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Pacific Financial Inclusion Programme
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Acronyms

ADB	Asian Development Bank
ATM	Automated teller machine
AusAid	Australia Agency for International Development
BPNG	Bank of Papua New Guinea
BSP	Bank of the South Pacific
DTO	District Treasury Office
EFTPOS	Electronic funds transfer/point of sale
EU	European Union
GDP	Gross domestic product
GNI	Gross national income
ICCC	Independent Consumer & Competition Commission
INA	Institution of International Affairs
KYC	Know your customer
LNG	Liquefied Natural Gas
OCC&ES	Office of Climate Change & Environmental Sustainability
PNG	Papua New Guinea
PFIP	Pacific Financial Inclusion Programme
RH	Rimbunan Hijau
SLS	Savings & Loan Society

Summary

Mobile phones are proving to be a powerful tool for the delivery of basic financial services to lower income households throughout the world. In just a few years, millions of new mobile phone subscribers are now transferring money, sending international remittances and even saving through mobile phone networks. The term "mobile money" is used broadly in this paper and includes services ranging from money transfers and payments to savings.

Papua New Guinea (PNG) presents interesting challenges and opportunities for a mobile money system. There appears to be a great demand for a system that enhances cash safety, which would include not only mobile phone transfers but also a means to transact, store, and accumulate value for later use. Carrying and holding cash creates great insecurity for businesses and households, both of which consistently expressed a high level of interest in a safer (including electronic) means to transport and store money.

Building such a comprehensive mobile money system does not happen overnight - it involves a powerful combination of the right technology, delivery mechanisms, sound institutions, regulation, and a payments system that can handle a high volume of small transactions. However there are factors that suggest a mobile money system that goes beyond just money transfers may be possible in PNG.

Although 85% of Papua New Guineans live in rural areas, most goods and services are bought and sold in secondary cities; villagers appear to travel to secondary cities and larger towns regularly despite distances and difficulties.[1] There are few opportunities to purchase goods and services in the villages. Since most villagers grow or raise what they eat, they have only a few shopping needs for daily life, such as food supplements (canned fish, sugar, rice) and some sundry items (soap, cigarettes). Villagers are very secretive about their money, noting that those known to have cash face greater societal pressures to pay for social obligations. This suggests that concentrating cash-out points in larger towns and secondary cities, rather than the smaller villages, may be adequate (even desirable) for many citizens.

Fortunately, infrastructure for cash-out services in secondary cities and larger towns exists, and includes over 2,500 EFTPOS terminals, 75 bank and microbank branches, 89 district treasury offices, and 105 post office branches. Many of these locations already function as bank agents. This financial and electronic network is fragmented, has much duplication, and does not provide quality service at present. However, the physical and electronic infrastructure is there. In terms of technology, mobile network operators already allow clients to transfer airtime to each other and are moving towards an electronic system of top-up to replace airtime cards. This platform is suited for mobile money. Both mobile providers in the country noted that Papua New Guineans are quick to accept and adapt to new technology.

There may also be an opportunity to quickly catalyze and capitalize a mobile money system. Agent banking has frequently benefited through a "push" by government. In these cases, the government works with commercial banks to make social payments on the government's behalf into bank accounts. This "forces" large numbers of recipients into the financial system. While PNG lacks a large system of social payments or a high number of utility subscribers, it is a very top-down economy, dominated by a dozen or so entities, primarily composed of the government and large corporate exporters. The movement of cash to the provinces has been described by bankers as a "conveyer belt," in which banks move money on behalf of the government and corporations

[1] The frequency of travel varies according to the remoteness of the village, but regular trips to the large towns and cities seem common to most families.

to the provinces, then see very little of it flow back through the formal banking system. Most households receive cash from the government or exporters directly or through a relative who is an employee, grower, landholder, or beneficiary. There is an opportunity through these major money suppliers to quickly push mobile money into the system by paying salaries, paying royalties, and purchasing commodities electronically in lieu of the current cash systems. These electronic payments could directly reach over 500,000 households – or nearly half the population of PNG.

This paper describes several other alternatives to catalyze a more comprehensive mobile money system. One main conclusion is that neither technology nor the regulatory environment presents obstacles to the development of mobile money in PNG. What is needed is a player or group of players with vision and resources with vision and resources to work with major money suppliers and cash takers to develop and introduce a simple, standardized, well-branded product utilizing the existing telecommunications and financial infrastructure. The challenge is in making the product safe, reliable, well managed, and cost effective so that it addresses the population's demand for cash security and wins their trust.

Purpose

The purpose of this study was to look at how mobile money services could expand in PNG. The authors sought to identify and analyze existing distribution networks that might serve as potential agents to provide cash in/out services. Existing channels for moving money "downstream," such as the payment of salaries, purchases of commodities, and domestic money transfers and channels for moving money "upstream," mostly through the payment for goods and services, were examined. The industries, entities, and distribution networks that are major movers of cash in, and out, of the provinces were also considered. Transaction types that have the greatest volume and frequency, particularly for low-income households, were sought. Through this analysis, the authors hoped to identify the potential for synergies between existing channels and a future mobile money agent network.

This paper includes a brief review of the current environment for both the financial and telecommunications sectors, which is well documented in other sources. The main sections of the document include an analysis of the movement of money in PNG, observations on the demand and potential for building a mobile money system, and constraints to the effort.

Background

The entrance of Digicel into PNG in 2007 and the ensuing competition between it and B-Mobile has led to a fivefold increase in mobile phone accounts. Within a year, there were over 1 million subscribers, the majority of which were Digicel customers. These numbers already surpass the number of bank accounts in the country. And this situation is likely to continue, as it is estimated that 80% of the population will have cell reception by 2010.

In October 2008 the ADB, IFC, and INA sponsored a "Mobile Money" conference in PNG that brought stakeholders together to share ideas on how financial service providers and others could take advantage of the growing telecommunications network to offer financial services. A number of issues raised were addressed in a separate report prepared by Bankable Frontier Associates.

Population

PNG is home to approximately 6 to 6.5 million persons, a sizeable market that is believed to have the potential to support a vibrant mobile money sector.[2] More than 85% of the population still lives in rural villages, many in quite remote areas that are poorly linked by road and sea. Rural dwellers are most heavily concentrated in Morobe and the three Highland provinces, which account for approximately 40% of the population.

Less than 250,000 persons in PNG are formally employed, only about 1 in 25 persons. Approximately 75% of the informal work force is dependent on farming. According to the 2000 census, households tend to be large with over half of all households consisting of six persons or more.[3]

Table 1: Population by City, 2000 Census

	City	Province	Population
1	Port Moresby	National Capital District	254,158
2	Lae	Morobe	78,038
3	Arawa	Bougainville	36,443
4	Mount Hagen	Western Highlands	27,782
5	Madang	Madang	27,394
6	Kokopo	East New Britain	20,262

PNG Economy

PNG's GDP was estimated at near US$6 to $6.5 billion in 2008 or 21.5 billion kina. Mining, petroleum, forestry, and the industries that process these resources account for close to 50% of GDP. The remainder is split between agriculture, fisheries, and services. Exports approached US$5 billion in 2008, with gold, copper and crude oil worth over US$1 billon each. This compares favorably to imports of $2.6 billion, a large part of which is for capital equipment related to the extractive industries. PNG runs a significant deficit in services, including financial services, of nearly $1.5 billion.

Mining and logging also play significant roles in the economy. A new liquefied natural gas (LNG) project may surpass mining as the largest industry in coming years. It is estimated that this could double PNG's current GDP, which would have a significant impact on the economy. More information about these industries can be found in the Natural Resources section of this report.

Presently, the Government is the largest employer with an estimated 76,980 public employees, 47,039 of which work for the national government. The remaining individuals are on the payrolls of state-owned entities or provincial governments.[4] The 2009 budget provides for nearly $700 million in public sector salaries and benefits for both national government and provincial offices.[5]

[2] The most recent census was conducted in 2000 and will be updated in 2010. The estimate of 6 million is linked to fertility rates but more recent estimates suggest the 2000 census undercounted rural areas and the population is closer to 6.5 million.

[3] Jha.

[4] EIU

[5] 2009 budget of PGK1.8 billion ($725 million) of payroll expenses with an additional PGK697 ($280 million) budgeted for personnel in provincial grants, taken from http://www.treasury.gov.pg/

GNI per capita is approximately $730,[6] but that figure is not reflective of the reality faced by the majority of population. Among farmers without off-farm sources of revenue, the estimated average gross household income was 6,834 kina ($2,665), which suggests an income per capita at closer to $400. Differences in income between provinces is significant, with the Western Highland and East New Britain districts having the highest incomes, while Morobe and Milne Bay have the lowest.[7] (Refer to Table 2)

At least 42% of households interviewed for an agricultural survey said that within their households there was at least one person who had another form of income. Again, the proportion of these additional income earners was highest in the Western Highlands. Sources of additional income included government employment and small businesses.[8] (Refer to Appendix 2 for detailed information).

Table 2: Estimated gross annual household income for households without off-farm sources of revenue

	WHP	EHP	Morobe	ENB	Central	MB	Total
Estimated total gross annual household income							
Up to K2000 (%)	9	42	26	16	36	59	30
K2001 to K5000 (%)	23	37	52	37	29	18	31
K5001 to K10000 (%)	32	12	22	32	19	18	22
Over K10000 (%)	36	10	0	16	17	5	16
Mean	10788	4125	3542	9198	8046	3060	6834
Range	300-90000	270-24100	740-9300	190-36700	300-103000	120-12200	120-103000
Kruskall Wallis static p < 0.05							

Banking and financial services

Legal and Regulatory Issues

From a legal and regulatory perspective, PNG does not actively prohibit most mobile money models or agent banking relationships.[9] However, the lack of specific regulations also raises uncertainty for potential mobile money providers, particularly non-banks. The Bank of Papua New Guinea (BPNG) has indicated that to mitigate this risk while also encouraging innovation, it will address all applicants' requirements on a case-by-case basis until such time as regulations are developed. BPNG plans to have a collaborative process to develop appropriate mobile money regulations, an approach through which interested parties can engage iteratively with BPNG. This method will be used with both banks and non-banks, and will serve as a means to overcome PNG's challenging geographic, cultural, and security environments to make mobile money "transformative," bringing financial services to millions of new clients.

