Chapter 6

ADVANCING INCLUSIVE FINANCIAL SYSTEM IN THE NEXT DECADE: THE CASE OF MOBILE BANKING IN PAPUA NEW GUINEA

By
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1. Background

Papua New Guinea's (PNG) population in mid-2011 was 7.3 million (National Statistical Office Census, 2011). With an average annual growth rate of 3.1%, it is estimated that by mid-2015, PNG's population will be around 8.1 million and considerably smaller compared to other SEACEN economies. However, PNG shares similar demographic characteristics to its SEACEN neighbours in terms of a higher population of younger people. Close to half of its population are aged 19 years or younger, whilst 3% are above 64 years with women accounting for approximately half the population. (Household, Income and Expenditure Survey (HIES), 2009-2010).

The most important statistic for financial inclusion initiatives is the estimated two thirds of the population living in rural areas engaged largely in subsistence farming (2014 National Budget, p.65). This segment of society have had, until only recently, very limited access and/or exposure to financial markets of any form. The country is geographically fragmented with mountainous terrain and many scattered small islands. Many communities live in relative isolation from each other, let alone having accessibility to a commercial bank, post office or health care centre. Expensive air travel is typically the only form of transportation between the capital city of Port Moresby and the other 22 provinces. Villages and districts that are along main highways and arterial roads such as Dagua villages in the East Sepik Province are better placed to directly benefit from financial inclusion programmes compared to those living in remote communities such as Sofia - a remote village in Musa Oro Province, surrounded by the rugged terrain of the Owen Stanley Ranges and a rough four to five day walk to the main highway.

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PNG is one of the most culturally diverse country in the world. It is known to have more than 800 different minority speaking language groups, each with their own unique and distinct traditional practices. To some extent, these same traditional customs and norms may have contributed to the isolation of communities. Population density ranges from 1.8 people per square kilometre (km) in the Western Province to 1,325 people per square km in the nation's capital Port Moresby, situated in the National Capital District (NCD).[2] The average population density for the total 21 provinces and 1 autonomous region,[3] is 77.2 people per square km. Given this background, the practical implementation of development policies including basic health services, education and rural electrification, to name a few, has proven to be extremely challenging for successive governments. Nevertheless, the drive - and it seems the pressure, to include those financially excluded from the formal financial sector is receiving growing prominence in government policy.

In 2014, the country stepped into a new era of economic growth, heralded by the Liquified Natural Gas (LNG) project, destined to be the most profitable project since independence in 1975. To avoid a repeat of the Bougainville Crisis[4], the Government of PNG (GoPNG) must endeavour to be a fair and equitable distributor of wealth generated from this project. The US$10 billion LNG project signed between GoPNG and Exxon Mobil in November 2009 is now worth US$19 billion and projected to generate unprecedented wealth for the country over the next 40 to 50 years. To facilitate this project, major infrastructural reforms were undertaken in 2006 allowing for competition in the telecommunications sector and the development of a National Payments System (NPS). Undoubtedly, both these infrastructural changes have created an enabling environment for all sectors of the economy to prosper.

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2. Port Moresby, the capital, is in the National Capital District (NCD). The NCD is classified as a province. It is 240 square kilometres (km), the smallest of all the 21 provinces and 1 autonomous region but with the highest estimated population of 318,000 people.

3. The Autonomous Region of Bougainville (ARB) was previously known as the North Solomon's Province.

4. The Bougainville Crisis was the darkest decade in PNG's history from 1988-1998. Civil war broke out as a result of unequal distribution of royalties from the GoPNG to landowner Bougainvilleans. Bougainville Copper Limited, a subsidiary of Rio Tinto was the operator of the Panguna mine one of the world's largest open pit mines. The Crisis resulted in the deaths of some 15,000-20,000 Bougainvilleans.

Notably, the spinoff benefits resulting from competition in the telecommunication sector has revolutionised the use of mobile phone technology in the provision of financially inclusive products and services. In turn, this has the potential to open another dimension of competition within the financial sector itself. With stakeholders' combined efforts aimed at delivering products and services at fair and affordable prices, the outlook for finally involving ordinary Papua New Guinean's in the country's economic story is reaching a reality. However, despite this advancement, PNG's financial inclusion agenda is still at infancy stages. Numerous hurdles including stakeholder capacity building need to be addressed. The most pressing task for the central bank, the Bank of Papua New Guinea (Bank of PNG) in particular, is to formulate regulations over a new breed of current and potential electronic financial products.

Whist this paper will seek to highlight general aspects of financial inclusion in PNG, its main aim is to investigate the impact of mobile phone banking since its inception in 2003 and its projected contribution for financial inclusion over the next decade. It will look specifically at the role of the central bank, the Bank of PNG and monetary policy implications of mobile banking. Important regulatory changes that need to be undertaken to monitor this new medium of transaction will also be discussed.

The paper is structured as follows. Section 2 will discuss the main financial inclusion policies and programmes currently in place and earmarked to take place in future. It will also discuss the role of important stakeholders in the financial inclusion drive. Section 3 will discuss the current status of financial inclusion, specifically looking at the current state of financial sector development and outlining some of the main challenges. Section 4 will present an in- depth analysis of financial inclusion and highlight the potentially significant gains that can be harnessed using mobile money banking as a means for financial inclusiveness. Section 5 will outline the plan for the next decade with a focus on using mobile technology to advance financial inclusion whilst Section 6 will conclude.

2. Financial Inclusion – Policies, Initiatives and Institutions

2.1 Brief History of Financial Inclusion in PNG

In March 2010, GoPNG reiterated the importance of an efficient financial and banking sector in its Development Strategic Plan (DSP) 2010-2030. The DSP is aligned with the country's Vision 2050 statement and is meant to act as 'a guide to success.' It's overriding goal and vision respectively, is to achieve

a high quality of life for all Papua New Guineans and to be a prosperous middle-income country by 2030.

A shorter term plan called the Medium Term Development Plan (MTDP) 2011-2015 was released to complement the DSP. The MTDP clearly identified elements of financial inclusion (although it does not explicitly state the word) as a means of assessing GoPNG's performance in achieving financial and banking sector development. These include expansion of financial products and services to private sector small to medium enterprises (SMEs), developing affordable and financial products to meet the needs of these customers and others, and encourage financial services in rural areas as a medium-term initiative for long-term growth (Department of National Planning & Monitoring 2010, p.19-20). Finally, National Budgets since 2010 have made explicit budget allocation for financial inclusion related projects specifically the Financial Inclusion and Literacy Program (FILP).

These endeavours are a culmination of efforts that began in 2001/2002. During these years, the Asian Development Bank (ADB) and the Australian Agency for International Development (Ausaid) - now termed Development Cooperation under the Australian Department of Foreign Affairs and Trade (DFAT),[5] with GoPNG's support - embarked on a programme to create an inclusive financial system for the country's unbanked and predominantly rural population. Whilst the PNG Microfinance and Employment Project (MEP1) came to a closure in 2010, this specific project had created a good foundation for the country's financial inclusion initiatives going forward. During the early 2000's MEP1 was instrumental in providing financial assistance programmes to disadvantaged and low-income sections of society which formal financial markets had done little to support.

Significant milestones to date include: PNG's signing of the 2020 Money Pacific Goals; the launch of a National Informal Economy Policy 2011-2015; launch of the Microfinance Expansion Project (MEP2); endorsement and launch by the National Executive Council (NEC) of a Centre for Excellence in Financial Inclusion (CEFI); PNG's commitment to the Maya Declaration; and the launch of the country's first Financial Inclusion and Financial Literacy Strategy 2014-2015. Table 1 provides a timeline of these events and each will be discussed in detail in this section.

5. For simplicity, this document will continue to refer to all Australian government Development Cooperation assistance packages as AusAID.

Table 1
Important Milestones in PNG's Financial Inclusion History

Date Acquired	Milestone
2009	• Signing of the 2020 Money Pacific Goals • Bank South Pacific (BSP) Limited became the first financial institution to introduce mobile banking services via short message service (SMS) to its customers.
February 2011	Launch of a National Informal Economy Policy, 2011-2015
April 2012	Launch of the Microfinance Expansion Project
April 2013	Endorsement and launch by the National Executive Council (NEC) of a Centre for Excellence in Financial Inclusion (CEFI)
September 2013	Commitment to the Maya Declaration
December 2013	Launch of first Financial Inclusion and Financial Literacy Strategy 2014-2015.
December 2013	Launch of the country's National Payments System - Kina Automated Transfer System (KATS)

Source: Various Sources.

