts over K5,000
- Timely and accurate notifications to the account holder
- The road side contractor is now able to save
- Process in MiBank is simple

Despite the benefits, there were some issues as highlighted below;

- Errors in account records
- Confusion around MiCard collection process and locations
- Delays in MiPei processing

2.7 The purpose of the assessment

MiBank and MDF recognises the difficulty faced by cocoa farmers in selling and receiving payments for cocoa and saw the need for banking among cocoa farmers in AROB. MDF, MiBank and Agmark had initial discussions to introduce mobile banking in AROB to facilitate banking among cocoa farmers to ease payments.

AROB Mobile Banking Assessment was initiated to assess the performance of mobile banking among CRCs and the feasibility of Mobile Banking among cocoa farmers and other SMEs in AROB. This is a report of the findings from the AROB Mobile Banking Assessment.

3. METHODOLOGY

Multiple methods were used in this assessment in line with the information requirements. Desk research was employed to capture learning from similar markets around the world with the use of mobile banking. Qualitative research techniques were used to gauge broader scope of general business environment in AROB, cocoa farming, and general socio economic settings that impact on the operations of mobile banking. Quantitative research techniques were used to measure awareness, use, and attitudes of general banking, mobile phones, and mobile banking among CRCs and cocoa farmers.

3.1 Desk research

Desk research involved going through prior research reports in PNG and other similar markets in Africa, Asia, and South America. These are markets with similar environments and experiences to PNG cocoa farmers and have mobile banking to capture their experiences.

We also reviewed text from research in commodities, banking, and digital banking in PNG to get an understanding in commodity behaviour and mobile banking experiences in PNG.

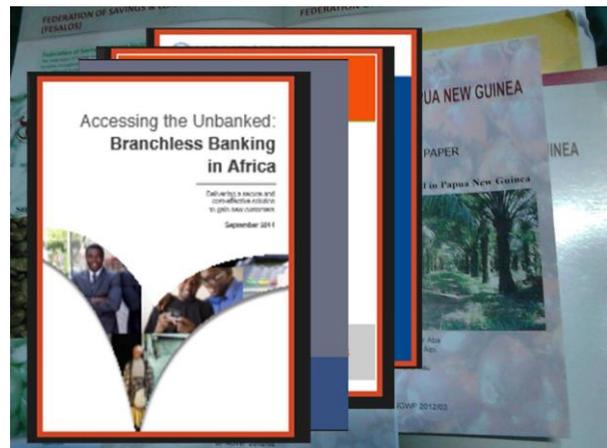


Figure 18: Some of the publications reviewed during desk research

3.2 Qualitative research

In the qualitative phase, we conducted focus groups, in-depth interviews, and workshops in Buka, Arawa, and Buin. Two focus groups were held among cocoa farmers, one was a female only group of 6 in Arawa and the other was a mixed group of 6 in Buin. Several in-depth interviews were conducted among respondents from TSSP, MiBank, BSP, Agmark, AFPL, CPL, Agents, and community leaders throughout AROB. Two workshops in Buka among ABG employees and management and employees of Reasons Bar & Grill. List of participants in the focus groups and the workshops are attached in appendices.

3.3 Quantitative research

In the quantitative phase of the assessment, a structured questionnaire was used to capture data on the awareness, use, and disposition towards banking, telecommunications, and mobile banking. We also asked questions on travel time and costs and general cocoa farming, processing, and selling behaviour. n=101 Face to face personal interviews were conducted using the structured questionnaire.

Fieldwork commenced on the 23rd of August and ended on the 01st of September 2017. Fieldworker training and pilot interviews were conducted in Arawa.

CRCs were contacted and recruited for interviews along the roads while they were working and cocoa farmers were contacted and recruited for interviews in their villages and farms. CEFI, MDF, and MiBank representatives were infield with the consultant taking part in the recruitment and interviewing process in both the qualitative and the quantitative phase of the assessment.



Figure 19: Assessment team visiting Panguna mine pit. From left: Victor Onavui (MiBank), Kavaea Evara (MDF), Don (Driver), and William Apa (CEFI Consultant).

3.4 Sampling

Convenience sampling method was used for the quantitative phase. CRCs were contacted on the road sides as they were working and interviewed, while cocoa farmers were contacted and interviewed at home and cocoa farms. Maximum three (3) interviews were secured per location where there were more than one willing and qualified respondents. We drove for 15 to 20 minutes to another location for respondent recruitment and interviews after a successful interview in one location (village) to get a good spread and representation of AROB.

Planned respondent recruitment method was to contact CRCs at a central location and cocoa farmers at cocoa buying depots. However, we noticed the impracticality whilst in field.

- (1) Inconsistent traffic as there were many selling locations and cocoa farmers go to the seller with better prices for the day. Waiting for cocoa sellers in one spot was time consuming.
- (2) Cocoa farmers do not have time to spare for interviews as they were rushing to get their business done for the day whilst in town before they can catch a PMV to travel back to their villages



Figure 20: Kametan Beno (CEFI contractor) conducting interview with Jacklyn Metara at Kanauro Village, South Bougainville

(3) Getting CRCs to a central location was going to involve time and financial costs for both the assessment team and CRCs.

Hence, respondent recruitment and interviewing was done at CRCs' work sites and in villages for cocoa farmers.



Figure 21: TSSP Community Roadwork Contractors being interviewed along highway to Panguna from Arawa

3.5 Sample size

		Buka	Arawa	Buin	Total
Focus Groups	Female		n=1		n=1
	Mixed			n=1	n=1
In-depth interviews	TSSP		n=1		n=1
	Community leaders		n=2	n=2	n=4
	Agmark		n=1	n=1	n=2
	AFPL		n=1		n=1
	CPL	n=1			n=1
	BSP Branch	n=1			n=1
	MiBank Branch	n=1			n=1
Workshop	MiBank Agents		n=1	n=1	n=2
	BSP Agents	n=1	n=2		n=3
	ABG	n=1			n=1
Total - Qualitative	Reasons Bar & Grill	n=1			n=1
		n=6	n=9	n=5	n=19
Quantitative interviews	CRCs (TSSP contractors)		n=20	n=16	n=36
	Cocoa farmers		n=34	n=31	n=65
Total		Nn=5	n=54	n=47	n=101

4. MAIN FINDINGS

4.1 The TSSP experience with MiPei

TSSP is an Australian Aid (AUSAID) program, funded by the Government of Australia and managing road maintenance in PNG and AROB is one of the provinces where TSSP is implemented. TSSP has three co-ordinators in AROB, one in each district and over 200 team leaders 1,000 CRCs. TSSP pays over K250,000 monthly to CRCs. Before the introduction of MiPei, TSSP used to make payments in cash. However, there were concerns around;

- Risk of fraud
- Risk of theft (armed hold up)
- Security (armed escort) costs
- Cash handling fees charged by the bank (1% charged for amounts over K5,000)
- Authenticity of payments made to the CRCs

TSSP views MiPei as a significant improvement in its payment system and has alleviated major concerns on security and safety of cash and its employees and contractors. There are also other benefits to the CRCs and they are;

- Safety of CRCs' money
- Bank accounts for savings
- Bank transaction records that can be used for loan assessment purposes
- Notifications when payments are processed

TSSP ensures all CRCs have MiCash accounts with MiBank, own mobile phones for mobile banking, and are issued MiCard for cash withdrawals at ATMs and shopping at any shop with EFTPOS machines.

All payments made by TSSP to CRCs are done through the MiPei system.

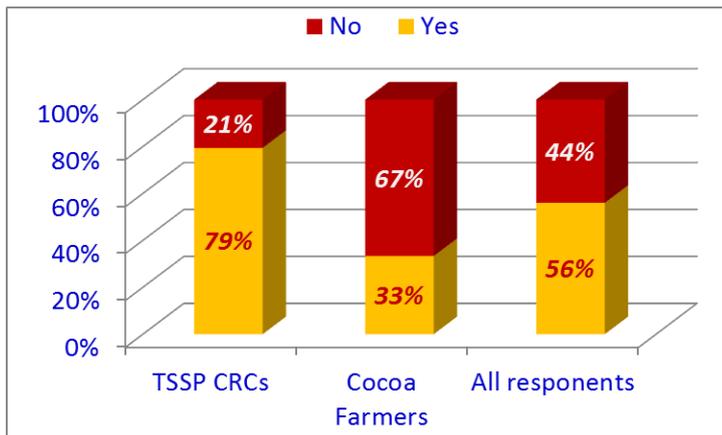
TSSP did raise some concerns on the MiPei system and they were;

- Delays in making payments into the respective CRCs accounts from after the submission of the listing from TSSP
- Errors in customer bank account delays
- Delays in new customer account creation
- Delays in processing and deliveries of MiCard

4.1.1 Respondents banking

Respondents were asked if they had a bank account. 56% of respondents said they have a bank account while 44% said they do not have a bank account. When comparing the proportion of respondents of CRCs against cocoa farmers, a higher proportion of CRCs have bank accounts while a lower proportion of cocoa farmers have bank accounts. The difference is statistically significant.

This means the MiPei system helped in facilitating banking in AROB.



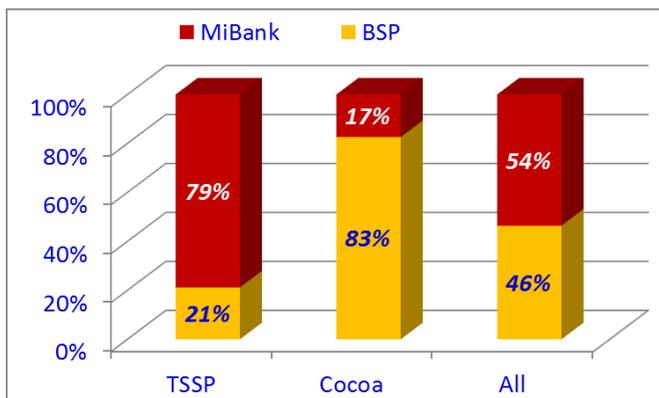
	Yes	No
TSSP CRCs	79%	21%
Cocoa Farmers	33%	67%
All respondents	56%	44%
<i>z-test</i>	<i>3.6251</i>	
<i>p value</i>	<i>0.0003</i>	

A *p*-value of below 0.01 means the two proportions are significant at 99% CI using a *z*-test for difference between proportions

Figure 22: Bank account holders in AROB. Results from the AROB Mobile banking assessment quantitative survey.

4.1.2 Which banks respondents bank with

A higher proportion of CRCs have bank accounts with MiBank compared to cocoa farmers. The results are statistically significant. It is conclude from this assessment that TSSP and MiBank partnership in rolling out MiPei has helped in getting more customers into MiBank.

