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FINANCIAL SECTOR KNOWLEDGE SHARING

ACCELERATING MOBILE MONEY IN INDONESIA

SOUTH SULAWESI MOBILE MONEY BUSINESS PLAN

OCTOBER 2011

This document was produced for review by the United States Agency for International Development. It was prepared by Chemonics International Inc. for the Financial Sector Knowledge Sharing Project, delivery order number EEM-E-03-05-00006-00.

CONTENTS

ACRONYMS

CCT	conditional cash transfer
MNO	mobile network operator
PNPM	Program Nasional Pemberdayaan Masyarakat (National Community Empowerment Program)
SMS	short messaging service

INTRODUCTION

This business plan to scale the use of mobile money in South Sulawesi was completed by the Financial Sector Knowledge Sharing (FS Share) project as part of a broader scope of work commissioned by USAID Indonesia to explore how the Mission might support the development of innovative development solutions, such as mobile money, to increase access to financial services. FS Share and subcontractor Open Revolution conducted research and interviews in Indonesia as part of this scope of work in September and October 2011. It complements the *Accelerating Mobile Money in Indonesia Action Plan, October 2011*. The *Action Plan* proposes several potential pilot activities, among other solutions that USAID Indonesia may research and consider, to accelerate the development, adoption, and usage of mobile money as a vehicle to transform financial inclusion and achieve broad-based economic growth.

FS Share Rapid Response Hotline

For assistance identifying resources to design programs that increase access to finance and develop well functioning markets, contact FS Share Project Manager Melissa Scudo at 202-775-6976 or mscudo@chemonics.com. To access the FS Share task order and EGAT assistance on any mission, financial-sector program, scope of work, or procurement questions, contact:

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SECTION I. OVERVIEW AND CONTEXT

Sulawesi, one of the four larger islands of the Indonesian archipelago, is situated between Borneo and the Maluku Islands. In Indonesia, only Sumatra, Borneo, and Papua are larger in territory, and only Java and Sumatra have larger populations.

Table 1. Population of Larger Islands of the Indonesian Archipelago

Island	Population
Java	132.3 million
Sumatra	47.1 million
Sulawesi	**17.3 million**
Kalimantan	12.2 million

Source: Indonesia Bureau of Statistics

Of Sulawesi's six provinces, South Sulawesi has the largest area and population. Its capital, Makassar (1.3 million inhabitants), is a major port and regional center and the island's largest city.

Table 2. Population and Density of Sulawesi Provinces

Province	Population (2010 Census)	Density
South Sulawesi	**8,032,551**	**110.4**
West Sulawesi	1,158,336	69.0
Central Sulawesi	2,633,432	39.0
Southeast Sulawesi	2,230,569	58.5
Gorontalo	1,038,590	85.0
North Sulawesi	2,265,938	147.5
Sulawesi	**17,359,416**	**99.4**

Source: Indonesia Bureau of Statistics

About 60 percent of the South Sulawesi labor force is engaged in agriculture, which accounts for almost Rp 23 trillion in economic activity annually. This figure represents a significant portion of the provinces' regional gross domestic product[1]. Although rice, vegetables, and fruit constitute the bulk of small farmer crops, about 30 percent of output is in cash crops for export. Of these, the major crops are cocoa and coffee.

