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# **National Payments System Annual** **Report 2010**

**Reserve Bank of Malawi**

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## 1.0 INTRODUCTION

Safe and efficient payment systems are essential for the well functioning of the financial system since they facilitate the smooth movement of money in the economy. Payment systems also contribute towards the overall economic development agenda of the country by enabling financial transactions to be completed safely and timely. Typically, they provide a conduit for effective transmission of monetary policy.

In Malawi, just like the world over, payment systems continue to witness rapid changes due to the developments in information and communication technologies, among others. The changes are either spearheaded by the central bank/government, the commercial banks and/or a concerted effort of the two. The principle objective of most of these changes has been to (i) reduce the usage of currency and other paper based payment instruments and (ii) facilitate safer and faster movement of funds in the economy.

In order to ensure a safe and efficient national payments system (NPS) the Reserve Bank of Malawi (RBM) continued to spearhead various reform activities in 2010. The activities among others included the elevation of the NPS Division into a fully fledged department, self-assessment of the Electronic Cheque Clearing House (ECCH) system, upgrading of the RTGS operating system from Windows 2000 server to Windows XP, stakeholder consultations on Mobile Payments System Guidelines, increased involvement of the NPS Department in financial stability issues, routine oversight activities and ongoing work on ATM and POS Interoperability Project.

Modernization of the NPS infrastructure is a continuous process. Nonetheless, unless otherwise stated, this report highlights developments during the period January to December 2010.

