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FOREWORD

In 1996 the Bank of Tanzania decided to re-examine the country’s payment systems. The main objective was to modernise and make the systems compatible with payment and settlement arrangements of countries that carry out payment transactions with Tanzania. Tanzania thus joined a bandwagon of countries experiencing unprecedented changes in their payment systems. These changes are mainly a result of liberalisation of financial systems, improvements in technology and rapid growth and innovations in payment and settlement arrangements.

In recent years there have been many developments in settlement systems including real-time gross settlements, securities settlements, deferred net settlements, foreign exchange settlements, and settlement of exchange-traded derivatives. Alongside settlement developments, payment instruments and products including smart cards, and electronic money as well as value transfer systems have undergone significant changes.

In attempting to meet payment and settlement needs of the country in such changing environment it is important to fully describe the future payment system that Tanzania plans to create for Tanzanians. It is with this objective in mind that the “Tanzanian National Payment Systems Vision and Strategic Framework” has been developed and compiled. The planned payment system is expected to be efficient, customer centered and fully addressing domestic, regional and international payment needs. It has to be modern but fitting Tanzanian environments.

A conceptual description of such a system addresses appropriate instruments, transfer systems, institutional setting, infrastructural arrangements, clearing and switching systems that need to be in place, and the strategic approach to be deployed for developing the system. This document describes payment instruments that need to be developed. It describes clearing and settlement systems capable of handling all instruments and all types of instructions, paper based payment instructions, electronic based instructions and card based instructions in their retail, wholesale or netted form that meet the vision specifications. The document further describes the assumptions and principles on the basis of which the system will be developed. Finally this document describes the legal framework and infrastructure required to support the payment system as described by the vision.

The document is a useful tool for those intending to develop payment products such as cards or payment services such as switching and settlement systems. It is also an important document to the users and service providers of such systems and products. They need to know how the systems operate and need to be aware of risks involved and how such risks can be managed. It is also an important document for all payment systems stakeholders who can be affected one way or other by malfunctioning of the systems.

The contents of this document have been discussed and reviewed at various fora in order to achieve acceptance and ownership by the stakeholders. The contents have also been scrutinised by consultants and experts from international financial institutions.
Despite the extensive knowledge of the experts and the authors of the document, the task of preparing a document that covers and addresses issues relevant to such a varied clientele and acceptable to all, proved to be quite a daunting exercise. As a result, the document has taken longer to produce than expected.

Finally it is important to note that the development of a “Payment Systems Vision and Strategic Framework” is the second phase of the “Strategic Approach to the Development of a Payment System”, an approach which Tanzania adopted together with other member countries of the SADC and East Africa Community Regions. The approach constitutes four phases, viz. the “Situational Analysis or Stocktaking Phase”, the “Vision and Strategic Framework Phase”, the “Physical Design Phase” and the “Implementation Phase”. All four phases depend on each other since one phase’s elements constitute important inputs of the phase that follows. Tanzania completed the first phase in January 1998, and it is the findings in that phase that formed the basis of this second phase. A plan to embark on the third phase is now in place. Its success will depend on the “Vision and Strategic Framework”.

We are grateful to all who participated in conferences and meetings that generated ideas contained in both the “Stocktaking Document” and this document. We also thank those who responded to our questionnaires and letters. Their information provided an important database for the conceptualisation of payment needs of Tanzania. We hope they will come on board during our third phase.

Daudi T.S. Ballali
GOVERNOR
BANK OF TANZANIA
ACKNOWLEDGEMENTS

Central Banks including the Bank of Tanzania (BOT) enjoy an element of trust and respect from their main partners. It is in this light that BOT received a tremendous assistance in the compilation of the “National Payment Systems Vision and Strategic Framework” document. The Bank therefore first and foremost is grateful to the 60 or so Stakeholder Organisations who are the target group of the payment systems modernisation exercise. We are particularly appreciative of the contributions made by the Chief Executives of the Stakeholder Organisations in their capacity as members of the “National Payment Systems Council” (NPSC). We would also like to thank the “Core Strategy Formulation Team” selected from the Stakeholder Organisations that spent many and long hours examining and critiquing the first draft in March 1999 and later re-examined the final draft for acceptance by NPS Council. The list of names of the persons involved in the above exercise is appended to this document.

We are grateful to the “Editorial Team” consisting of Mr. Isaack H. Kilato, Mr. Cashmir J. Nyoni, Mr. Edward D. Makwaia, Mr. Leonard Kisarika, Mr. Bernard Dadi, Mr. Seronga Wangwe all from the Bank of Tanzania, and Mr. Robert Mathu from the Dar es Salaam Stock Exchange (DSE) for its work in editing the document. We are equally grateful to Mrs. Ashura Seif who did all the typing and administrative arrangements.

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Lastly but not least, this document could not be produced without total commitment and untiring devotion of all the members of the Directorate of National Payment Systems in the Bank of Tanzania. These in addition to those mentioned as members of the Editorial Team, include Mrs. Generosa Tabaro, Mr. Mukirya D. Nyanduga, Mr. Daniel A. Mvamba, Mr. Ali A. Liyau and Ms Flora Mchomvu. The support given to the Directorate by two seasoned bankers, Mr. Elijah Y. Ayugi and Mr. Nonnious L. Mapogha were also significant in the whole exercise.

The Bank of Tanzania wishes to express its gratitude to all who have participated in the payment system modernisation project and hopes that it will receive further similar support and cooperation. The Project Team however, assumes responsibility for all inadequacies of the document.

Isaack H. Kilato
Director, National Payment Systems
Bank of Tanzania
NPS MISSION STATEMENT

“To provide an efficient customer centered payment system designed to meet the payment needs of the country”.
EXECUTIVE SUMMARY

1. Introduction

This document provides an overview of the Vision for the Tanzania National Payment System (NPS) in the year 2005.

2. Vision and Strategic Framework

The Tanzania National Payment System mission is to “provide an efficient customer centered payment system designed to meet the payment needs of the country”. The vision is to establish a modern payment system by the year 2005. Specifically, the system should be with minimum risks, reliable, secure, convenient, accessible, cost effective, and integrated.

The “Vision” when considered against the background of the Tanzanian realities is ambitious, but desirable, and therefore achievable if properly programmed and managed.

3. The Current Payment Products and Services

The current payment environment is characterised by:

i) Delays and hence floats in the clearing systems,

ii) Fraudulent activities due to weaknesses in processing and internal controls.

iii) Absence of online settlement position monitoring systems

iv) Inadequate risk management measures,

v) Inadequate of supportive institutional structures,

vi) Inadequate laws governing payment, clearing and settlement systems,

vii) Inefficient infrastructure to support the payment system,

viii) Low level of automation in the payment systems,

ix) Limited payment products in the banking industry and cash as the dominant payment instrument,

x) Inadequate banking coverage of the population,

xi) Emerging financial markets, and

xii) Inadequate knowledge and expertise in payment system issues.

In view of these characteristics there is a need to design strategies to improve the payment environment in Tanzania.

4. NPS Conceptual Overview

The vision and strategic framework provides an overview of the NPS conceptual design. It is based on a two-track strategic approach, which focuses on both solving the immediate unmet pressing needs and comprehensive long-term improvement.

The design is guided by fundamental principles as building blocks on which the National Payment System will be constructed.

The design must also consider the current and future payment needs of the country but also take advantage of the experiences of advanced payment systems.
The major highlights of the design includes:

(i) **Payment Instruments**

Payments will be initiated either in paper, electronic or card form with adequate features for verification. Instruments will be designed for small value payments processed in bulk for both recurring and non-recurring retail payments. Instruments will also be designed for time sensitive, high value payment transfers using secure electronic credit transfer arrangements.

(ii) **Clearing and Settlement Systems.**

Three core clearing and settlement systems are suggested, viz.

(a) Paper Based Transfer System, for processing high volume, small value paper based instruments,

(b) Electronic Based Transfer System for processing small to medium bulk electronic payments,

(c) Large Value Transfer System for processing large value and time critical payments.