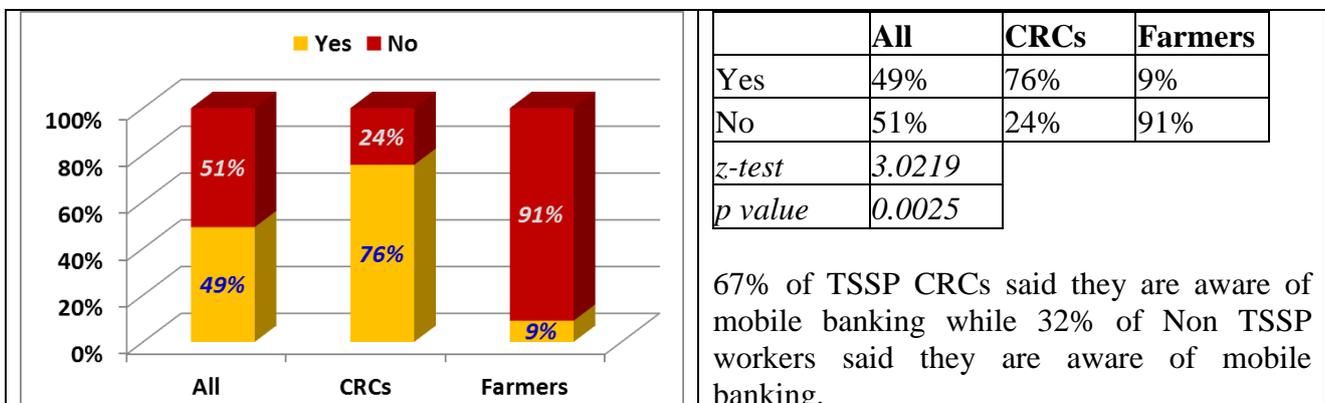


	TSSP	Cocoa
BSP	21%	83%
MiBank	79%	17%
All	100%	100%
<i>z-test</i>	<i>-3.3075</i>	
<i>p value</i>	<i>0.0009</i>	

A *p*-value of below 0.01 means the two proportions are significant at 99% CI using a *z*-test for difference between proportions

Figure 23: Banks in AROB

4.1.3 Mobile banking awareness



	All	CRCs	Farmers
Yes	49%	76%	9%
No	51%	24%	91%
<i>z-test</i>	<i>3.0219</i>		
<i>p value</i>	<i>0.0025</i>		

67% of TSSP CRCs said they are aware of mobile banking while 32% of Non TSSP workers said they are aware of mobile banking.

Figure 24: Mobile banking awareness

The TSSP and MiBank mobile banking in AROB does increase awareness on mobile banking.

4.1.4 Having mobile bank accounts

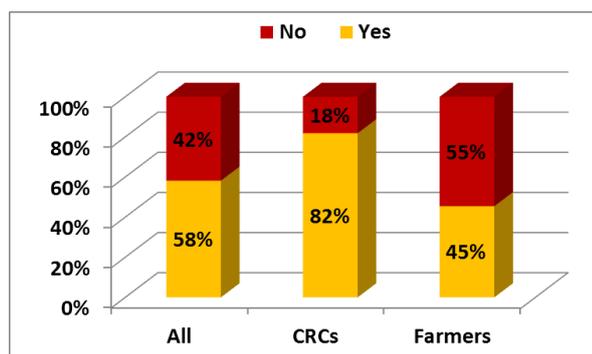


Figure 25: Mobile bank accounts

	All	CRCs	Farmers
Yes	58%	82%	45%
No	42%	18%	55%
z-test	2.0889		
p value	0.0367		

82% of TSSP CRCs have a mobile bank account while 45% of NON TSSP CRCs have a mobile banking account. Difference in results is significant.

The TSSP and MiBank mobile banking in AROB does increase mobile banking.

4.1.5 Household farming cocoa

Cocoa farming is common cash crop in AROB. In this survey, 89% of respondents have cocoa farms while 11% do not have cocoa farms.

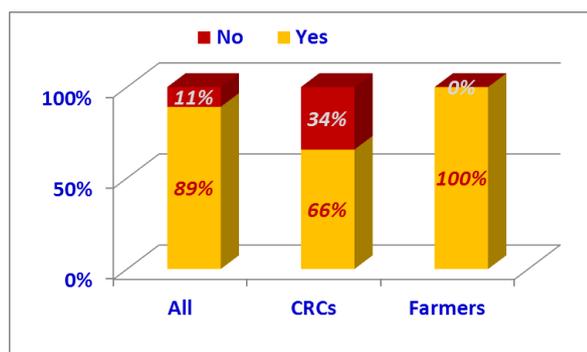


Figure 26: Cocoa farming households

	All	CRCs	Farmers
Yes	89%	66%	100%
No	11%	34%	0%
z-test	2.0889		
p value	0.0367		

Among TSSP workers, 66% of respondents said their household own and operate a cocoa farms.

4.1.6 Mobile phone ownership and operations

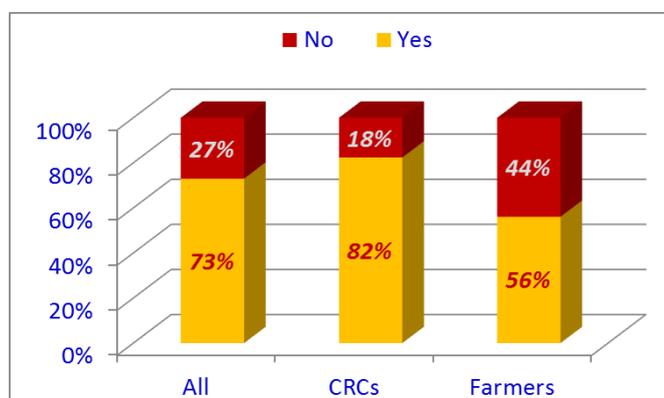


Figure 27: Mobile phone ownership

	Yes	No	All
All	73%	27%	100%
CRCs	82%	18%	100%
Farmers	56%	44%	100%
z-test	2.4155		
p value	0.0157		

A higher proportion of CRCs own mobile phones while a lower proportion of cocoa farmers own mobile phones. There is correlation but does not reflect causation as this was not included in the TOR for investigation.

4.2 Cocoa farmers' potential for mobile banking

4.2.1 Banking among cocoa farmers

There is potential for mobile banking among cocoa farmers in AROB. 33% of cocoa farmers have bank accounts while 67% of cocoa farmers do not have bank accounts.

The issues of accessibility to banking facilities and services discourage cocoa farmers from having bank accounts. Addressing banking facilities, products, and services will facilitate banking in AROB.

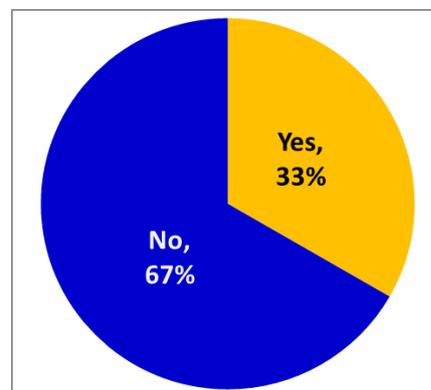


Figure 28: Banking among cocoa farmers

4.2.2 Mobile phone ownership among cocoa farmers

Mobile phone ownership and accessibility is higher than proportion banking among cocoa farmers. 56% of farmers own and operate a mobile phone at the time of the assessment.

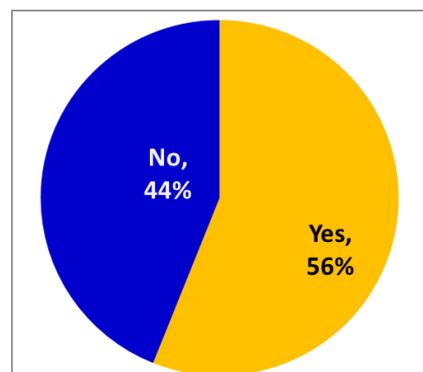


Figure 29: Mobile phone ownership among cocoa farmers

4.2.3 Mobile banking awareness among cocoa farmers

Awareness of mobile banking among cocoa farmers is very low. Only 9% of cocoa farmers are aware of mobile banking in AROB.

Banks need to create awareness of mobile banking among cocoa farmers to get them to participate in mobile banking.

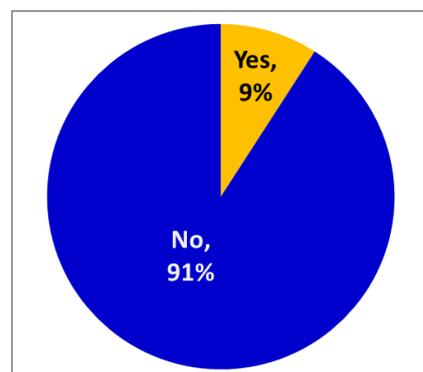


Figure 30: Mobile banking awareness among cocoa farmers

Factors inhibiting cocoa farmers from opening bank accounts were;

- Bank fees
- Long queues in the banks and ATMs
- Distance to banks
- Poor infrastructure conditions making travelling difficult

Strategies to alleviate these issues and have more people to having bank accounts are;

- Review banking fees and charge customer-centric fees
- Increase the number of banking facilities like branches, sub branches, rural banks, ATMs, and agents.
- Bring banks closer to the people by spreading branches, ATMs, and agents in Buka, Arawa, Buin, and other main areas in AROB.

Following are some views expressed in the qualitative focus groups regarding reasons why farmers not having bank accounts:

VERBATIM ASWER	TRANSLATION IN ENGLISH
<p><i>“Taim mi putim K100 blong mi long BSP, mi ting K100 blong mi stap yet long bank. Tasol bihain long 6 mun mi go sekim ol bank teller tokim mi olsem K50 tasol stap yet. Na K50 blo mi go where? Bihain long 1 year mi go na sekim na bank teller tokim mi olsem account blong mi close pinis. Na K100 blo mi go wea? Taim mi haitim K100 long haus, K100 ya stap yet. 6 months or 1 year, K100 ya stap yet” Female respondent in Arawa focus group</i></p>	<p>“When I deposit K100 in BSP, I am thinking my money is still there. After 6 months I go and enquire, the teller tells me that I only have K50 in my account. Where has the other K50 gone to? When I go and enquire after 1 year, the bank teller tells me that my account has been closed. Where is my K100? When I hide my K100 in the house, the K100 still remains. 6 months or 1 year, the K100 remains.”</p>
<p><i>“Money go inside na isi isi go liklik na liklik. Nogat taim where moni bai grow go bikpela. Mipela ino hatwok long bank bai kaikai moni blong mipela so mipela less long go long bank”. Male respondent in Buin focus group.</i></p>	<p>“Money goes inside and grow smaller and smaller. There is no time when money grows big. We do not work hard for banks to benefit from our money we do not want to do banking.”</p>
<p><i>“Lain long bank em longpela tru na kam outside olgeta na ol lain save sanap longpela taim tumas long kisim service. Blong wanem ass bai mi go sanap long lain long K50 na waistim taim?” Female respondent in Arawa Focus Group.</i></p>	<p>“The line is very long and comes outside the bank. Why should I waste time standing in queue to conduct transactions for a K50?”</p>

Table 6: Response from cocoa farmers

4.2.4 Cocoa farmers’ views on mobile banking

Farmer’s views on mobile banking cannot be analysed separately because of limitations in sample size. Number of respondents that are aware of mobile banking is low, hence, further analysis on farmers views cannot be analysed.