2.2 Major Plans, Policies and Programmes

PNG signed the Maya Declaration on Financial Inclusion in September 2013. Whilst its international commitment came a little later than most SEACEN economies, its regional and domestic commitments began a few years earlier than this Declaration (but not necessarily earlier than other SEACEN economies).

2.2.1 2020 Money Pacific Goals

PNG's regional commitment is the 2020 Money Pacific Goals (MPG). The MPG is an initiative of the Pacific Island Countries (PICs) endorsed by the Forum Economic Ministers Meeting (FEMM)[6] and South Pacific Central Bank Governors in 2009. Similar to the goals of other FI providers in the region like the Pacific Financial Inclusion Program (PFIP), the MPG has four main goals aimed at introducing financial education curricula to all primary and secondary schools by 2020.

6. The Pacific Islands Forum Secretariat is an international organisation advancing regional agenda's for the 16 South Pacific Island Countries (SPICS) which are: Cook Islands, Kiribati, the Marshall Islands, Nauru, Niue, Palau, Tuvalu, Federated States of Micronesia, Tonga, Samoa, Vanuatu, Fiji, Solomon Islands, PNG, Australia and New Zealand.

The first goal is for all school children to receive financial education through core curricula. Without explicitly stating the number of adults, the second goal is to ensure that adults have access to financial education. The third aim is to establish simple and transparent consumer protection while the final goal is to halve the number of households without financial access to basic financial services. The MPG represents PNG's dedication to a regional commitment of financial inclusion objectives. In addition, GoPNG in collaboration with other partners had formulated two key documents for PNG's national financial inclusion agenda.

2.2.2 National Informal Economy Policy 2011-2015

In 2004, GoPNG formally recognised financial inclusion as an important variable for economic growth particularly for rural dwellers and the urban unemployed. It enacted the Informal Sector Development and Control Act and later produced the National Informal Economy Policy 2011-2015 (the Policy) launched in February 2011.

The Policy acknowledged the importance of the challenges faced by the informal sector and aimed to address these challenges using two main 'arms': financial inclusion and provision of goods and services of strategic value. More importantly, it provided a step in which the national policy framework encompassed in the Financial Inclusion and Financial Literacy Strategy could be developed.

2.2.3 Financial Inclusion & Financial Literacy Strategy 2014-2015

The Financial Inclusion & Financial Literacy Strategy 2014-2015 (the Strategy) is PNG's first national strategy on financial inclusion which, in addition to the above policy, was formulated based on the Financial Diaries & Financial Competency Surveys conducted for low-income households. Launched in December 2013, the Strategy's main aim is to reach one million more unbanked low-income people and SMEs with a diverse range of financial services by end 2015. Additionally, it targets 50% of those reached to be women.

Other aims include creating a financially competent generation of Papua New Guineans through financial products and financial education and financial literacy designed for young minds. Additionally, the Strategy seeks to actively support innovative use of technology for scaling-up access to financial services and financial literacy. Furthermore, it aims to strengthen consumer protection by issuing prudential guidelines and creating a platform for various national regulators and industry networks to monitor consumer protection. Its other aims are to

fully strengthen the capacity of the newly established CEFI to effectively coordinate, monitor and collect vital financial inclusion access data.

The findings of the Financial Diaries and Financial Competency Surveys (the Surveys) are worth mentioning because, in the absence of quantitative evidence over the years, anecdotal evidence has become the primary source for policy making. The Survey's findings are especially important because, for the first time, we can show quantitatively that low-income households depend on PNG's social network or 'wantok' system to assist during times of financial emergency, for example when faced with mounting funeral expenses due to traditional obligations.

The longitudinal Financial Diaries survey carried out by the United Nations, PFIP, Bank of PNG and Microfinance Opportunities (MFO) provided a unique and comprehensive view of livelihoods and transactions of low-income households in Goroka, Kimbe and Port Moresby including the LNG plant at Lealea. Interestingly, it confirmed that people travelled long distances to conduct formal financial transactions even when agents are located in nearby areas. A seemingly small issue of trusting an agent takes root because of a lack of understanding about how agent banking works. A small issue like this leads to a physical trip, at great and unnecessary expense to the customer, to a main commercial bank or other established financial institution.

2.3 Initiatives and Policy Formulating and Implementing Institutions

2.3.1 Microfinance and Employment Project (MEP1)

The MEP1 project ran from 2002-2010. Financed by the ADB and co-funded by AusAID its total budget was US$20.5 million although only US$13.9 million was incurred. There were three main project components: building the capacity of microfinance institutions (MFI) through a Microfinance Competence Centre (MCC); developing, testing and implementing new savings and loans products and delivery methods; and establishing a Revolving Finance Facility (RFF) for MFIs. (ADB (2012), pp.3-4)

The ADB's support activities in MEP1, in collaboration with the Bank of PNG, contributed to the establishment of two micro-finance banks in 2004: PNG Nationwide Micro-bank (formerly Wau Microbank) and now the country's largest licenced micro-bank; and PNG Microfinance Limited (PML). Whilst its target for portfolio quality of regulated MFIs was not achieved at project completion and little attention to savings was given, it nevertheless, was instrumental in

providing access to financial services for SMEs and rural farmers when access was previously limited.

2.3.2 Microfinance Expansion Project (MEP2)

The Microfinance Expansion Project (MEP2) is an extension of MEP1 and launched by ADB in April 2012. Worth US$24 million, MEP2 is co-funded by AusAID, GoPNG and participating financial institutions. Its expected project completion date is 2017.

MEP2 is designed to take forward the learning and initiatives of MEP1. Its focus is on programmes for financial literacy to encourage the unbanked population to become part of the monetised sector; continue to work with MFIs to develop management and technical capacity whilst also developing appropriate regulatory framework for their supervision. Additionally MEP2 aims to increase lending to SMEs. One of the major outcomes of MEP2 is the endorsement of the CEFI in April 2013.

2.3.3 The National Survey of Financial Capability

The National Financial Capability Survey (NFCS) is a recent initiative under the financial inclusion umbrella. Launched in November 2013 by the World Bank and the Bank of PNG, it is funded by the World Bank with the support of the Korean Trust Fund and coordinated in collaboration with the Bank of PNG, PNG's National Statistical Office (NSO) and the Institute of National Affairs (INA) a privately funded non-profit policy research institute.

The cost of NFCS was estimated at US$260,000, but due to cost over-runs only two provinces were covered as of 31 December 2014, from an initial sample estimate of 7 provinces. It is expected to provide a comprehensive understanding of how Papua New Guinean's manage money, their financial planning habits and how they use formal and informal financial services. Results of the study will be used to develop a national baseline of financial capability across all income groups and locations and develop effective delivery methods of products and services.

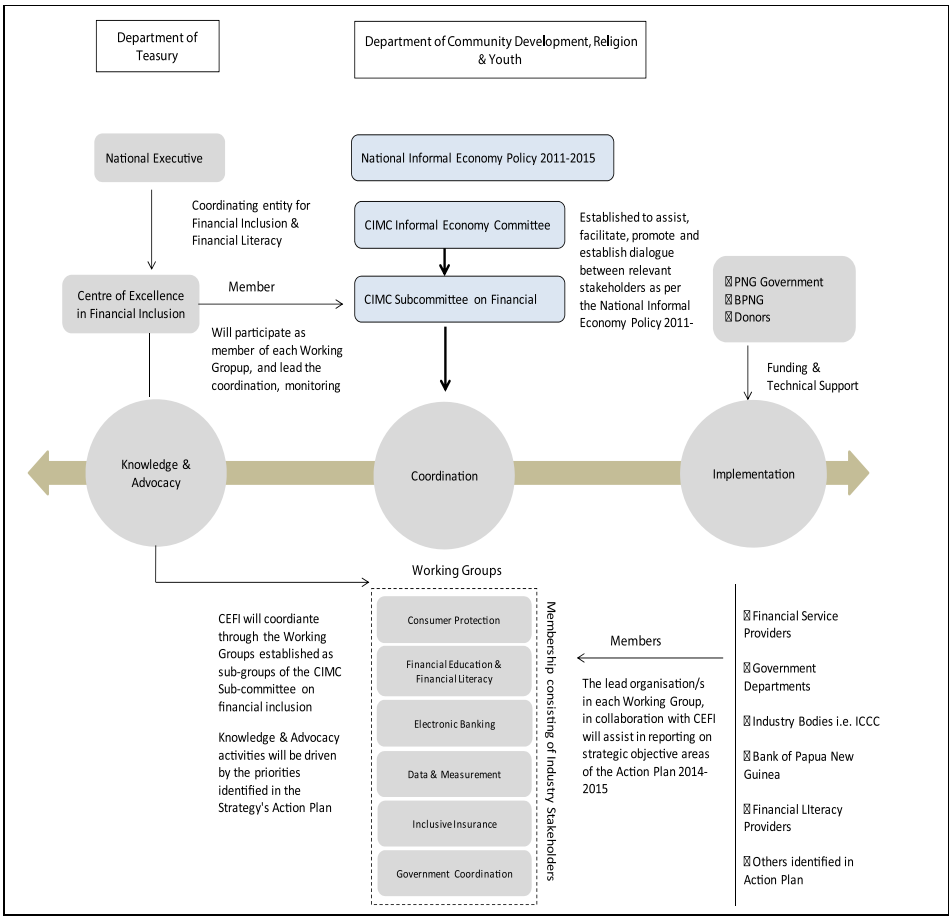
2.4 Institutions Engaged in Formulation and Implementation of Financial Inclusion Policies

Funding and technical support for financial inclusion is predominantly provided by GoPNG, Bank of PNG and main aid donors: ADB, AusAID and the World

Bank. Key financial literacy providers include the Department of Education for primary and secondary school financial inclusion programmes.