There will also be other systems to facilitate authorisation, clearing and settlement of card-based transactions, cross-border high volume, small value transfers and Internet based and electronic commerce transactions.

(iii) **Risk Management Measures and Costing**

Risk control mechanisms will be enhanced in order to secure the proposed systems. Key mechanisms will include pre-funding of settlement accounts and introduction of collateralisation of intra-day credit facilities tied to settlement systems. In minimising risk cost will be taken in consideration.

Other costs will include investment, controls and monitoring expenses, for which stakeholders will institute cost recovery measures.

(iv) **Legal-Regulatory Framework**

Several of the existing legislation will require amendment while others will be enacted in order to facilitate smooth implementation of the NPS.

(v) **Roles and Responsibilities**

The conceptual overview assigns roles and responsibilities to various actors. The National Payment Systems Council is responsible for policy matters. The council has four specialized committee, viz. Standards, Operations, Automations and Legal committees. The NPS project is administered by Bank of Tanzania while commercial banks, non-bank financial institution and infrastructure provider have been assigned specific responsibilities as key stakeholders and players.

(vi) **Implementation Plan**
The NPS development project will be undertaken in phases with a migration plan that has both short and long term improvement measures. The short-term measures address immediate needs while long term measures address major structural and capacity development issues.

5. Conclusion

The development of a country’s payment system is a demanding and challenging task. Cognisance of various limitations including scarcity of resources, the NPS Project Team is confident that it will, to a satisfactory degree, achieve the objectives set out in this vision document, by the year 2005. Strategies other than those identified in this document will be developed as the implementation of the project progresses. The aim is to successfully carry out the mission of providing an efficient customer centred payment system designed to meet the payment needs of the country.

Through collaborative efforts, co-operation, mutual understanding, total commitment, and timely implementation of decisions by all stakeholders, a sound and robust the National Payment System will be in place as planned.
Chapter One: Introduction

CHAPTER ONE
INTRODUCTION

1 Purpose of the Document
This document provides an overview of the Vision for the Tanzania National Payment System (NPS) in the year 2005 as conceived and developed by the NPS stakeholders. The document proposes strategies to achieve the vision, and describes conceptual framework and support mechanisms necessary for the system.

2 Overview
The Tanzania National Payment System Vision and Strategic Framework is based on existing Tanzanian realities in terms of the banking, social, physical and technological infrastructure as observed during the Stocktaking and Situational Analysis Exercise\(^1\). The vision also takes into account envisaged future developments and market requirements. In some cases components of payment systems from other developed countries have been customized to fit the Tanzanian environment.

The Vision and Strategic Framework describes NPS concepts and its objectives. It also identifies critical success factors, design guiding principles and goes on to outline an overview of the conceptual design. The conceptual design provides details related to payment instruments, clearing and settlement systems.

3 Description of the National Payment System
Payment Systems cover the whole process of initiating a payment transaction, processing of the transaction right through to settlement finality. The National Payment System therefore, is defined as consisting of a defined group of institutions, and a set of instruments and agreed procedures used to effect payment transactions in the process of ensuring the circulation of money within a given geographical area, usually a country. A country’s payment system is viewed as the infrastructure that provides the economy with the highways for processing the payment resulting from various economic activities\(^2\).

4 Components of the National Payment System
The National Payment System comprises of the following components:

(i) The Supervisor (usually the Central Bank);
(ii) Settlement agent of the payment systems (central bank is usually the settlement agent);
(iii) The Central Bank as user and sometimes owner and operator;
(iv) Commercial banks facilitating payment and clearing processes;
(v) Other financial institutions;
(vi) Payment instruments and processing paths;
(vii) Payment System service providers;
(viii) Standards, Laws, Rules, Regulations, Agreements Codes, and Contracts governing payment systems;
(ix) Users of the payment system products who include payment initiators and receivers;
(x) Technological and physical infrastructure; and
(xi) Systems of regional groupings.

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\(^1\) The Stocktaking and Situational Analysis was undertaken and a report produced in January 1998. The document consists of information and data regarding the existing payment systems in the country.

5 NPS Mission Statement

The National Payment System mission is “to provide an efficient customer centered payment system designed to meet the payment needs of the country”.

6 NPS Project Objectives

The NPS mission is designed to facilitate smooth functioning of payment transactions in Tanzania. Specifically it aims to:

(i) Minimise risks in payment, clearing and settlement systems and achieve reliable, secure, convenient, cost effective, universal and integrated systems to meet the needs of the economy;
(ii) Improve macroeconomic management capabilities of Bank of Tanzania by supplying timely and accurate information on stock and flow of funds;
(iii) Facilitate a fast exchange and settlement of funds and securities in order to reduce floats and improve efficiency of circulation and transmission of funds;
(iv) Expand flexibly in the long-term and allow the adoption of, and migration to, modern modes of payment mechanisms at the same time be responsive to user needs; and
(v) Establish an efficient and effective legal and institutional framework capable of regulating and supporting payment systems.
CHAPTER TWO
CURRENT PAYMENT ENVIRONMENT

1 Background
Tanzania pursued a socialist economic policy for nearly 30 years after independence. For 25 years there was only one state-owned bank dominating the banking industry until early 1990's when the economy was liberalised.

Liberalisation of the economy led to increase in economic activities, which required the support of an efficient, reliable, and secure payment system. In a bid to complement the then state-owned bank, several other private banks were established. Inspite of these developments, the country's payment system still suffers from major weaknesses, which include:

(i) Cash continues to be the dominant payment instrument mainly due to lack of understanding and confidence in other payment modes, and inefficiencies in processing other payment instruments;
(ii) Inadequate banking coverage of the population;
(iii) Infant financial markets with low activity to facilitate liquidity management;
(iv) Delays and associated floats in the clearing system due to inefficiency and attitudes in processing transactions;
(v) Fraudulent activities facilitated by weaknesses in processing and internal controls;
(vi) Absence of online settlement position monitoring systems and adequate risk management measures;
(vii) Inadequacy of supportive institutional structures and comprehensive laws governing payment, clearing and settlement systems;
(viii) Inefficient infrastructure to support the payment system;
(ix) Low level of automation in the payment systems;
(x) Limited payment products in the banking industry; and
(xi) Inadequate knowledge and expertise in payment system issues.

2 Payment Instruments
During the Stocktaking and Situational Analysis, it was established that payment instruments currently in use include:

(i) Cash as the dominant instrument since only about 40% of the country's business is handled through the banking system;
(ii) Cheques mainly used by government departments;
(iii) Bank drafts mainly preferred by the commercial sector; and
(iv) Mail and Telegraphic Transfers restricted to intra-bank transfers.

3 Clearing and Settlement Practices
Clearing process in Tanzania take up to 5 days for instruments originating from and destined to branches within towns where clearing houses are situated and up to 30 days or more for branches located in other areas. These delays are partly due to inefficient telecommunication and transportation infrastructure and cumbersome internal bank procedures.

Undue delays and uncertainty in the clearing process hinder economic and financial integration contributing to a distrust of cheques by the public and distort inter-bank financial relations.
4 Problems and limitation

Lack of proper monitoring and risk management programmes expose banks to payment systems risks. As such the following are considered key problems facing the current settlement arrangements:

(i) **Settlement account overdrafts**

The requirement that banks' settlement accounts should remain in credit balance all the time is sometimes breached.

(ii) **No "failure to settle" arrangements**

The clearinghouses have no explicit "failure to settle" arrangements for a defaulting bank.

(iii) **The BOT implicit settlement guarantee to clearing banks**

Occasionally a commercial bank may not have sufficient funds to meet all its settlement obligations in the clearing-house. This is guaranteed by automatic settlement overdraft from BOT.

(iv) **Float**

Inefficient clearing and settlement procedures, payment controls and inadequate infrastructure lead to payment delays, which result in large float values.

5 Unmet requirements

The following are basic unmet payment requirements by payment sectors:

(i) **Personal sector**

The major concern of the personal sector is certainty and convenience of receiving payment particularly of recurring nature. These include salaries, wages, pension and other payments processed through banks. This sector also makes recurring and non-recurring payments notably for utilities. There are serious delays associated with these payments.