However, the concept of banking records and transaction history with the potential for loans sounded appealing to the farmers.

Farmer’s income is very stable every year with their cocoa. Cocoa borer affects harvest and farers harvest drops. However, in normal harvests, volume is consistent every year. Hence, their income is consistent.

4.2.5 Likelihood of recommending mobile banking to others

Both TSSP workers and cocoa farmers with mobile banking experiences were asked to rate on a rating scale of 1 to 10 on their likelihood of recommending mobile banking to others. The graph on the left is a summary of the responses. Those that rated below 5 were summarised under “Will not recommend” while people that rated above 6 are summarised under “Will recommend” and people rating 5 are in “Unsure”.

32% of respondents said they will recommend while 56% said they are unsure while 12% said they will not recommend

32% of certainty to recommend over 12% not recommending is a positive sign.

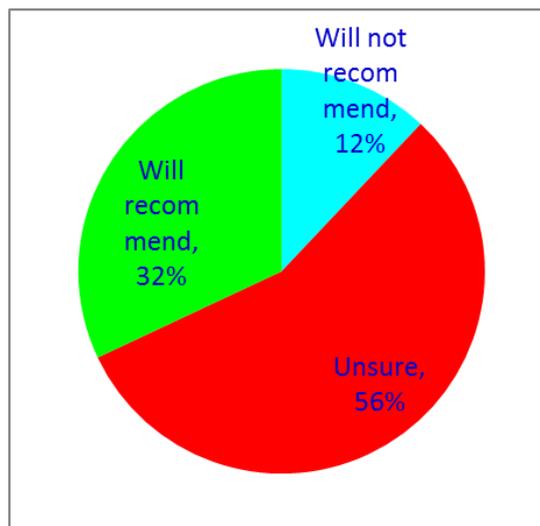


Figure 31: Likelihood of recommendations

4.3 Other stakeholders operations and thoughts on mobile banking

Agmark, CPL, and AFPL are all sceptical about the mobile banking concept. This is due to their experiences with the tablet digital payment systems rolled out by BSP in early 2016. Despite its rollout, digital payment system using BSP tablets is under - utilised. Farmers are not participating in the digital payments systems. The three exporters expressed similar sentiments regarding the tablet digital payment system.

Cletus from Agmark when asked about mobile banking said, *“We have this tablet payment system here from BSP but nobody is using it. It is sitting here collecting dust. I hope this mobile payment system does not follow the same route, gathering dust after launch”*.

MiPei system will be mush similar to the operations of the tablet digital payment system. However, the rejection of BSP’s tablet digital payments is due largely to general perceptions about banking and lack of information on digital banking system. There is very little work done around creating awareness and facilitating trial usage among local communities in AROB.

In order for digital banking and mobile banking to work, wide spread communication and education needs to happen. It cannot be launched and left unsupported hopping it will gain acceptance among farmers by default.

4.3.1 Methods of payment for cocoa

Payments are made in cash, cheques and digital payments using tablets. Mobile payment facilities are available but are not used. The dominant payment methods are cash and cheque. Different buyers use different payment methods. Payment method is a consideration when farmers and aggregators sell cocoa. The price of cocoa per kilogram published and paid in cheque is different to the amount published and paid in cash. Cash payments are lower than cheque payments.

4.3.2 Payments in cash

Local aggregators and AFPL pay in cash. AFPL passes a 6% cash handling fee to the farmers, hence, offering a lesser price than Agmark and CPL.

Farmers preferring cash payments stated “ease of use” as their main reason for accepting payments in cash. *“We do not need to go through any other process to get it converted to any other form before use. We use it immediately to buy goods we need. We don’t have to go through the hard work of getting it changed back to cash”, Male respondent in Buin.*



Figure 32: PNG currency, K20.00 notes

Aggregators pay in cash as they buy cocoa from farmers who produce less volume individually and are also in villages.

4.3.3 Costs associated with cash payments

AFPL and aggregator make cash payments. AFPL handles large sums of cash on a monthly basis. Extra expenses for handling large sums of money are;

- 1% cash handling fee charged by the bank for every K5,000.00 withdrawn from the bank,
- Insurance costs for cash handling
- Security costs for cash handling

AFPL passes on 6% to the cocoa farmers. Current cocoa buying price is K300 per bag at Agmark depot. A bag of cocoa weighs 63.5kg. Hence, price per kg at Agmark depot is K4.72 per kg. Price per kg at AFPL depot is 6% less which is K4.44 per kg. This is equated to K282 per bag.

If AFPL was purchasing one third of AROB volume and pay 6% less, it equates to K1.2 million. If all volume of AROB was to be purchased with cash, 6% equates to K3.7 million. See table below for calculation details.

	Cheque	Cash	Diff	% diff
Cash handling fee per kilogram	4.72	4.44	0.28	6%
Cash handling fee per bag (63.5kg)	300.00	282.00	18.00	6%
Cash handling fee per ton	4,724.41	4,440.94	283.46	6%
Cash handling fee 1/3 of AROB vol/ton	20,661,417.32	19,421,732.28	1,239,685.04	6%
Cash handling fee all of AROB vol/ton	61,984,251.97	58,265,196.85	3,719,055.12	6%

Table 7: Estimated amount in cash to be paid to farmers in 2016/17 cocoa season, if all volume was in cash

4.3.4 Payments in cheque

Farmers preferring cheque payments stated “higher per kilogram price” as their main reason for accepting payments in cheque. *“Payments in cheque are higher than payments in cash. One bag fetches K280 when paid for in cash while K300 if paid in cheque. The extra K20.00 is money we need”*, Female respondent in Buin.

Most of the farmers that prefer cheque payments produce higher volumes and others have bank accounts so they deposit their cheques into their accounts when collected. Others go and cash their cheques with agents and merchants and pay a 5% cheque cashing fee.



Figure 33: Cheque book and debit card

4.3.5 Costs associated with Cheque payments

Cheque cashing fee is K5.00 for every K100 which is equivalent to 5% at cash-out points. These cash-out points include both merchants and agents. Following table shows the calculations.

Cash sales	Depositing	Cash-out	Difference	% difference
Cash handling fee per kilogram	4.72	4.49	0.24	5%
Cash handling fee per bag (63.5kg)	300.00	285.00	15.00	5%
Cash handling fee per ton	4,724.41	4,488.19	236.22	5%
Cash handling fee 1/3 of AROB vol/ton	20,661,417.32	19,628,346.46	1,033,070.87	5%
Cash handling fee all of AROB vol/ton	61,984,251.97	58,885,039.37	3,099,212.60	5%

Table 8: Estimated amount in cheque to be paid to farmers in 2016/17 cocoa season

If all volume in AROB were purchase with cheque, 5% would go to cashing fees and charges. This is equivalent to K3.1 million.

4.3.6 Digital payments systems in AROB

All major cocoa buyers have BSP’s tablet digital payment system. The tablets were introduced in early 2016. However, the system is not used by the farmers. The farmers prefer the cash or cheque payments than digital payments. *“BSP introduced the tablet system about a year ago but the tablet is here gathering dust. People do not want to sell their cocoa through this system.”* Agmark and AFPL in Arawa commented.

The amounts paid to farmers using the tablet based payments systems are same as the prices paid in cheque cash or cheque by the respective buyers. However, sellers prefer cheque payments than tablet based direct transfers.

Reasons are awareness of the product and the number of farmers having bank accounts.

“BSP introduced the tablet system about a year ago but the tablet is here gathering dust. People do not want to sell their cocoa through this system.” Agmark and AFPL in Arawa commented.

4.4 Agents and merchants in AROB

An agent is a bank agent that is located in places where banks do not have branches and perform most functions of a bank. Both BSP and MiBank have agents in strategic locations in AROB. BSP has a branch in Buka and a Sub Branch in Arawa, and a Rural Bank in Buin. MiBank has its branch in Buka while agents in Wakunai, Arawa, and Buin. Merchants are shops and other businesses that have EFPTOS machines installed in their establishments and they do card transactions. They also provide cheque cashing services to cocoa farmers.

In this assessment we talk with BSP branch in Buka, MiBank in Buka, MiBank agents in Arawa and Buin, and merchants in Buka, Arawa, and Buin.

4.4.1 MiBank Agents issues

In this assessment, MiBank agents gave mixed reactions towards the level of support provided by MiBank. The agents stand in place of the bank and in places where the bank is absent. Due to their remote locations, they face many administrative and logistical difficulties. There is a need for training and support as the current level of training and support is insufficient for them to perform their tasks effectively. Some of the issues they highlighted are;

- Training insufficient
- Support is inadequate
- Cash requirement request are rejected without proper explanations
- New account creation is slow
- Frequent changes and delays in MiCard delivery, causing confusion
- TSSP experiences delays in payments to CRCs payments
- Inadequate marketing support to get new customers

One agent said “the MiBank employee came here and handed the mobile banking equipment and get them connected and did not send time to show us what to do and how to do it. He spent one hour with us and left again. I feel more time needs to be spending on training an agent and its staff”.

4.4.2 Business development

Agencies need support from MiBank to create awareness and change attitudes of cocoa farmers and other SMEs to trial mobile banking and open MiBank accounts with the agents. We need proper marketing promotions of Mobile Banking among the target audience.

4.4.3 Resource support

The revenue earned by being an agent is inadequate right now with a small customer base to support the operational requirements of the agency. Hence, there are concerns regarding the levels of support in terms of the operational costs of the agent. MiBank needs to have some standard inventory of support for the agents in terms of resources requirements like stationary, etc.

4.4.4 Cash requirements

Agents have cash shortage issues and are unable to provide cash outs as and when required by the customers. Agents experience situations where they run short of cash and request additional cash injection from the banks and receive unfavourable responses.

The agent wants proper explanations as to why cash can't be provided as and when required and the expectations of MiBank on the agent in terms of cash management.

4.5 Lending opportunities

Farmer's interests are high for loans. The idea of mobile banking and the possibility of obtaining loans because the bank would now have historical transaction records to be able to assess loans generated a lot of interest among farmers and other MSMEs in AROB.

Farmers generally understand the principles and requirements of loans. They also commented that they have the capability to repay because their cocoa income is very consistent. They need loans to expand their farms, buy and plant cocoa borer resistant cocoa trees, and build and maintain fermentries. *"A fermentry would cost up to K7,000 and I do not have that kind of money to build a fermentry. However, with a bank loan, I can be able to get a loan and build my fermentry. I have a 3 hectare farm and I produce up to 30 bags in a year. I earn about K10,000 in a year. I can be able to service a K7,000 loan". Farmer in Arawa said that.*

Mobile banking and digital banking will require some work to get farmers to participate in the program. If it is just launch and left unsupported, it will not produce the desired results as seen from the current BSP tablet payment system.

A packaged program of *"Mobile Banking and Mobile Loan"* will do well in the initial stages of the launch of mobile banking for the farmers and the MSMEs in AROB.

"A packaged program of "Mobile Banking and Mobile Loans" will do well in the initial stages of launch of mobile banking for farmers and other MSMEs in AROB."