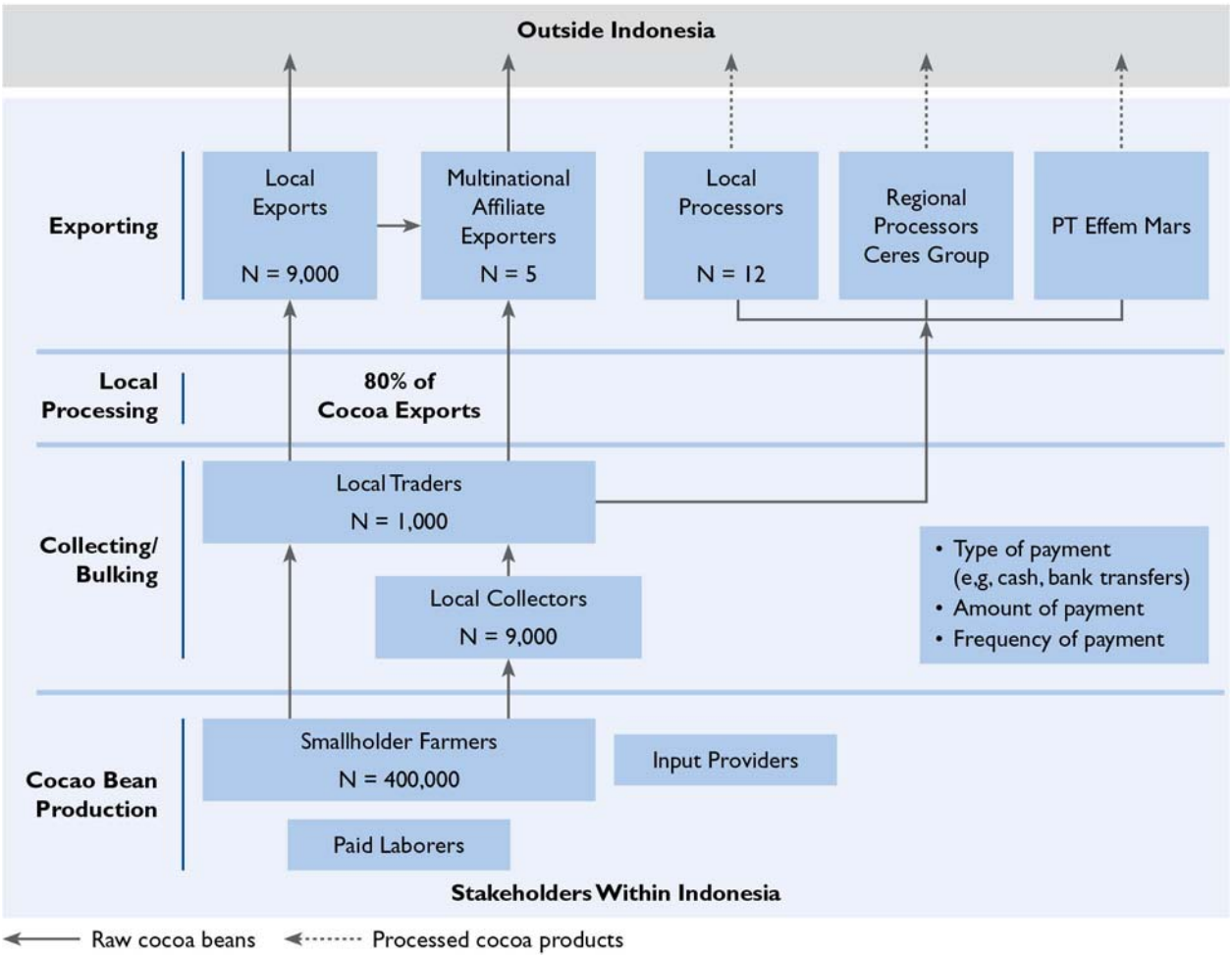
The world's third-largest cocoa exporter after the Ivory Coast and Ghana, Indonesia accounts for 18 percent of global market share with 470,000 metric tons produced in 2010. Production is concentrated in Sulawesi, where 63 percent of the country's raw cocoa is produced. According to the International Cocoa Organization, only 28 percent of cocoa produced in Indonesia is processed domestically; the remaining 72 percent is exported as raw beans.

[1] *Antara News*, June 21, 2011, "S. Sulawesi Governor Receives Food Security Award"

More than 90 percent of cocoa produced in South Sulawesi is from small farms (one hectare or less). In South Sulawesi, a one-hectare farm yields 700 to 1,000 kilograms of cocoa bean per year; at current prices, the annual income for a small farmer is approximately $2,000. This income is primarily earned during two peak harvest seasons and include multiple small sales of harvested product. Approximately 400,000 cocoa farmers are active in South Sulawesi.

The cocoa value chain in South Sulawesi contains multiple levels ranging from multi-billion dollar international conglomerates to single-plot, individual farmers. Exhibit 1 illustrates the relevant elements of the cocoa value chain.

Exhibit 1. Cocoa Value Chain



Source: USAID AMARTA Project

While at the highest level of the value chain, business-to-business payments are made through formal contracts and bank-to-bank transfers, the lower levels of the value chain are characterized by in-person cash transactions.

SECTION II. MARKET SEGMENT PROFILE

Cocoa farmers are typically organized into farm cooperatives. Individual farmers own their land, and family members generally assist with cocoa farming activities (pruning, harvesting, and drying). Except during peak harvest season, there is little contract labor. In addition to producing cocoa, these farmers often earn additional income as laborers in agriculture (e.g., rice) and light industry/services sectors (e.g., motorcycle repair). Few farmers (recent interviews indicate less than 10 percent) have individual accounts, and most are not actively involved in the formal financial sector. They use PT POS and/or farm cooperative bank accounts to facilitate transactions such as remittances. Credit is generally informal and is provided by collectors and wholesalers along the cocoa value chain.