(ii) **Un-banked sector**

There is a large un-banked rural and informal sector. The only services available are inefficient and mostly inaccessible.

(iii) **Retail sector**

Retail transactions are predominantly undertaken by using cash. Only in very few cases are bankers’ cheques or drafts used in such transactions. A prime requirement in this sector is convenience and reliability of payment instruments for making face-to-face payments between retailers, consumers and business enterprises. Although there has been a positive trend in use of cards to pay for bills, this still has limited use.

(iv) **Business sector**

Following trade liberalisation, a number of investments have been made in the country. However, payment instruments and mechanisms to support corporate payments have remained almost unchanged. The immediate requirement of the business sector is access to an efficient funds transfer mechanism irrespective of the distance and location.

(v) **Capital and money markets sector**
Financial markets handle relatively few transactions of large values. This suggests the need for a large value transfer system to process and settle the transactions on a real-time basis.

A large value system may need to have Delivery versus Payment (DVP) functionality to enhance liquidity of the capital market instruments and facilitate securities trading. Similarly, Payment versus Payment (PVP) functionality is required for Foreign Exchange Market transactions.

(vi) Government sector
There are several payments made to the government. They include tax revenues and non-tax revenues. Payments by the government include salaries, wages, payment to suppliers and others. These payments are made regularly. Currently a large proportion of tax collections is made in cash at the point of collection and through the Bank of Tanzania, and two Commercial banks namely, NBC (1997) Ltd and National Microfinance Bank (NMB).

For the purpose of recurring payments and debt management, speed and certainty of payments is a prime requirement.

(vii) Foreign trade sector
The increase in foreign investments in Tanzania requires well-established cross-border payment systems. This will become even more important as the country liberalises Balance of Payment transactions on Capital Accounts, in addition to the already liberalised Current Account transactions.

6 Areas of Improvement
The purpose of the NPS project is to establish an efficient customer-centered payment system in Tanzania. This entails reducing payment system risks associated with clearing and settlement operations. There is therefore need to:

(i) Improve the speed at which payment instruments can be cleared and settled;
(ii) Enhance the reliability and certainty for payments made through the system. Essentially, users need to be confident that once a payment has been initiated it will be completed;
(iii) Ensure the safety and security of the system;
(iv) Maximize convenience to users by making payment systems available and affordable in rural and urban areas;
(v) Provide a cost effective payment system; and
(vi) Provide a capability to address any unmet payment requirements and respond to the changing needs.
CHAPTER THREE
VISION AND STRATEGIC FRAMEWORK FOR YEAR 2005.

1 The Payment System Vision

The NPS project envisages the establishment of an efficient and customer centered national payment system in Tanzania by the year 2005. Specifically the system should be with minimum risks, reliable, secure, convenient, accessible, cost effective, universal, and integrated to meet the payment needs of the economy.

In recognition of the low level of infrastructure and financial sector development coupled with restructuring of the economy currently undertaken by the Government, it is conceived that development of a modern National Payment System requires a structured and strategic long-term approach. Considering the national plans and the fact that it is impractical to assume that all systems and automation strategies can be implemented simultaneously, the year 2005 is considered appropriate as a target year for having in place an appropriate payment system that addresses all the payment needs.

2 Pre-requisites for the NPS Vision

In order to achieve the stated vision by the year 2005, the following pre-requisites need to be addressed:

(i) Creation of general public awareness of NPS perspectives and adoption of banking culture.
   (a) Deliberate efforts should be made to facilitate access to banking services to the masses in rural and urban areas;
   (b) Alternatives to accelerate changes associated with new NPS products and services should be provided; and
   (c) NPS basic features should be disseminated to users through sensitisation programmes and formal education.

(ii) Payment instruments should be processed and settled according to accepted international standards
   (a) Sufficient number of clearing centres for both paper and non-paper payment instruments should be established;
   (b) All participating banks will be required to link their relevant payment systems to an on-line real time network to be provided by the Settlement Agent;
   (c) Existing clearing and settlement rules and regulations should be reviewed with the aim of reducing the length of clearing periods;
   (d) Co-operation in the use of payment systems products and services which can be shared among participants, should be encouraged in order to enhance cost effectiveness, increase efficiency and security of processing payments; and
   (e) Integration of trading financial market systems to payment systems should be ensured in order to synchronise delivery instructions with payment instructions between the two systems.

(iii) NPS should be managed and monitored effectively.
   (a) Structures and relationships of NPS stakeholders should be established through institutions having direct interest and authority;
   (b) Roles and responsibilities of each stakeholder should be clearly defined, and ownership of NPS components and systems should be properly spelt out;
(c) Risk management measures should be established and closely followed by each participant in the system;
(d) Responsible stakeholders should pay close attention to the security and integrity of the system;
(e) Cost recovery and pricing policies of NPS developments and systems should be defined;
(f) Appropriate strategies for integrated acquisition, upgrades, maintenance and capacity building in various structures and components of payment systems should be established; and
(g) Appropriate migration strategies and implementation plans should be established.

(iv) The financial sector and payment service providers should compete and cooperate in the provision of payment systems related services.
   (a) Umbrella institutions, such as the Government and its agencies, stakeholders’ forums and associations should be established to manage NPS aspects; and
   (b) Operational capacities of banks should be strengthened and encouraged to provide a range of banking products and services to customers.

(v) Payment System services should be available and accessible throughout the country, based on payment instruments that are responsive to user needs, are convenient and of affordable technology.
   (a) Instruments aimed at serving the various needs of payment applications and payment system sectors should be rationalised; and
   (b) Users should be able to choose payment instruments according to their preferences.

(vi) NPS systems and components should be integrated to support interrelated activities, processes, mechanisms, institutions and users for the purpose of maintaining financial stability.
   (a) Payment instructions originating from various economic activities should be appropriately processed, cleared and irrevocably settled;
   (b) Options and alternatives should be available in each processing, clearing and settlement mechanism;
   (c) NPS processing architectures should be comprehensively described in business and technical terms; and
   (d) NPS systems development initiatives should be harmonised for the purposes of facilitating adoption of common modernisation strategies and use of jointly shared processing systems.

(vii) Legal and regulatory framework should support and regulate various payment systems in the country.

A legal and regulatory framework that is enforceable and capable of regulating the envisaged non-cash payment transactions, clearing and settlement systems based on state of the art technology should be established.
3 Critical Success Factors

The success of the NPS Vision is dependent upon achieving stated objectives and will be measured against critical success factors as listed below:

(i) NPS awareness
(a) The NPS basic objectives and features are known to the public and business community through:
   - clear documented sensitisation programmes
   - curriculum programmes to be taught in educational institutions.
(b) The Government and the Bank of Tanzania consider payment system issues in their policy matters; and
(c) Several incentives are attached to NPS products and services promoting quality services and convenience to users nation-wide.

(ii) Reduced float
(a) Clearing is within 0 to 2 days for local clearing and up-to 5 days in other non-local parts of the country depending on the type of instruments used;
(b) The number of clearing houses and exchange terminals be for trading, paper based, card based or electronic systems is increased to cover at least 70% of the population;
(c) NPS participants, in particular financial institutions and service providers share some physical infrastructures in facilitating payment processing cycles and
(d) There is online synchronisation of delivery instructions and payment instructions in foreign exchange, securities and equity markets.

(iii) NPS management
(a) There is clarity in structures, roles, responsibilities and relationships among established bodies and stakeholders;
(b) Each institution with a given responsibility has authority by law to play a particular role and carry out specific functions;
(c) Migration strategies and implementation plans have been established and followed appropriately;
(d) Cost recovery and pricing policies for NPS joint developments and investments are in place;
(e) Appropriate strategies for acquiring and maintaining NPS structures and components are in place; and
(f) NPS capacity building programmes are available and implemented as planned.

(iv) NPS risk management
(a) Payment system risks are known to NPS participants and are adequately managed through well-documented risk management techniques;
(b) Treasury management skills have been acquired by all relevant NPS participants;
(c) Commercial banks' reserve and settlement account balances with relevant bodies are accessed online and the banks maintain sufficient liquidity in their settlement accounts;
(d) Sender and Settlement finality are achieved in settlement systems, resulting in irrevocability of settled transactions; and
(e) Daily payment processing requirements are completed correctly and on time.