5 COST BENEFIT ANALYSIS

Certain areas of costs and benefits investigated in the AROB mobile banking assessment. The expectations from the cost benefit analysis were;

1. a cost-benefit analysis indicating the transaction costs savings to be expected by switching to digital payments (This will be the rational for converting into close mobile phone eco system)
2. Social cost and benefits to be expected by switching to digital payments

5.1 Cost benefit analysis

Costs include both financial and social costs. Financial costs include;

- MiPei/MiCash establishment costs
- Telephone costs
- Bank account and transactions fees and charges
- Transport costs
- Opportunity costs of both time and cash in travelling to and from banks

5.2 Benefits

Potential benefits from the roll out of the MiPei/MiCash among cocoa farmers are the expected savings in;

- Transport costs / savings
- Cheque cash out fees / savings
- Cash handling fees / savings

All payment methods currently have fees and charges for the participants in the cocoa business. Cash payments have cash handling fees and charges transferred to the cocoa farmer in cocoa pricing. Cash payments are 6% less than cheque and digital payments made to the cocoa farmers. The 6% is taken up as the cash handling fees and charges.

Cheque payments are 6% higher than cash payments on average. However, there is a 5% cheque cashing fee charged by agents, merchants, and any other businesses of persons for cashing cheques. Banks do not charge fees for cashing cheques; however, there is a one day delay in cashing which is not attractive to farmers.

Cocoa	Cheque	Cash	Difference	% difference
Price per bag (63.5 kg bags)	300	280	20	7%
Price per kg	4.72	4.41	0.31	7%
2016/2017 volume in tonnes	13,000	13,000	0.00	0%
Revenue (Kina million)	61.4	57.3	4.09	7%
Cash/Cheque handling fees %	5%	6%	1%	
Cash handling fees amount	3.07	3.44	0.37	11%

Table 9: Cash payments vs. cheque payments

Based on table 9 above, if all volume was to be made in cash then a 6% cash handling fee converts to K3.44 million. If all payments were done in cheque and cashed by merchants and agents then cheque cashing fees equate to 3.07 million. Not many farmers prefer direct deposits into banks or direct bank transfers. Hence, handling fees for both cash and cheque is in the vicinity of K3 million with a volume of 13,000 tone for AROB in 2016/17 cocoa season.

Other benefits include;

- savings in time that is currently spent standing in queues
- minimising cash shortages in banks, agents, and merchants when cashing cheques
- Encouraging savings
- Banking history for cocoa farmers that can be used to facilitate loan assessments

6 CONCLUSION

1. Results from the quantitative assessment are not conclusive. Both the sample size and the sampling method are not appropriate to provide full analysis on the assessment and provide conclusive results and recommendations. The sample size of n=101 respondents is not sufficient and the convenient sampling methodology used for the assessment is not appropriate to provide depth analysis and insight into banking and mobile banking in AROB.
2. CRCs experiences with MiCash is positive
 - a. High rate of awareness of mobile banking
 - b. High rate of respondents having bank accounts
 - c. Higher rate of respondents owning and operating mobile phones
 - d. Higher rate of respondents having bank accounts with MiBank
 - e. Higher likelihood of recommending mobile banking to others

Hence, the strategy employed by TSSP and MiBank produced these results.

3. TSSP management feels the introduction of MiPei has relieved them of cash handling and associated issues. MiPei system has helped solve a lot of cash handling issues and costs.

However, TSSP has some concerns with processing efficiencies and accuracies that requires attention from MiBank.

4. Banking among cocoa farmers is lower than average. There is no incentive for them to have bank accounts. A packaged banking system of mobile banking tied to training and easy loans would be an ideal sales package to attract cocoa farmers to open mobile bank accounts.
5. Agmark, CPL, and AFPL are sceptical about mobile banking as they had experiences with the BSP tablet system. Agmark commented that their head office in Kokopo makes decisions and AROB branches are operational. However, the general view is that they would like to wait and see.
6. Cocoa is the major income earning commodity for villagers in AROB. Cocoa played a significant role in the economy of AROB before Panguna mine, during Panguna mine, and after the closure of Panguna mine. AROB is the major cocoa producing province in PNG after ESP. Currently AROB produces 13 thousand tonnes of cocoa and giving K65 million to the cocoa farmers. There is still vast land areas of uncultivated land in AROB, hence, there is potential for further increase in cocoa volume growth in AROB.
7. Digicel has better coverage than any other telecommunications company in AROB. There is room for improvements as there are some locations with poor to nil accessibility. Accessibility issues in certain locations are due to sabotage. Land owner complaints in non-payments of land rental resulted in removal of certain parts of the communications towers, resulting in accessibility issues. However, with the rollout of mobile banking, it is envisaged that communities will better look after the towers.
8. All districts in AROB are accessible by air, sea, and land transport. Despite the good road networks, the conditions of the roads are an issue. Road network within Buka is fine. Kokopao to Arawa is ok. However, road from Arawa to Buin is unsealed and is a concern. Several big

rivers in South Bougainville do not have bridges and prevents access to towns during wet seasons. Sometimes people sleep along the roads for several days when river levels rise.

9. BSP has its branch in Buka, sub branch in Arawa and a Rural Bank in Buin. MiBank has one branch in Arawa. They both have agents throughout AROB.
10. Cash shortages do happen in AROB. Christmas and coco peak seasons are normal periods when BSP Buka runs short of cash. MiBank and other BSP agents and agents of both BSP and MiBank do run short of cash more frequent and is attributed to both increased demand for cash and the method of savings from business men and women in AROB storing away cash than banking their cash.

7 RECOMMENDATION

1. There is a need for a proper baseline study of banking and mobile banking in AROB with an increased sample size and a proper sampling methodology with the right level of funding to get a better insight into banking in AROB and develop a proper business model that will be adopted and used anywhere else in PNG. There were also other areas not properly investigated and they were alluvial mining in AROB and Aggregator role in cocoa farming and operations. The detailed baseline study will shed more light into the scope of alluvial mining in AROB and the strategic role of aggregators in the cocoa industry.
2. The “Push Strategy” employed by TSSP and MiBank worked because it is appropriate for the situation. CRCs are TSSP contracted workers and gets paid by TSSP and a MiBank account is a requirement, as all TSSP payments are done through the MiPei system.

There are some internal processes issues with MiBank as highlighted by TSSP that needs to be reviewed and resolved. Following is a list of issues identified by TSSP for MiBank to resolve;

- MiPei turnaround time needs to be improvement
 - Customer account creation needs to be improved both in terms of accuracy of customer data and turnaround time
 - MiCard processing time needs to be reviewed and improved
 - MiCard collection method needs to be reviewed and improved
3. Conduct financial literacy training and mobile banking training among TSSP workers
 4. Review the current MiBank branches and agents and introduce some more branches and agents throughout AROB. Include the provision of mentoring, remote assistance and/or additional training to current and new agents.
 5. Develop an integrated marketing program that will include;
 - a. Communications
 - b. Training
 - c. Packaged mobile banking and easy loan program

This will give the cocoa farmers MSMEs a reason to open mobile banking accounts with MiBank. Cocoa buyers are sceptical about mobile banking because the BSP tablet system is not working. If we cannot create the push from the cocoa buyers end, we can work on creating the pull from the customers end so they demand mobile banking from the cocoa buyers and the cocoa buyers transact with mobile banking.

6. AROB has potential to increase cocoa production volume. Work with the farmers by assisting them with easy loans to increase their production capacities. There is a need for cloned seeds, extra labour, and fermentries.
7. Advise Digicel of the mobile banking strategy so Digicel can maintain its installations to support mobile banking in AROB. Mobile banking will be an incentive for local villagers to take care of Digicel installations.

8. Cash shortages are an issue in AROB during peak periods. Reasons are;
 - a. Seasonal patterns in demand for cash
 - b. Savings money outside of the banking system

Conduct a proper analysis to understand seasonal patterns in demand for cash and manage the volume of cash in the banks based on peak demands per month. Also work with the business houses to ensure their money is stored in banks and not hidden away in lockers and in their lockers or safe.

9. Cocoa farmers, market vendors, and trade store owners prefer MiBank over other commercial banks in AROB. They say *“MiBank is for the Grass Roots people and we grass roots can transact with amounts as low as K50.00. BSP is for big people. We grassroots people can’t stand in queue for K50.00 transactions”*. This is an opportunity for MiBank to reinforce these thoughts by developing products and services tailored to these groups to tap into the unbanked market in AROB.
10. There is a lot of information among MiBank, MDF, CEFI and their partners, including the agents. Use this network to foster information and knowledge sharing to achieve common goals.
11. Conduct an investigation into the role of Aggregators. If working with the exporters looks difficult, look at the option of adopting a business model where the aggregators play a significant role in mobile banking. With their spread, locations, and local connections, aggregators are ideal people to be working with.

8 ACTION PLAN

Activity	Description	Timing	Responsibility
Further research	Commission further research to establish baseline on general customer behaviour and attitudes towards banking and mobile banking Include alluvial gold mining and role of aggregators in this study.	Q1 2018	CEFI
Process improvements	Streamline internal processes to achieve efficiency in processing turnaround time ⁰	On going	MiBank
Agency training	Develop and roll out a standardised training package for MiBank agents	On going	MiBank
Stakeholder workshops and meetings	Organise meetings with stakeholders to get their participation in the program. These people includes Digicel, Banks, ABG employees, major cocoa buyers, community advocates, etc.	On going	CEFI
Customer communications campaign	Develop and roll out an integrated customer communications campaign to influence the attitudes of customers to accept mobile banking	Q1 2018	MiBank
Launch mobile banking	Roll out mobile banking	Q1 2018	MiBank/MDF/CEFI
The role of aggregators	Investigate the role of aggregators and look at the possibility of working with the aggregators if working with the three exporters look difficult.	Q1 2018	All

Table 10: Action plan

APPENDICES

1. Terms of reference
2. ABG Workshop participants
3. Quantitative survey questionnaire
4. Moderator's guide – Cocoa buyers (Agmark, CPL, AFPL)
5. Moderator's guide – TSSP
6. Moderator's guide – Banks (MiBank, BSP)