Figure 1 shows the institutions engaged in formulating, implementing and coordinating financial inclusion policies in PNG.

Figure 1
Implementation Management



Source: National Financial Inclusion & Financial Literacy Strategy 2011-2015.

2.4.1 Policy Formulating Institutions: Consultative Implementation and Monitoring Council (CIMC) Financial Inclusion Sub-Committee

The financial inclusion agenda is formulated by the Department of Community Development, Religion and Youth in conjunction with the Department of Treasury. These two government departments work in collaboration with other important stakeholders to formulate, monitor and implement financial inclusion policies. The Consultative Implementation and Monitoring Council (CIMC) was established to assist the NEC to oversee the formulation process of the policy on Informal Economy Financial Inclusion as encompassed in the respective National Informal Economy Policy 2011-2015.

Additionally, the CIMC Financial Inclusion Sub-Committee was established to specifically assist, facilitate, promote and establish dialogue between relevant stakeholders. CEFI in particular will work closely with CIMC to monitor progress of this and other financial inclusion policies.

2.4.2 Centre for Excellence in Financial Inclusion (CEFI)

CEFI was endorsed in April 2013. Unlike implementing or policy formulating agencies, its main role is to coordinate all financial inclusion initiatives in the country, bringing together stakeholders involved in financial inclusion and monitor targets and report progress outlined in the national Financial Inclusion & Financial Literacy Strategy 2014-2015. Recently in April 2014, CEFI appointed its first Director.

CEFI's approach in fulfilling its responsibility is two-fold; focusing on (1) Coordination and (2) Advocacy. Coordination efforts are channelled through 6 main Working Groups: Consumer Protection, Financial Education and Financial Literacy, Electronic Banking, Data and Measurement, Inclusive Insurance, Government Coordination on Financial Inclusion as part of development in all levels of government. Meanwhile, the Advocacy approach taken will be analytical - developing products that are captured by evidence based data, providing quarterly industry trend analysis and disseminating information pertaining to best practices and industry standards to all relevant stakeholders.

As the financial inclusion agenda is multifaceted, CEFI is working in collaboration with several stakeholders. Table 2 lists these respective partners and roles in the financial inclusion agenda.

Table 2
CEFI's Partners

Funding Partners	ADB, AusAID
Executing Agency	Bank of PNG
Technical Partners	MicroSave
Project Steering Committee	Department of National Planning and Monitoring, Department of Planning and Community Development, Small Business Development Corporation, Institute of Banking and Business Management, Federation of Savings and Loan Societies Limited (FESALOS)
Development Partners	Pacific Financial Inclusion Programme (PFIP), Consultative Implementation and Monitoring Council (CIMC) Financial Inclusion Sub-Committee
Partner Financial Institutions	Nationwide Microbank, PNG, Microfinance Limited, Kada Poroman Microfinance Limited, Niu Alian Savings and Loan Society, National Farmers Savings and Loan Society, Sepik Savings and Loan Society, East New Britain Savings and Loan Society
Training Partners	Reformation Ministries and Church Network (RMCN), PNG Sustainable Development Programme Limited, Ambumangrae Credit Scheme, Bogia Cooperative Society Ltd.

Source: Centre for Excellence in Financial Inclusion, Papua New Guinea.

3. Current Status of Financial Inclusion

3.1 Implementation of the National Strategy for Financial Inclusion

Whilst the plans described above provide a guide for financial inclusion going forward, it is important to reiterate that the implementation of infrastructure that is needed to facilitate these plans take time. For example, the six Working Groups, described in the section above, whose job is to formulate strategic activities and plans, are only recently being put in place.

In addition, CEFI - the coordinating agency, has only recently appointed its Director and establishing databases to capture and monitor the National Strategy. The road towards its full operationalisation is progressing well. Furthermore, whilst the Bank of PNG has conducted a series of financial expo since 2012, educational outreach so far has been limited to only major centres. Moreover, the roll-out of the National Youth Savings Campaign - an initiative to foster a 'savings' attitude among young children and adults between the ages of 6-25 years is slow to take form despite agreements among relevant stakeholders.

Worryingly are reports that the Financial Capabilities Survey has, only until recently, managed to get back on track after a setback to its schedule due to budget overruns. Despite these teething problems, the established MEP2 funded by the ADB is progressing well.

3.2 Economic Growth and Social Development

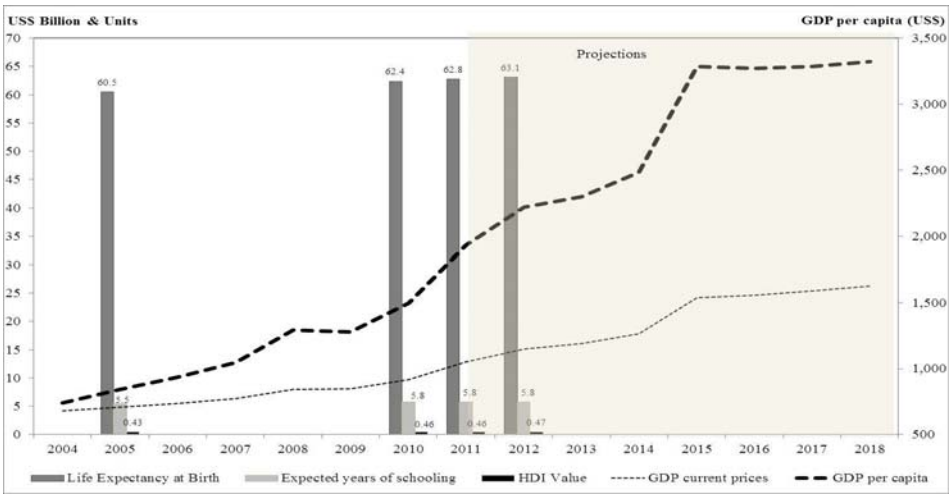
Against this background of financial inclusion objectives and progress to date, there has been strong growth in Papua New Guinea's mining and resource sector which has led to PNG becoming the sixth fastest-growing economy in the world as of 2011 and has recorded a projected GDP of US$17.82 billion in 2014. (International Monetary Fund, World Economic Outlook) Despite this, many people still live in extreme poverty, with one-third of the population living on less than US$1.25 per day. The majority of the population still live in traditional societies and depend on subsistence-based agriculture. If financial inclusion is ever to impact the lives of these people, surely this should be reflected in basic human development indicators (HDI).

PNG has had a bad record of HDI. In 2012, the HDI value was 0.466 - in the low human development category - positioning the country at 156 out of 187 countries and territories. The United Nations Development Program (UNDP) estimates that between 1980 and 2012, PNG's HDI value increased from 0.324 to 0.466. By 1980, PNG's life expectancy at birth increased by 10.3 years, mean years of schooling increased by 2.7 years and expected years of schooling increased by 1.7 years. This is significantly below the average for countries in East Asia and the Pacific.

The only recorded World Bank data on income inequality, the Gini Index was 50.9 in 1996. This means that half of the population share all the income while the other half have nothing - a clear divide between the haves and have nots. Is it reasonable to assume that income inequality has increased? Gibson et al., 2005 find evidence that income inequality is largely seen within geographical areas and that poverty in the 1990s was mainly due to an increase in income inequality and not necessarily to a slow rise in average incomes. These dimensions of inequality are important if GoPNG is ever going to make an impact in eradicating extreme poverty and hunger by 2015 as agreed to in its Millennium Development Goals (MDG).