(v) Co-operation versus Competition
(a) There is a clear criteria and transparent access policy to NPS services that does not discriminate financial institutions and service providers in the same category;
(b) Rules, regulations and conditions for different NPS operations are transparent and applicable equitably to each category of players;

(c) Reduced cost of payment services to customers is achieved as a result of competitive prices offered by a wider market of NPS players; and

(d) NPS players compete and co-operate where necessary, in particular:
   • customer service and payment infrastructure providers should compete freely in providing relevant services; and
   • financial institutions should co-operate in establishment of necessary shared payment networks and infrastructures for their customers.

(vi) NPS accessibility

(a) NPS is accessible domestically. Its products and services are accessible anywhere in the country;

(b) NPS is accessible internationally, that is, NPS is compatible to relevant regional and international payment practices and is appropriately linked to relevant international services and systems;

(c) NPS serves the banked and un-banked population in Tanzania;

(d) The number of types of payment instruments available for clearing and settlement options is increased;

(e) Non-cash payment instruments for accessing and effecting different payments are introduced; and

(f) Affordable NPS technologies are acquired and put in use.

(vii) NPS integration

(a) Trading systems are linked to the NPS mechanisms through NPS approved participants;

(b) In securities trading and foreign exchange markets, payment instructions are synchronised with financial market instructions for the purpose of achieving delivery versus payment (DVP) and payment versus payment (PVP) appropriately;

(c) Payment Statistical Systems are linked to NPS and provides payment statistics on volume and values that pass through inter-bank clearing and settlement systems;

(d) Relevant NPS participants access their settlement balances when and where required online;

(e) A number of different processing paths and settlement options are available; and

(f) Domestic NPS sends and accepts regional and international transactions according to pre-agreed criteria, rules and regulations, in line with accepted international standards.

(viii) Financial stability and monetary policy

(a) The Bank of Tanzania receives accurate and timely statistics on money supply for execution of monetary policy;

(b) Banking Supervisors ensure that direct participants in the NPS are financially sound;

(c) Settlement agent monitors settlement accounts of each settlement participant to assist the Bank of Tanzania to maintain financial stability; and

(d) Close co-operation and strong communication is established among payment system overseer, monetary policy implementers, banking supervisor and regulator of financial markets.

(ix) Efficient and supportive legal framework.

(a) Necessary Legal and Regulatory frameworks capable of regulating new payment products and systems are in place;
(b) Rules, Regulations and Procedures are available, enforceable and adhered to by all stakeholders; and
(c) There is a clear mechanism for speeding up resolution of disputes that relate to NPS products and services.
1 Introduction
Conceptually the NPS design must meet both immediate and long-term payment needs of the country. A strategic approach to payment systems is therefore necessary based on a number of design assumptions and principles.

2 Assumptions
Basic assumptions of the NPS vision include:
(i) The financial sector will continue to grow and liberalisation and privatisation of the banking sector will provide for better and more focused roles within the banking sector;
(ii) The growth in economic activities will increase the volume and value of bank transactions substantially;
(iii) Liberalisation of global economies will necessitate universality of access to payment products and services;
(iv) Financial markets will continue to grow and electronic trading systems be introduced;
(v) Physical infrastructure will remain relatively unchanged except telecommunications;
(vi) NPS stakeholders will develop and implement NPS products and services as a collective responsibility, with agreed policies, roles and responsibilities;
(vii) There will be a supportive legal framework to manage NPS and enforce agreed provisions; and
(viii) Support systems for NPS will be developed and sustained.

3 Principles for Designing National Payment System
Designing and developing Payment Systems will need to consider a multiplicity of factors based on specific design guiding principles to provide a common platform that facilitates harmonisation and integration.

Design-guiding principles are the basic, non-negotiable building blocks on the basis of which designers and developers construct a system. The fundamental principle is that each NPS design must consider the current realities of Tanzania, incorporate the current and projected payments demands and take advantage of the experiences of advanced payment systems.

The following principles will guide the design of the envisaged NPS, that is:
(i) Only commercial banks shall participate in the inter-bank clearing function and hold settlement accounts with the settlement agent;
(ii) The NPS shall minimise payment system risks cost-effectively;
(iii) There shall be active participation by all NPS stakeholders;
(iv) The NPS expansion shall take an evolutionary and modular approach to meet immediate and long-term needs;
(v) The process of responding to change in NPS shall be managed systematically;
(vi) Payment instruments to be used in NPS shall be designed to reflect the Tanzanian environment;
(vii) The NPS shall provide different clearing and settlement options. In all options payment finality shall follow settlement finality; and
(viii) NPS application systems to be established shall be totally independent from any national communication carrier that will be shared by NPS participants.

4 Payment Instruments

It is assumed that payment instruments that guarantee verification of a payer and availability of funds in the payer’s account will generally be acceptable. This must address both the small and large value payment needs, in particular:

(i) Instruments for small value payments (batch and retail) used in bulk payments and collections (both recurring and non-recurring) having a same-day or a future date settlement; and

(ii) Instruments for time sensitive, large value payment transfers developed for secure electronic credit transfer arrangements and capable of same day payment and settlement finality.

5 Clearing and Settlement Systems

Clearing and Settlement systems should enable the efficient transfer of value and delivery of payment instructions from one user to another. In addition, clearing and settlement between banks will involve transferring funds across accounts held with the Settlement Agent. To address the current and future payment needs three basic clearing and settlement solutions have been identified.

(i) A Paper Based Transfer (PBT) system will be developed for processing high volume of interbank paper based, local transfers exchanged at the Automated Clearing Houses (ACHs). The system will provide same-day finality for credit transfers and provisional (next day) finality for debit instruments; and

Input into and output from the system will be in paper form only. Processing will be done by automated document (paper) processing technology. Settlement will be on multilateral net basis through accounts held with the Settlement Agent.

(ii) A Bulk Electronic Based Transfer (EBT) system will be developed to handle both offline and online inter-bank payments involving the exchange of data and instructions through magnetic media or electronic transmission lines connecting ACHs and Electronic Processing/Service Bureaux;

Input into the system will be in magnetic or electronic form only, restricted to credit and pre-authorised debit instruments. EBT system will generally process batches of high volume, but small to medium value inter-bank payments and collections; and

Settlement will either be bilaterally or multilaterally, with each settlement instruction indicating settlement option and date.

(iii) Large Value Transfer (LVT) system will be designed to expedite processing and clearing of high risk credit payments, that is, time critical and large value payment message and transfers.

The LVT will have two options for effecting final settlement\(^3\). These are:

(a) LVT for Immediate Settlement Finality (LVT-ISF) for settling on a continuous transaction by transaction basis during the processing day; and

\(^3\) Irrevocable and unconditional settlement.
(b) LVT for Designated Net Settlement (LVT-DNS) for settling on a designated-time basis at pre-determined times during the processing day.

Branches of the same bank may opt to use the above systems.

6 Complementary Systems.

In addition to the three basic clearing and settlement systems, there will be three complementary systems. The complementary systems will use some processing components of the basic systems to achieve settlement finality.

(i) Payment Cards Processing System (PCPS).

The PCPS will ensure that face to face retail plastic card payments resulting from Automated Teller Machines and Point of Sale are authorised, cleared and settled appropriately. In particular, the PCPS will have two basic functions:

(a) Authorisation; this will involve authentication of payer at the point of initiating a payment instruction as well as to ensuring availability of funds in the card;

(b) Forward transactions (mostly inter-bank) to the clearing component; either within NPS (through EBT) or through its clearing centres. The clearing component will eventually send transactions to the Settlement Agent through the appropriate options within the NPS electronic processing networks.

(ii) Cross-Border Payment Transfer System (CBTS).

It is envisaged that there will be two options within the NPS for processing cross-border transactions.