LIST OF FIGURES

- Figure 1. Cocoa pods on a cocoa tree
- Figure 2. Map of Papua New Guinea
- Figure 3. First Roman Catholic Missionaries to set foot in PNG was at Kangu Beach. Fr Jean Baptist Perpezat arrived in Kangu Beach, Buin, in 1903 from Shortland Islands, Solomon Islands
- Figure 4. Mobile banking
- Figure 5. Artist impression of MiBank mobile banking in AROB
- Figure 6. Post courier cutting of Digicel solar panel recovery by AROB policemen
- Figure 7. Map of Road networks in AROB
- Figure 8. Pulling a Toyota Land cruiser 10 seater out of a river in South Bougainville
- Figure 9. Crossing a river in South Bougainville
- Figure 10. Feeder road in South Bougainville
- Figure 11. Main road to Panguna from Arawa
- Figure 12. Cocoa value chain diagram
- Figure 13. Cocoa farmer extracting cocoa beans
- Figure 14. Transporting dry beans – Wakunai
- Figure 15. Transporting dry beans – Kokopao
- Figure 16. Cocoa in warehouse ready for export
- Figure 17. Cocoa loaded to be transported to the wharf
- Figure 18. Some of the publications reviewed during desk research
- Figure 19. Assessment team visiting Panguna mine pit. From left: Victor Onavui (MiBank), Kavaea Evara (MDF), Don (Driver), and William Apa (CEFI Consultant)
- Figure 20. Kametan Beno (CEFI contractor) conducting interview with Jacklyn Metara at Kanauro Village, South Bougainville
- Figure 21. TSSP Community Roadwork Contractors being interviewed along highway to Panguna from Arawa
- Figure 22. Bank account holders in AROB. Results from the AROB Mobile banking assessment quantitative survey
- Figure 23. Banks in AROB
- Figure 24. Mobile banking awareness
- Figure 25. Mobile bank accounts
- Figure 26. Cocoa farming households
- Figure 27. Mobile phone ownership
- Figure 28. Banking among cocoa farmers
- Figure 29. Mobile phone ownership among cocoa farmers
- Figure 30. Mobile banking awareness among cocoa farmers
- Figure 31. Likelihood of recommendations
- Figure 32. PNG currency, K20.00 notes
- Figure 33. Cheque book and debit card

LIST OF TABLES

- Table 1: BSP setup in AROB
- Table 2: MiBank setup in AROB
- Table 3: Remarks from focus groups
- Table 4: Cocoa production volume statistics in PNG, 2016/2017 cocoa season
- Table 5: Cocoa value in million Kina, PNG, 2016/2017 cocoa season
- Table 6: Response from cocoa farmers
- Table 7: Estimated amount in cash to be paid to farmers in 2016/17 cocoa season, if all volume was in cash
- Table 8: Estimated amount in cheque to be paid to farmers in 2016/17 cocoa season
- Table 9: Cash payments vs. cheque payments
- Table 10: Action plan

Appendix 1: Terms of reference

TOR FOR CEFI CONSULTANT

The consultant will perform the following tasks as outlined below;

1) The consultant shall assess:

- a) distance covered, cost incurred and reasons why farmers travel to markets to sell their cocoa produce
- b) the different payment methods used by Agmark's depot and Cocoa Buyers in the district, understand the preference for methods of payment and the reason(s) for those preference(s)
- c) the volume and average number of payments by Agmark depot and Cocoa Buyers in the district in a fortnight
- d) understanding the incentives of clients (Agmark) and the cost savings of using the MiPei system
- e) the different levels of risks in the overall payment process
- f) existing points of Cash Outs/withdrawals by farmers and their capacity to sustain demand for cash during and after cocoa flush
- g) the different payment (cheque) charges from existing Cash Out points
- h) need for more Cash Out points
- i) what motivates farmers to travel long distances to do withdrawals, bypassing cash out points along the way
- j) understanding the incentives and challenges of being an agent from existing and previous agents
- k) existing digital payment service providers if any
- l) if there exists a need for digital payment services
- m) willingness of stakeholders to switch to digital payments
- n) willingness of farmers to accept digital payments
- o) reasons for cocoa farmers preference for cash
- p) Mobile payments eco-system requirements (design a model for the system in consultation with all the key stakeholders)
- q) possibility of informal market vendors becoming mobile money agents for cash in and cash out
- r) Lending opportunities on what lending modules can be appropriate

2) The consultant shall do:

- a) a cost-benefit analysis indicating the transaction costs savings to be expected by switching to digital payments (This will be the rationale for converting into close mobile phone eco system)
- b) Social cost and benefits to be expected by switching to digital payments

3) The consultant shall develop:

- a) A pilot implementation action plan detailing investment costs, timelines, stakeholders, etc.

4) The consultant shall present:

- a) The preliminary findings of the feasibility study to relevant stakeholders in a consultative workshop. The results of the consultations shall be integrated into the action plan
- b) The proposed action plan to relevant stakeholders. The results of the consultations shall be integrated into the final action plan.

Specific areas that the consultant could also look at are as follows:

1. Appoint a major Distributor Agent (or Agents) that buys Cocoa from Cocoa Growers in the Buin Area
2. Introduce E-commerce for Coca buying business
3. Introduction of merchants and open mobile phone accounts for people
4. facilitate all Cocoa payments to go through the Mobile phone system
5. Finally look at informal sector traders and others that can also tap into the mobile ecosystem
6. Assess the appetite for Credit and what role digital financial products and services can play in customers accessing Credit Funds

Deliverables:

KEY PLAYERS	RELEVANT QUESTIONS	DELIVERABLE
<p>Agmark: Client using the MiPei system to pay out cocoa farmers</p>	<ol style="list-style-type: none"> 1.1 Understand how Agmark is currently making payments 1.2 Understand how the MiPei system is bringing value to the client (in terms of time save, cost savings, security, etc.) 1.3 If payment is in use, understand what proportion is done using MiPei and what proportion is done using cheques 1.4 Is the client using MiPei for all payments, if not. Why are they not fully utilising MiPei? 1.5 Understand the challenges around using MiPei (if any) 	<ul style="list-style-type: none"> • Client incentive and value of using MiPei identified
<p>Cash Out Points (Banks): Local banks providing banking services where cocoa farmers with bank accounts are able to utilise</p> <p><u>Number of Respondents:</u> 3 (Banks/BSP Branches in the different areas of Buka, Arawa and Buin)</p>	<ol style="list-style-type: none"> 2.1 Find out the bank fees charged on cashing cheques (How much is charged on cheque fees? Are there any other fees for cashing cheques? Are there any monthly charges for bank accounts?) 2.2 Understand the procedures in place for cashing cheques including the duration for cashing cheques (How long does it take for cheques to be cleared or cashed out?) 2.3 Understand the challenges in cashing out cheques or farmers not receiving their payments (Are there instances where there is shortage of cash? Are the instances where 	<ul style="list-style-type: none"> • Concrete data on bank charges identified • Challenges around the use of identified payment preferences identified

	cheques are not able to be processed due to lack of funds in Agmark account?) Any other challenges	
<p>Cash Out Points (Retailers/Wholesalers): Local retailers and wholesalers who supply goods that cash out cheques for cocoa farmers</p> <p>Number of Respondents: 6 (adequate representation from areas of Buka, Arawa and Buin)</p>	<p>3.1 Find out the charges on cashing cheques (rates used for cheque cash outs, any hidden charges)</p> <p>3.2 Understand the rationale on how cheques are charged (If based on the value of the cheque, how much is required for purchase of goods before cashing out? Any hidden charges here?)</p> <p>3.3 Understand the cash requirement during off peak and flush season (How much float do they require daily to be able to cash out cheques during off peak season and flush season? What is the range like during off peak and flush seasons? What are the major items farmers purchase when cashing cheques?)</p> <p>3.4 Challenges (Are there instances they are not able to cash out cheques? If yes, why?)</p>	<ul style="list-style-type: none"> • Concrete data on local retailers or wholesalers charges identified • Incentives of retailers or wholesalers identified
<p>MiBank Agents: Agents present in the locality where MiBank account holders are able to make withdrawals, deposits, etc</p> <p>Number of Respondents: 6 (adequate representation from areas of Buka, Arawa and Buin)</p> <p><i>Note: Former agents can also be interviewed in this instance</i></p>	<p>4.1 Understand the incentive for the agents (Commissions from opening of accounts and from transactions, Are commissions for agents received on a fortnightly/monthly basis?)</p> <p>4.2 Understand their customer base and their behaviour on saving (How many accounts have they opened? Who are their main clients? How often do clients make withdrawals/deposits? What proportion of their clients cash out all their earnings? What proportion of their clients save?)</p> <p>4.3 Understand the cash requirement during off peak and flush season</p>	<ul style="list-style-type: none"> • Agent incentives identified • Volume of transactions established • Agent challenges identified

	<p>(How much float is required daily for transaction purposes? What are the arrangements on physical movement of cash? Are there any costs/savings/risks involved in this?)</p> <p>3.5 Challenges (Are there instances they are not able to carry out transactions? If yes, why?)</p>	
<p>Farmers: Farmers producing and supplying cocoa to major buyers such as Agmark. There are farmers who sell wet beans and farmers who buy wet beans to dry at their fermentries</p> <p><u>Number of Respondents:</u> 30 (adequate representation from areas of Buka, Arawa and Buin)</p> <p><u>Note:</u> <i>There needs to be equal representation of the different categories of farmers (farmers who sell wet beans, farmers who buy wet beans, farmers with accounts and farmers with no bank accounts)</i></p>	<p>4.1 Understand the value of cash vs e-commerce (What is the payment preference for farmers, cash, cheque or through accounts? Why this preference? Do they have bank accounts? If yes, how often do they use it? Do they save? Do they take all the cash out and why? If no bank accounts, why not?)</p> <p>4.2 Understanding the need for cash (Why do farmers need cash? How is it spent? What are the major items they spend their cash on?)</p> <p>4.3 Understand the costs involved in selling cocoa (How often do they travel to sell their cocoa? How much do they pay to travel including costs charged per bag? Are there other buyers apart from Agmark they sell to and why? How much volume of cocoa do they sell during off peak and flush season? Do they buy wet beans? If yes, how much in volume and cost? If no, why not?)</p>	<ul style="list-style-type: none"> • Spending behaviour of farmers identified • Preference for digital payments or cash payments identified • Earnings from cocoa identified

Timeframe:

The duration of this assignment will be 20 Days – May to June 2017. The maximum level of effort will be of 20 working days within the assignment duration. This would give the expert the flexibility to develop the workplan within the 20 working days to ensure completion of every steps and proposed activities, mentioned above.

Appendix 2: ABG Workshop participants

Following is the list of participants in the ABG Mobile Banking Workshop held on Thursday 31st of August 2017 in Buka, ABG Conference Room.

The conference was facilitated by Boniface Aipi, Research Manager at Bank of PNG, Augustine Birie of The Centre for Excellence in Financial Inclusion, and William Apa, Consultant to The CEFI.

Name	Position	Contact
Mahara Auhi	Director, Fisheries	7113 7952
Chris Pinabat	Fisheries Officer	7992 7368
Solomon Nore	IT Officer	7069 4773
Wendy Sawa	ABG Manager Buka	7380 3479
Kevin Anana	Fisheries Officer	7242 7534
Shirley Namito	Staff Clerk	7975 9452
Dianne Hagena	Executive Assistant, Forestry	7293 1263
Julie Rereve	Extension Officer	7921 2334
Alice Tsiroats	Economist	7123 3237
Sam Rangai	Consultant / Advisor	7339 8922
Stanford Komena	Director - SME	7191 4676
Naomi Sania	Office Assistant	7346 7641
Philip Kamuka	Research Officer - DPI	7385 1370
Marcia Jeraha	Tourism Officer	7347 5741
Lorena Ritsi	Tourism Officer	
Thaddeus Kaile	Accountant – Mining Department	7973 9514
Kenneth Dovaro	Director - Agriculture	7984 4665
Peter Tauko	Director – Corporate Services	7295 0988

Appendix 3: Questionnaire for the quantitative research

	MOBILE BANKING USER SURVEY - PAPUA NEW GUINEA		
	INTERVIEW LOCATION	DATE	START TIME

Hi, my name is _____, and I am from CEFI. CEFI is an agency setup by the Bank of Papua New Guinea to promote the Financial Inclusion Program in PNG. I am here to conduct an interview to gauge people's opinion on banking services in AROB. The purpose of this survey is to understand the banking services offered in AROB and identify any issues AROB may have in accessing banking services and advise the respective stakeholders to address these issues.