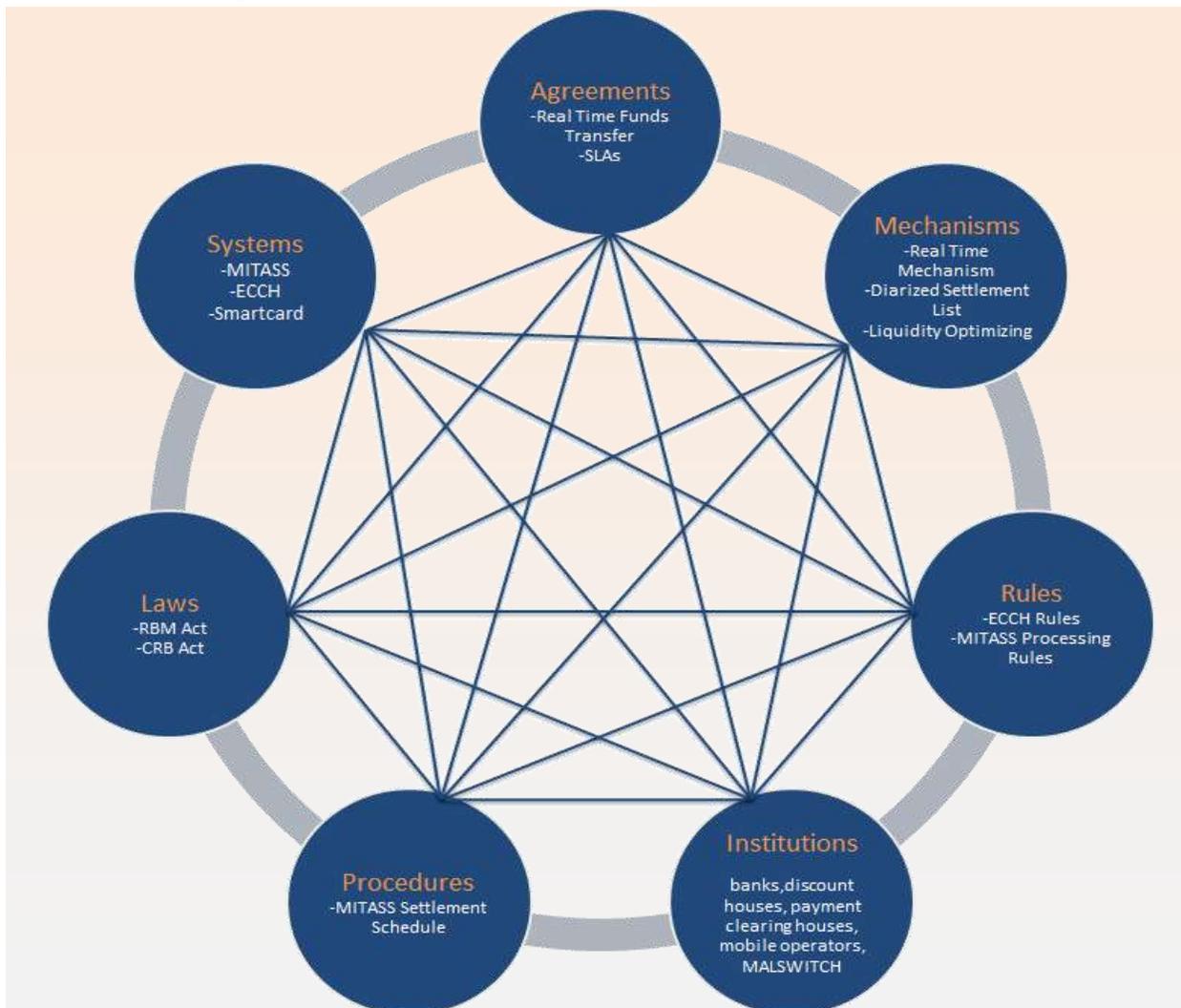
## 2.0 COMPONENTS OF THE PAYMENTS SYTEM INFRASTRUCTURE IN MALAWI

A national payments system (NPS) is normally defined in terms of the systems, mechanisms, institutions, agreements, procedures, rules and laws that come into play from the moment an end user, using a payment instrument, issues an instruction to pay another person or a business, through to the final interbank settlement of the

transaction in the books of the settlement bank and the resultant receipt of funds by the ultimate beneficiary.

Figure 1 below shows details of the various inter-related components of the payments infrastructure in Malawi.

Figure 1: Inter-related Components of the NPS Infrastructure in Malawi



### 3.0 CASH BASED VERSUS NON-CASH BASED PAYMENT ARRANGEMENTS

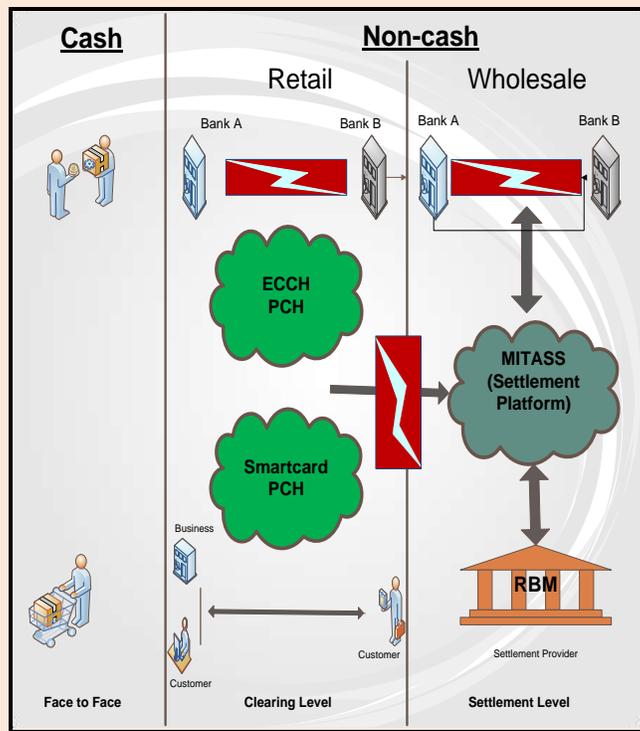
The payments landscape in Malawi is categorised into the cash and non-cash based payment arrangements.

As illustrated by *Figure 2*, cash based payment arrangements are characterised by face-to-face interaction between transacting parties using cash as a payment instrument. Although settlement is instant, the cash payment stream can become risky and cumbersome when high value transactions are involved.

On the other hand, non-cash based payment systems do not, in most cases, require face-to-face interaction between economic agents in order to complete a transaction. Furthermore, non-cash based payment arrangements often times require established infrastructure and proper mechanisms for clearing and settlement of transactions. Traditionally, non-cash payment systems are classified into either retail or high value payment systems depending on the value of transactions they process. In Malawi, the Electronic Cheque Clearing House (ECCH) and the Smartcard scheme are classified as retail payment systems while the Malawi Interbank Transfers and Settlement System (MITASS) is a high value payment system.