Know your customer (KYC) and other issues related to opening accounts are less onerous for domestic banks, whereas the Australian banks are still required to follow Australia's regulations. [10]

[6] GNI per capita, Atlas method (current US$), World Bank 2006 estimate.
[7] Wilson, et al.
[8] Ibid.
[9] The most recent census was conducted in 2000 and will be updated in 2010. The estimate of 6 million is linked to fertility rates but more recent estimates suggest the 2000 census undercounted rural areas and the population is closer to 6.5 million.
[10] Domestic banks and the microbanks in particular require nominal "official" identification and rely more heavily on letters from the equivalent of notaries in communities, whereas the Australian banks follow the 100 points system.

Demand

Access to financial services in PNG is still quite limited. While there is no firm data, it is estimated that there are 2.5 million adults in PNG. Among these, an estimated 500,000 have one or more accounts with the four commercial banks in PNG. An additional 175,000 clients are served by one of the two licensed microfinance banks in the country and perhaps 15,000 to 20,000 more are served through Savings and Loan Societies (SLS).[11] It is likely that there is considerable overlap between the banks, microbanks and SLSs.

Interviews suggest that there is demand for secure savings services among low-income households, as well as loans for specific lifecycle needs. Additional research should be carried out to confirm this supposition. In 2003, the ADB-PNG Microfinance Project commissioned a feasibility study for starting a new MFI[12] that included a survey of 190 low-income households in Port Moresby. Since this study is now more than five years old and limited to a single urban area, the figures should be suspected of being out of date. However, recent research suggests that many of the findings remain valid. Some of the key findings included:

- 75% said that there are no banks, credit unions, formal, or informal savings schemes that are accessible to them 45% of people do not save money because there are no opportunities to save
- 70% say they can afford to save only 100 kina (US$25) or less each week, with an average of 15-20 kina (US$3.5-5) per person per week[13]
- 70% of people borrow money, the most common sources are relatives and wantoks (41%) followed by moneylenders (24%). Formal institutions (banks, financial SLS) accounted for less than 5% of loans
- The average amount of borrowing is rather small, around 405 kina (US$101)
- 41% of all borrowing is for amounts less than 200 kina (US$50).

Supply

For its size, PNG has a diverse and fairly modern retail financial sector consisting of commercial banks, microbanks, finance companies, savings and loan societies, and a few NGOs (see Box 1). At the same time, the reach of services is limited because less than 10-15% of the population is reached. Cooperatives have mostly died out and play little role in finance. Interviews suggest a surprising lack of supplier credit (the term "cash and carry" is used for wholesale). Moneylenders exist, particularly in the cities, but in more rural areas families, wantoks,[14] and a few community finance schemes play a major role in meeting financial needs.

In the provinces, banks are mostly in the cash disbursement business. Of the commercial banks, BSP has the largest retail market share, with over 83% of all accounts, the most branches and ATMs, and the largest network of EFTPOS machines (over 2,000). It has put "Kundu Cards" in the hands of 400,000 of its account holders in an effort to utilize this

Box 1: Financial Services Providers at a Glance December 2008

- *4 commercial banks with 50-60 branches: BSP (35), ANZ (12), Westpac (15), Maybank (2)*
- *More than 200 ATMs and over 3,000 EFTPOS (mostly BSP)*
- *2 microbanks (17 branches)*
- *National Development Bank (rural lending only) 19 branches*
- *68 bank agents (BSP)*
- *8 licensed financial institutions*
- *21 Savings and Loan Societies (few actively operating)*
- *1 MF Cooperative*
- *6-8 NGO MFIs*
- *2 Superannuation funds*
- *5 life insurers and 12 general insurers*

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11 Porteous.
12 Ani.
13 Conversion to dollars done at 2003 exchange rate.
14 A "wantok system" is a PNG term that describes a wide array of social obligations, such as the collection of bride price, reparations for grievances, and a general belief in support of the community.

network and reduce the number of teller transactions in its branches.[15] BSP has shown the greatest commitment to retail banking, developing nearly 70 agencies with the Post Office (Post PNG) and District Treasury Offices (DTOs) to provide deposit accounts in most districts. It is also the first bank in PNG to test a mobile money solution, which will allow clients to check balances, purchase goods and services, and transfer funds to other BSP account holders.

Although ANZ makes the majority of its profit from high value customers, they have a large retail position as well. Approximately 90% of their total customer base comes from the mass market and has average balances of only $200 or less. The company has 45 ATMs and 860 POS terminals around the country.[16] ANZ is the dominant player among coffee exporters, and also has a number of the other major importers and exporters among its client base. ANZ's launch of WING in Cambodia, a mobile money solution designed for low income account holders, has opened new possibilities in retail banking for ANZ in PNG and the Pacific.

The two microbanks, Nationwide Microfinance Bank (NMB) and PNG Microfinance Limited (PML), are still small but are providing access to savings to tens of thousands of households, with approximately 60,000 and 116,000 accounts respectively. Most microbank branches are now near existing commercial bank branches;[17] however expansion plans for both include entering unbanked markets.

The 21 Savings and Loan Societies (SLS) attracted tens of thousands of members, but many are inactive and are disappearing from provinces. The largest SLS are professional-based, such as the Teachers SLS and Police and State Services SLS. Of the regionally based SLS, East New Britain SLS is the largest. Like the microbanks, the largest SLS are located near bank branches. Members join because of the promise to receive loans. It is likely that many members are also account holders with a bank.[18]

The microbanks and the SLS largely rely on commercial banks to manage cash.

The ability, and cost, to open and maintain a deposit account vary across banks and microbanks. The Bankable Frontier Associates survey suggests the cost as a percentage of GNI per capital per month ranges from 1.1%-6%. As noted above, however, the typical household income may be only 50-60% of average GNI/per capita, which would double these percentages. The cost of travel to the nearest bank branch is also considerable in PNG.

Gaps

Increasing financial inclusion faces a number of hurdles related to broadening access and deepening services. These include:

- Broadening access requires increasing the number of service points, which necessitates improvements in communications, middle management, and cash management.[19] As the mobile networks in PNG become more competitive and expand, many of the communications issues will be overcome in the next few years, enabling most branches and agencies to communicate in real time. Improving middle management and the movement of cash, however will remain problematic in the medium-term. More remote branches are likely to remain cost centers, offering primarily savings and transfer services

[15] Kundu Cards are debit cards that work within BSP's domestic payment network. These cards are not connected to VISA or MasterCard systems due to high transaction fees associated with those services. However, BSP also offers a VISA debit card to customers who wish to have the additional international purchasing ability this card offers.

[16] ANZ rural banking in Fiji and the Solomon islands is provided through mobile bank branches (trucks). It is largely manual and, therefore, costly. It has successfully reached over 70,000 rural depositors in the Pacific.

[17] The exception is in Western Province where PML is the only formal services provider.

[18] In one SLS visited, the management estimated that nearly all of its members also had bank accounts.

[19] Many of the BSP agencies in the DTOs, and many of the bank and microbank branches, are offline. Post offices operate mostly via fax and phone calls, which are often unreliable and result in delays that have enabled fraudulent activities in the past.

with few opportunities to build earning assets. This requires finding ways to reduce the costs of serving these markets and reduce the need for cash management.

- Deepening access necessitates improving and increasing products. Savings and the secure movement of money are in great demand among low income households. Existing service providers are not meeting client needs. Monthly fees remain unpopular, even as low as BSP's 2 kina per month fee.[20] For small savers, this equates to a cost of 3-4% of their bank balance per. Money transfer fees are also high through banks and the *salim moni kwik* service from the post offices.
- PNG's settlement and clearing systems are still rudimentary. It can take up to fourteen days to realize a check between banks. It is also not a fully secure system. Yet despite theses challenges, the use of checks persists due to the lack of other affordable means to transfer cash. BPNG is working on revamping the clearing and settlement system into a two tiered system: one for banks and finance companies with real time clearing and another for non-banks with end of day settlement.
- Interoperability will remain an issue for some time in PNG. Banks operated through proprietary EFTPOS networks such that a single retailer may have two or three POS devices. Interoperability requires a real time clearing system as well as the willing (or required) participation of financial institutions. Such as system is ideal, although not a requirement, for a mobile money system. This paper assumes that a mobile money system will happen before interoperability is a reality.

Telecommunications Sector

Legal and Regulatory Issues

Pangtel was originally the regulator of the telecommunications industry. In a February 2008 ICT Policy, the Government sought to remove the monopolistic powers of Telikom PNG by removing exclusive rights to general carriers.[21] At that time, ICCC was given more authority to regulate telecom.

Unfortunately, the bifurcation of responsibilities between Pangtel and ICCC were fraught with political challenges. As a result, a new 450-page National ICT Policy was released in early February 2009 and approved by NEC at the end of March 2009. This document consolidates all telecommunications regulation under one body, which will be a restructured version of Pangtel. Since the policy was released only recently, it is unclear what the implications of these changes will be on the industry nor is it clear how quickly changes will be implemented.

Demand

It is difficult to quantitatively assess the demand for mobile communications in PNG. The rapid uptake of Digicel's mobile phone offering, which started in mid-2007, is indicative of the level of demand. Both mobile providers in the country believe there is strong opportunity for growth, and one suggested that at least 50% of the population of PNG would have a cell phone in the next 5 to 6 years.