It is important for the purposes of this study that you freely and honestly express your views so that your reviews will be considered in improving banking services in AROB and PNG. Your views will be treated with highest levels of confidentiality. All information from this research will be used for research purpose and any individual names or details will not be disclosed to any other person. We will only present summarised reports to the stakeholders. Are you willing to participate in this survey?

1	Yes	CONTINUE
2	No	TERMINATE

Q1. Which of the following statements best describes your position in your household?

1	2	3	4
Main bread winner	Spouse of the main bread winner	Sibling	Other [WRITE IN]
CONTINUE	CLOSE		

Q2. Here I have a list of questions I would like you to answer. Please answer "Yes" or "No" depending on your situation.

		Yes	No	
A	Do you have a bank account	1	2	
B	Does anybody else in your household have a bank account	1	2	
C	Do you own a mobile phone	1	2	
D	Does anybody else in your household own a mobile phone	1	2	
E	Are you a road worker or contractor?	1	2	CHECK QUOTA
F	Is anybody else in your household a road worker or contractor	1	2	
G	Do you currently own and operate a cocoa farm	1	2	CHECK QUOTA
H	Does your household currently own and operate a cocoa farm	1	2	

[REFER TO Q2. IF RESPONDENT HAS A BANK ACCOUNT FROM Q2 THEN ASK Q3. IF NOT THEN GO TO Q18]

Q3. Which banks do you currently have accounts with? [READ FROM LIST] [CODE MORE THAN ONCE].

Q4. I now would like you to tell me the branch of the bank from which you have these accounts. Which branch is [MENTION ALL BANKS RESPONDENT HAS ACCOUNT WITH IN Q3 AND CODE IN Q4 ROW IN TABLE BELOW].

	1	2	3	4	5	6	6
Q3	BSP	ANZ	Westpac	MiBank	NDB	People's Bank	Other [WRITE IN]
Q4							

Q5. What types of accounts do you have with your bank(s)? [READ FROM WHOLE LIST] [CODE MORE THAN ONCE]

	BSP	ANZ	Westpac	MiBank	NDB	P'sB	Other [WRITE IN]
Transaction account	1	1	1	1	1	1	1
Savings account	2	2	2	2	2	2	2
Cheque account	3	3	3	3	3	3	3
Term deposit	4	4	4	4	4	4	4
Loan account	5	5	5	5	5	5	5
Debit card	6	6	6	6	6	6	6
Credit card	7	7	7	7	7	7	7
Internet banking	8	8	8	8	8	8	8
Mobile banking	9	9	9	9	9	9	9
Other [WRITE IN]	10	10	10	10	10	10	10

Q6. Now I would like you to think about your bank visit frequency. How often do you travel to your bank branch to access banking services? [READ FROM LIST AND CODE ONCE]

Q7. [REFER TO Q6] Why do you visit the bank that frequently (or less frequently)?

	1	2	3	4	5	6 Other [WRITE IN]
Q6	Every day	2 to 3 times a week	Once a week	Once a fortnight	Once a month	
Q7						

Q8. How long does it take to travel to your bank. That is one way travel to the bank from your home? [READ FROM LIST AND CODE ONCE]

Less than 30 minutes	30 minutes to 1 hour	1 – 2 hours	2-3 hours	3 – 5 hours	More than 5 hours
1	2	3	4	5	6

Q9. How much do you normally pay for transport to travel to your bank? [WRITE IN TOTAL TRANSPORT FARE] K.....

Q10. What other costs do you normally incur? [ASK FOR BOTH COST ITEM AND AVERAGE AMOUNT]

Q11. Many people in the rural villages give the following as their reasons for going town. I would now like you to rank these in order of importance to you. 1 for the most important reasons and 10 for the least important reason. Write in any other reasons not mentioned in space provided.

To sell my cocoa produce	
To do shopping	
To seek medical treatment	
To go to school	
To just see the town	
To visit friends and relatives	
To do my banking	
To cash my cheque at the bank	
To travel to the airport	
Other (Write in)	

Q12. I would like you to now think back to all your experiences with your bank's overall accessibility. Using a 10 point scale on which "1" means "extremely poor accessibility" and "10" means "excellent accessibility", how would you rate your bank accessibility?

Very poor accessibility					Excellent accessibility				
1	2	3	4	5	6	7	8	9	10

Q13. Now I would like you to consider all your experiences with your bank(s) in terms of service quality. Using a 10 point scale on which "1" means "very low service quality" and "10" means "very high service quality", how would you rate the service quality of your bank(s)?

Very low service quality					Very high service quality				
1	2	3	4	5	6	7	8	9	10

Q14. Now I would like you to think of all the costs involved in accessing your banking services. Using a 10 point scale on which "1" means "very low cost" and "10" means "very high cost", how would you rate the cost of accessing bank?

Very low cost					Very high cost				
1	2	3	4	5	6	7	8	9	10

Q15. Now I would like you to consider all your overall level of satisfaction with your bank. Using a 10 point scale, "1" means "very dissatisfied" and "10" means "very satisfied", how would you rate your satisfaction with your bank?

Very dissatisfied					Very satisfied				
1	2	3	4	5	6	7	8	9	10

Q16. Now I would like you to think about any problems you had with your bank. Have you complained to your bank about any problems with your bank?

1	Yes	GO TO Q17
2	No	GO TO Q18

Q17. How well or poorly was your most recent complaint handled? Using a 10 point scale on which "1" means "handled very poorly" and "10" means "handled very well", how would you rate the handing of your complaint?

Handled very poorly					Handled very well				
1	2	3	4	5	6	7	8	9	10

Q18. Are you aware of mobile banking? That is where banking services are conducted using a mobile phone.

	Q18
Yes	1
No	2

Q19. Which bank are you aware that has a mobile banking services provided?

Q20. And which bank(s) do you have a mobile bank account with?

	BSP	ANZ	Westpac	MiBank	NDB	People's Bank	Other [WRITE IN]
Q19	1	2	3	4	5	6	7
Q20	1	2	3	4	5	6	7

Q21. Which of the following transactions do you perform using your mobile phone on your mobile bank account?

1	Balance inquiry	8	Bank statement
2	Transfer funds	9	Purchasing
3	Top up	10	Loan applications
4	Pay others	11	Loan repayments
5	Bill payment	12	Loan enquiries
6	Savings / Deposits	13	Any other periodical payment (Write in)
7	Cash withdrawal		

Q22. I would like you to now think back to all your experiences with your mobile bank account's overall accessibility. Using a 10 point scale on which "1" means "extremely poor accessibility" and "10" means "excellent accessibility", how would you rate your mobile bank accessibility?

Very poor accessibility					Excellent accessibility				
1	2	3	4	5	6	7	8	9	10

Q23. Now I would like you to consider all your experiences with your mobile bank account in terms of service quality. Using a 10 point scale on which "1" means "very low service quality" and "10" means "very high service quality", how would you rate the service quality of your mobile banking experience?

Very low service quality					Very high service quality				
1	2	3	4	5	6	7	8	9	10

Q24. Now I would like you to think of all the costs involved in accessing your mobile banking services. Using a 10 point scale on which "1" means "very low cost" and "10" means "very high cost", how would you rate the cost of accessing bank account using your mobile phone?

Very low cost					Very high cost				
1	2	3	4	5	6	7	8	9	10

Q25. Now I would like you to consider all your overall level of satisfaction with your mobile bank. Using a 10 point scale, "1" means "very dissatisfied" and "10" means "very satisfied", how would you rate your satisfaction with your mobile bank?

Very dissatisfied					Very satisfied				
1	2	3	4	5	6	7	8	9	10

Q26. Now I would like you to think about any problems you had with your bank. Have you complained to your bank about any problems with your bank?

1	Yes	GO TO Q27
2	No	GO TO Q28

Q27. How well or poorly was your most recent complaint handled? Using a 10 point scale on which "1" means "handled very poorly" and "10" means "handled very well", how would you rate the handing of your complaint?

Handled very poorly					Handled very well				
1	2	3	4	5	6	7	8	9	10

[REFER TO Q2. IF RESPONDENT HAS A MOBILE PHONE FROM Q3C THEN ASK Q28. IF NOT THEN GO TO Q35]

Q28. Which mobile network do you use? [READ FROM LIST] [CODE MORE THAN ONCE]

B Mobile Vodafone	Digicel	TELIKOM	Other [WRITE IN]
1	2	3	3

[FOR THE FOLLOWING QUESTIONS, ASK FOR DIGICEL AND B'MOBILE]

Q29. I would like you to think of all your experiences with your mobile phone network accessibility. Using a 10 point scale on which "1" means "extremely poor accessibility" and "10" means "excellent accessibility", how would you rate your mobile phone network accessibility?

	Very poor accessibility					Excellent accessibility				
B Mobile	1	2	3	4	5	6	7	8	9	10
Digicel	1	2	3	4	5	6	7	8	9	10

Q30. Now I would like you to consider all your experiences with your mobile phone service in terms of service quality. Using a 10 point scale on which "1" means "very low service quality" and "10" means "very high service quality", how would you rate the service quality of your mobile phone network?

	Very low service quality					Very high service quality				
B Mobile	1	2	3	4	5	6	7	8	9	10
Digicel	1	2	3	4	5	6	7	8	9	10

Q31. Now I would like you to consider the cost of operating your mobile phone. Using a 10 point scale on which "1" means "very low costs" and "10" means "very high costs", how would you rate the costs of operating your mobile phone?

	Very low costs					Very high costs				
B Mobile	1	2	3	4	5	6	7	8	9	10
Digicel	1	2	3	4	5	6	7	8	9	10

Q32. Now I would like you to consider all your experiences with your mobile phone network on your overall satisfaction. Using a 10 point scale, "1" means "very dissatisfied" and "10" means "very satisfied", how would you rate your mobile phone service in terms of your overall satisfaction?

	Very dissatisfied					Very satisfied				
B Mobile	1	2	3	4	5	6	7	8	9	10
Digicel	1	2	3	4	5	6	7	8	9	10

Q33. Now I would like you to think about any problems you had with your mobile network. Have you complained to your mobile phone company about any problems with your mobile network?

	B'Mobile	Digicel
Yes	1	1
No	2	2

Q34. Now I would like you to think about how well your mobile network service provider handled your most recent complaint. Using a 10 point scale on which "1" means "handled very poorly" and "10" means "handled very well", how would you rate the handling of your complaint?