In order to attain safety and efficiency of the NPS, the RBM has designed and implemented policies and guidelines meant to promote usage of non-cash/electronic based payment systems.

*Figure 2: Topography of the NPS Infrastructure in Malawi*



### 3.1 Developments in Non-Cash Based Payment Systems

### 3.2 The Malawi Interbank Funds Transfer and Settlement System (MITASS)

Commissioned on 19<sup>th</sup> March 2002, MITASS processes an average transactional value of K2, 134.2 billion annually since its inception. The system is credit-push based hence suitable for settlement of high value and time critical interbank transactions. On this account, MITASS has been designated as a systemically important payment system (SIPS).

In 2010 MITASS registered a total throughput value of K4, 252.96 billion translating into a 10.13% increase on the amount recorded in 2009. The daily turnover during the period under review amounted to K17.1 billion. *Table 1* show that on average it took MITASS approximately 33 business days to process an equivalent of Malawi's Gross Domestic Product (GDP) for 2010.<sup>1</sup> It can further be observed that the number of days it takes MITASS to process an equivalent of Malawi's GDP has been on the decrease since 2006.

#### 3.2.1 Single Funds Settlement Instructions (FSIs) vs. Batched (Cheque and Smartcards) Transactions

*Figure 3* shows that a total value of K3, 350 billion, representing 78.8% of MITASS throughput value for 2010, was settled in real time through single FSIs. Conversely, the total value of batched transactions (cheques and smartcards) accounted for 21.2% of MITASS throughput. In 2009, FSIs accounted for 78.5% of the total throughput value while batched transactions accounted for 21.5%. This shows that the value of FSIs marginally rose by 0.3 percentage points in 2010.

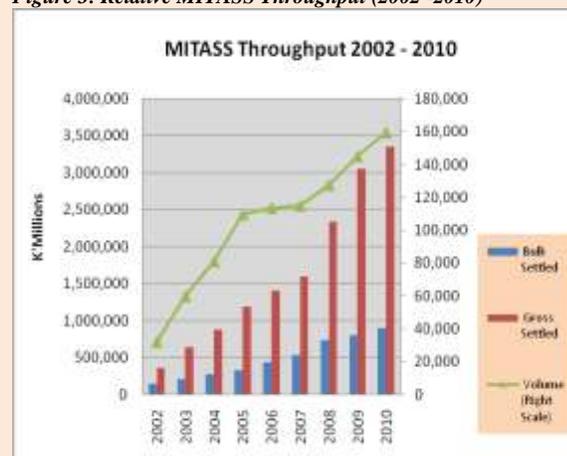
*According to the BIS (2003), a payment system is considered SIPS if disruptions within it could trigger or transmit further disruptions amongst participants or systemic disruptions in the financial area more widely.*

**Table 1: Daily MITASS Throughput (K 'million)**

Year	Average Daily Throughput	Annual GDP	Turnover (days)
2010	17080	558427	33
2009	15498	524551	34
2008	12224	487765	40
2007	8581	448370	52
2006	7516	423946	56

Source: RBM's Research & Statistics Dept; Banking & National Payment Systems Dept

**Figure 3: Relative MITASS Throughput (2002 -2010)**



Source: RBM – NPS Department

<sup>1</sup> RBM's Research & Statistics Dept estimated the GDP (at factor cost) for 2010 to be at K558, 427 million.

### **3.2.2 Volume of Transactions**

Total number of instructions processed in MITASS in 2010 amounted to 159, 625 representing a 10.12% increase on the amount recorded in 2009 (refer to *Figure 3* above). The increased volume of transactions is a reflection of greater utilisation from participants following MITASS users training facilitated by the RBM among others.

## 4.0 PAYMENT SYSTEM AND FINANCIAL STABILITY

### 4.1 Role of Payment Systems in Financial Stability

Financial instability such as bank failures, intense asset-price volatility, liquidity problems and systemic risk primarily manifest themselves in the payment and settlement system. RBM's interest in payment systems therefore stems not only from the need to create an orderly, efficient and secure transfer of financial values in the economy, but also on the need to minimize the contagion effect of liquidity and credit risks inherent in the payments and settlement arrangement. If not well managed, both liquidity and credit risks have the potential of transmitting systemic shocks across the entire financial sector. To the extent that interbank settlement takes place in commercial banks' accounts maintained at the RBM, the demand for reserves and credit to cover shortfalls in settlement obligations of commercial banks becomes a very important element in containing financial crises emanating from settlement failure.