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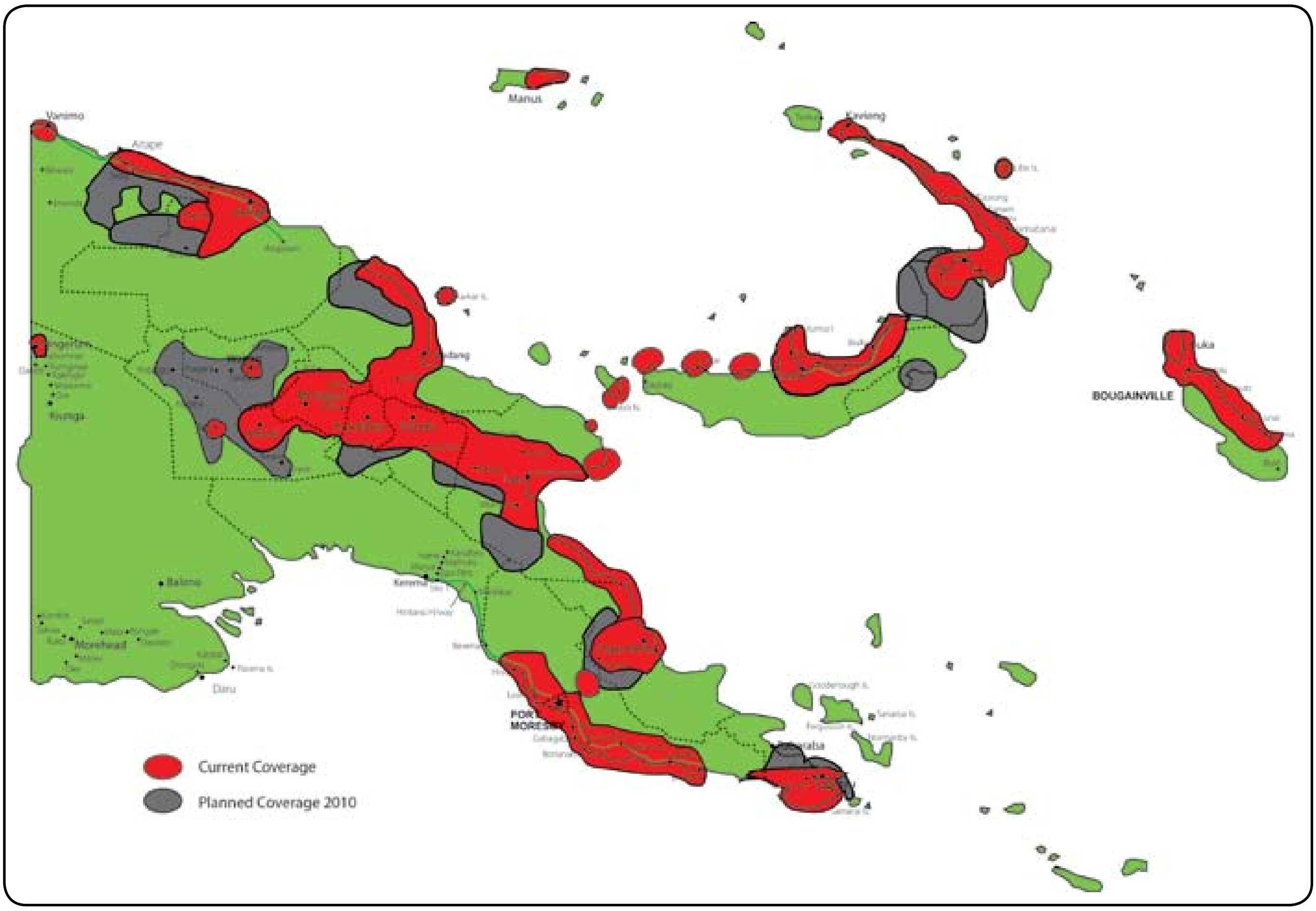
[20] Repeated complaints that the "bank eats my money" were heard. Clients at one microbank preferred a high opening fee of 20 kina to monthly fees.
[21] National Government ICT Policy. Revising government policy for ICT sector reform. Feb 2008.
[22] From www.digicelgroup.com

Figure 1: Digicel Coverage Map[22]



Anecdotal evidence suggests that usage patterns vary across the country, but it is highest in urban areas. In more rural areas, researchers found that usage is greatest in the Western Highlands, Morobe, and Central provinces.[23] (Refer to Appendix 1 for more details.)

As with banks, interoperability is between the two MNOs and Telikom PNG. Recent news articles have pointed out the inequities and high cost of calling and texting across networks.

Supply

There are two mobile operators, majority government owned B-Mobile (with NAsFUND and other investors) and privately held Digicel. Digicel has 800,000 customers while B-Mobile has about 200,000. Because of the high cost of calling out of network (inter-connectivity), many customers have two SIM cards. Therefore, the number of unique customers is most likely less than 1 million.

[22] From www.digicelgroup.com
[23] Wilson, et al.

Movement of Cash

Over the past 35 years, PNG has had a rapid transition from a traditional barter economy to a cash economy. Although a large percentage of the estimated one million rural households still depend on subsistence farming as their primary livelihood, a growing number are participating in the cash economy through growing cash crops and receiving government or private cash transfers.

Role of Financial Institutions

From the BPNG, cash moves out to the commercial banks in Port Moresby. BSP plays a unique role of being the conduit for cash on behalf of BPNG, operating cash distribution centers in three provinces. Its branch network is widely used for cash distribution by the post office, government, and other financial institutions. Cash is also distributed through the ATM networks of banks, although most ATMs are adjacent to bank branches.[24] EFTPOS are still a minor cash distribution mechanism, but is increasing. Shopkeepers and retailers suggested that EFTPOS were used by 10-20% of their customers, yet to date, less than 5% used it for cash back – a service provided by some shops that allows customers to get additional cash when they use a debit card for their purchase.

Figure 2: BSP Branch Network[25]

The public must visit a bank branch, ATM, or affiliated location to access their incomes, deposit funds, or perform other financial transactions. This is an onerous process for most people - whether they live in urban or rural locations. Queues at the banks can often last an hour or more and customers may have to go through this process several times a week because they are reluctant to carry even relatively small sums of cash. Theft, often violent, is a common problem in PNG. In fact, it is so pervasive that it was mentioned in every interview. In addition to the lines, peri-urban and rural dwellers have to add travel time and cost to the time they spend waiting in line at the bank, making their experience even more expensive.

Cash Movement: From Urban to Rural

There are five primary sources of cash movement from urban centers to citizens in the outlaying areas. These include:

1. Government agencies and corporate entities that employ tens of thousands of individuals across the country and fund provincial and district employees and projects.
2. Exporters that are wholesale purchasers of key commodity crops, such as oil palm, coffee, cocoa, and coconut. These networks reach hundreds of thousands of individuals either directly or indirectly through buyers and processors.

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[24] There is one private ATM provider, Kwik Cash, linked to BSP with locations in retail stores.
[25] Source: http://www.bsp.com.pg/ BSP's Kainantu branch has been closed due a robbery.

3. Natural resource industries, such as mining and forestry that are paying communities royalties for land use and subsidies to compensate for environmental damage. Payments are made either through incorporated land groups (ILGs) or directly to households, so it is difficult to know exactly how many tens of thousands ofhouseholds receive payments.
4. The Fisheries industry, which functions as both an exporter of fish from open waters to the coastal areas as well as the employer of about 8,000 people in canneries.
5. Domestic remittances, which are sent through trusted family members or the Post Office money transfer service. No firm number of domestic remittance recipients is available, but it is widely believed that most of PNG's million or more households receive some form of remittances from family members who are employed and/or live in urban areas.

Government

The national government can play a major role in a mobile money environment in two ways. First it can put money into the system through its payroll. Second its district treasury offices are already acting as agents for BSP, albeit imperfectly, and have the most extensive network of offices of any organization other than Post PNG.

Government moves money in two ways. First, it employs an estimated 75,000 persons throughout the country and pays them either directly or indirectly through provincial and district level salaries.[26] Schoolteachers and health care workers are the two largest groups of employees, with the police a probable third. Collectively these groups account for 3/4 of direct government employees. All of these individuals are paid through direct deposit to their bank accounts. In order to collect their pay they travel to the city, a trip that can take several hours or several days. There are widespread complaints among those interviewed about the truancy of teachers as a result of their regular sojourns to the cities for banking purposes. Personal lending businesses have developed around public sector employees, providing them loans - often up to 50% of their annual salaries - that are paid through direct deduction over the course of the year.

Box 2: Teachers and Nurses

Teachers are the largest group of government employees, with over 35,000 working across the country of which approximately 3/4 are on the government payroll. Nurses are the second largest with between 5-10,000.

Teachers and nurses are frequently cited to explain the opportunity cost of cash points. The estimated 15% teacher absence rate in PNG is regularly blamed on the need for teachers to travel to collect wages. Teachers have already been used as a pilot for other development projects, including for solar home lighting kits paid for through salary deductions over time.

Second, the national government operates district treasury offices (DTOs) in the 89 districts in the country. These offices are primarily check printing facilities, set up to pay local contractors under the District Service Improvement Program.[27] Checks are drawn on BSP. DTOs are also a collection point of government fees for licenses, registration, and other similar services. 68 DTOs act as BSP agents under a memorandum of understanding with the Ministry of Finance. The DTOs employ civil servants as agent bankers, who are equipped with an EFTPOS device and basic books. Most DTOs only offer passbook accounts and have strict limits on monthly withdrawals. The agent is responsible for transporting cash in excess of the allowable petty cash (5000 kina) to the nearest BSP branch.

Other large employers operate in much the same way as the government. All the larger companies that were interviewed talked about paying their employees electronically. This is not always easy to set up because many of

[26] Combined direct salaries are assumed to be about 1.87 billion kina or $690 million per year, while provincial payments amount to about 400 million kina per year from the national government. Source: Estimates of Development Expenditure of National Departments, Statutory Authorities and Provincial Governments, Vol. II: Part 3 (http://www.treasury.gov.pg/html/national_budget/files/2009/budget_documents/Volume%202%20Part%20III/vol2.part3.dev_budget.summary.national_depts.pdf)

[27] The Service Improvement Programme allocates 10 million kina to each district over several years of local improvements to be chosen by the communities themselves. There is much debate and criticism over the results of the program.

the employed do not have bank accounts, or the identification necessary to obtain an account. One employer interviewed described a process through which they provided all their employees with employee numbers, which could serve as a form of identification to obtain a bank account. This was the only way that this company could avoid dealing in cash.

Commodity Exporters

Most commodities in PNG are grown by small landholders and individual farmers, rather than at large plantations. Exporters will purchase crops from wholesalers and individual farmers--basically any seller that appears at their collection points. The exporter makes most payments via check or direct deposit to a bank account. From that point down the chain, most transactions take place in cash. Everyone in the chain, exporters included, are eager to find ways to minimize operating in cash.