	Handled very poorly					Handled very well				
B Mobile	1	2	3	4	5	6	7	8	9	10
Digicel	1	2	3	4	5	6	7	8	9	10

IF COCOA FARMING IN Q2G IS CODED ABOVE THEN ASK Q35. IF NOT THEN GO TO Q51

Q35. I would now like you to think about the tasks involved in your cocoa farming, harvesting, and selling. Who does most of the work in these specific tasks? And who makes most of the decisions in these tasks? Is it the father, the mother, the children, both mother and father, or all? [WRITE IN EACH TASK BELOW].

Soil preparation	Performing the task	Decisions
Planting		
Weeding and looking after the farm		
Harvesting		
Wet bean processing		
Drying		
Selling		
Using the money from selling cocoa		

Q36. Which statement best describes how you normally sell your Cocoa beans? Do you sell wet beans, dry beans, or both?

1	I always sell wet beans
2	I always sell dry beans
3	I sell both wet beans and dry beans

Q37. Why do you do that [REPEAT CODED STATEMENT IN Q25]? [Write in VERBATIM]

Q38. How often do you sell your cocoa produce during a non-peak cocoa season? [READ OUT FROM LIST AND CODE ONCE]

Q39. How often do you sell your cocoa produce during a peak cocoa season? [READ OUT FROM LIST AND CODE ONCE]

	2-3 times a week	Once a week	Once in 2 weeks	Once a month	Less frequent
Q38 Non-peak season	1	2	3	4	5
Q39 Peak season	1	2	3	4	5

Q40. How much volume in kilograms do you normally produce and sell in a non-peak cocoa season at any one selling occasion? [WRITE IN VOLUME IN KILOGRAMS AND AMOUNT IN KINA IN TABLE BELOW, ROW Q37]

Q41. How much volume in kilograms do you normally produce and sell in a peak cocoa season at any one selling occasion? [WRITE IN VOLUME IN KILOGRAMS AND AMOUNT IN KINA IN TABLE BELOW, ROW Q38]

	Cocoa Volume	Cocoa Revenue
Q40 Non-peak season		
Q41 Peak season		

Q42. Where do you most often sell your wet cocoa bean? [CODE ONCE]

Q43. Where do you most often sell your dry cocoa bean? [CODE ONCE]

	Cocoa buyer in Buka	Cocoa buyer in Arawa	Cocoa buyer in Buin	Agmark	Other [Write in]
Q42 WET BEANS	1	2	3	4	5
Q43 DRY BEANS	1	2	3	4	5

Q44. How many hours do you normally spend in traveling one way to sell your Cocoa beans? Write inhours.

Q45. And which mode of transport do you use most often to sell your cocoa? [CODE ONCE ONLY. MOST OFTEN USED MODE]

1	2	3	4	5	6	7	8
By foot	Land only	Sea only	Air only	Land and sea	Land and air	Sea and air	All 3

Q46. How much do you normally pay in total to travel to sell your Cocoa beans? That is one way transport fee you pay to travel to sell your cocoa to your normal buyer.

Write in [VERBATIM]

Q47. How do you usually get paid for selling your Cocoa? [CODE IN ROW Q46 BELOW]

Q48. What is your most preferred method of payment? [CODE IN ROW Q47 BELOW]

	Cash	Cheque	Voucher / Docket	Bank transfer	Bank deposit	Mobile transfer	Other [Write in] ;
Q47	1	2	3	4	5	6	7
Q48	1	2	3	4	5	6	7

Q49. Why do you prefer payments in [MENTION MOST PREFERRED PAYMENT METHOD IN Q48 ABOVE. WRITE IN VERBATIM]

Q50. What are the different transaction charges for [MENTION ALL FORMS OF PAYMENT CODED IN Q47 ABOVE]

Cash	
Cheque	
Voucher/Docket	
Bank transfer	
Mobile transfer	
Other [WRITE IN]	

Q51. Now I would like to ask you some questions on MiCash/MiPei mobile banking. Are you aware of MiCash?

1	Yes	GO TO Q52
2	No	GO TO Q71

Q52. Where did you hear about MiCash?

1	2	3	4	5	6
Mass media (television, radio, newspaper)	An Agent	MiBank staff	SMS from Mobile Operator	Friends and Family	Other Write in

Q53. Do you have a MiCash account?

1	Yes
2	No

Q54. Have you ever had a bank account before you opened your MiCash account?

Q55. [IF NO THEN ASK] Why didn't you have a bank account? [RECORD RESPONSE IN COLUMN Q55 BELOW]

1	Yes	GO TO Q55	Q55
2	No	GO TO Q56	

Q56. Which bank was that? [CODE IN TABLE BELOW AFTER Q57 UNDER ROW Q56]

Q57. What is the status of your other bank? Is it active, idle, or deactivated? [WRITE IN BELOW; EITHER ACTIVE, IDLE, OR DEACTIVATED]

	BSP	ANZ	WESTPAC	MiBank	NDB	Other (Write in)
Q56	1	2	3	4	5	6
Q57						

Q58. Which of the following transactions do you perform using your mobile phone and MiCash account?

1	Balance inquiry	8	Bank statement
2	Transfer funds	9	Purchasing
3	Top up	10	Loan applications
4	Pay others	11	Loan repayments
5	Bill payment	12	Loan enquiries
6	Savings / Deposits	13	Any other periodical payment (Write in)
7	Cash withdrawal		

Q59. Are you aware of MiCash Agents within your locality?

1	Yes	GO TO Q60
2	No	GO TO Q61

Q60. Do you perform cash transactions with MiCash Agents in your locality?

1	Yes
2	No

Q61. I would now like you to rate MiCash agents performances on the following performance matrix. On a rating scale of 1 to 5, I would like you to rate the performance of the agents on your experiences with them. Would you say agents are.....

Always availability	1	2	3	4	5	Never available
Provide excellent customer service	1	2	3	4	5	Provide poor customer service
Prompt cash out	1	2	3	4	5	Delayed cash out
Nil cash shortages	1	2	3	4	5	Frequent cash shortages
Generally very satisfied with agent						Generally very dissatisfied with agent

Q62. **EASE OF USE.** On a scale of 1 to 5, 1 being Not at all true and 5 being Very True, How would you rate the following statements about your mobile banking menu on your phone? (Single Coding for each option)

	Not at all true				Very true
My mobile banking menu is very easy to navigate	1	2	3	4	5
It is easy to make a payment	1	2	3	4	5
It is easy to transfer money	1	2	3	4	5
It is easy to make a balance inquiry	1	2	3	4	5

Q63. **TRUST.** On a scale of 1 to 5, 1 being the lowest and 5 being the highest, please rate your view on mobile banking service? [SINGLE CODE FOR EACH OPTION]

	Very low				Very high
Overall Trust	1	2	3	4	5
Trust in banks	1	2	3	4	5
Trust in the technology of mobile banking	1	2	3	4	5
Trust in third party agent (e.g., pay outlet, cash-out point)	1	2	3	4	5
Security from fraud	1	2	3	4	5

Q64. **BENEFITS.** On a scale of 1 to 5, 1 being the lowest and 5 being the highest, how would you rate the following benefits of Mobile Banking? [SINGLE CODE FOR EACH OPTION]

	Lowest			Highest	
Cost saving (Lower rates, transaction fees)	1	2	3	4	5
Time saving (no need to go to bank or ATM)	1	2	3	4	5
Easily accessible (can make transaction any time)	1	2	3	4	5
Physical security (no need to go out with cash)	1	2	3	4	5
Others (please specify)_	1	2	3	4	5

Q65. **CONSIDERATION.** Please rate how important the following reasons are for you to consider using mobile banking [SINGLE CODING FOR EACH OPTION]: 1 is Very Important to 5 which is Not Important At All [READ OUT ONE SERVICE AT A TIME AND RECORD THE RESPONSE FOR THE SAME]

	Very important				Not important at all
Lower transaction costs	1	2	3	4	5
Security from fraud	1	2	3	4	5
Physical security	1	2	3	4	5
Safe transaction with feedback on transfer (e.g. sms)	1	2	3	4	5
Wide acceptance of mobile money	1	2	3	4	5
More locations I can cash-out my money	1	2	3	4	5
Other (specify)	1	2	3	4	5

Q66. If MiBank was to provide the loan function on your MiCash mobile banking account, would you say you will : 1. Definitely get a bank loan; 2. Most likely get a bank loan; 3. You don't know; 4. You will not get a bank loan; and 5. You definitely not get a bank loan [CODE ONCE ONLY]

I will definitely get a bank loan				Definitely not get a bank loan	
1	2	3	4	5	

Q67. Now I would like to ask some specific questions on how your money is spent. Which items on the list below do you spend your income on?

Q68. Which are two items that you spend major proportion of your money on?

	Q67	Q68
Clothes	1	1
Store good	2	2
Market food	3	3
Phone cards	4	4
Medicine and health service	5	5
School fees	6	6
School books and uniforms	7	7
Water bills	8	8
Electricity bills	9	9
Betel nut	10	10
Cigarettes	11	11
Alcohol	12	12
Other [WRITE IN]	13	13

Q69. Which statement best describes your banking habit? [CODE ONCE ONLY]

As soon as my money goes into my account, I withdraw all of it and save nothing	1
As soon as money gets into my account, I withdraw half of it and save half	2
As soon as money gets into my account, I withdraw one quarter and save 3 quarters	3
As soon as money gets into my account, I save all of it	4

Q70. Could you recommend mobile banking (MiCash / MiPei) to other people? On a 5 point scale, rate a “1” for “will definitely not recommend MiCash / MiPei to others” and a “10” for “will definitely commend to others”. [CODE ONCE ONLY]

I will definitely not recommend to others					Definitely not get a bank loan				
1	2	3	4	5	6	7	8	9	10

Q71. Please tell me your current age? [WRITE IN] [TRANSFER TO CODE BELOW]

1	2	3	4	5	6	7
Below 16	16 – 19	20 – 24	25 – 29	30 – 39	40 – 44	45 +

Q72. What is your current occupation? [WRITE IN] [TRANSFER TO CODE BELOW]

Q73. What was your previous occupation? [WRITE IN] [TRANSFER TO CODE BELOW]

	Q66 CURRENT OCCUPATION	Q67 PREVIOUS OCCUPATION
Government /Public Service	1	1
Private Business Executive	2	2
Private Business Professional	3	3
Private Business Employee	4	4
Family business/ self-employed	5	5
Farmer	6	6
Not employed	7	7
Student	8	8
Others (please specify)	9	9

Q74. What is the highest education level you have completed? (Single Coding Only)

1	2	3	4	5	6	7
Primary school	High School	Senior High School (Grade 11 – 12)	Technical college	University Degree	Post Graduate	Others Write in)

Q75. What is your marital status? [SINGLE CODE ONLY]

1	2	3	4	5
Single	Married	Divorced	Separated	Widow

Q76. What is your average monthly income? I would like for your personal income and your aggregate family income. [SINGLE CODE ONLY]

Average monthly income	Below K100	K100 – K300	K300 – K500	K500 – K800	K800 – K1,000	K1,000 – K1,500	K1,500 – K2,000	More than K2,000
Personal	1	2	3	4	5	6	7	8
Household	1	2	3	4	5	6	7	8

Q77. This is the end of our survey. Thank you very much for your participation. Now I would like you to give me your name and your phone number. My supervisor checks at random 20% of my work. He/she will need to call and confirm that I did this interview with you.