### 4.2 Mitigation of Liquidity and Credit Risks in MITASS

Since the inception of MITASS in 2002, the RBM has instituted a number of policies and guidelines aimed at mitigating liquidity and credit risks in the settlement system. These policies continued to be applied during the year under review.

Being a credit-push based system, the possibility of credit risk emanating in MITASS is almost non-existent. Credit risk is also mitigated by real time transaction processing and once settlement is effected, it becomes final and irrevocable. On the other hand, measures to contain liquidity risk include, among others, use of both intra and inter-day collateralised borrowing by system participants as well as early settlement of RBM payment obligations.

*Liquidity risk is defined by the BIS (2003) as the risk that a counterparty (or participant in a settlement system) will not settle an obligation for full value when due. It does not, however, imply insolvency.*

*Credit risk in MITASS refers to an instance whereby a participant in the system is not able to settle an obligation for full value, either when due or at any time thereafter. This is a possible case of insolvency.*

### 4.3 Operational Risks in MITASS

#### 4.3.1 Availability and reliability of MITASS

System availability is one of the indicators of the extent to which operational risk is managed by the system operator. Being a systemically important payment system, the RBM strives to maintain a high level of MITASS availability throughout the business day. The targeted MITASS uptime is 96%.

RBM outsourced the technical management of MITASS as well as the virtual private network (VPN) on which the settlement system runs to the Malawi Switch Centre (MALSWITCH).

On a normal business day, MITASS is open for transaction processing up to a total of 9 hours from 08:00 to 17:00 hours. *Figure 4* shows that during the period under review, MITASS uptime failed to reach the targeted 96% during the months of January (51.9%) and April (86.7%) mainly on account of network disruptions. The uptime for the other ten months was however beyond the targeted 96%.

#### 4.3.2 Upgrade of the MITASS Operating System

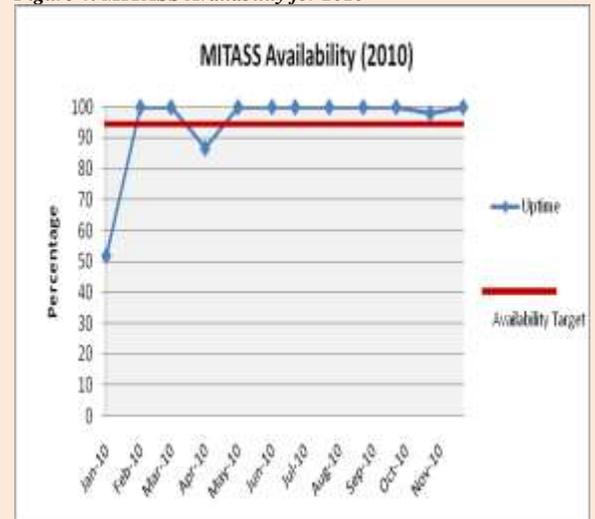
RBM in conjunction with the technical managers of MITASS (i.e. MALSWITCH) upgraded the RTGS operating system from Windows 2000 server to Windows XP.

Efforts are also underway to migrate MITASS from MALSWITCH infrastructure (the VPN) onto SWIFT platform. Consultancy work on the feasibility of running MITASS on SWIFT Platform which included assessment of the infrastructural requirements for connectivity at all participating banks has since been carried out.

*The BIS defines operational risk in payment systems as 'the risk of direct or indirect loss resulting from inadequate or failed internal processes, people and systems or from external events.*

*Operational risk in MITASS and related infrastructure can result from hardware and software failures, human errors or fraud, telecommunications infrastructure failures or even external events such as power outages, pandemics, sabotage or natural disasters.*

**Figure 4: MITASS Availability for 2010**



Source: RBM – NPS Department

## 5.0 NPS OVERSIGHT

### 5.1 Self Assessment of the ECCH Compliance to BIS Core Principles

As part of its wider oversight responsibilities, the RBM facilitated a self assessment exercise of the ECCH against the BIS Core Principles for Systemically Important Payment Systems (CPSIPS) in August 2010. The self-assessment exercise aimed at identifying risks in the ECCH system with a view to instituting mitigating measures.