(a) Through the LVT system; in which there will be a component to handle cross-border large value transactions whose time is critical (LVT-CBT option). Essentially, it is assumed that all cross-border large value payment messages will continue to be transmitted internationally through SWIFT or tested telex message where SWIFT is not available and settled via correspondent bank relationships; and

Therefore, to enable LVT-CBT to be integrated with SWIFT, domestic banks will be required to adopt a “Straight-Through Processing (STP)” capability that will allow an automated linkage between SWIFT connection of the bank and computer systems linked to the domestic LVT system.

(b) Through linking ACHs of PBT or EBT; in which such an option will allow transfer of retail cross-border payments in bulk form but of small value and with limited or no formal correspondent relationship between the sending and receiving bank;

Conceptually, originating bank will instruct a credit payment through domestic NPS capability – for instance PBT or EBT. The domestic NPS will then use services of its Settlement Agent to send a foreign settlement transaction across borders to a Receiving Settlement Agent (RSA). The RSA in that country could in turn use the capability of its domestic NPS to send an instruction to a Receiving Bank; and

A critical pre-requisite for this option will be harmonisation of legal frameworks for cross-border transactions among the countries that will participate through the ACHs linkage.
(iii) Electronic Banking and Internet Based Systems (EBIS).

The EBIS system is intended to support banking products and services through networking and electronic channels as well as facilitate electronic commerce by using electronic and Internet based payment instruments;

This system will either be developed separately or as an extension of PCPS. It will enable electronic banking to provide retail and small value electronic banking products and services, including effecting deposits, withdrawals, customer accounts enquires and use of electronic money in general, for effecting transactions both in physical and virtual trading markets; and

In order to enable electronic commerce transactions over the Internet, Internet Payment Service Providers (IPSP) will be established to facilitate processing of such transactions and other related Internet based payment transactions.

In addition, Trusted Third Party Payment Service Providers (TPSP) will also be established to facilitate processing of electronic money, both in hardware and software form.

7 Risk Management Issues

Risks associated with large value Deferred Net Settlement (LVT-DNS) and Immediate Settlement Finality (LVT-ISF) transfer systems are mainly credit and liquidity risks. Risk management control mechanisms will be enhanced through pre-funding of settlement accounts and the introduction of collateralisation of intra-day credit facilities tied to settlement systems. The mechanisms will have to be examined in detail during architectural and technical design.

In addition, to allow for continuous review of risks management measures, mechanisms for assessing, monitoring risks and enhancing security will have to be established.

(i) The following risk management measures will be considered in the LVT-DNS option (also to used by PBT and EBT systems for settlement purpose):

(a) Bilateral flows of payment messages will be controlled;
(b) Multilateral net sender cap limit will be determined by the participants themselves, based on the collateral they will be ready to provide;
(c) Collateral cover for each participant shall be restricted to banks with fully-collateralised clearing arrangements with the Settlement Agent and shall be reviewed regularly;
(d) The Deferred Net Settlement system shall be required to meet, as far as possible, the Lamfalussy Standards4; and
(e) Payment System Oversight arrangements shall be established.

(ii) The LVT-ISF raises liquidity concerns on the commercial banks settlement accounts. To ensure the smooth flow of payment throughout the day, intra-day liquidity shall be provided and monitored by relevant bodies;

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4 See appendices on Lamfalussy Minimum Standards.
(iii) Design of LVT-CBT will be consistent with the G-10 recommendations of the Allsopp Report on managing foreign exchange settlement risk, and a report on “Settlement risk in foreign transactions” should be considered and adopted “as far as possible”; and

(iv) A report by Basle Committee on Banking Supervision, on “Risks Management for Electronic Banking and Electronic Money Activities” will be considered during design of the EBIS.

8 Legal and Regulatory Framework

The following is a list of relevant pieces of legislation which govern the Payment, Clearing and Settlement Systems in Tanzania that need to be amended. There are also new laws and agreements, which needs to be established.

(i) Laws to be amended.

(a) The Bills of Exchange Ordinance, Cap. 215.
The ordinance needs to be amended to accommodate recent developments brought about by developments in technology. Other issues that may need to be considered include consumer interests, liability of a collecting bank, prevention of fraud as well as simplification of terms and language used to make it well understood by users generally.

Furthermore, cheque truncation may have legal implications related to auditing and internal control. The Ordinance also does not cover the area of electronic transfer of instruments.

(b) The Evidence Act, 1967 (Banker’s Books Part IV).
This Act needs to be amended to provide for the admissibility of electronically generated and stored information as evidence as well as other NPS evidence related issues.

(c) The Banking and Financial Institutions Act (BAFIA), 1991
There is a need to harmonise the provisions of this Act with those of the Companies Ordinance in relation to liquidation of Banks and the Transfer of Business (Protection of Creditors) Ordinance when it comes to mergers and acquisitions.

There is need for specific or direct provisions in the BOT Act, which will vest in the BOT powers to regulate the NPS. The Act should be emended to explicitly provide the BOT with powers to regulate and supervise NPS.

(e) The Cheques Act, 1969.
The observations made on the Bills of Exchange Ordinance also apply to the Cheques Act.

This Act should be amended to remove overlaps with BAFIA, to allow the market forces to determine financial institutions charges and service standards to be monitored by the regulatory authority.

(g) The Bankruptcy Ordinance, Cap. 25.
The Ordinance is inapplicable to body corporate like banks. The Ordinance requires review to conform to the prevailing circumstances.

This Act should be amended to expressly provide for the manner in which title to other forms of loans may be evidenced.

(i) *The Arbitration Ordinance Cap. 15.*  
The Ordinance should be amended to adequately provide for mandatory inclusion of an arbitration clause in commercial agreements.

(j) *The Contract Ordinance, Cap. 433.*  
This Ordinance should be amended to provide for specific Rules to govern "Standard Form Contracts" and any other contract related payment issues.

(k) *The Companies Ordinance, Cap. 212.*  
The Ordinance and BAFIA should be reviewed to enable BAFIA to cover issues of "liquidation" under Companies Ordinance and the Rules made under it.

The summary procedure under the code should be reviewed to facilitate faster implementation of proceedings.

(m) *The Penal Code, Cap. 16.*  
The code makes it an offence for a person to obtain money or credit by cheque without having sufficient funds. Enforcement of this code has always been a problem.

(n) *Transfer of Business (Protection of Creditors) Ordinance, Cap398.*  
This Ordinance should be reviewed to reduce the effective transfer period.

(ii) **Laws to be enacted.**

In addition to the amendments of the laws listed above technological advancement necessitates for a number of new laws to be enacted to meet the requirements of emerging issues in modern banking practices and crimes in the modernised payment system.

The following laws enacted in United Kingdom (UK) and United States of America (USA) are examples of the new laws to be considered for enactment:

(a) Electronic Funds Transfer Act, (USA);  
(b) Data Protection Act, (UK);  
(c) Computer Fraud and Abuse Act, (USA);  
(d) Consumer Protection Act, (UK);  
(e) Unfair Contract Terms Act, (UK);  
(f) Consumer Credit Act (UK);  
(g) Restrictive Trade Practices Act, (UK);  
(h) Computer Misuse Act, (UK); and  
(i) Supply of Goods and Services Act (UK).

(iii) **Agreements**
Different sets of agreements between NPS participants will require to be part of the NPS set-up to form the basis of operation, management and the overall function of the payment, clearing and settlement services. This includes, but not limited to:

(a) Bank/ client (end-user) agreements;
(b) Non-bank/ end-user agreements;
(c) Bank/ Bank agreements;
(d) Bank/ Central Bank agreements;
(e) Bank/ Clearing houses agreements;
(f) Bank/ NPS operator agreements;
(g) Bank/ Non-bank agreements; and
(h) Bank/ Associations governing the payment, clearing and settlement agreements.

(iv) Other Specific Recommendations:

(a) Harmonisation of laws
The NPS legal framework for Tanzania Mainland and Tanzania Zanzibar should be harmonised and synchronised to be one and the same. There may also be need to harmonise legal frameworks affecting payment systems in the SADC and EAC regions.

(b) Dispute Resolution Mechanism.
The Tanzania Bankers Association and/ or Bank of Tanzania should work out modalities and put in place a simple, less expensive and speedy dispute resolution mechanism. This may take the form of tribunal and/ or banking ombudsmen.