Figure 2 illustrates some of these indicators against GDP from 2004-2012. GDP projections begin in 2011.

Figure 2
Economic Growth and Selected Human Development Indicators



Source: GDP data - IMF World Economic Outlook; HDI indicators – UNDP.

3.3 State of Financial Sector Development, Issues and Challenges

In December 2013, PNG launched its National Payments System with the introduction of a Real Time Gross Settlement (RTGS) called the Kina Automated Transfer System (KATS). KATS paves the way for increased efficiency in payments and settlements and raises the possibility for the creation of a secondary debt market. In line with this, the National Payments System Act 2013 was certified in September 2013 to replace the obsolete Bills of Exchange Act (1976). At present, work is being carried out to develop a consumer protection act. Whilst these developments are welcomed, financial markets in PNG remain underdeveloped with little competition especially between commercial banks.

The ADB (2010) estimates that merely 15% of the total population have access to either formal or informal banking facilities. Whilst there have been increases in the number of financial institutions - especially licenced financial institutions other than commercial banks, the depth of products and services offered is relatively limited. As of November 2013, PNG had 4 commercial banks, 1 state owned National Development Bank, 11 licenced financial institutions (LFI) - 2 of which are first tier MFIs, 21 savings and loans societies (SLSs), 1 authorised mobile network operator (MNO), 2 authorised money remitters, 2

authorised foreign exchange dealers and 6 authorised money changers. In addition, PNG has 13 superannuation funds licenced to conduct activities specified under the Superannuation (General Provisions) Amendment Act 2002 – two of which are major superannuation funds.

Table 3
State of Financial Sector Development as of November 2013

Number of Commercial Banks	4
State Owned National Development Bank	1
Licenced Financial Institutions	11
Savings and Loans Societies	21
Authorised Mobile Network Operator	1
Authorised Money Remitters	2
Authorised Foreign Exchange Dealers	2
Authorised Money Changers	6
Superannuation Funds	2

Source: Bank of Papua New Guinea.

Three of the four commercial banks - Australia and New Zealand Banking Corporation (ANZ), Westpac and Maybank are foreign-owned. Bank South Pacific (BSP) is the nationally owned bank with branches in Fiji, Solomon Islands and Niue. The first two banks and BSP are the largest lending group and generally target creditworthy and corporate customers. In PNG, commercial banks constitute up to 80-90% of the financial system in terms of their balance sheets. As at September 2013, total assets of the banking system (excluding superannuation funds and life insurance companies) was approximately K27.6 billion (around US$11.8 billion). Total deposits in the banking system were K16.7 billion (US$7.16 billion).

Lack of current credit information particularly in a central location inhibit lending while access to finance in rural areas continues to be low despite a surge in agent banking networks in the recent past. Furthermore, SMEs continue to face difficulty in gaining financial access. Whilst the two major microfinance providers – PNG Microfinance Limited and Nationwide Microbank and SLSs have gained momentum in their outreach programmes, the cost of reaching rural customers, in particular, is extremely high. In September 2013, commercial banks' weighted average cost for deposits was 0.32%, a significant decline from three

years ago when it was 1.0%. By comparison, the weighted average loan rate was 10.4% three years ago against the 9.6% recorded in 2014. While loan rates are much lower than they were three years ago the spread between deposit and lending rates have dramatically increased.

Nevertheless, the ADB reports that the Microfinance Competence has listed more than 90 organisations or institutions involved in microcredit. The number of bank branches, although still small, is increasing steadily. Of notable value is the significant increase in mobile phone banking and penetration of financial service delivery through this medium. Table 4 lists some basic statistics of financial inclusion.

Table 4
Selected Financial Inclusion Indicators as at December 2014

Number of Banks	4
Number of Branches per 10,000 adults nationally	0.55
Number of ATMs per 10,000 adults nationally	0.84
Number of EFTPOS per 10,000 adults nationally	22.91
Number of Agents per 10,000 adults nationally	0.76
Number of mobile/financial services accounts/mobile wallet accounts per 10,000 adults	944.02
Percentage of banks offering mobile banking, such as checking one's balance from a mobile phone	3%
Percentage of banks offering mobile financial services, including transfer of e-money	3%
Existence of Central Bank regulatory framework for consumer protection	No
Financial education integrated into the national school curriculum	No

Source: Alliance for Financial Inclusion.

3.4 Issues and Challenges

Whereas these developments point towards a greater involvement for Papua New Guineans in the formal financial sector, there are still some significant hurdles to address. The most important of these are the regulatory aspects surrounding consumer protection. The ADB along with key stakeholders including the Bank of PNG, are in the process of formulating policies that will better guide the industry, particularly with regard to the use of mobile phone banking services.

With the rapid expansion of mobile banking and electronic payments for access products as well as e-payments schemes offered by commercial banks, the biggest challenge is regulating this form of currency. Whilst the country does have a National Payments System Act 2013 and a National Information

Communication & Technology (ICT) Policy, defining regulatory responsibilities are yet to be incepted.

Significant management capacity constraints still exist in not just the small microfinance companies and credit unions but larger stakeholders as well. In a move to address this issue, the Bank of PNG has recently put in place an in-house restructure to accommodate a key department, housing an explicit financial inclusion unit. Moreover, the high operational costs combined with low population density and security threats makes bank branch or agent operations unprofitable to business. On the demand side, geographical difficulties such as rugged terrains, swamps, fast flowing rivers make it difficult for people to travel to urban centres.

Most importantly is the proper management and data collection to report progress and to ensure corrupt practices are not carried out. The financial inclusion agenda is worth millions of US$ and the sooner monitoring and data management processes are in place, the better the accountability and effectiveness of the initiatives.

4. Data Presentation and Analysis

The financial inclusion agenda is in its infant stages in PNG. As data collection for basic financial inclusion indicators only began in 2006/07, there is thus a limited number of observations to conduct sufficiently robust statistical analysis to gauge whether financial inclusion or its delivery modes has economic growth potential. Given this, what follows is a descriptive analysis on some of these basic statistics to date.

4.1 Formally Banked Adults and Adults with Credit at Regulated Institutions

Table 5 below shows usage and access in PNG using the G20 Financial Inclusion Indicators for which data is available. It presents national and four regional statistics which are Southern, Highlands, Momase and Islands.

Table 5
PNG Financial Inclusion Indicators

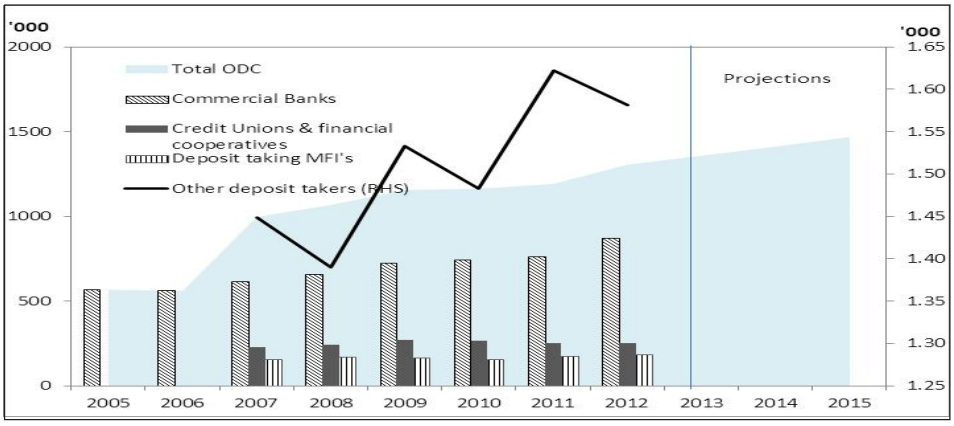
Category	Indicator		Indicator Calculation	Measures
Formally banked adults	% of adults with an account at a formal financial institution (June 2013)	National	14.63%	Usage
		Southern	21.05%	
		Highlands	8.33%	
		Momase	17.82%	
		Islands	20.75%	
	Number of deposit accounts per 1,000 adults (June 2013)	National	439	
		Southern	632	
		Highlands	250	
		Momase	535	
		Islands	623	
Adults with credit at regulated institutions	% of adults with at least one loan outstanding at a regulated financial institution (December 2012)	National	6.98%	Usage
	Number of borrowers per 1,000 adults (December 2012)	National	70	
Point of Service	Number of branches per 100,000 adults (June 2013)	National	3	Access
		Southern	6	
		Highlands	2	
		Momase	4	
		Islands	5	
	Number of ATMs per 100,000 adults (June 2013)	National	10	
	Number of POS terminals per 100,000 inhabitants (June 2013)	National	330	
E-money accounts	Number of e-money accounts for mobile payments (July 2013)	National	386,000	Access

Source: Centre for Excellence in Financial Inclusion, PNG National Financial Inclusion & Financial Literacy Strategy 2014-2015.