Prior to the actual assessment of the ECCH, RBM conducted a day-long workshop on the CPSIPS. The workshop was attended by representatives from the banking industry as well as other payment system service providers such as MALSWITCH.

Results of the self-assessment exercise indicated that no serious risks exist albeit the need for introducing a value cap on cheque transactions. See *Table 2* for brief description of assessment results and *Appendix A* for description of assessment ranks.

### 5.2 Other Oversight Activities

Besides the ECCH Self Assessment exercise, RBM continued to carry out other routine onsite and offsite oversight activities aimed at mitigating systemic risk arising from credit, liquidity, legal and operational shortfalls in the national payments system. As outlined in the 2008 NPS Oversight Policy Framework, the oversight activities extended to participants in MITASS and ECCH system as well as to MALSWITCH in its capacity as technical administrators of the two systems.

*Table 2: Results of the ECCH self Assessment*

	Brief Description of Core Principle	Assessment
i.	Legal Basis	Yellow
ii.	Understanding Financial Risks	Yellow
iii.	Management of financial risks	Blue
iv.	Prompt final settlement	Yellow
v.	Settlement in multilateral netting systems	Red
vi.	Settlement Asset	Green
vii.	Security and operational reliability	Yellow
viii.	Efficiency	Green
ix.	Access Criteria	Green
x.	Governance	Green
<b>KEY</b>		
	Yellow	Red
	Partly observed	Non - observed
	Blue	Green
	Partly observed	Observed

## 6.0 RETAIL/ELECTRONIC PAYMENTS DEVELOPMENTS

### 6.1 Mobile Payments Services

In a bid to help Government attain financial inclusion, the RBM has opened up for non-bank based mobile payment solutions to be rolled out on the market. The introduction of mobile network operators (MNOs) inspired payments solutions will complement mobile payments schemes already rolled out by commercial banks. While bank-led mobile payments solutions target the banked clients, the MNO-led solutions will primarily target the unbanked segment of the population.

In order to ensure a well coordinated roll out of MNO-led payment solutions, the RBM issued guidelines on mobile payments after consulting the relevant stakeholders. The

RBM, among others, consulted commercial banks, MNOs, Financial Intelligence Unit (FIU) and the Malawi Communications and Regulatory Authority (MACRA).

As of December 2010, only one MNO (Airtel Malawi) had submitted an application to roll out a mobile payments solution. Airtel Malawi is currently piloting its product.

*Table 3* briefly summarises requirements contained in the guidelines which potential applicants must meet for RBM's consideration:

*Table 3: Requirements for Operation of Non-Bank Based Mobile Payments Services*

i.	Certificate of Incorporation as a registered company under the laws of Malawi
ii.	A copy of license to operate mobile telecommunications services from Malawi Communications Regulatory Authority (MACRA) or any other body with authority to grant such licenses in Malawi
iii.	Description of the mobile financial payment service and its impact on the mobile payment system provider's business strategy
iv.	Conditions for recruiting network agents and standard copy of the service level agreement
v.	A technical proposal, including complete system architecture, of the proposed mobile financial service including an indication of interoperability of the proposed solution
vi.	Proof of availability of the institution's ICT security policies including contingency arrangements and disaster recovery plans for the proposed mobile payment service
vii.	Description of customer protection procedures such as customer data and financial records
viii.	Identity and qualifications of directors and senior managers
ix.	Any other information the RBM may deem relevant in vetting the application

## 7.0 ACTIVITIES OF THE NATIONAL PAYMENTS COUNCIL (NPC)

### 7.1 NPC Projects

RBM continued to collaborate with the NPC in implementing several projects aimed at further modernising the country's NPS infrastructure. Such efforts were further supported by the Malawi Government (through the Ministry of Finance) and the Bankers Association of Malawi (BAM).