> ***Box 3: Portrait of a Coffee Buyer***
>
> *Mr. Kiopa is an independent coffee buyer who owns a truck. The primary qualifications to be a buyer are to own a truck and to have good contacts. He drives around the Eastern Highlands and buys from over 100 small landholders and farmers. He is unsure of how many individuals provide his coffee as many villages pool their crops and one or two individuals sell on the village's behalf. Mr. Kiopa calls villages he plans to visit in advance with his mobile phone, telling them the day's price as well as the time he will be in their area. Villagers bring their coffee to the road at the agreed time. Mr. Kiopa pays cash, carrying around 10,000 kina in the low season and 20,000 kina in the high season. He buys low grade parchment (3 kina per kg. or 3.2 kina if there is a village middleman). Mr. Kiopa takes his coffee to a dry factory and pays 0.20 kina per kg. for processing. Thus he pays a total of between 3 to 3.4 kina per kg, and he sells the processed beans for 5-5.25 kina per kg. Villagers sell to Mr. Kiopa because they make more selling to him than they would make if they had to transport the coffee to a buyer themselves.*
>
> *Mr. Kiopa goes to ANZ bank daily, waiting up to 1/2 - 1½ hours to withdraw or deposit money. He estimates there are anywhere from 50-100 freelance buyers such as himself in Eastern Highlands.*

Oil palm, coffee, cocoa, and coconut are the primary commodity exports in PNG, in order of size.[28] Exporters, traders and processors of many agricultural products tend to have main offices in both Lae and Port Moresby because there are no roads to connect these two major cities.[29] Some exporters also have branches in other major cities. They purchase commodities from wholesalers, village organizations, small landholders, and individual farmers that come to them. Although there are some differences, the overall process of purchasing and cash management in these commodity value chains is similar for all commodities.

At the exporter's level, most transactions are done via check or direct deposit, requiring the seller to visit a bank branch to obtain cash.[30] Wholesale buyers need cash to be able to purchase directly from smaller buyers or from the farmers themselves.

PNG is the world's seventh largest oil palm producer and the third largest exporter of oil palm. Most oil palm is harvested at estates that are supported by large private sector investments in oil palm milling companies. Estate growers generally pay their employees in cash or through bank transfers. As expected, most small landholders are paid in cash by exporters or wholesale buyers. With an estimated 40,000 or more small landholders producing oil palm across five areas, that is a lot of cash transactions.[31]

[28] Vegetables, such as potatoes and tomatoes are also grown at the village level, but these are primarily sold domestically.

[29] Different industries also have a strong regional presence, with regional hubs in Goroka and Hagen for coffee, in Rabaul for cocoa, and in Kimbe for oil palm. Lae, as a port town, and Port Moresby, as the seat of government and financial center, dominate.

[30] Further investigation is needed into commodities other than coffee. Some exporters pay cash at processing factories and there are stories of oil palm buyers (directly employed by exporters) carrying significant amounts of cash to smallholders.

[31] Hoskins and Bialla West New Britain, Popondetta, Milne Bay, and New Ireland are the five areas. Some 14,500 blocks were farmed by an average of 2.9 families in 2001.

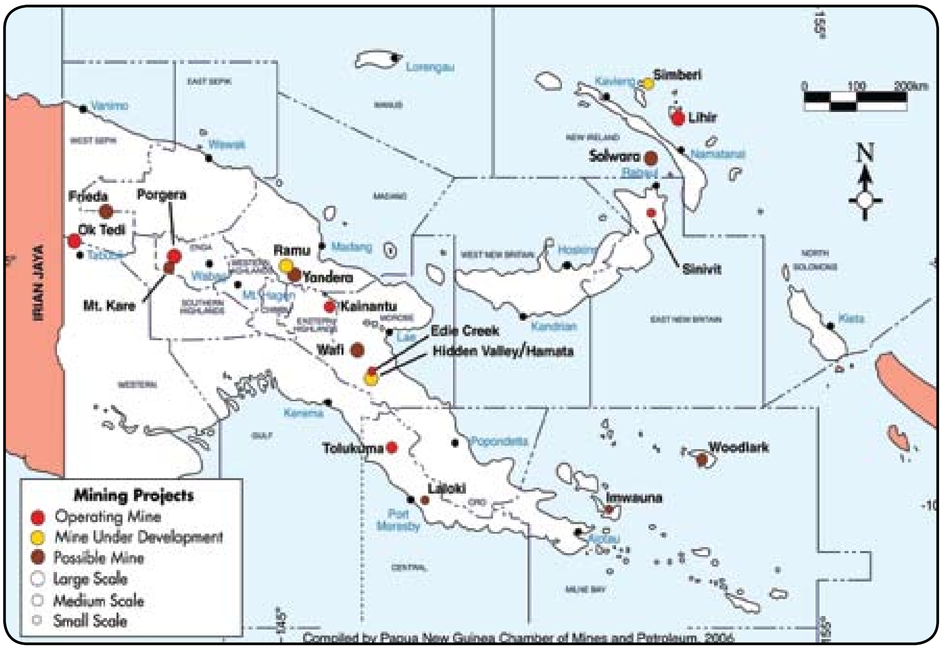
Coffee is the major export from the Highlands. Unlike oil palm there are very few large coffee plantations remaining, so exporters source coffee from an estimated 400,000 households. Buying is accomplished either directly from farmers at the exporter's dry factory or, more likely, through buyers and processors. These intermediaries can either be employed by the exporter, or they may be independent agents. Exporters pay with a check at dry factories and with cash for most off-site purchases. More than half of all coffee is purchased by individual buyers, who transact in cash.

As a point of interest, all the players across the commodities purchasing value chain – from farmers to exporters – are starting to use mobile phones to obtain pricing information, identify markets, and determine market demand. Usage varies by province. (Refer to Appendix 1 for detailed information about these patterns.)

Natural Resource Industries

Mines, gas and logging firms are required to make payments to tens of thousands of households and land groups - often quarterly. These payments are small, determined in advance, and could be an excellent way to capitalize a mobile money system. They are also controversial because royalties are often paid to incorporated land groups (ILGs) or landowner companies formed for this purpose, which may make them neither representative nor transparent. Many of those involved in the process are seeking a better means to ensure payments reach intended beneficiaries.

Figure 3: Location of Mines in PNG



PNG's mineral wealth is largely controlled in Port Moresby by a handful of multinational companies and the government. There has been increased pressure to more equitably distribute benefits obtained through mining and timber harvesting with the people in the provinces and districts that are adversely affected. Quarterly payments are now required from both mining and logging companies. Although some partner with banks and microbanks to deliver these funds, the process is difficult and costly due to the remote locations of many recipients.

Gold mining[32] is extremely important to PNG's economy. Six mines in five provinces contribute 50% of the country's export revenue and 20% of its GDP ($1.2 billion). One company, Ok Tedi Mining Ltd, which mines both gold and copper, is the largest business contributor to the economy, providing 25% of PNG's export earnings and employing 2,000 people. About 2% of the company's dividends, or $9.4 million, are paid to landowners, usually through trusts.

[32] PNG is the world's 11th largest gold producer.

Box 4: Ok Tedi Compensation Payments

The Ok Tedi Mine is the largest single contributor to PNG's GDP. The company is also responsible for substantial environmental damage that results from the release of over 90,000 tons of rock waste and tailings into the Fly River System in the Western Province.

A 1994 lawsuit resulted in a $125 million settlement and transfer of 10% of the company's shares to the government. With the intensification of damage a decade later, negotiations with the affected communities, government, and the mine resulted in an agreement to pay 1.2 billion kina ($350 million) in direct payments, projects and services over a 5-year period. Part of this includes direct support of women and children.

This mandate required updating census information in Western Province to identify beneficiaries and to determine how to make payments to women who had virtually no access to banking services. PNG Microfinance, Ltd. (PML) won the tender to provide these payments, which amount to approximately 5 million kina ($1.7 million) per quarter to over 11,000 households.

Cash is transported by boat to five PML branches in the province. Most money is withdrawn and spent in the stores near the PML branches. PML notes that most of those stores bank with BSP, which has a lone branch on the coast in Daru. PML speculates that the cash returns the way it came – by boat.

At the same time, Ok Tedi Mining is negatively impacting the environment as well as the lives of the people who live in areas around the mine. The company is now compensating locals for this destruction through two means. Following the exit of BHP Billiton in 2001, the company transferred its 52% ownership to a long-term trust, PNG Sustainable Development, which uses resultant dividends for building sustainable activities beyond the life of the mine.[33] In addition, compensation payments of approximately $6.9 million are made directly to female heads of households. A total of 11,000 households, or about 80,000 people, benefit from these payments. However, due to the challenges in reaching them, many beneficiaries travel long distances, sometimes for days, to reach a branch to get the money.

Logging and related industries are not as critical as mining, but they are more extensive. These contribute significantly to PNG, providing approximately 7% to 9% of GDP (over $500 million), with exports averaging 500 million kina. The government has been the primary beneficiary of the timber industry, receiving in excess of $30 to $35 million from export taxes in recent years. Compared to mining, the logging industry alleges that it is not very profitable, and has actually reported losses in recent years. Although there are 29 forest concessions, one company, Rimbunan Hijau (RH), controls over 45% of log exports and five companies together control over 80% of the market. Altogether the logging industry is estimated to employ between 8,000-11,000 persons with the logging companies directly employing 3,500, mostly in Western Province, Gulf Province, East and West New Britain, Milne Bay and Central Province, and the West Sepik and Madang Provinces.

As with mining, the timber industry pays royalties to landowners, who reportedly receive 15% of gross receipts from the sale of logs ($17 to $20 million per year).[34] Most of these funds are paid directly by RH and other companies to incorporated land groups (ILG) in cash. These payments are quickly absorbed by local stores, many of which are owned by the companies that make them. This is particularly true in remote areas. Logging is highly controversial and the Government of PNG, the United Nations and the Government of Norway have joined together to reduce logging by allowing several countries, including PNG, to trade carbon credits for its preserved forest. The Reducing Emission from Deforestation and Forest Degradation (REDD) mechanism will facilitate carbon credit payments to PNG, some of which is intended for the landowners. There is much debate over the newly formed Office of Climate Control and Environmental Sustainability (OCC&ES) and whether it,

[33] PNG Sustainable Development is a major shareholder in PML.

[34] This figure disputed in many articles, which claim actual compensation is actually 2% or less. There are now over 10,000 ILGs registered for all types of mineral and lumber royalties. It is unclear how many are for timber revenues alone.

or the Forestry Authority, has the right to issue trading permits and manage receipts.[35] In addition, the recipient of the funds has not yet been determined - the mechanism may operate through ILGs or, potentially, through individual households. With all of its challenges, this subsidy has the potential to put cash in the pockets of tens of thousands or rural Papua New Guineans.