Most cocoa farmers have mobile telephones and use both voice and SMS services. The devices are used for personal and business activities, and air time is typically purchased two to three times per week.

SECTION III. FINANCIAL AND TELECOMMUNICATIONS INFRASTRUCTURE

The major cities of Maskassar, Palopo, and Pare-Pare all have reasonable bank penetration levels, with multiple branches and ATMs available. However, the availability of bank facilities is more limited outside the major population centers. Bank Rakyat Indonesia has the largest branch and ATM network in the province; it has facilities at many of the 20 regencies in the province. The approximately 800,000 account holders in South Sulawesi represent 10 percent of the population.

South Sulawesi has good mobile coverage. The major service providers (e.g., Telkomsel, Indosat, PT XL) all provide service in the major population centers. In more rural areas, Telkomsel offers the broadest coverage and has greater than 70 percent of market share in the province. There are more than 4 million unique cell phone subscribers in South Sulawesi.

SECTION IV. BUSINESS HYPOTHESIS

A viable mobile money ecosystem can be developed in South Sulawesi by leveraging the cash payment streams of the cocoa value chain. With cocoa payments as the catalyst, mobile money providers — both banks and mobile network operators — will invest in agent networks and other mobile money infrastructure and work to develop a broad-based mobile money network. This network will not only serve currently unbanked and underbanked cocoa farmers but will also provide a wider platform for financial inclusion in the region.

SECTION V. PRODUCTS AND SERVICES

Discussions with cocoa farmers and cocoa collectors indicate that the following products and services, if priced reasonably and convenient, would be of value:

- *Person-to-person transfer payment mechanism.* This would be used to pay local businesses and friends and relatives in nearby towns.

- *Bill payment.* This service would enable individual farmers to pay their monthly electric bills directly from their mobile money wallets at any time, from any place.

- *Remittance product.* Mobile money accounts would provide a direct mechanism for sending and receiving international and domestic remittances.

- *Tailored loan product.* Working with banks and microfinance institutions, farmers would have access to a tailored credit facility. This loan product would be disbursed directly into the mobile money wallet; farmers would also make periodic repayments from the wallet to the sponsoring financial institution.

- *Low-cost savings product.* The mobile money account would provide farmers with a safe and secure savings product with lower fees and greater accessibility than traditional bank products.

While interviews indicated a demand for these products and services, it is clear that resources would be required to educate farmers on the true value of these products and how their use could improve their overall economic situation.

SECTION VI. MARKET ANALYSIS

Based on interviews with potential mobile money customers and top-down analysis using benchmark data from Indonesia and other countries, a segmented demand forecast for mobile money was developed for South Sulawesi. Table 3 presents the five-year forecast for mobile money, by provider type.

Table 3. Demand Forecast by Service Provider Type

Demand Forecast	2012	2013	2014	2015	2016
Mobile money subscribers (bank product)	40,982	90,161	198,355	252,902	278,597
Mobile money subscribers (mobile network operator — MNO — or third-party product)	-	43,900	90,435	139,722	191,884
Total	42,994	136,075	290,804	394,639	472,498

Mobile money subscribers were further broken down by their primary funds injection mechanism (e.g., salary payment, conditional cash transfer payment). Table 4 illustrates this further segmentation

Table 4. User Segmentation

User Segmentation	2012	2013	2014	2015	2016
Cocoa farmers with mobile banking product	4,000	20,200	61,206	61,818	62,436
Conditional cash transfer (CCT) recipients	1,311	2,649	4,013	5,405	6,823
National Community Empowerment Program **(**PNPM) program recipients	66	331	502	676	853
Salary payment recipients	1,967	3,974	8,027	20,268	24,564
Loan recipients	3,279	6,623	16,722	23,646	34,117
Other	32,372	102,298	200,333	282,828	343,704
Total	**42,994**	**136,075**	**290,804**	**394,639**	**472,498**

To support these subscriber levels, both banks and MNO mobile money service providers will need to invest in a comprehensive agent networks. The business plan assumes the development of regulatory reforms that relax restrictions on agent registration and enable easy recruitment of small local businesses. Active recruitment of merchant acceptance points is also critical to the mobile money business model and is assumed in the analysis. Table 5 estimates the required number of and merchant acceptance points.