*Table 4* summarises the status of notable reform activities undertaken by the RBM in conjunction with the NPC and other implementing partners of NPS projects during the year under review:

*Table 4: Status of selected NPC Projects earmarked for 2010*

	Project / Activity	Status
i.	ATM and POS Interoperability Project	The Project had stalled for a greater part of the year owing to unresolved issues of contracting party to the national switch. However, there are proposals for the interoperable switch to be owned by BAM. <i>Ceteris Paribus</i> , the project is expected to be concluded by the end of 2012.
ii.	Electronic Funds Transfers (EFT) and other retail projects	The slow progress on the ATM and POS Interoperability Project has led to delays in the take-off of other proposed retail payments projects such as Real Time Credit (RTC) & Automated Debit Order System (ADOS). Undertaking of the latter two projects hugely depends on the successful implementation of the ATM and POS Interoperability Project.
iii.	Credit Reference Bureau (CRB) Act	The law governing the operations of credit reference bureaus in the country was passed by Parliament in early 2010. However, the Credit Reference Bureau is yet to assume full operations due to other logistical issues.
iv.	NPS Act	RBM continued to consult the relevant stakeholders on the draft NPS Bill. It is expected that the Bill will be tabled and debated upon in Parliament in early 2012.

## 8.0 INTERNATIONAL COOPERATION ON NATIONAL PAYMENTS SYSTEM

During the period under review, RBM cooperated with other renowned foreign bodies dealing with payment systems issues such as IMF, World Bank, Norges Bank, Bank of Tanzania, Central Bank of Kenya, SADC Payments System Project Team, and Macro Economic and Financial Management Institute for Eastern and Southern Africa (MEFMI) among others. Such cooperation is in line with the BIS **Responsibility D** which states that *the central bank, in promoting payment system safety and efficiency through the core principles, should cooperate with other central banks and with any other relevant domestic or foreign authorities.*

In May 2010, the RBM in conjunction with the Norges Bank working under the IMF Technical Cooperation (TC) published an Occasional Paper on Malawi's Payments System. The paper, among others, outlined NPS developments following recommendations made from various TC missions by Norges Bank officials. During the same month of May 2010, Norges Bank sponsored three RBM officials on a study tour to the central banks of Kenya and Tanzania. The study tours were aimed at, among others, exposing the officers to payment systems reform developments and the NPS vision and strategies of the two countries. Furthermore, RBM continued to sponsor its members of staff to participate in various payment systems related capacity building activities facilitated by SADC, MEFMI and the European Central Bank.

RBM also continued to work with the Norges Bank on a number of NPS related exercises. The Norges Bank TC missions provided significant input on the draft NPS Bill and also involved the NPS Department in Financial Stability issues (including stress testing workshops and production of financial stability reports).