A new liquefied natural gas (LNG) project may surpass mining as the largest industry in coming years. It is predicted that as much as 11 billion kina ($4 billion) in annual export revenue could be generated. It has been claimed that this could double PNG's current GDP, although the government estimates are more conservative. Regardless, it could have significant impact on the economy and the people. Payments to government and landowners in the Southern Highlands and Gulf Province combined are estimated to be $900 million.[36] The mechanism for payment has not been determined, although it is estimated some 4,100 households and 23,760 persons will directly benefit. The Minister for Petroleum and Energy recently announced his support for sharing the revenue broadly with all unemployed citizens.[37]

Fisheries Industry

The importance of fishing industries in PNG was touched on toward the conclusion of the research. Although the number of fishers involved was not obtained, preliminary data suggests that this industry is probably another source of capital flows into the market. Further research should be carried out to augment the limited information obtained.

What was determined during this study is that there are two aspects to the fishing industry in PNG: international export and canning. As much as 12 million kina ($4.8 million) in cash receipts enters the market each year through the export trade and additional 10 million kina ($4 million) come from the canning business. More than 8,000 people work in canning factories, all of who are paid through direct deposit. Notably 80% of the canning workers are women.

Domestic Remittances

Domestic remittances are conducted through Post PNG or by trusted individuals, who carry cash from city workers to their families in villages. Both methods are costly and can be time consuming. While there are no clear estimates, it is widely accepted that every village and most rural households benefit from incoming money transfers.

As in all countries, domestic remittances are a major mover of cash from urban to rural areas. Most village families have at least one member that works in a town or city, who sends money home on a regular basis.

Post PNG has 44 offices and 43 agencies around PNG, 12 of which provide money transfer and other banking services as agents for BSP. In addition, Post PNG offers the country's most popular non-bank money transfer system, known as *salim moni kwik* (SMK). SMK is available in less than half of the Post branches and agencies because of security risks. Even at those locations that do offer the SMK service, cash is not always available. When that happens, customers are turned away and asked to return later to obtain their funds. Communication between post office branches and the head office is primarily through faxes. SMK provides more than 50% of Post PNG's revenue, so it is a very important service to them.

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35 The PNG Forest Authority has power to acquire and trade timber rights, but only through contractual consent of the resource owners. The OCC&ST does not have clear claim to the trees (or the carbon) or trading rights at present.

36 PNG LNG Economic Impact Study. p.16.

37 "We should update the common rolls and the National Census to find out the unemployment figures in each family unit and put everyone on K100 to K200 each (fortnightly) in the future." William Duma as quoted in *The National*. 18 March, 2009.

Cash Movement: From Rural to Urban

There are three primary means that cash moves from rural areas back to urban centers. These include:

Table 3: Post PNG SMK fees

Kina		USD		
Amount Transferred	Cost	Amount Transferred	Cost	Percent
10-200	10	4 – 78	4	5-100%
200-1,000	20	78-390	8	2-10%
>1,000	50	>390	20	≤ 5%

1. Import companies that bring international goods into PNG, and then disburse both these and domestic products to retail outlets across the country.
2. Wholesale distributors and retail chains make up a significant portion of the distribution chain for retail goods, with the latter being the ultimate point of purchase for most individuals in the country.
3. Mobile network operators (MNOs) use a distribution network of wholesale and retail distributors as well as tucker shops to sell airtime to local populations. Mobile phone top-up is now a large source of cash movement from rural to urban areas.

Although banks and Post PNG play a major role in helping individuals and companies move cash from rural to urban areas, they remain net cash disbursers in rural areas. Banks have often described their movement of cash as a “conveyer belt” that moves money in one direction – from urban to rural. This is the case despite the fact that there are regular electronic transactions to credit rural and provincial accounts and debit those of the large companies in Port Moresby and Lae. Similarly district treasury offices remain net cash disbursers even though district and provincial governments also collect cash for taxes, fees, leases, fines, and other official business. Auto dealers were frequently mentioned as a means of moving cash from rural to urban areas, and, as such, are worthy of note. However, most purchases of vehicles and large equipment are carried out without a physical movement of cash.

Import Companies

There are a relatively small number of major importers that have long-established distribution networks. In some cases, the importers work only with a limited number of wholesale distributors, in other cases they have relationships down to the retail level. Thus some importers have a stronger network that could be leveraged for cash-in/cash-out purposes than others.

Importers, wholesalers, and mobile network operators work through a combination of direct sales and indirect sales through decentralized distribution networks. PNG is a net importer of most durables and many consumables. Major importers include Trukai Industries, which is the countries largest rice importer, International Food Corporation, (imported canned fish), Frabelle (canned tuna), Globe (corned beef), and Seeto Kui (dry goods and retail items). Transport is handled directly by buyers, or through a limited number of trucking and shipping companies. A handful of companies in PNG provide these services at a macro level, from which the distribution process decentralizes to independent truckers.

Rice, a major commodity import, is widely consumed throughout PNG. The largest importer, Trukai Industries, has 1,100 employees and operates distribution points in 12 locations around the country. Domestic sales range from 35 to 50 million kina per month ($14-20 million). Trukai deals directly with a relatively small, trusted group of 80 to 100 wholesale distributors. These distributors use trucks or boats to pick up rice from one of Trukai's distribution depots, or they contract with Trukai to have the goods delivered to a central location. Trukai outsources transport to one or two trucking and shipping companies. These transport companies also work with exporters; so they might transport rice to rural areas and then bring coffee back on their next run to the urban centers. Trukai is paid by its wholesale buyers via check or direct deposit. Most transactions below this level, from distributors to retail, are through cash. In essence, then, the truckers become cash points.

Seeto Kui, another major importer, has a different model than Trukai. In this case, the company imports a range of commodities, dry goods, and retail items. Like Trukai, they do not operate retail stores. Seeto Kui has over 350 "customers" – a mixture of wholesale distributors and larger retailers. While Trukai buys rice from multiple sources, then bags and brands it "Trukai", Seeto Kui has established exclusive relationships with a number of international brands, such as Heinz and Proctor & Gamble. The company has a staff of 30 sales people that "push" these products to their customers as well as over 100 merchandisers who manage the brands. These brand managers visit each Seeto Kui customer at least twice per month. Other than cases where Seeto Kui has a strong relationship with a customer, all sales are paid upfront. Only when cash has been deposited or transferred to Seeto Kui's account will the company begin to package a shipment. Those customers that have the means will send their own trucks to one of Seeto Kui's two distribution centers to pick up their merchandise. Otherwise, Seeto Kui contracts with a trucking company to deliver the goods. At the local level, all product purchases are made in cash.

Wholesale distributors and retail chains

There are only a few national retail chains and most also act as wholesalers in areas where they do not directly operate. There is little supplier credit and most wholesale is done through electronic money transfer or "cash and carry" at the warehouse. Retail chains are already set up for cash back (a service that provides additional cash after a debit card is used for purchase) and are natural cash-out points. However, their reach is limited to the major and secondary cities.

PNG is home to a small number of large firms, many of which combine wholesale and retail stores. These are primarily in the secondary cities, but through these stores and distribution networks they effectively provide the entire country with consumables and durables.

Papindo is has one of the largest retail chains in PNG, with 35 branches. Papindo has grocery and variety stores and also has several locations that are "cash and carry". Out of its single distribution center in Lae, Papindo manages to restock most of its shops bi-weekly. Papindo stores offer EFTPOS and cash back services, although only about 1-2% of their customers use these services - and those are primarily BSP customers. Not surprisingly, many Papindo stores are authorized Digicel resellers.

SVS (Super Value Stores) operates 16 SVS stores in seven cities as well as supplying six wholesalers in Port Moresby and a group of retailers primarily out of Lae. As with most wholesalers, the majority of SVS' inventory is imported and only 30-40% is produced and bought locally. SVS has its own trucks and manages its own transport to its stores and wholesalers.

Chemica operates like many other wholesalers/retail chains except that their primary focus is on home and farming supplies. They have eight stores all supplied from Lae through which they also wholesale to smaller chains and individual stores. Several of their stores offer "cash and carry." In the Highlands, Chemica's Goroka store is the major wholesaler to several hardware stores in Mount Hagen and Goroka. Chemica stores in Goroka have approximately 500-600 sales daily, approximately 10% of are transacted via EFTPOS. Only 1% of Chemica's customer base in Goroka takes advantage of their cash back service. There are a handful of other large wholesalers and retail chains that could also be important points in the cash-out infrastructure in PNG. These include grocery and variety chains like Brian Bell, Tropicana, Ltd., and TST as well as the conglomerate WR Carpenters. SP Brewery is also a major distributor in PNG.

Mobile Network Operators

Digicel and/or its distribution partners, Flex and Oceanic, are likely candidates to build an agent network like those in Kenya and the Philippines, where payment services by mobile operators rely on their broad prepaid card distribution networks to double as cash-in/cash-out points. However, Digicel and its partners lack adequate control over their resellers. For a cash-out agent network, one or more of the companies would need to carefully select and train mobile money agents from the ranks of its own employees and distributors.

The two major mobile phone providers, B-Mobile and Digicel, are major cash receivers. Through their distribution partners, these companies have reach into even remote areas. While exact statistics are not available, airtime appears to be on its way to becoming one of the largest household expenditures in urban and rural areas.

Digicel's distribution model is widely admired in PNG. Aside from its successful contribution to Digicel's core business, it is also providing a new model in PNG for branding, promotion, and speed to market. Digicel has 12 "flagship" (corporate) stores and a list of 151 retailers that are a combination of "stores in stores" (i.e. Digicel shops within larger stores operated by retails chains like Papindo and SVS) and smaller independent franchises. Retailers can sign up new subscribers in addition to selling airtime and other Digicel merchandise. Retailers most often buy and resell Digicel's product rather than operate on consignment.

Box 5: Credit Me, Credit You

Recently, Digicel introduced technology to allow electronic top-up – a mobile transfer service that is a precursor in many markets to mobile money. This new offering called "Credit Me, Credit You" allows individuals to send or receive airtime. "Credit Me, Credit You" users are required to register to ensure that individuals are voluntarily sharing (or selling) airtime. Digicel is now converting from pre-paid cards for top-up sales to electronic virtual top-up (EVT). Mobile top-up will be available through most ATM networks as well. Flex and Oceanic, Digicel's distribution partners, are employing staff to provide EVT services to customers. These sales staff will receive a low salary plus commission. Pre-paid cards are expected to be out of the PNG market by the end of 2009.