RESPONDENT NAME	PHONE NUMBER	DATE	FINISH TIME

OFFICE USE ONLY			
DATA QUALITY CHECK		DATA PROCESSING	
QUALITY CHECKED BY	DATE CHECKED	PROCESSED BY	DATA PROCESSED

Appendix 4: Moderators guide - TSSP

	<p>MOBILE BANKING SURVEY PAPUA NEW GUINEA INTERVIEW GUIDE - TRANSPORT SECTOR SUPPORT PROGRAM</p>
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RECORD LOCATION	RECORD DATE	RECORD START TIME

Good morning/afternoon, my name is _____, and I am from the Centre for Excellence in Financial Inclusion (CEFI).

CEFI is an agency setup by the Bank of Papua New Guinea (BPNG) to facilitate the Financial Inclusion Program in Papua New Guinea (PNG) with head office in Port Moresby.

A huge population of PNG (85%) live in rural areas and are unbanked.

BPNG in partnership with International Finance Corporation (IFC) and Asian Development Bank (ADB) established CEFI to facilitate the Financial Inclusion Program to reduce the percentage of unbanked population in PNG.

Mobile banking is a great vehicle to facilitate banking services among the rural unbanked population as proven by many developing and developed countries in the world.

We are here to conduct an assessment on this program and capture learning and provide feedback to CEFI and MiBank for improvement.

We understand you are already using MiPei. We therefore would like to fully understand your experiences in using MiPei so that we can share the learning with CEFI and MiBank to be able to improve the program.

Your input into this assessment is very important in further developing the MiPei system and other developments in the mobile banking areas to suite your requirements and other clients like yourself.

Please feel free to discuss your experiences and thoughts openly so we work together on this program for a better MiPei system and mobile banking service in AROB and PNG.

Your views will be treated with utmost confidentiality so feel free to discuss anything either good or bad that you feel will add value to MiPei and the mobile banking program.

Q1	I would like you to provide some details around the operations of TSSP in AROB. That is general information on the history of TSSP in AROB, the operations, establishments and locations, types of businesses in these locations, and the core business in each of these locations.
Q2	How many people do you currently employ? This should include your employees, contractors, and casual/seasonal employees.
Q3	How much money do you actually payout on a monthly basis to these employees and your contractors?
Q4	I would now like you to tell me about your method of payments to your workers and contractors. Do you pay in cash, cheque, bank deposits, bank transfers, MiPei, other mobile banking, or vouchers? If more than one payment method than roughly what proportion is paid in each payment method?
Q5	Do you experience any issues with your current payment methods that you would like to highlight? That is in terms of cash handling, cheque payments, cheque cashing from employees and contractors, agents or retail cash out services etc. Are there any issues in these areas you would like to highlight?
Q6	We understand you trialed MiPei in AROB. Would you mind sharing your experiences with MiPei with us? What is your general attitude towards MiPei?
Q7	How did you pay your employees and contractors before the introduction of MiPei and what issues were you faced with?
Q8	After the introduction of MiPei, were you able to notice any changes in your operations? If so then what was that?
Q9	I would like you to provide some details around differences in time spend in banking transactions before MiPei and after MiPei. That is in terms of time, money (costs), and processes.
Q10	After your experiences with MiPei, do you see or foresee any issues in the MiPei system?
Q11	I would like you to give me some general opinion about the future of MiPei and mobile banking in AROB. That is your personal view on mobile banking's future in AROB after your experiences with MiPei?
Q12	I would now like you to tell me about the level of customer willingness to get loans? That is among Road Workers and Contractors in AROB. Do you think they will be excited and willing to take loans if MiBank makes available the loan facility in mobile banking?
Q13	Finally I would like you to tell me any general thoughts you have regarding mobile banking, MiBank, MiPei, MiCash, MiLoan, Cocoa buying and selling, etc. in AROB.

RESPONDENT NAME	RESPONDANT POSITION	PHONE	FINISH TIME

Appendix 5: Moderators guide - Agmark

	MOBILE BANKING SURVEY PAPUA NEW GUINEA AGENT SURVEY GUIDE - AGMARK
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RECORD LOCATION	RECORD DATE	RECORD START TIME

Good morning/afternoon, my name is _____, and I am from the Centre for Excellence in Financial Inclusion (CEFI).

CEFI is an agency setup by Bank of Papua New Guinea (BPNG) to facilitate the Financial Inclusion Program in Papua New Guinea (PNG) with head office in Port Moresby.

A huge population of PNG population (85%) live in rural areas and are unbanked.

BPNG in partnership with International Finance Corporation (IFC) and Asian Development Bank (ADB) established CEFI to facilitate the Financial Inclusion Program in PNG.

Mobile banking is a great vehicle to facilitate banking services among the rural unbanked population.

In November 2016, MiBank in partnership with Market Development Facility (MDF) established MiPei in AROB to facilitate payments to road works employees and contractors in AROB involved in the Transport Sector Support Program (TSSP), an Australian Government initiative.

We are here to conduct an assessment on this program and capture learning and provide feedback to CEFI and MiBank for improvement.

We understand the important role you play in the cocoa industry in AROB. We therefore would like to fully understand your mode of operations and the challenges you face in the cocoa supply chain so we can be able to assist in developing the mobile banking further i=to include the cocoa industry to make your transactions easier.

Your input into this assessment is very important in further developing the MiPei system and other developments in the mobile banking areas to suite your requirements.

Please feel free to discuss your thoughts openly so we work together on this program for a better mobile banking service in AROB and PNG.

Your views will be treated with utmost confidentiality so feel free to discuss anything either good or bad that you feel will add value to the mobile banking program.

Q1	I would like you to provide an overview of the operations of Agmark in AROB. That is general information on the history of Agmark in AROB; <ul style="list-style-type: none"> • the operations • locations • types of businesses in these locations • And the core business in each of these locations.
Q2	Now I would like you to tell me about Agmark's involvement in the Cocoa industry in AROB. That is in terms of farming, buying, exporting and selling.
Q3	Now I would like you to provide some details around cocoa production and exporting volume and value in AROB; <ul style="list-style-type: none"> • Total monthly coca volume in AROB • Total cocoa payouts monthly • Cocoa production areas in AROB and their respective volume and value
Q4	I would now like you to tell me about your method of payments to the farmers. Do you pay in cash, cheque, bank deposits, bank transfers, mobile banking, or vouchers? If more than one payment method than roughly how much is paid in each payment method?
Q5	Do you experience any issues with your current payment methods that you would like to highlight? That is in terms of cash handling, cheque payments, cheque cashing from farmers, agent or retail cash out services etc. Are there any issues in these areas you would like to highlight?
Q6	Mobile banking is banking system in operation in PNG. What is your understanding and thoughts about mobile banking? Have you tried it personally? What is your general attitude towards mobile banking?
Q7	Is Agmark currently using mobile banking? If it does, what are the general views within Agmark around mobile banking?
Q8	MiBank introduced MiPei into AROB to pay workers and contractors in road works in AROB. Are you aware of MiPei? If you are aware then what are your general thoughts about MiPei system?
Q9	Do you see or foresee any issues in the MiPei system?
Q10	I would like you to give me some general opinion about the future of mobile banking in AROB. That is your personal view on mobile banking's future in AROB?
Q11	I would now like you to tell me about the level of customer willingness to get loans? That is among Cocoa Farmers in AROB. Do you think farmers will be excited and willing to take loans is MiBank makes available the loan facility in mobile banking?
Q15	Finally I would like you to tell me any general thoughts you have regarding mobile banking, MiBank, MiPei, MiCash, MiLoan, Cocoa buying and selling, etc. in AROB.

RESPONDENT NAME	RESPONDANT POSITION	PHONE	FINISH TIME

Appendix 6: Moderators guide - Bank

	MOBILE BANKING SURVEY PAPUA NEW GUINEA INTERVIEW GUIDE – BANKS
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RECORD ORGANISATION & LOCATION	RECORD DATE	RECORD START TIME

INTRODUCTION

Personal introduction and introducing the purpose of the meeting

Good morning/afternoon, my name is _____, and I am from the Centre for Excellence in Financial Inclusion (CEFI). CEFI is an agency setup by Bank of Papua New Guinea (BPNG) to facilitate the Financial Inclusion Program in Papua New Guinea (PNG) with head office in Port Moresby.

BPNG in partnership with International Finance Corporation (IFC) and Asian Development Bank (ADB) established CEFI to facilitate the Financial Inclusion Program to reduce the percentage of unbanked population in PNG.

We are tasked to conduct an evaluation on banking in general and mobile banking in particular.

Thanking the respondent for making time available for the meeting

Thank you for making time available to meet with us and share some of your experiences as a banker in AROB and Papua New Guinea.

Reassurance to the respondent on confidentiality of the meeting

This is a research meeting. We would like you to discuss with us as openly and honestly as possible. The discussion is for research purposes only and all information gathered will be summarised and report and no names will be disclosed to any person outside.

Organisation specific remarks

PROCEED WITH DISCUSSIONS

Q1	General business environment in AROB and how that compared to previous years	
Q2	General commentary on the establishment of the bank in AROB	
Q3	General commentary on the performances of the bank and how this compared to previous years	
Q4	Commodity performances in AROB and comparing that to previous years	
Q5	The future of AROB and the banking landscape in AROB	
Q6	Banking operational issues in AROB. Both common and unique issues	
Q7	Occasions of cash shortages in AROB, if any and when. Is this a frequent seasonal occurrence?	
Q8	Different types of account types offered by the bank and the different service charges and fees to the customers	
Q9	General comments on history of mobile banking and the general performances of mobile banking in AROB	
Q10	Reach of mobile banking in AROB	
Q11	General costs and benefits of mobile banking from the perspective of the banker	
Q12	I would now like you to tell me about the level of customer willingness to get loans? That is the general AROB experience compared to other provinces and also compared to previous year(s).	
Q13	Agents in AROB.	
	Establishments	Issues
		Fees and charges
Q14	Merchants in AROB.	
	Establishments	Issues
		Fees and charges

Q15	Does BSP AROB offer the following services? Please highlight the cost to serve for each transaction. Also highlight the strengths, opportunities, weaknesses and threats of each.					
	Service offer	Cost to serve	Strengths	Opportunities	Weaknesses	Threats
	Branch					
	Call Centre					
	Interactive voice response					
	ATM					
	Online					
	Mobile banking					
	Agents					
	Merchants					
Q16	General comments on mobile banking in AROB and PNG from a banker's perspective					
Q17	Concluding remarks					

RESPONDENT NAME	RESPONDANT POSITION	PHONE	FINISH TIME

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