Table 5. Agent Network

Agent Network	2012	2013	2014	2015	2016
Agents	154	558	1,196	1,647	2,004
Merchant acceptance points	1,639	3,311	6,689	10,134	13,647

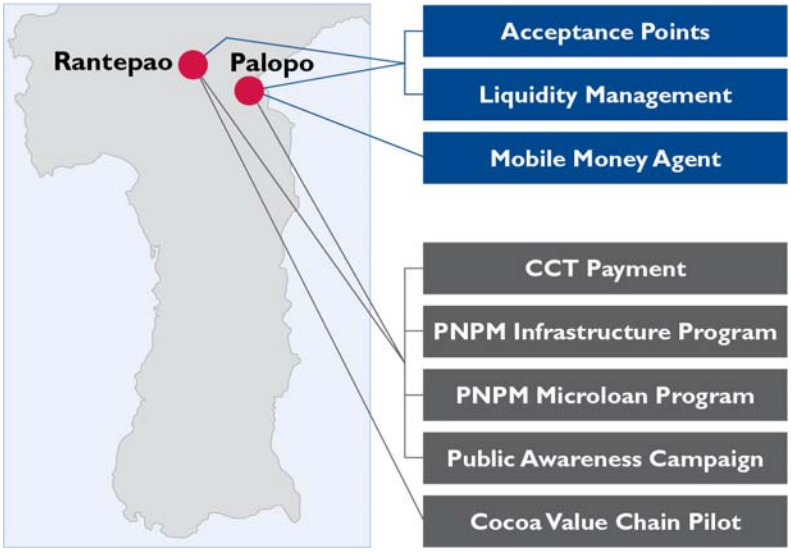
On average, an agent will conduct approximately 40 transactions per day, including air time top-up, and the average merchant will conduct five mobile money transactions per day.

SECTION VII. STRATEGY AND IMPLEMENTATION

The overall strategy for expanding mobile money in South Sulawesi is to gain commitments from government, donor, and private-sector stakeholders to use mobile money for a selected set of recurring cash payment streams. Using cocoa value chain payments as the anchor, a coordinated effort will be made to create a mobile money geographic focal point in South Sulawesi. In addition to cocoa, the Ministry of Social Affairs' CCT payments, PNPM's infrastructure program, and target agricultural loan programs would all employ a mobile money mechanism.

Critical mass can be achieved by concentrating mobile money activities in a specific geography, and the economics for deploying agent networks and recruiting participating merchants becomes more viable. Including additional geographies tied to domestic remittance corridors, will also add scale and support future nationwide expansion. Exhibit 2 illustrates how geographic clustering would work.

Exhibit 2. Mobile Money Clustering in South Sulawesi



Studies indicate that developing the correct pricing strategy for mobile money products and services is critical to the venture's commercial success and sustainability[2]. A recommended fee structure was developed by using benchmark data from other mobile money markets and discussing pricing strategies with major mobile money providers in Indonesia. This fee structure was incorporated into the financial projections for the business plan. Table 6 presents the recommended fee structure for mobile money services in South Sulawesi.

[2]International Finance Corporation/Australia Indonesia Partnership, Mobile Banking in Indonesia Final Report — Assessing the Market Potential for Mobile Technology to Extend Banking to the Unbanked and Under Banked.

Table 6. Mobile Money Fee Structure

Fees per Transaction (USD)	2012	2013	2014	2015	2016
Top up	0.04	0.04	0.04	0.04	0.04
Balance inquiry	0.02	0.02	0.02	0.02	0.02
On-net P2P	0.04	0.04	0.04	0.04	0.04
Off-net P2P	0.3	0.3	0.3	0.3	0.3
Cash in	0	0	0	0	0
Cash out	0.25	0.25	0.25	0.25	0.25
Bill pay	0.1	0.1	0.1	0.1	0.1
International remittance	1.5	1.5	1.5	1.5	1.5
Loan pay	0.5	0.5	0.5	0.5	0.5
Merchant purchase	0.02	0.02	0.02	0.02	0.02
CCT payment*	0.5	0.5	0.5	0.5	0.5
PNPM payment**	0.5	0.5	0.5	0.5	0.5
Salary payment***	0.5	0.5	0.5	0.5	0.5

* Fee paid by the government
** Fee paid by the donor
*** Fee paid by the government/employer

Another critical element needed to ensure adoption and usage is incentives. As with any new product or service, there will be consumer anxiety and reluctance to try something new. Developing the right incentive packages to encourage and reinforce initial usage is extremely important; this has been essential to mobile money market development in other countries. The most common forms of incentives include:

- Merchant discounts (e.g., free product for using mobile money)
- Air time bonuses
- Payment discounts (e.g., 2 percent discount for paying electric bill with mobile money)
- Matching funds (e.g., linkage to commitment savings programs)

These incentives can be paid for by individual stakeholders or as part of a donor-driven pilot program. The key factor is that the incentives encourage immediate usage and give end users the opportunity to discover additional product benefits and incorporate mobile money into their personal economic frameworks.