Digicel also works with two distributors, Oceanic and Flex to distribute and sell pre-paid airtime cards. Recently, Digicel has allowed these two companies to market other Digicel merchandise.[38] Together Oceanic and Flex have a direct sales staff of over 600 people.

Now that Digicel's initial roll out phase has been completed, the sales staff is shifting from direct sales to signing up sub-distributors, a process that includes more small individual resellers and that will extend its reach in the provinces. Flex and Oceanic operate through a network of approximately 100 sub-distributors. They also rely on 47 post office branches to further augment their networks.

[38] Flex is 50% owned by Digicel and is the smaller of Digicel's two distributors.

It is unknown exactly how many retailers are selling pre-paid cards, but it is estimated to be in the thousands because each sub-distributor works with multiple individuals who have added pre-paid airtime sales to their small business offerings. Neither Digicel nor its distributors has contact with most of these resellers nor do they have control over them. Pre-paid cards are often sold at more than face value, even in urban areas in close proximity to direct sales locations.

Most of the sales staff from Flex and Oceanic have, or will soon have, bank accounts. To facilitate this, Flex noted that it provides lists of employees to the banks and microbanks to provide employees bank accounts. The companies plan to use the same strategy for their sub-distributors. This is already starting to happen as some distributors with bank accounts are using electronic means to transfer funds.[39] The distributor receives payment notifications (with phone numbers as payee ID) from the banks and releases pre-paid card orders.

Box 6: M-PESA Distribution Model

M-Pesa has established over 6000 agents that service 5 million registered users. Safari.com retains control over training and monitoring all retail outlets. Agents operate on commission, earning $0.50 for each new subscriber, the same when a customer makes their first deposit, and smaller commissions for each transaction the agent facilitates on behalf of existing customers. A typical agent makes twice as much revenue from M-PESA than from the sale of airtime. A survey suggests that 90% of agents are profitable. Those who face troubles are primarily rural agents who face signifi cantly higher withdrawals than deposits, which results in regular, often costly trips to the nearest bank branch.

Banking Agents - the key to successful mobile banking services. *February 18, 2009. CGAP.*

As mentioned earlier, Digicel and both of its distribution partners are shifting from airtime top-up via pre-paid cards to electronic voucher distribution (EVD). As this shift progresses throughout 2009, all sub-distributors and eventually retailers will be required to become authorized 'Credit you, Credit me' airtime sellers.

Cash Usage Patterns at the Village Level

Villagers do not have a high requirement to spend at the local level because there is little to buy. Payment for social obligations and small food and sundry items from local tucker shops are the primary use of cash at home. When villagers do spend money for other items, they usually travel outside of the village to make their purchase. This is true whether they are paying school fees or buying clothes. These usage patterns suggest that other than social payments there is little need for cash at the village level.

According to the interviews conducted for this study, villagers spent very little money at the local level.[40] In fact, some of the women said that they had no need for money – and if they did, they would pull up a few vegetables and sell them along the road. Money was needed for large, occasional expenditures. A typical family's largest regular expenditures include school fees, social obligations, and clothing. Non-subsistence farmers may also have larger, regular expenses related to fertilizers and farming tools. Almost all families visit secondary cities on a regular basis where they spend (and sometimes receive) their funds. (Refer to Appendix 4 to see the small amounts spent at the village level).

These qualitative findings are consistent with the survey of 335 farmers conducted by the Fresh Produce and Development Agency. According to that work, other important purchases, particularly in Western Highlands and Eastern Highlands were home construction materials and agricultural products. (Refer to Appendix 3 for additional details on spending patterns in 5 provinces across PNG).

[39] Payment is made through telephone banking, a dial up service with recorded menus.
[40] This may not be the case for those individuals that live in extremely remote locations, however.

Building a mobile money ecosystem in PNG

The premise of this study was to look at potential cash agents in the event that a bank, mobile operator, or payment service provider wished to launch a money transfer service. However, initial research suggests that there is an opportunity to expand beyond a limited money transfer solution to introduce a broader mobile money system that enables individuals to store, carry, transfer value, and perform a range of other financial transactions through a mobile device.

It's not about cashing in or out, it's about cash safety

Cash leads to personal insecurity because theft and violence are so prominent in significant segments of the society. This is true from the major city down to the rural level. Most of those interviewed have been victims of crime in the past year. Thus, virtually everyone interviewed expressed concern about the problems with carrying cash, and asked for a means to make the movement of money more secure. Even among family members there is a risk of theft or misuse of funds. As a result, it is unadvisable to develop a solution that links a mobile phone number to an individual's virtual or actual bank account because of the high incidence of phone theft.

There is enormous pressure to fulfill social obligations, such as paying bride prices and reparations. The demands are particularly urgent to those who are perceived to have more money than others in the family or larger social unit. For this reason, most people are secretive about their income and assets. Many of the people interviewed chose not to share information about their income from coffee, vegetables, or other small businesses – even with family members. Several mentioned that they hide money in their homes or bury it nearby. Husbands and wives may not even know where their spouse has hidden funds. This means that when someone dies unexpectedly, the wealth they have accumulated may be lost forever to their family members – at a time when it is most vital.[41]

Start with the major money suppliers to catalyze a mobile money system

Mobile money systems benefit from an immediate market opportunity. PNG is very much a top down economy, with money flowing from a few major sources - government agencies, exporters, mining companies, fisheries - based in the largest cities to the rest of the country. By associating with a number of these major companies, mobile money providers could begin to catalyze a movement from cash to electronic value. It could also help to draw people to bank accounts over time if the mobile money provider is a bank or works closely with a bank. Electronic government salary payments in PNG could reach tens of thousands. The same could be true of the mining and lumber industries. In essence, this would be an important part of the cash-in movement. Once recipients have money in the system, they are more likely to look for ways to use mobile money to save and transact.

Cash-out where people buy and sell, not where they live

While "cash is king" in rural PNG, the volume of daily transactions is fairly modest as most families are subsistence or semi-subsistence farmers. Families face only a few large expenditures that require saving, borrowing, or some combination of the two. When in need, acquisition of capital is usually accomplished by calling upon relatives in cities or through hording cash over a period of time. Most discretionary spending takes place in towns or at markets, since there are limited spending opportunities in the villages. Even school fees, one of the largest regular payments, is increasingly being paid in the cities at the bank rather than at the village school.

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[41] One of the reasons, the Government of PNG choose to change from paper to polymer money was to improve durability and prevent premature rotting.

If villagers had access to a mobile money solution that allowed them to access their cash when they reached the nearest town or market it may be sufficient for their needs. If schools, agriculture dealers, construction companies, and other locations where people spend a lot of money began accepting electronic transactions, there would be even more incentive to transition from cash. Villagers could maintain small amounts of cash at home for local purchases. In essence villagers would have the option of two places to store their money - an "e-wallet" or e-banking account for larger amounts and a secure place at home for those amounts needed to purchase soap, batteries, or other small items from the village tucker shop.

The cash-out network already exists, but needs improvement
There is a well established, growing and underutilized EFTPOS network that includes merchants, post offices, and BSP agents in DTOs that are already handling cash. The network is imperfect in many respects. It has much duplication—a single retailer may operate multiple EFTPOS devices from different banks. The availability of cash, telecommunications, and electricity causes regular service interruption among EFTPOS agents. Anecdotes from both retailers and shoppers indicated that customers do not fully trust cash back and believe retailers will try to give them less than they are due. Although fees on EFTPOS transactions are prohibited by law, interviews indicate that many clients still believe fees are being charged.

A new network is not necessarily needed; rather the existing network needs to provide a better, more standardized service. One of the attractions of mobile money solutions elsewhere is the standardization and branding of the product. M-Pesa, WING, and WIZZIT agents have been trained, are easily identified and approachable, and provide standardized service. There are many possible ways to achieve this in PNG. A bank provider of a mobile solution could work closely with EFTPOS agents to provide training and improved branding. Alternatively, Digicel or B-Mobile may wish to use their retail locations, many of which are located within retailers, to provide more professional, reliable service utilizing the retailers' EFTPOS. Even a third party could place sales staff with existing EFTPOS agents or develop a franchise model that includes training and branding, but builds on the existing EFTPOS infrastructure.

The cash-out network can be extended by recruiting cash takers
In addition to the existing EFTPOS network, there are also a relatively small number of import and distribution companies that are responsible for pulling cash-out of the rural areas. (Refer to Appendix 5 for examples.) These companies have merchandisers and a sales force that are in regular contact with retailers around the country. Groups like Seeto Kui are also brand managers and accustomed to managing a brand identity through a diverse group of retailers. The trucking companies used by these importers may also play a role. Their contribution to moving cash and product requires more investigation. All of the importers interviewed expressed interest in finding a means to avoid carrying cash between towns and cities and have the potential to be agents either directly, or through their distributors or shippers.

Airtime distributors are also cash takers. As noted above, the two MNOs have a combined direct sales force of around 600 who support retail sales and develop sub-distribution networks. The staff is trained, provides a standardized, branded product, and reaches all socioeconomic levels. Airtime distributors currently struggle with the secure movement of cash. Increasingly the distributors are outsourcing the risk to sub- distributors and resellers who take the responsibility of moving excess cash to banks in order to purchase airtime through electronic transfer. Although there is some uniformity among local airtime resellers, the distribution companies are challenged in their attempts to maintain control over their distribution network. As an example, cards are often sold at more than face value depending on the location, day, or time of week against the companies' wishes.

Limited person-to-person (P2P) transfer is already available and accepted, and has the potential be "viral"
Credit Me, Credit You operates on a P2P platform that requires the sender of electronic airtime to be registered with Digicel. It has already become viral in the sense that individuals can transact in airtime without going through an agent. This mechanism is ideally suited for micro and small enterprises in rural areas, such as coffee buyers or retail shops that make regular, small purchases from distributors. Small trade stores have already become "spontaneous" airtime resellers - they have no direct relationship with either Digicel or B-Mobile and may be several steps removed from the airtime distributors.