9 Investment and Cost Recovery Policies
It is envisaged that all costs associated with NPS development and deployment will be shared among key participating members. This includes capital costs and operating costs. The NPS Stakeholders will decide on the mechanism, control and monitoring of these costs. They will also decide on how to manage cost recovery programmes.

10 Accounting Issues
There are specific accounting issues arising from the payment system that will affect Stakeholders. The accounting procedures and controls will need to be re-structured to ensure that each system’s accounting requirements are satisfied and that they provide adequate audit details for operational and management reporting.

The introduction of an improved payment system will have an impact on the accounting and control procedures in the BOT, Banks and other non-bank Financial Institutions. Not only will the accounting issues have an influence upon the banks and other financial institutions, but will additionally affect the pace of development and regulatory functions of the BOT.

As far as accounting issues are concerned, all NPS participants will be required to conform, as far as possible, to the Tanzania Statement of Standard Accounting Practice (TSSAPs) issued by the National Board of Accountants and Auditors (NBAA).
CHAPTER FIVE
STRUCTURE, ROLES AND RESPONSIBILITIES

The National Payment System shall have its own structure and shall be owned jointly by all stakeholders each performing different roles and having specific responsibilities.

1. NPS structure

The National Payment System involves all major payment systems users, owners, providers, and managers of various payment systems defined as stakeholders.

The Payment Systems Development Project (PSDP) covers aspects involving policy issues, advisory aspects as well as operational functions. The project is managed through a formal structure as described below:

(i) The National Payment System Council
The National Payment System Council (NPSC) is the apex body of the National Payment System. Members of the NPSC are Chief Executive Officers (CEOs) of major NPS stakeholder institutions, that is, banks and financial institutions. The Governor of the Bank of Tanzania is the Chairman of the Council;

(ii) The Directorate of National Payment System
The Directorate of NPS within the Bank of Tanzania administers the PSDP on a day-to-day basis. The directorate comprises of a multidisciplinary team of professionals led by the Director National Payment Systems (DNPS); and

(iii) Specialised NPS Committees
For the purpose of operational and technical details, the NPSC has established four committees responsible for addressing specific matters, namely Operations, Legal, Automation and Standards. Members of these committees are functional experts from banks and payment system representative institutions.

2. Roles and Responsibilities

In order to accomplish the objectives of NPS specific roles and responsibilities have been assigned to various institutions and actors in the PSDP.

(i) The NPS Council; is the supreme body involved in policy matters. It gives directions and oversees the developments of the systems throughout the country. Its key functions include sanctioning reports and recommendations submitted by specialised committees, arbitrate on issues referred to it by the Director of NPS, approve budgets, provide support to the Project and ensure that the objectives of the PSDP are achieved;

(ii) NPSC Specialised Committees.
(a) The Operations Committee; responsible for developing overall strategy and framework for NPS modernization, define ownership and operational responsibilities;
(b) *The Legal Committee*; responsible for the development of a comprehensive legal framework for NPS, identify deficiencies in the existing laws and suggest amendments where necessary;

(c) *The Automation Committee*; responsible for defining user needs and system requirements, architectural design, protocols and security plans for automation purposes; and

(d) *The Standards Committee*; responsible for developing payment system standards to ensure uniformity and efficiency in operations and avoid duplication of efforts in the development of individual sub-systems and facilitate integration of the NPS and other systems.

(iii) *The Bank of Tanzania*, as an institution has specific NPS responsibilities. These include:

(a) Managing the NPS, including having oversight over all its activities and processes;

(b) Provision of settlement facilities and linkages to banks, clearing-house operators and Central Securities Depository (CSD);

(c) Operation and ownership of Large Value Transfer Systems;

(d) Provision of interbank liquidity facilities to clearing systems;

(e) Overall co-ordination of the NPS activities, including liaison with relevant international institutions; and

(f) Participating in inter-bank clearing and settlement operations.

(iv) *Directorate of National Payment System (DNPS)*, is responsible for carrying out research and development of payment products and services. This includes payment instruments, transfer, clearing and settlement mechanisms in the country. To accomplish these, the Directorate ensures:

(a) Initiation and carrying out studies on payment systems;

(b) Identification and assessment of gaps in the Tanzanian payment systems;

(c) Formulation of a NPS Vision and Strategic Framework;

(d) Design of NPS products and services;

(e) Establishment of institutional structures and processes;

(f) Design an appropriate and supportive legal-regulatory framework;

(g) Creation of public awareness of NPS features and developments;

(h) Developing and enforcing NPS standards; and

(i) Provide leadership in NPS capacity building.

(v) *The Tanzania Bankers Association (TBA)*, will be responsible for:

(a) Co-ordination and representation of commercial banks on matters relating to NPS;

(b) Initiation for eventual ownership and operations of inter-bank clearing houses; and

(c) Setting and defining operational rules for various inter-bank clearing houses.

(vi) *The Commercial banks* will be:

(a) Participating in inter-bank clearing operations;

(b) Managing risks related to payment systems;

(c) Providing payment services to their customers; and

(d) Designing and implement payment instruments in line with NPS strategy.

(vii) *Non-bank financial institutions* may:
(a) Act as agents of banks in facilitating collection and distribution of payment instruments; and
(b) Create and establish private payment instruments and services.

(viii) NPS infrastructure services providers will provide their infrastructure for NPS operations.
CHAPTER SIX
IMPLEMENTATION

1. Introduction
Payment System Developments in Tanzania must evolve together with the country’s economy and the banking industry in tandem with demand for payment services. Tanzania is advantaged by the fact that its automation level is relatively low such that adoption of new and modern payment system services and applications will not necessitate the accommodation of “Legacy” systems. The opportunity is open to embrace “State of the Art” payment products and services for the modernisation initiatives.

The strategic approach adopted by the Payment Systems Development Project calls for a systematic implementation of the Tanzanian payment system development programs. In that regard, when designing the National Payment System the following should be considered:

(i) Infrastructure and architectural set up aiming at maximizing use of investments already in place;
(ii) Capitalization on present and future opportunities; and
(iii) Accommodation of new technological innovations that may benefit the system.

2. Migration Plan
Implementation of automation strategies is a long-term task that should be undertaken in phases. Payment system needs, which are critical and can be solved within a short-term but consistent with the long-term objectives, may be taken up first.

(i) Short term plan (one to two years).
Short-term measures should focus on crisis problems in the current system that requires immediate solution. In that regard the following programs have been identified as short-term projects:

(a) Use of Magnetic Ink Character Recognition (MICR) technology to facilitate automation in cheque processing and hence reduce processing delays in the clearing-houses;
(b) Use of interbank magnetic media exchange for bulk payments to reduce the duplication of efforts and errors in processing such payments;
(c) Introduction of payment cards to reduce intensive usage of cash in effecting payment transactions of small values;
(d) Utilisation of the Bank of Tanzania inter-branch dedicated electronic communication network for interbank payment transfers to expedite settlement in areas where the Central Bank branches are located;
(e) Using SWIFT for high value interbank international and domestic message transfers; and

(ii) Long-term plan (one to five years).
Implementation of short-term improvements will be conducted in parallel with long-term programs on a project by project basis in accordance with decisions of NPS...
Stakeholders. At every stage, identified projects will be analysed, designed and presented to the NPSC for approval. It should be noted that:

(a) While some programs may be implemented within specific time frames, others may need to be developed in a continuous basis and evolve gradually;

(b) The construction of a nation-wide electronic transfer network to accommodate the three basic transfer systems, namely, PBT, EBT, LVT may need phasing. The electronic network links between BOT Head Office and its branches may be considered as a nucleus of such a network. BOT Network can then be linked with the Head Offices of banks that are members of the Clearing-Houses;

(c) The PBT System will involve the use of MICR technology for processing. The MICR standards and other paper standards for the paper-based instruments need to be agreed upon, adopted and implemented. APACS Cheque standards have been suggested for adoption. This will constitute a Standards Program that have to be in place early in the NPS modernisation program;

(d) The Electronic Bulk Transfer System for non-local transfers will depend on establishment of the nation-wide electronic transfer network. The on-line version will necessitate the linking of front-end computers at the various member bank branches to the Automated Clearing Houses, other Clearing Centres, and the Electronic Processing Bureaux, which in turn will be linked to the settlement system at the Bank of Tanzania, the Central Banking System (CBS). The system will also have an off-line option, which will use the electronic transfer network to facilitate connectivity to the settlement system;

(e) The Electronic Funds Transfer network will facilitate truncation for MICR-encoded paper instruments through a code-line clearing process. It may also facilitate card payment processes that require immediate on-line verification and authorisation; and

(f) The LVT System will require an inter-bank linkage that facilitates time sensitive transactions and have DVP and PVP functionalities, hence RTGS shall be a pre-requisite.