As of June 2013, the unbanked population was 85.3%. The Highlands region had the highest unbanked percentage of 91.6%, followed by Momase. The Islands and Southern regions both have around 80% unbanked. Additionally 439 out of every 1,000 adults have deposit accounts with a large share of these accounts held at commercial banks. Figure 3 and 4 show increases in both the number of deposit accounts and consequently growth in the Kina[7] value of outstanding deposits of Other Depository Corporations (ODCs) over the last ten years.

7. Kina is the name of PNG's domestic currency and is denoted by "K".

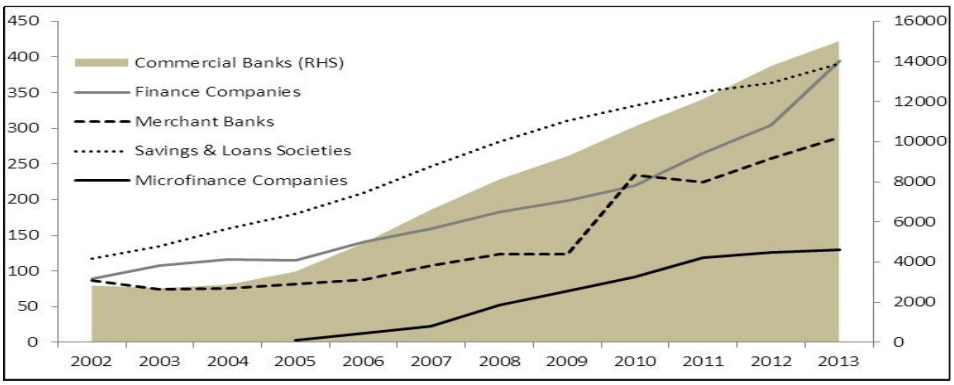
Figure 3
Number of Deposit Accounts by Other Depository Corporations



Source: International Monetary Fund, Financial Access Survey.

According to this indicator, financial inclusiveness is increasing. As of 2012, there were approximately 1.3 million deposit accounts. This was an increase of 9.6% from 2011 and the highest since 2009. Over the last three years, there was a growth of around 4%. Assuming this optimistic growth continues over the next three years from 2013-2015, the number of deposit accounts would exceed the target of 1 million new deposit accounts set in the National Financial Inclusion and Financial Literacy Strategy 2014-2015 by about half a million. As of 2013, deposit taking institutions appear to be performing relatively well in terms of this indicator with the exception of 'other deposit taking institutions' which shows spikes and dips in number and value of deposits.

Figure 4
Private Sector Deposits by Other Depository Corporations
(Kina Million)

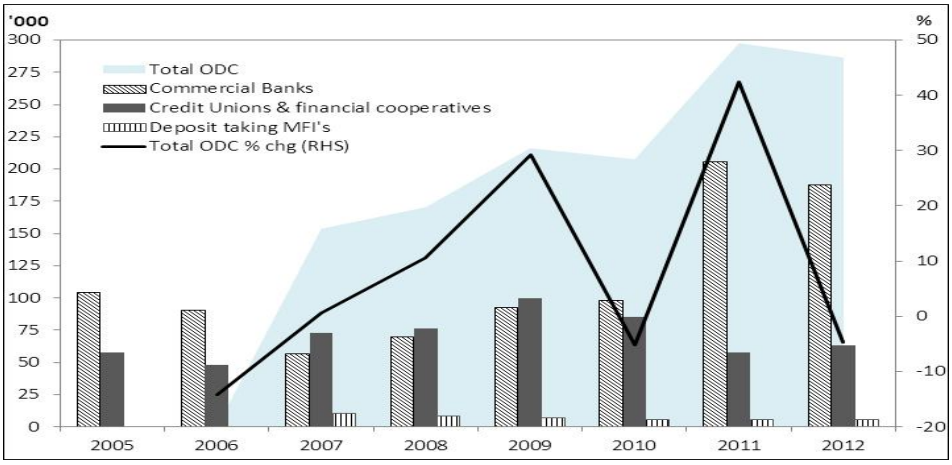


Source: Bank of PNG, Quarterly Economic Bulletin.

Figure 4 shows the Kina value of private sector deposits by ODCs. Whilst all ODCs are performing well, microfinance institutions appear to be lagging behind with growth in deposits plateauing in 2013 despite considerable efforts placed in this area since MEP1 began in 2002.

Surprisingly, the growth in loan accounts in 2012 declined by about 5% following an increase of 42% in 2011 and a similar decline in 2010 as in 2012. By ODC, Figure 5 shows that credit unions and financial cooperatives saw more loan growth than commercial banks from 2007-2009. This can be largely explained by commercial banks' risk adverse stance during the Asian Financial Crises.

Figure 5
Number of Loan Accounts by Other Depository Corporations

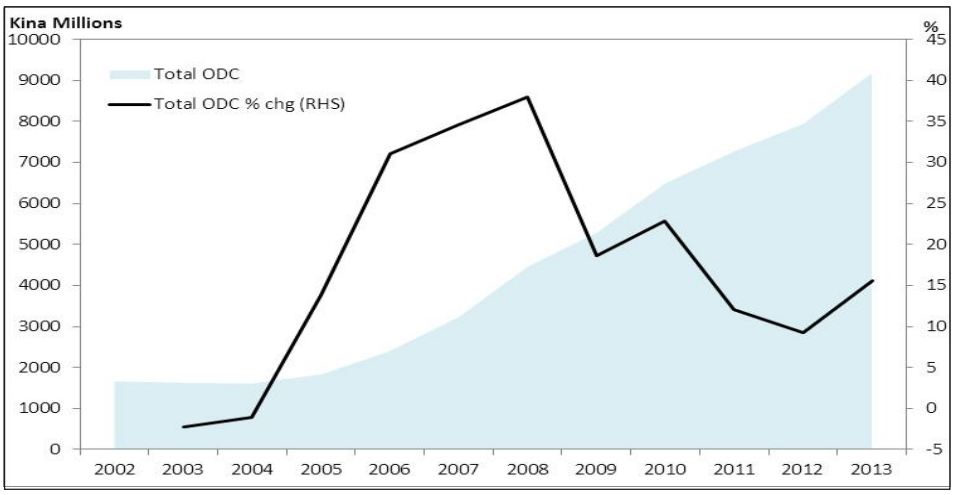


Source: International Monetary Fund, Financial Access Survey.

However in 2010, commercial bank loan account numbers began to rise, culminating in a significant increase in 2011 and then falling back slightly in 2012. The number of loan accounts in credit unions and financial cooperatives began to decline while MFI loan accounts remained relatively flat.

Similarly the value of loans over a ten year period, although positive, have seen a sustained period of fast growth from 2004-2009, followed by some swings. Figure 6 shows these movements with loan values on the rise in 2013.

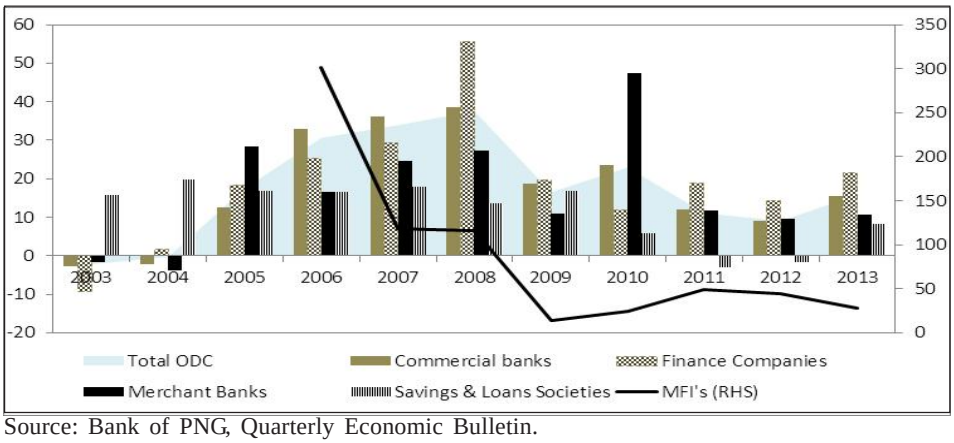
Figure 6
Private Sector Loans



Source: International Monetary Fund, Financial Access Survey.