Table 4: A mobile money system, possible entry and exit points

Actor	Needs	Role	Points	Trust	Security	Downreach
Government	Payroll	Cash in	75,000	M	H	M
Exporters/Buyers	Buy commodities	Cash in	>500,000	M	L	H
Mines	Payroll, pay royalties	Cash in	>30,000	L	L	H
Logging	Payroll, pay royalties	Cash in	>10,000	L	L	H
Banks		Cash in/out	70+	M	H	M
Microbanks		Cash in/out	10+	H	H	M
District Treasury Offices	Collect fees/ pay contractors	Cash in/out	89	H	L	H
Post PNG	Transfer funds	Cash in/out	87	H	M	H
Digicel direct sales	Sell airtime Transfer funds	Cash in/out	600	M	L	H
Trukai		Cash-out	80-100	M	L	M
Seeto Kui Distributors		Cash-out	350	H	L	M
Papindos	Sell products Cash-out	Cash-out*	35	M	H	L
Importers/ Distributors	Sell products	Cash-out*	>300	L	L	H
Schools	Receive fees, payroll	Cash in/out	>3,000	H	L	H
EFTPOS Network		Cash in/out*	<2,500	M	H	M

*could also be used for cash in

There are various options to leverage this behavior for mobile financial services. A truly "viral" approach would be to allow any holder of a mobile money account to transfer money freely to another holder, enabling them to provide cash-in or cash-out services at any point. It would most likely start with those who have money and bank accounts - those with salaries or businesses. To minimize risk, transaction amounts and volumes could be strictly limited. This laissez faire approach would make it difficult to control pricing and eliminate low levels of fraud. However, people should quickly learn which viral "agents" are the most trustworthy and affordable in the community, and these individuals will be given the majority of the transactional business.

Alternatively, a mobile money provider could take a more controlled "business to business" (B2B) approach, requiring all agents to register and hold bank accounts. This replicates the approach that MNOs take with the electronic top-up resellers. The model could be adapted by a range of players in the market to extend reach. For example commodity buyers or distributors, which seek to reduce their volume of cash transactions, could become agents and require that all financial transactions with their clients be carried out electronically. These top tier buyers and sellers could encourage their distribution partners to sign up as agents as well, and could even support them in the process. This would bring the agent network down another level. The primary concern of buyers and distributors is to reduce their volume of cash transactions. Over time, this second tier of agents may see the benefit of transacting with their customers electronically, and in encouraging those customers to function as agents as well. Thus the proliferation of the model could begin to reach down to tucker shops and even individuals that could become cash-in/cash-out points at the local level. Coffee buyers may pay growers electronically, but provide cash-out during visits. Retail stores may start providing cash-out services to reduce their cash on hand and then pay distributors electronically. The controls on this approach go beyond simple registration. Registered agents would be conducting retail transacting through their own bank – or virtual accounts—not those of the mobile money provider. Agents would therefore be careful to screen their partners and would have the ability to block those who act irresponsibly.

A third approach is to target high volume transactions that are regular and common to most citizens. Rather than create a completely open P2P or B2B system, special permissions could be granted for specific high volume, recurring transactions, such as public transportation (bus and boat), school fees, utility payments (urban areas only), and beetle nut vendors.[42] Such an approach would be similar to already existing gift cards and public metro cards. This will happen in the near future with airtime itself, as individuals link their bank account to their phone, and then buy airtime directly through their mobile phone.

One opportunity when targeting specific transactions is the ability to structure the service to provide additional value. For example, a school fee payment system could be linked to a stored value account, enabling account holders to set aside - or save - funds for school fees over time. Or, frequent PMV (bus) riders could get discounts when paying drivers through their mobile money account. Beetle nut vendors also present an interesting opportunity because they are high volume cash takers - but, because they are so numerous, this group may be better suited for the "viral" P2P approach.

Each of these approaches would require partnerships between the agents and the service provider, the mobile phone provider, and, in most cases, a bank.

Major challenges to any "viral" approach include limited mobile coverage, connectivity failures, and difficulties in recharging phones. Any of these problems could cause customers to have to return to an agent multiple times until the systems are functioning and the agent has enough funds to satisfy the customer's requirements. Participation in the system at the mass population level is directly linked to the reliability of the network.

[42] DataNets currently offers an internet and terminal based product that enables utility clients to buy prepaid meter time.

An assumed advantage of a less structured approach is cost. The business model for mobile money has not been definitively proven. Unlike airtime cards, which reward resellers with margins of 3-10% (or even higher with "illegal" mark ups), the margins for a mobile money agent are significantly lower. Thus the more opportunity there is for individuals to provide very low-value financial transactions without the need for expensive oversight and management, the more likely a mobile money solution is to scale rapidly.

Mobile money solutions should be developed to reach the financially excluded

In order to reach the most potential customers, mobile money solutions should not only be designed to accommodate the most common transactions, but the system must also be designed to include people that do not own their own phones. Systems like M-Pesa thrive in part because they do not require a client to own a phone - clients can transact through their own phones or directly through an agent. This is similar to the existing EsiPay system in PNG that enables utility clients to pay their bills either directly through the Internet or through an agent, usually a grocery store.

Although low-income households may not be directly linked to a major money supplier, it is likely that there is only one degree of separation from someone who is. This may be a salaried relative, an ILG, or even a neighboring schoolteacher or coffee grower. Lower income households will need affordable, accessible means to put cash into the system. While some cash-in/cash-out can take place through EFTPOS networks or retail stores, these options have limited geographic outreach compared to Post PNG, schools, and the DTOs. As a result, a comprehensive mobile money strategy should include a number of existing infrastructure players to ensure scale of reach.

Further study is also recommended on the attitudes of the rural population toward different potential agents. The authors repeatedly heard stories about poor service and high cost from within existing networks. Another complaint was trust. Informally, interviewees ranked the following as "trusted": (1) family, (2) churches and schools, and (3) government offices (i.e., DTOs, Post PNG). Conversations suggest that neither banks nor retailers ranked high. Many felt banks "eat people's money" and retailers are not always honest. For these reasons, receipts, passbooks, and other tangible proof of transactions are still valued, despite their many inconveniences.

Stored value is demanded and requires risk management and education, not just regulation

While further research is merited, there appears to be a strong demand for a stored value solution rather than a simple money transfer product. There is an understandable predisposition in the market toward bank-led mobile money solutions because the stored value is a bank account in a regulated institution. However, due to cost considerations, an exclusively "bank account linked" solution is unlikely to quickly reach scale with the unbanked. There is a need to first make these individuals bank customers, which requires overcoming a number of trust, education, and other related issues. BPNG seems open to non-bank solutions provided risks are adequately addressed. This concern could be overcome through partnerships between the mobile service providers and regulated financial institution(s) or the entry into the market of a company with a strong reputation and "deep pockets" that is willing to share some of the risk.[43] Regardless, non-bank providers will need to proactively address the risks associated with holding stored value.

[43] The M-Pesa solution relied on Vodafone's name and backing to be accepted by regulators.

Some of the responsibility for risk management will necessarily fall on the clients, who are accustomed to receiving scratch cards when they purchase airtime or receipts as proof of their transaction when obtaining cash back. While the transition from airtime cards to EVD has just begun, interviews suggest that clients have been fairly quick to adapt to e-receipts received on their phone. The ability to check account balances regularly and review transactions, both of which are possible in existing systems, may provide a greater sense of security than that the traditional passbook. This has not been tested on a massive scale, however, and should be addressed in the early stages of any pilot.

Conclusion

Mobile money will happen in PNG. Banks, mobile operators, and third party providers are moving forward to test solutions. BPNG is increasing its knowledge of mobile money and appears open to allowing pilot projects to develop. The major donor organizations involved in financial sector reform and access to finance are cooperating and have plans to support the development of mobile money at the retail and regulatory levels, as well as its integration with the overall payments environment.

The primary conclusion of this study is that there is great demand for a system that enhances cash safety and that includes not only m-payments but also a means to store value. Secondarily, there is already a fairly broad EFTPOS network in place and mobile telephony is growing at exponential rates both of which can be leveraged to achieve scale and outreach. There are also a limited number of points where cash goes into the system and “trickles down” to households. Given the risks of carrying and holding cash, PNG presents an interesting opportunity to develop a system that allows for multiple ways to cash-in and cash-out, including electronic disbursement (cash-in) as well as the electronic purchase of goods and services (cash-out). The fact that most goods and services are bought and sold in secondary cities, coupled with the limited need for cash in villages, may minimize the need to build an extensive network of rural cash points from the outset.

Appendix 1

Ownership and Use of Mobile Phones

	WHP	EHP	Morobe	ENB	Central	MB	Total
Own a mobile							
B Mobile (%)	1	0	0	3	0	10	2
Digicel (%)	62	19	47	36	54	22	42
Both (%)	6	9	2	3	8	2	6
	69%	28%	49%	42%	62%	34%	50%
Do not own mobile							
Have access to mobile (%)	20	17	22	3	12	15	16
No access (%)	11	56	29	56	27	51	35
	100%	100%	100%	100%	100%	100%	100%
Chi square statistic $p < 0.05$							
Use mobile for marketing information?							
Yes (%)	62	23	16	8	32	2	29
No (%)	38	77	84	92	69	98	71
Chi square statistic $p < 0.05$							
Marketing information sought							
No of farmers seeking information	53	17	7	3	17	1	98
Information (No. of times mentioned)							
Price information	22	2	1	2	12	1	40
Market demand	21	5	4		5		35
Find markets (general)	25	8			2		35
Market supply	2	1	4				7
Market availability/access	3	1	2				6
Contact hotels/kai bars		1					1
Betel nut selling					2		2
Other	1	1	1				3

Source: Wilson, T. and Henhona, H. "Report on the 2008 FPDA Socioeconomic Survey". ISP Agricultural Economics Adviser and the FPDA Economist. October 2008.