SECTION VIII. FINANCIAL ANALYSIS

Supporting the business case is a comprehensive sector model for mobile money in South Sulawesi. The model indicates that — under the right circumstances and with a concerted effort on the part of government, donors, and commercial entities — a viable financial business case exists for delivery of mobile money services in South Sulawesi. Table 7 presents a breakdown of forecasted revenues for a mobile money service.

Table 7. Forecasted Revenues

Revenues (USD)	2012	2013	2014	2015	2016
Top up	59,015	193,049	415,857	565,379	677,494
Balance inquiry	39,343	128,699	277,238	376,919	451,662
On-net P2P	59,015	193,049	415,857	565,379	677,494
Off-net P2P	110,652	361,966	779,732	1,060,085	1,270,301
Cash in	-	-	-	-	-
Cash out	122,947	402,185	866,369	1,177,872	1,411,445
Bill pay	49,179	160,874	346,547	471,149	564,578
International remittance	73,768	241,311	519,821	706,723	846,867
Loan pay	19,672	39,737	100,335	141,873	204,703
Merchant purchase	39,343	128,699	277,238	376,919	451,662
CCT payment	5,901	11,921	18,060	24,321	30,705
PNPM payment	393	1,987	3,010	4,054	5,118
Salary payment	11,803	23,842	48,161	121,606	147,386
Total Revenues	**591,032**	**1,887,318**	**4,068,225**	**5,592,278**	**6,739,415**

As shown, the largest revenue streams come from transfers from mobile wallets to standard bank accounts and from cash-out services. Based on approximately 475,000 subscribers in Year 5, service revenues from all sources will exceed $6.5 million.

Operating expenses will be just over $5.0 million in Year 5; the bulk of expenditures will be commissions to agents for cash-out services. Given that this expense is completely variable and tied directly to transaction volume, the riskiness of deploy due to high fixed costs is greatly reduced. Table 8 presents a forecasted breakdown of operating expenses.

Table 8. Forecasted Operating Expenses

Operating Expenses	2012	2013	2014	2015	2016
Salaries	59,103	150,985	244,093	279,614	336,971
Overhead	29,552	75,493	162,729	167,768	134,788
Agent network support (initial)	15,368	40,392	63,840	45,099	35,717
Agent network support (ongoing)	18,442	66,913	143,521	197,639	240,499
Commission	286,877	938,431	2,021,527	2,748,368	3,293,372
Merchant acquisition and support	19,672	36,458	73,645	108,228	143,495
Promotion	29,552	94,366	203,411	279,614	336,971
Regulatory compliance	11,821	37,746	81,364	111,846	134,788
Platform maintenance	29,552	56,620	81,364	111,846	134,788
Other	29,552	94,366	203,411	279,614	336,971
Total Operating Expenses	**529,489**	**1,591,770**	**3,278,906**	**4,329,635**	**5,128,360**

The overall profit profile for the venture reflects the variable nature of the business model. Agents and merchants are added only in line with end user acquisition. Fixed costs remain low, and other expenditures are kept to a minimum. It is assumed that donors and governments share some of the promotion and education costs as part of broader financial inclusion activities. Table 9 presents a summary profit and loss forecast for the venture.

Table 9. Forecasted Profit and Loss

Profit and Loss (USD)	2012	2013	2014	2015	2016
Total revenues	591,032	1,887,318	4,068,225	5,592,278	6,739,415
Total expenses	529,489	1,591,770	3,278,906	4,329,635	5,128,360
Net profit	**61,543**	**295,548**	**789,319**	**1,262,643**	**1,611,055**

Supporting the profit and loss statement, and as a sensibility check for the model, a set of metrics was calculated. These were compared to similar metrics for other mobile money deployments. Table 10 presents key performance metrics.

Table 10. Performance Metrics

Profit and Loss (USD)	2012	2013	2014	2015	2016
Mobile money subscribers as a percentage of population over 15	0.73%	2.29%	4.84%	6.49%	7.68%
Mobile money subscribers as a percentage of mobile subscribers	1.01%	3.10%	6.43%	8.47%	9.85%
Revenue per subscriber per month (USD)	14.4	14.1	14.1	14.2	14.3
Cost per agent (USD)	2,087	1,875	1,864	1,816	1,781
Transactions per agent per year	16,000	14,425	14,488	14,303	14,085
Transactions per agent per day	44	40	40	40	39
Transactions per merchant per day	3	5	6	5	5

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