3. Migration Issues and Concerns

The migration plan will take into consideration the potential capacity levels of the participating institutions, in terms of human resources, automation level and the state of infrastructure in general. The plan shall therefore provide for a considerable duration necessary for capacity building and skills development adequate to support the envisaged payment systems. The key concerns are:

(i) Enhancing efficiency and speed in the clearing processes. The major problems associated with long clearing periods need to be addressed urgently;

(ii) As telecommunication infrastructure are being improved and the automation within banks given priority treatment, Automated Clearing-Houses (ACH) and Clearing Centers or Electronic Processing Bureaux should be established to speed-up clearing processes;

(iii) Capacity building in the NPS aspects is of crucial importance. Conscientious initiative should be taken in the following areas:
(a) Training to provide knowledge and skills in various systems, products and processes;
(b) Institutional building, including structures, processes and facilities;
(c) Sourcing technical assistance;
(d) Establishing sustainable maintenance capabilities; and
(e) Developing and adopting appropriate staffing and retention schemes.

(iv) The core infrastructure for the Nation-Wide Transfer Network dedicated to payment system needs to be developed. A shared infrastructure seems to be the most ideal option. As suggested earlier, the BOT electronic transfer network may initially be considered for such a purpose.

4. **Migration Schedule and implementation responsibilities.**

In order to establish a sound and robust NPS by the year 2005, the provisional implementation plan as shown in Appendix – I has been discussed and adopted by the NPS Project Core Team. Variations to the plan are expected as the program unfolds itself and changes are encountered.

The Directorate of National Payment System (DNPS) shall initiate each and every activity within the implementation plan. The Directorate shall also make follow-up to ensure that every milestone in each activity is achieved accordingly.
CHAPTER SEVEN
CONCLUSION

The development of a country’s payment system is a demanding and challenging task. Cognisance of various limitations including scarcity of resources, the NPS Project Team is confident that it will, to a satisfactory degree, achieve the objectives set out in this vision document, by the year 2005. Strategies other than those identified in this document will be developed as the implementation of the project progresses. The aim is to successfully carry out the Mission of providing an efficient customer centred payment system designed to meet the payment needs of the country.

Through collaborative efforts, co-operation, mutual understanding, total commitment, and timely implementation of decisions by all stakeholders, a sound and robust the National Payment System will be in place by the year 2005.
# Appendix - I

PROVISIONAL IMPLEMENTATION SCHEDULE AND RESPONSIBILITIES.

<table>
<thead>
<tr>
<th>Year</th>
<th>Activity and Description</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999/2000</td>
<td>(i) Obtain formal acceptance of NPS Vision and Strategic Framework document through approval by the NPSC.</td>
<td>NPSC</td>
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<td></td>
<td>(ii) Strengthen Directorate of NPS to manage PSDP implementations.</td>
<td>BOT</td>
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<td></td>
<td>(iii) Establish NPS management structures through bodies with authority.</td>
<td>NPSC &amp; TBA</td>
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<tr>
<td></td>
<td>(iv) Initiate groundwork on Capacity Building Programmes.</td>
<td>TIOB</td>
</tr>
<tr>
<td></td>
<td>(v) Initiate groundwork for establishment of supportive legal framework.</td>
<td>AG</td>
</tr>
<tr>
<td></td>
<td>(vi) Define NPS processing architectures in business terms.</td>
<td>NPSC &amp; Specialised Committees</td>
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<tr>
<td></td>
<td>(vii) Complete NPS Architectural and Technical Design and initiate implementation of short-term measures.</td>
<td>DNPS</td>
</tr>
<tr>
<td></td>
<td>(viii) Initiate NPS public awareness through sensitisation programmes.</td>
<td>DNPS &amp; TIOB</td>
</tr>
<tr>
<td>2000/2001</td>
<td>(i) Obtain Parliamentary approval that vest in the BOT powers to regulate the NPS.</td>
<td>AG</td>
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<tr>
<td></td>
<td>(ii) Provide legal powers to relevant bodies that will be managing and operating NPS (confirm on ownership, roles and responsibilities).</td>
<td>NPSC</td>
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<tr>
<td></td>
<td>(iii) Start Capacity Building Programmes (Human resources training, development and institutionalisation.)</td>
<td>TIOB</td>
</tr>
<tr>
<td></td>
<td>(iv) Design new inter-bank payment instruments, in particular for retail POS payments, recurring and bulk payments.</td>
<td>DNPS, TBA &amp; Other Service Providers</td>
</tr>
<tr>
<td></td>
<td>(v) Confirm and establish risk management measures and modalities on linkages between Financial Market Systems and the Payment System.</td>
<td>DNPS, BOT &amp; CMSA</td>
</tr>
<tr>
<td></td>
<td>(vi) Resolve issues regarding co-operation and competition among participants in establishment of NPS structures and infrastructure.</td>
<td>NPSC</td>
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<tr>
<td></td>
<td>(vii) Confirm on policy and costs associated with establishment of a Nation-wide Payment System Electronic Network.</td>
<td>NPSC</td>
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<tr>
<td></td>
<td>(viii) Establish a Nation-wide Payment System Network.</td>
<td>BOT &amp; TBA</td>
</tr>
<tr>
<td></td>
<td>(ix) Initiate implementation of a Paper Based Transfer System (PBT) – establish sufficient clearing centers, review rules and regulations and establish structures (including ACHs).</td>
<td>DNPS, TBA &amp; BOT</td>
</tr>
<tr>
<td></td>
<td>(x) Initiate implementation of an Electronic Based Transfer System (EBT) – establish sufficient processing centers, review rules and regulations and ensure capability for code-line clearing.</td>
<td>DNPS, TBA &amp; BOT</td>
</tr>
</tbody>
</table>
## Appendix I: Provisional Implementation Schedule

### 2001/2002

| (i) | Complete implementation of PBT and EBT. | DNPS, TBA & BOT |
| (ii) | Establish a Secure Multi-Option Settlement Network. | BOT |
| (iii) | Establish NPS human resource training and development centers. | DNPS, TIOB & BOT |
| (iv) | Confirm and ensure establishment of risk management measures for Large Value Transfer (LVT) System. | DNPS & BOT |
| (v) | Initiate implementation of LVT system. | DNPS & BOT |
| (vi) | Establish an option for LVT linkage with a cross-border large value payment option. | DNPS, TBA & BOT |

### 2002/2003

| (i) | Complete implementation of LVT and the associated linkages. | DNPS, TBA & BOT |
| (ii) | Confirm integration of LVT with Money Market Systems responsible to facilitate risk reduction measures, DVP and PVP functionality. | DNPS & BOT |
| (iii) | Confirm on architectures and implementation of ACH linkages between Tanzania and other relevant countries (preferably regional co-operations and communities) | DNPS & Settlement Agent |
| (iv) | Confirm on architectures and implementation of the option for Electronic Banking, Internet Based Payment Transfer System and Electronic Commerce Transactions. | DNPS, TBA & Service Providers. |
| (v) | Initiate efforts on possible domestic ACH linkage to other foreign countries ACHs (giving priority to countries in the SADC and EAC). | DNPS, TBA, Settlement Agents (both domestic and foreign). |