Appendix 2

Details of sources of off-farm income

	WHP	EHP	Morobe	ENB	Central	MB	Total
Wages employment (Interviewee or other family member, or both)							
Yes (%)	28	21	24	25	11	24	22
No (%)	72	80	76	75	89	76	78
Chi square statistic not significant							
Off farm business (Interviewee or other family member, or both)							
Yes (%)	28	30	36	36	13	20	27
No (%)	72	70	64	64	87	81	73
Chi square statistic not significant							
At least one source of off farm income for the household (employment or business)							
Yes (%)	48	43	49	47	19	44	42
No (%)	52	58	51	53	82	56	59
Chi square statistic not significant							
No. of households with wages employment	**24**	**15**	**11**	**9**	**6**	**10**	**75**
Employment (No. of times mentioned)							
Professional	4	1	1	4		1	11
Tradesman	2	2	2	1	3	3	13
Teacher	5	4	1	2		4	16
Office/shop worker	6	4	1	2		1	14
Mine worker		1					1
Police		1	1				2
Security	1	1	1		1		4
Unskilled	6	2	4	1	1		14
Other	3		1			2	6
No. of households with off farm business	**24**	**22**	**16**	**13**	**7**	**8**	**90**
Business (No. of times mentioned)							
Trade store/canteen	14	4	8	6	4	4	40
Food processing		1		1	1		3
Small scale food retailing	3	6	6	2	1		18
Other retailing	2	4	4	2		2	14
Property rent	1	2		2		1	6
Farm produce buyer	4	9			1		14
Transport operator	7	1	1	1		2	12
Betel nut selling	1	1	1				3
Entertainment	1	1					2
Workshop/machine	1			3			4
Other	6	1	1		3		11

Source: Wilson, T. and Henhona, H. "Report on the 2008 FPDA Socioeconomic Survey". ISP Agricultural Economics Adviser and the FPDA Economist. October 2008.

Appendix 3

Spending on Large Items Since Christmas 2007

	WHP	EHP	Morobe	ENB	Central	MB	Total
Large item purchases since Christmas							
Up to K100 (%)	20	41	24	25	41	56	33
K101 to K200 (%)	27	21	24	25	16	12	22
K201 to K300 (%)	27	12	29	31	27	17	23
Over K300 (%)	26	26	22	19	16	15	22
Mean	2134	1594	1610	1747	1373	1189	1677
Kruskall Wallis static $p < 0.05$							
Mean spending per household on large items since Christmas (Kina)							
School fees	736	704	835	889	381	384	667
Air fares	66	38	50	7	32	46	44
Clothes and shoes	123	106	93	197	164	84	124
Mobile phone, radio	31	86	58	105	73	31	61
Household goods, (eg kero cooker, kitchen utensils)	54	25	110	71	120	81	69
House construction/materials	189	130	82	105	39	32	112
Generator	64	15	123	9	158	131	76
Agricultural materials (eg. seeds, fertilizer, chemicals, tools)	249	158	52	44	61	16	124
Livestock	195	51	38	12	242	9	104
Loan repayments	21	103	45	135	0	349	94
Customary payments eg. bride price, compensation	372	163	118	135	103	24	184
Other	34	16	8	36	0	0	18

Source: Wilson, T. and Henhona, H. "Report on the 2008 FPDA Socioeconomic Survey". ISP Agricultural Economics Adviser and the FPDA Economist. October 2008.

Appendix 4

Fortnightly Household Spending

	WHP	EHP	Morobe	ENB	Central	MB	Total
Fortnightly household spending							
Up to K100 (%)	26	41	27	8	10	27	26
K101 to K200 (%)	34	36	29	33	33	34	33
K201 to K300 (%)	9	12	22	25	20	15	16
Over K300 (%)	31	11	22	33	37	24	25
Mean	258	175	235	306	364	239	254
Kruskall Wallis static p < 0.05							
Mean fortnightly spending per household (Kina)							
Trade store (food, drink, household, personal)	44	26	52	112	128	28	58
Supermarket (food, drink, household, personal)	53	43	74	83	71	104	66
Food from the open markets	14	7	17	9	4	6	10
Phone cards	23	6	21	12	22	7	16
Kerosene	10	6	10	11`	22	15	12
Transport eg. PMVs	39	16	23	42	69	23	34
Church donations	34	52	19	25	10	11	29
Cigarettes/tobacco	3	3	3	3	15	9	5
Beer/alcohol	3	3	1	4	10	12	5
Betel nut/lime/mustard	3	4	3	3	9	11	5
Gambling eg. cards, darts/bingo	1	4	0	0	3	9	3
Other	31	4	12	1	1	5	11

Source: Wilson, T. and Henhona, H. "Report on the 2008 FPDA Socioeconomic Survey". ISP Agricultural Economics Adviser and the FPDA Economist. October 2008.

Appendix 5

Large Import and Distribution Companies

- AgMark Pacific
- Best Buys Group Limited
- Brian Bell
- Courts PNG
- Chemica
- Farmset Limited
- Jasamire Limited
- JKT Limited
- Mukito Agricultural Suppliers
- Nestle PNG
- Pelgens
- Raumai 18 Limited
- Seeto Kui
- Siakiu Enterprises Ltd
- SP Brewery
- Super Value Stores (SVS)
- Tropicana, Ltd.

Appendix 6

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Fresh Produce Development Agency.

Appendix 7

Individuals Interviewed

- Alekano Savings & Loan Society. Binn Huletove, Chairman
- Alekano Savings & Loan Society. Reuben Elijah, General Manager
- ANZ. Garry R. Tunstall, Managing Director, Pacific Northwest Region
- ANZ. Isikeli Tuituku, COO
- Asian Development Bank. David Luckok, Consultant
- Asian Development Bank. Klaus Maurer. Consultant
- AusAid, Christine Groeger, Second Secretary
- Bank of Papua New Guinea. Gae Kauzi, Head of Research
- Bank of Papua New Guinea. Loi M. Bakani, Deputy Governor
- Bank of Papua New Guinea. Sali David, Manager, Economics Department
- Bank of Papua New Guinea. Otto Salmang, Manager, IT
- Bank of South Pacific. Lew Kenah, COO
- Bank of South Pacific. Rod Preece, Project Manager
- Basix. B.V. Raghuram, Associate Vice President
- B-Mobile. Fuad Ta'eed, Chief Regulatory Officer
- Brian Bell. Peter Joyce, Manager, Brian Home Centre
- Chemica. Same Bine. Area Manager (Goroka)
- Coffee Industry Corporation. Ricky M. Mitio, CEO
- Coffee Industry Corporation. Ellison Pichk, General Manager
- Coffee Industry Corporation. Jerrty Huekwahin, Projects Officer
- Consultative Implementation and Monitoring Council (CIMC). Ms. Ume Wainetti, Family Sexual Violence Coordinator
- CIMC. John Varey, Informal Sector Coordinator
- CIMC. Marjorie Andrew, Executive Officer
- CIMC. Alois Francis, Deputy Executive Officer
- CIMC, Rufin Peter, Senior Project Officer
- Credit Corporation, Ltd. Robert Allport, Managing Director
- Daltron. Bruce Mead, General Manager
- Daltron. Jimmy Son, Software Solutions Manager
- Daulo District Administration. Ipae J. Maniha, District Administrator
- Daulo District Treasury Office. Dominica, Manager
- Daulo District Treasury Office. Simon, BSP Agent
- Data Nets. Sundar Ramamurthy, General Manager
- Datec. Warwick Vele, Sales & Marketing Manager
- Department for Community Development. Karen Haive, Acting Deputy Secretary Corporate Services
- Destiny Internet Café. Elfreda Nui, Manager

- Digicel. John Mangos, CEO
- Digicel. Barry Dillon, Electronic Sales Manager, Pacific
- Evangelical Lutheran Church of PNG. Isaach Teo, General Secretary
- FLEX. Stephen Breen, Managing Director
- FLEX. Nickson Gagge, Sales Executive (Lae)
- Fresh Produce Development. Mewie Launa, Manager
- Fresh Produce Development. Greg Liripu, Assistant General Manager
- Finance Corporation, Ltd. Tony Witham, Managing Director
- Galley Reach Holdings. Julius Yeoh, General Manager
- Goroka District Treasury Office. Manager
- ICCC. Mr. Dominic Moros. Senior Principal Analyst, Telecommunications
- Institute of National Affairs. Paul Barker, Director
- Mr. Kiopa. Independent Coffee Buyer (Goroka)
- Korofeigu Community focus group
- Lae Chamber of Commerce. Alan McLay, President
- National Consultative Committee on the Information Economy. Max Kep, Chairman
- National Development Bank. Richard Maru, Managing Director
- National Development Bank. Anthony dela Cruz, Executive Manager, Microfinance
- National Development Bank. Kini Vali, Manager, Credits
- National Development Bank. Jeremy Ningiga, Manager, MIS
- Nationwide Microbank. Lionel Somarante, CEO
- Nationwide Microbank. Chris Mota, Manager Branch Development
- Niguini Coffee, Tea & Spice Company. John Stevenson, General Manager
- Oceanic. Craig Beedell, Managing Director
- Oceanic Communications. Nick Story, Country Manager
- Office of Climate Change & Carbon Trading. Theo Yausase, Director
- Papindos. Bandan Restnadi, Store Manager (Lae)
- PNG Coffee Exports, Ltd. Colin Williams, Operations Manager
- PNG Coffee Exports, Ltd. Paula Amos, Administration Officer
- PNG Coffee Exports, Ltd. Yassi Kuriamo, Quality Controller
- PNG Microfinance, Ltd. Paul Thornton, Managing Director
- PNG Sustainable Development. David Sode, CEO
- PNG Sustainable Development. Camillus Midire, Chief Program Officer
- PNG Sustainable Development. Mr. David Osborne, Consultant
- Port Moresby Chamber of Commerce. David A. Conn, CEO
- Post PNG. Peter Maiden, Managing Director
- Post PNG, Ltd. Same Membung, Retail Manager (Lae)
- Remington Technologies. Ken Harvey, Managing Director
- Rural Industries Research Council. Graham Ainui, Executive Officer
- Seeto Kui. Nigel C. Seeto, Managing Director (assumed)

- Seventh Day Adventist Church. Solomon Agdon. Chief Financial Controller.
- Seventh Day Adventist Church. Simeon Nara, Undersecretary
- Adventist Development and Relief Agency (ADRA). Agnes Gubag, Finance Manager
- SOS Security Ltd. Walter Schnaubelt, Managing Director
- SOS Security Ltd. Douglas Dannes, CEO
- SOS Security Ltd. Edward McCardel, Group General Manager
- Steamships Trading. David Macindoe, Commercial Manager
- Super Value Stores (SVS). Hidajat Hanafi, Managing Director
- Trukai Industries Limited. Geoff Fahey, General Manager
- UNICEF. Juliet Attenborough, Child Protection
- UNICEF. Aronold Calo'oi, Regional Manager
- Westpac. Ross Hammond, Managing Director

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