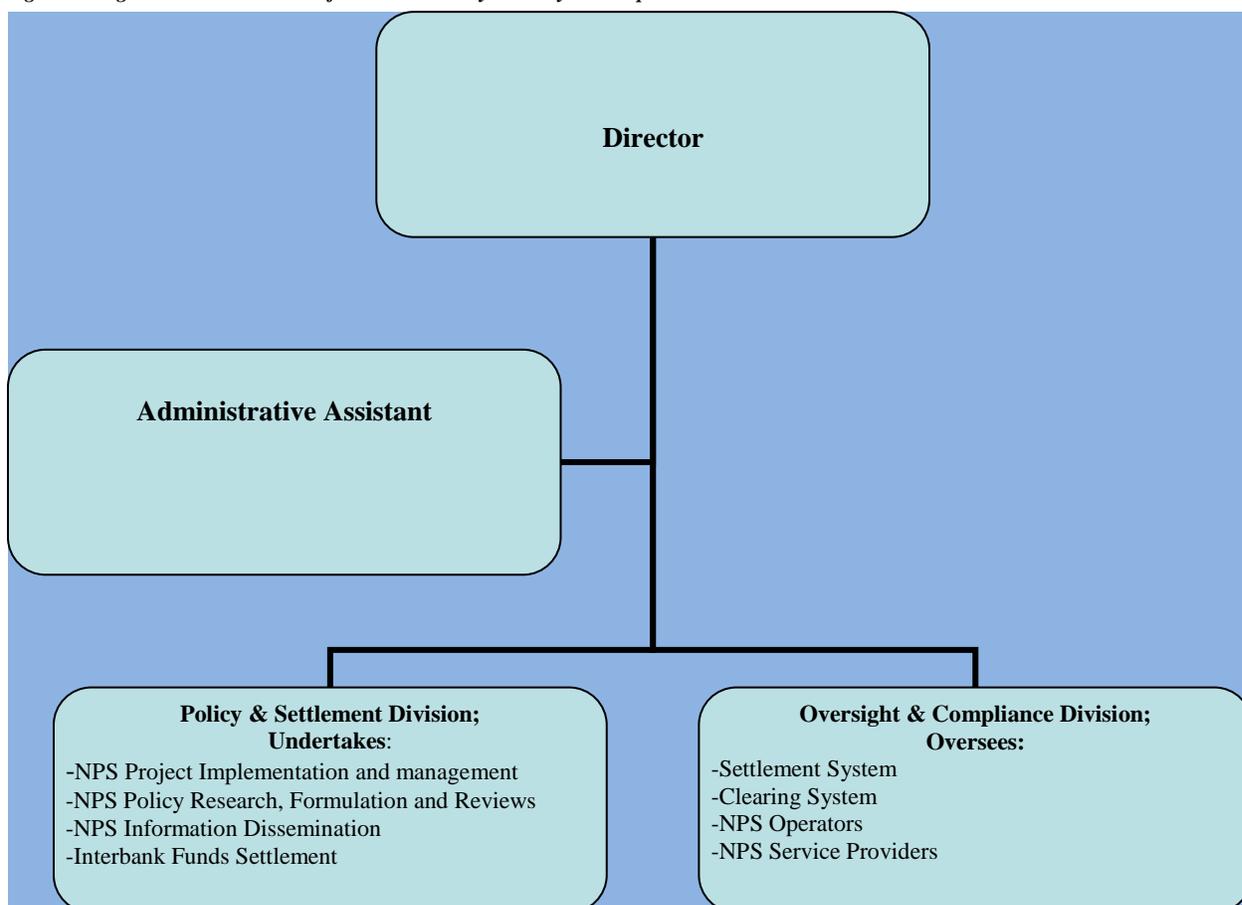
## 9.0 OTHER OPERATIONAL DEVELOPMENTS

### Restructuring of the Payments System Unit at RBM

In order to effectively and efficiently carry out its payments system reform responsibilities, the RBM upgraded its National Payments System Division into a full department in 2010. The new department, headed by a Director has two divisions namely Oversight & Compliance and NPS Policy & Settlement which are both headed by Managers. *Inter alia*, the Oversight & Compliance Division is responsible for overseeing the country's

clearing and settlement systems including other payment systems related service providers. The NPS Policy & Settlement Division, on the other hand, is responsible for the implementation and management of NPS Projects, NPS Policy research, information dissemination and management of MITASS. *Figure 5* below highlights the organisational structure of the National Payments (NPS) Department.

*Figure 5: Organisational Structure of the National Payments System Department in Malawi*



## **10.0 CONCLUSION**

RBM continued to spearhead reform activities in the NPS infrastructure. Though success was attained in certain reform activities such as restructuring of the payment Systems division into a full department, upgrading of the RTGS operating system from Windows 2000 server to Windows XP, the enactment of the Credit Reference Bureau (CRB) Act and the self-assessment of ECCH system, progress on other reform initiatives such as ATM & POS

Interoperability project has been slow. However, management of the outstanding issues will be addressed under the World Bank funded Financial Sector Technical Assistance Project (FSTAP). The RBM shall continue to cooperate with relevant domestic and foreign stakeholders such as the NPC, BAM, Malawi Government, SADC, Norges Bank and the IMF. This will ensure that Malawi's NPS is safe, efficient and in line with internationally accepted best practices.

***Appendix A: Criteria for Ranking ECCH Self Assessment Observations***

<b>Rank</b>	<b>Description</b>
Observed	When all criteria are met without significant shortcomings
Broadly observed	When only minor shortcomings, not giving rise to major concerns, are noted. Usually remedies are found and implementation plan for the same is deemed realistic within a stated time period.
Partly observed	When noted shortcomings are doubtful to be implemented, hence compromising compliance with a particular core principle, within a reasonable time period
Not observed	When noted shortcomings are of major concern and remedies cannot be implemented thereby implying that the particular core principle cannot be complied with.
Not applicable	When a core principle is irrelevant to a particular system due to structural or some other institutional conditions