Sources of loan value growth were mainly from commercial and merchant banks and finance companies during the period 2004-2009. Figure 7 shows the percentage change in the Kina value (in millions) of loans from each ODC. For commercial banks in particular, the period highlighted shows that although the growth in the number of loan accounts slowed, the associated values did not. This is similar to other ODCs with the exception of MFIs.

Figure 7
Percentage Change in Kina Value of Private Sector Loans by Other Depository Corporations



Source: Bank of PNG, Quarterly Economic Bulletin.

The decline of MFI loans is of great concern as considerable funding has been dedicated to microfinance expansion projects since 2002. From 2005-2010[8] an average of K7.1 million loans was made. However, the rate of downward growth in loan value was phenomenal. In 2006, from a high rate of almost 300% from 2005, loan growth rates for MFIs began to plummet and kept declining until 2009. Despite some recovery over the last three years with an average loan value of K40.7 million, marginal increases remain slow and thus total loans made by MFIs have plateaued in 2013.

Nevertheless, although growth in MFI loans can be viewed as a direct measure of financial inclusiveness, it is also important to note that the financial inclusion agenda has also been embraced by the three big commercial banks – BSP, ANZ and Westpac albeit only in recent years. This could be a reason why we see a decline in MFI loans and an increase in commercial bank loans. Unfortunately, this remains a statistical question and best left until sufficient data is available. Small as MFI loans are relative to other established forms of financing, efforts made through MEP1 and CEFI promises to be successful as more Papua New Guinean SMEs seek out opportunities presented from the expectations of economic growth.

In contrast, Table 5 shows that the percentage of adults with more than one loan is significantly low at 6.98%. This indicates that whilst private sector loan growth, which includes households, is increasing, this may not necessarily be true for the latter. Many factors influence loans demand, especially personal lending rates which have been excessively high at around 18-20%. Overall, the number of loan accounts and volume of loans have increased. This varied growth trend makes it difficult to predict a simple annual average growth path for total loans over the next three years, let alone a decade.

4.2 POS Indicators

Whilst the numbers of access points to financial services remain low relative to other South Pacific Island countries and SEACEN members, the rise in e-money accounts and the exponential growth of information and communication technology (ICT) has significant growth potential.

8. Data available from 2005 onwards.

Table 6 shows financial coverage infrastructure across PNG's four regions as of March 2014.

Table 6
Financial Coverage Infrastructure By Region as at March 2014

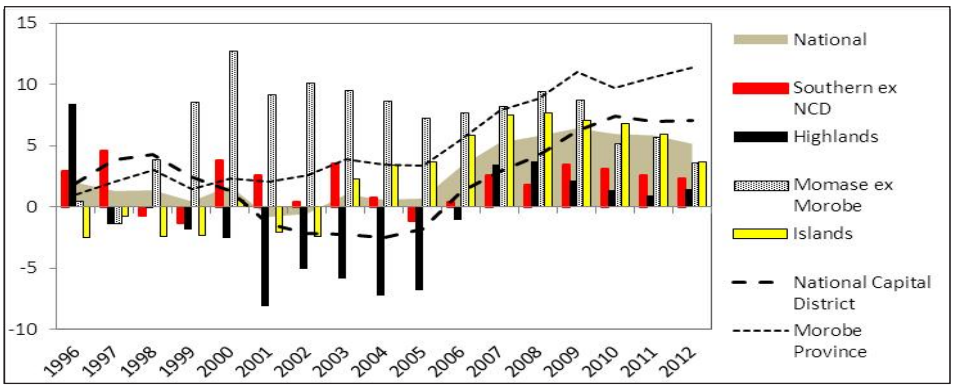
Region	Number of branches	Number of agents	Number of ATMs	Number of EFTPOS terminals
Highlands	49	92	70	2,209
Momase	38	49	69	2,846
Southern	50	66	165	4,856
Islands	40	56	61	2,277
National	177	263	365	12,188

Source: Bank of PNG, Microfinance Unit.

The Southern region, which is where the capital Port Moresby is located, has the highest number of financial coverage infrastructure. It has the highest number of Automatic Teller Machines (ATMs) and number of electronic funds transfer at point of sale (EFTPOS) terminals. All four regions have roughly the same number of bank branches but more agents in the Highlands region, reflecting the geographical constraints of this region compared to the other regions. In addition to lower economic activity, this factor can also explain the regions' low number of EFTPOS terminals relative to other regions. The Bank of PNG's employment index[9] which can be used to approximate economic activity in the absence of current GDP data shows that economic activity has slowed over the past five years with the Highlands region most affected (see Figure 8).

9. The BPNG conducts a quarterly employment survey on some 400 businesses in PNG. It is the most comprehensive survey of its kind in the country.

Figure 8
Employment Growth by Region (5 Year Moving Average) (%)



Source: Bank of Papua New Guinea, Quarterly Economic Bulletin.

Using Figure 8, we can postulate that an increase in employment growth should indicate growth in private sector economic activities and for these to be catalysts for demand in convenient means of financial infrastructure such as ATMs and EFTPOS terminals. This is anecdotally evident in the Momase and Southern regions and not surprising as these two regions are where the two bigger cities are located - Lae and Port Moresby respectively. However, even within region, the gap between rural and urban areas remains significantly large.

4.3 E-money Accounts

Perhaps the most promising means to encourage a financially inclusive population has been the use of ICT in banking and the combination of tailored products that make banking convenient, safe and easy to use. In PNG, mobile money has become an important factor in meeting the demand for cash security. Table 5 shows that in July 2013, the number of e-money accounts for mobile payments reached 386,000. However, recent BPNG data for March 2014 reveal a lower number of 208,089. Whilst this highlights the need for data reconciliation across different agencies – a key task for CEFI - it is indicative of the significant potential of mobile money.

Customers can now perform basic tasks such as checking their account balance, transferring funds within the same bank and for others without bank accounts, topping up mobile airtime credits and paying for electricity. In addition to the three banks; BSP (Wantok Moni), ANZ (goMoney) and Westpac's

telephone banking, other companies also engaging in mobile money transfer services include Digicel Financial Services Limited (Digicell Cellmoni), Post PNG (Salim Moni Kwik Mobile) and Nationwide Microbank (MiCash).

A recent Pacific Financial Inclusion Programme (PFIP) (2008) Report on the potential of building a mobile money network distribution in PNG concludes that neither technology nor the regulatory environment presents obstacles to the development of mobile money in PNG. It only needs a developer with resources and ability to link customers with major money suppliers. The potential is so great that the report claims electronic payments could directly reach over 500,000 households (p. 4). This could become a reality in the not-too-distant future but only if we can identify pockets of the population without mobile phones and design suitably appealing products accordingly. This is important because in recent years, mobile phone subscription rates have declined considerably.

At face value, it appears that steady increase in financial inclusiveness is reflected by growth in the number of deposit accounts, loan accounts and e-money accounts amongst others. However, in countries like India, some critics caution the interpretation of such numbers. Ashok Jha, former Finance Secretary of the Indian Government said in January 2014[10], that the comprehensiveness of statistics for financial services to low income households can be misleading. He gives the example where several deposit accounts are opened in one household but only one account is actively used for transactions. This highlights a crucial aspect of financial inclusion which relates to access versus frequency of use. Financial inclusion should not be driven by a desire to meet targets rather it should look at the quality and depth of financial inclusion. The warning should also be seriously considered in PNG's case and risk management procedures should be drafted especially given the significant sums of money involved.

5. Plan for the Next Decade

5.1 Issues and Challenges

Whilst these developments point towards a greater involvement for Papua New Guineans in the formal financial sector, there are still some significant hurdles to address. The most important of these are the regulatory aspects surrounding consumer protection. The ADB along with key stakeholders including

10. Cited from Economic Times India, 23 January 2014.

the Bank of PNG are in the process of formulating policies that will better guide the industry particularly with regard to the use of mobile phone banking services.

With the rapid expansion of mobile banking and electronic payments for access products as well as e-payments schemes offered by commercial banks, the biggest challenge is regulating this form of currency. Whilst the country does have a National Payments System Act 2013 and a National Information Communication & Technology (ICT) Policy, defining regulatory responsibilities are yet to be arranged.

In addition, significant management capacity constraints still exist in not just the small microfinance companies and credit unions but larger stakeholders as well. In a move to address this issue, the Bank of PNG approved an organisational restructure in early 2014 to include a new department – the Financial Systems and Development Department (FSDD). A key component of FSDD will be a unit solely responsible for financial inclusion. Recruitments for this department and the existing banking and superannuation and life insurance departments are currently underway.

A more challenging issue is how to meet the demand for cash security. High security threats, high operational costs and low population densities, particularly in rural areas, lower the incentives for additional growth in bank branches and agents. These risks make it unprofitable to business operations. Furthermore, on the demand side, geographical difficulties such as rugged terrains, swamps, fast flowing rivers makes it difficult for people to travel to urban centres to conduct transactions. Even when agents are nearby, the issue of trust and cash security prompts rural households to travel 2-3 days into an urban centre for banking business.

Finally and most important is the need for accurate data collection to validate actual outcomes against targets. Data should clearly indicate access as well as the frequency of use to verify a product's usefulness. Given the growing interest and resulting significant financial support of the financial inclusion agenda, it is imperative that proper management and accounting be established at the outset to report on progress and to ensure and safeguard against corrupt practices. The financial inclusion agenda is worth millions of US$ and the sooner monitoring and data management processes are in place, the better the accountability and effectiveness of the initiatives.

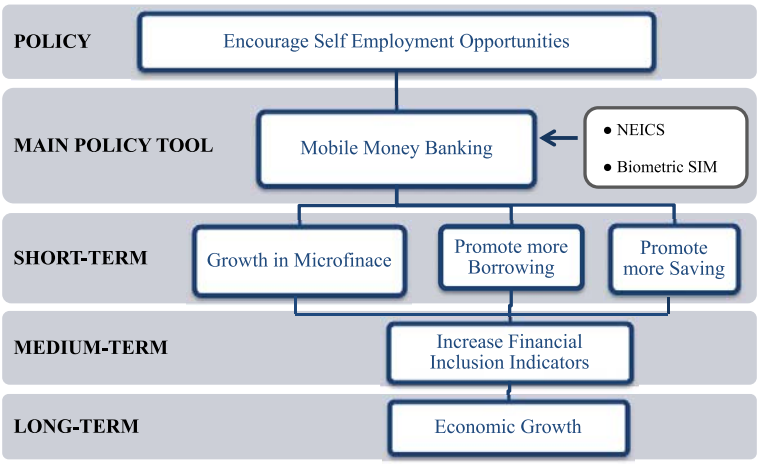
5.2 Policies, Targets and Strategies – The Case for Mobile Money Banking in Financial Inclusion for Greater Economic Growth

Given the rapid increase in mobile phone penetration rates and its potential in impacting economic growth as evidenced in some African economies (Adrianaivo and Kpodar, 2011) and particularly in Kenya (Ngugi et al., 2010), mobile money banking is the main policy tool that has the potential of reaching PNG's 85% unbanked, largely rural and illiterate population. Even though the LNG promises significant employment gains for PNG, sadly it will benefit a minority of university graduates with little employment creation for the urban unemployed or rural households. To make financial inclusion a reality, we need to create employment. In PNG, employment creation must be targeted to the latter groups of people. Thus in this context, the focus must be to create self-employment opportunities.

Figure 10 presents a flow chart of how this can be achieved. It is important to emphasise that every step in this process must be conducted with tailored gender-specific and age- appropriate financial literacy strategies.

The overriding policy should be to create an environment conducive for increasing financial inclusion over the next ten years. Specifically, this involves increasing informal sector employment through the promotion of self-employment opportunities and using mobile money banking (m-banking) as the main policy tool to achieve this. In the short-run, m-banking must have the impact of providing the essential link in access to and use of microfinance institutions; that is, the technology should make it easier and cost effective to conduct transactions, save and borrow. Over the medium-term, this should lead to higher financial inclusion indicators. More informal sector employment opportunities captured in the formal financial system should contribute to a higher economic growth path in the coming decade. These efforts are already underway with MEP2 and Financial Literacy Strategies. However, similar to Kenya's experience, the importance of mobile money banking will reach prominence as the country embarks on two massive citizen registration systems. These inputs and the flow diagrams' respective steps are described in detail below.

Figure 9
Flow Chart: Mobile Money Banking, Financial Inclusion & Economic Growth



5.2.1 Mobile Money Inputs

M-banking is viewed as the key to unlocking the potential for financial inclusiveness in PNG. This is because mobile phones have not only become a part of poor people's everyday lives, 'but also because of the potential for it to become a low cost access account or delivery channel for financial information, services and transactions thus facilitating innovations including micro-payments (m-payments), electronic money (e-money), and a banking channel (m-banking).' (Duncombe et al., 2009, p. 2)

However, for mobile banking to be successful, there needs to be a system which can easily identify users. The experience of M-PESA in Kenya introduced in 2007 is an excellent example of how mobile phone technology has transformed the economic landscape of rural Kenyan households. Ngugi et al. (2010) review some key factors that led to the phenomenal growth in mobile money banking services. The authors argue that the major factor driving Kenyans' adoption of mobile phone technology was the actual introduction of mobile money banking services (p. 1) and that the success of M-PESA was largely because there was no need for bureaucratic banking procedures. Safaricom, the telecommunication company responsible for M-PESA, only required national identity cards and phone numbers.

In PNG's case, efforts to introduce an identification system had begun in late 2012 when GoPNG in collaboration with Huawei Technologies introduced plans to register citizens. According to the Steering Committee, the outcome of the National Electronic Identity Card System (NEICS) will see every PNG citizen issued with an identity card. The US$76 million project is aimed at addressing the problem of unregistered citizens to be stored in a central database called the Population Information Management System[11] (PIMS) to support preparations for the 2017 national elections. PIMS will contain biographical details of every citizen similar to those found on a birth certificate.

In addition, Digicel PNG has already commenced registration of the country's first biometric Subscriber Identity Module (SIM) in August 2014. This is an initiative of the National Information and Communications Technology Authority (NICTA) as part of its proposed SIM registration regulations. It signals a move towards addressing unverified or unregistered prepaid mobile phone users. The new biometric registration system will register customers aged 13 years and above with users below 13 signed under their parents. Similar to the NEICS, the draft NICTA regulations will be submitted to the National Executive Council and require every customer to be identified by name, gender, date of birth, residential address, and origin. Customers' finger prints and photos will also be taken. The other two mobile network operators (MNOs), Citifon Ltd – the mobile service provider of Telikom PNG and BeMobile Ltd, have yet to confirm their involvement.

These two identification systems constitute the missing input for mobile money banking particularly for rural households and urban informal dwellers. Understandably, both systems are mammoth projects, each with similar problems. Most important is the issues of privacy of user information and trust. Therefore, a clear and concise communication strategy outlining the purpose of these systems is imperative. Whilst BSP has endeavoured to address identification problems by deploying staff to rural areas and engaging village chiefs and pastors to verify customers, ANZ and Westpac chose the least cost approach to engage local agents. Perhaps BSPs moves are risky given the new ID initiatives but then perhaps it may be a while yet until the two systems are full proof. Despite this, these systems can be used to sufficiently reduce the red tape that currently hinders the unbanked population from entering the formal financial system.

11. For more information refer to website:http://www.pngples.com/index.php/commentary-about-papua-new-guinea/263-the-national-id-system-the-entry-point.

5.3 Delivery Models

PNG's surge in mobile phone subscriptions occurred around 2007 and has since reduced significantly. Undoubtedly, the introduction of mobile phone banking will see a second wave of growth in the adoption of this technology. However, the main question is whether this mode of financial service delivery will impact on the unbankeds' decisions to borrow and save. Mobile phone banking per se does not equal financial inclusion; it is a means whereby we can create an environment conducive for individuals to make their own financial decisions. These decisions alone – to save and/or borrow within a formal setting - lead to financial inclusion. At this stage of financial development in PNG, these decisions are intrinsic to microfinance opportunities rather than traditional banks because of several factors.

In examining M-PESA's role, Ngugi et al. (2010) identifies four key factors that make traditional banking difficult in Kenya. These factors are also applicable to PNG: a largely illiterate population acts as the first barrier to opening traditional bank accounts; stringent bank regulation regarding identification for opening new accounts; a minimum balance requirement and, an unequal distribution of banking services between urban and rural areas with the former receiving the greater portion. Given this, what service delivery models of mobile banking should PNG take to emulate Kenya's success?

There are two main categories of m-banking models: a bank-based model and a non-bank based model.[12] In PNG, the delivery model of m-banking is largely a bank-based one-to-one arrangement where there is an exclusive arrangement between the bank and a mobile operator. Existing bank customers are typically the main target and customers conduct basic transactions using their mobile device. Over the past year, this customer focus has slowly begun to shift towards the rural sector. Armed with a Samsung tablet, BSP officers are opening new accounts in rural areas. Although this represents access to financial services, it does not necessarily mean that services are actually being used.

In contrast, in the non-bank model, a formal bank typically serves as a holder of deposits while the customer relationship is managed by a non-bank entity – usually a mobile operator. M-PESA is an example of this model in which customers do not have any contractual obligations with the regulated

12. Please see the following website for a good discussion on these two m-banking models and their different arrangements: https://itunews.itu.int/en/1664-Mobile-banking.note.aspx.

financial institution and conduct transactions at a retail establishment that serves as an agent for the service. Non-banked models generally target the unbanked and customer's money is recorded in a virtual account on the server of the non-bank entity. Two mechanisms are usually used to conduct transactions: a point of sale network and a phone based system. In a point of sale network, customers must visit a participating retail agent every time they want to conduct a transaction. In a phone-based system customers have to visit a retail agent in order to deposit cash or convert stored value back into cash.

BPS's efforts are commended but the sheer scale of operations is daunting and the costs involved in reaching geographically dispersed populations by traditional banking methods is very high and thus unsustainable. Consequently, using a variant of non-banked models may is feasible. The variant model, which is already being used, combines a formal bank and a mobile network operator. The functions and responsibilities of each are shown in Table 7.

Table 7
Non-Bank Model Variant: MNO/Bank Joint Venture

Churn reduction	Definite reduction in churn
Regulatory and licensing constraints	Banks generally facilitate regulatory compliance
Brand	MNO brand
Banking system	Some required
Distribution chain for cash handling	MNO and Bank
Transactional risk	Half of the risk
Cost revenue	High initial cost

Source: Bank of Papua New Guinea.

The added information from the ID systems would also address the ID issues faced. In an MNO/Bank Joint venture model, there would be a definite reduction in churn[13] and banks would typically facilitate regulatory compliance with the MNO retaining the branding rights of the product. The introduction of Digicel in 2007 has significantly improved telecommunication outreach and with Digicel's niche market of accessing uncharted geographical landscapes, the financial inclusion agenda has never looked brighter with m-banking. The biggest challenges now are to make a safe, reliable and trusted product. The distribution chain for cash handling would typically be carried out by both facilitators and both would share some transactional risk.

13. Churn rate is the percentage of subscribers to a service that discontinue their subscription. MNO's aim to reduce their churn rate.

5.4 Implementation Plan

Whilst the plans described in Section 2 and the main policy tool of m-banking described above provide a guide for financial inclusion going forward, it is important to reiterate that implementation of infrastructure that is needed to facilitate these plans take time. For financial inclusion in general, the six Working Groups, described in Section 2, whose job is to formulate strategic activities and plans, are only just being put in place. In addition, CEFI - the coordinating agency, has only just recently appointed its Director and establishing databases to capture and monitor the national Strategy. The road towards its full operationalisation is progressing well.

The general financial inclusion agenda has been implemented through a range of activities including MEP2, creation of additional micro banks specifically targeted at women and financial literacy workshops. The Bank of PNG has played a pivotal role in driving these initiatives and facilitating its regulation. However, whilst the Bank of PNG has conducted 2 financial inclusion expos beginning last year, the educational outreach so far has been limited to only major centres: Port Moresby and Kokopo. Moreover, the roll-out of the National Youth Savings Campaign, an initiative to foster a 'savings' attitude among young children and adults between the ages of 6-25 years, is slow to take form despite agreements among relevant stakeholders. Additionally, the Financial Capabilities Survey has just recently come under scrutiny and fallen behind schedule due to budget overruns. Despite these teething problems, the established MEP2 funded by the ADB is progressing well.

For m-banking in particular, the telecommunications infrastructure and ID systems are also at initial implementation stages but already give promise to a wider distribution of financial inclusion to the unbanked relative to traditional banking methods. Digicel Cellmoni has been an outstanding example of this outreach and is currently the only MNO authorised by the Bank of PNG to collect and transfer money through mobile phones. Digicel has more telecommunications coverage relative to the state owned Telikom PNG. To increase competition, BeMobile and Citifon must also develop business strategies to tap into this market although BeMobile subscribers can also access their accounts held at commercial banks. In this instance, the Independent Consumer & Competition Commission (ICCC) and BPNG are must ensure competition and monitor regulation of this new industry. Figure 9 shows a schematic diagram of an implementation plan which must be used simultaneously with education strategies.

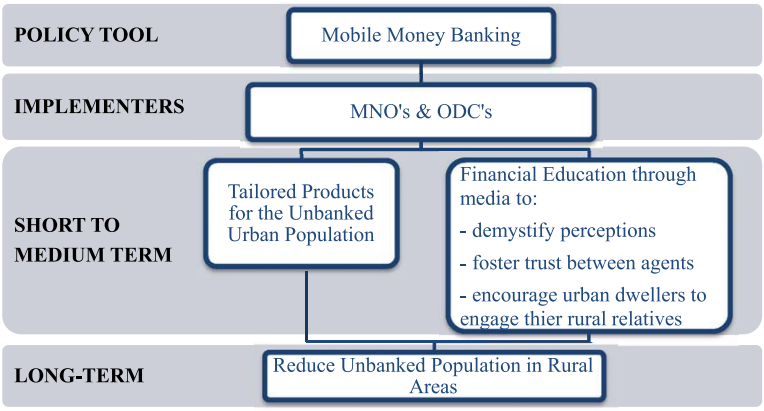
The policy tool is mobile money banking which has been taking place in urban areas as it is the urban workforce that supports much of their rural families. Education strategies to engage urban users should encourage them to engage their rural relatives to join. This may help to foster trust in the sense that if their relatives are using it then it is taken as relatively safe. This has been the case in PNG where the focus has been in urban/semi-urban areas.

Given telecommunications improvement, BSP has also made significant contributions in its TokMoni m-banking product into rural areas whilst the other two commercial banks' presence is slowly making inroads. However, despite technological advances and good plans, the role that customer's perceptions and the rate of adaptation of m-banking plays is a critical factor in determining the success of m-banking. For example, in PNG, there still appears to be a deep rooted religious fear of the electronic identification system as representing the 'mark of the beast.'[14] Media reports attest that people's incorrect beliefs about using microchips inserted into citizens as a means to identify them is symbolic of the prophesy in the Book of Revelations citing the mark of Satan the Devil. Furthermore, the Financial Surveys have indicated that issues relating to the trustworthiness of agents facilitating m-banking services are of great concern as customers are very secretive about their money holdings and thus are concerned about the safety of their funds and account details when held by agents.

In dealing with such issues, the government has raised public awareness of the ID systems through local media and BSP has also taken the initiative of issuing bank cards. Their research has shown that the possession of a bank card is associated with a Bank and is thus considered trustworthy.

14. http://www.emtv.com.pg/news-app/item/electronic-identification-not-the-biblical-mark-of-the-beast-666.

Figure 10
Implementation Plan



6. Conclusion

The financial inclusion agenda in PNG is financially and operationally challenging because of the country's geographical terrain, poor road networks and isolated pockets of remote communities. Traditional banking methods have had little impact for 85% of the population who are unbanked, living mainly in rural areas and largely engaged in the informal sector. In order to achieve economic growth over the next ten years, the overriding financial inclusion policy must be to prioritise the creation of self-employment opportunities. These opportunities are enhanced with microfinance initiatives and provide a chance for the unbanked to make financial choices about whether to spend, save and/or borrow.

PNG is a heavy cash-based economy and Papua New Guineans are very secretive about their monetary wealth. Thus, implementing methods of financial inclusion will largely depend on how well implementers can tailor products to address the need for financial services and most importantly, the issue of trust regarding cash security. Given the gains made in telecommunications infrastructure and subsequent high penetration rate of mobile technology, m-banking is highlighted as the main policy tool that stakeholders can effectively use to address the financial needs of the unbanked. The delivery model of MNO/

Bank joint venture allows for a more collaborative approach to m-banking and can create competition amongst implementers of this service particularly between banks. Competition between MNOs is perceived to be limited given that Digicel has set up most if not all the infrastructure. Nevertheless, the role of regulation is imperative in ensuring that consumers receive service at a price they can afford.

However m-banking per se is not equated to instant financial inclusion but only as a means to achieve it with the ultimate aim of economic growth. At every step of the implementation phase, gender specific financial education strategies must be developed to demystify some notions about technology and foster trust between agents. Only until greater understanding of the benefits that this entails will m-banking become a successful tool for financial inclusion initiatives for self-employment generating a potential for economic growth in PNG over the coming decade.

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