### 2003/2004

| (i) | Establish a link between domestic ACH and other cross-border small value payment systems. | DNPS, TBA & BOT |
| (vi) | Establish necessary infrastructure for electronic banking and electronic money activities. | DNPS, TBA & Service Providers. |
| (ii) | Initiate deliberate efforts to facilitate rural sector to access banking and NPS services | DNPS, BOT, TBA, Service Providers & The Government. |
| (iii) | Provide alternatives to accelerate changes associated with new NPS products and services | DNPS, BOT, TBA & The Government. |
| (iv) | Recognise NPS as a national business asset, that is, NPS be appreciated by the Government and consider it presence when dealing with national financial industry policies | BOT & Ministry of Finance |

### 2004/2005

| (i) | Complete implementation of an option for ACH linkages, Electronic banking and Internet-based transfer systems. | TBA, Settlement Agent & Service Providers. |
| (ii) | Report on status and adequacy of NPS supportive legal framework (with all the amended/ enacted laws and established agreements, codes and contracts). | DNPS |
| (iii) | Report on the impact of the NPS to financial stability and monetary policy implementation. | DNPS |

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*Appendix - I: Provisional Implementation Schedule*
<table>
<thead>
<tr>
<th>(iv)</th>
<th>Report on status and adequacy of NPS integration with other systems and its accessibility both domestically and internationally.</th>
<th>DNPS</th>
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<tbody>
<tr>
<td>(v)</td>
<td>Report on status and adequacy of risk reduction measures in different NPS products, services and systems.</td>
<td>DNPS</td>
</tr>
<tr>
<td>(vi)</td>
<td>Report on status of NPS awareness programmes, adequacy on NPS formal educational programmes and payment system expertise.</td>
<td>DNPS</td>
</tr>
<tr>
<td>(vii)</td>
<td>Report on efficiency and adequacy of NPS products, services and systems.</td>
<td>DNPS</td>
</tr>
<tr>
<td>(viii)</td>
<td>Report on adequacy of management of NPS institutional structures and efficiency of NPS infrastructure.</td>
<td>DNPS</td>
</tr>
</tbody>
</table>
Appendix - II

The LAMFALUSSY STANDARDS.

Minimum Standards of the Lamfalussy report: The six minimum standards for the design and operation of cross-border and multi-currency netting schemes or systems.

(i) Netting systems should have a well-founded legal basis under all relevant jurisdictions.

(ii) Netting scheme participants should have a clear understanding of the impact of the particular scheme on each of the financial risks affected by the netting process.

(iii) Multilateral netting systems should have clearly defined procedures for the management of credit risks and liquidity risks, which specify the respective responsibilities of the netting provider and the participants. These procedures should also ensure that all parties have both the incentives and the capabilities to manage and contain each of the risks they bear and that limits are placed on the maximum level of credit exposure that can be produced by each participant.

(iv) Multilateral netting systems should, at a minimum, be capable of ensuring the timely completion of daily settlements in the event of an inability to settle by the participant with the largest single net debit position.

(v) Multilateral netting systems should have objective and publicly disclosed criteria for admission, which permit fair and open access.

(vi) All netting schemes should ensure the operational reliability of technical systems and the availability of backup facilities capable of completing daily processing requirements.
EXECUTIVE SUMMARY OF THE SITUATIONAL ANALYSIS AND STOCKTAKING REPORT

1. Introduction.
This report concludes the first phase of the National Payment System (NPS) modernisation project --situational stocktaking— which took about a year and involved banks, users, regulators, providers and most parties with a stake in the country’s payment systems. It was carried out through literature reviews, research, study tours, interviews, surveys and workshops. The findings of this phase will form the base for the work to be undertaken in subsequent phases of this project.

The report focuses on the major factors influencing payment systems in the country. It includes:

(i) An introduction of the problems associated with NPS, why the project, factors affecting NPS, methodologies used and the report’s contents;
(ii) Background of the country’s socio-political, culture, economy and an outline of its vision;
(iii) The infrastructure situation (i.e. power, telecommunication, transport, mail, courier) and the state of automation within and between bank branches and their customers;
(iv) The legal structures that affect payments e.g. legislation overlaps, the law not fully covering or accommodating modern payment systems, etc.
(v) The key institutional structures in national payments, transfers, intra-institutional systems and requisite human resource capacity;
(vi) The existing payment instruments, Inter-bank Clearance and Settlement systems;
(vii) The risks associated with Payments in the country, measures put to mitigate the risks and cost recovery methods for payment services; and,
(viii) A conclusion on the country’s national payment system needs, vision and some preliminary suggestions on the way forward.

2. The National perspectives and Background
Tanzania came into existence after the union of two countries (Tanganyika and Zanzibar). It is a vast country with over 945,000 square kilometres and a population of about 30 million. Travelling from a town in the North-West (Bukoba) to one in the South-East (Mtwara) is a distance of about 2000 kilometres.

Tanzanians have a harmonious co-existence and stability despite their diverse ethnicity and multiplicity of tribes, languages and beliefs. Swahili is the official national language while English is the business language.

Immediately after independence, Tanzania emerged as a nation founded on trust, unity, well cultured and without corruption. It then had a smooth payment system though this was not accessible to the indigenous Africans to whom the only accessible instrument was cash. This marginalised the majority population.

Tanzania is now making a difficult transition from a monopoly-politicised system to a
market economy. A necessary condition for the transition to be successful is the development of market oriented, customer-based banking and financial markets including markets for money and credit. Such markets require an efficient payment system if they are to operate properly.

Further, over 85% of the population is rural based where there are no banks. This partly, explains why cheque usage is generally limited to enterprises, government departments and a few urban dwellers.

The country’s evolution after independence in the context of payment systems is characterised by the following:

(i) **The period (1961 to 1067), immediately after independence:**
   a). The country started as a multiparty country but changed to “single” party. There was less interference in resource allocation in these years; and
   
   b). This period saw a low inflation, surplus external sector, a stable and strong shilling and market determined prices. It was dominated by a foreign owned private sector with a number of well operated urban-based financial institutions but limited rural outreach and was subordinated to the London financial markets hence not promoting efficient domestic markets.

(ii) **A socialist (UJAMAA) period (1967 to 1985):**
   This period saw the single party supremacy and nationalisation for Government control of all major economic activity. This had the following effects:
   
   a). It weakened the private sector and had excessive growth of aggregate demand without match in production growth;
   
   b). Political considerations dominated resource allocation in the economy as opposed to market forces further alienating people from formal financial systems;
   
   c). Government dominance made payment synonymous to a Government payment systems as the majority were crowded out from the financial system through low incomes; and
   
   d). The informal sector grew bigger as the formal private sector was eliminated.

   These policies coupled with other economic crises impacted the country’s payment systems. For example:

   a). The private sector had no role in the payment system;
   b). External linkages were weakened; and
   c). Though increasing bank branch access to the public in the country a one bank monopoly undermined the services offered.

   In consequence, inefficient services, weak institutions and growth of a big illegal informal sector developed together with corruption as institutional and legal structures deteriorated.

(iii) **The transitional economic reform era period (1986 to present (1997)):**
   This brought de-confinement and de-controls of prices, elimination of foreign
trade and exchange controls, structural reform in Government owned enterprises and review of the legal and regulatory framework. Further, drastic measures were taken to address economic imbalances, reduce the country’s debt and create an environment conducive to production and marketing of goods and services. As a result:

a). The government now repays more than it borrows in its recurrent expenditure;
b). Higher national GDP growth rates (currently 4.5%); and
c). Manufacturing --the only declining sector— is now recording growth as privatisation starts to bear fruit.

Nevertheless, the economy is still dominated by the Government, and the private sector does not get sufficient credit. This is expected to continue for not less than two years since real incomes are low hence most public transactions are low, value and handled by cash.

Although the private sector and the markets have an increased role, a real long-term impact on payment systems is expected in the move from a few node government dominated system to a multiple node private sector payment system, which demands more efficiency as transactions increase.

The critical factor will be the development of a national culture of non-interference by government in financial systems and development of strong legal governance. This then should pave way to the culture of using instruments other than cash.

3 The Physical Infrastructure
The poor state of infrastructure is an impediment in efforts to improve the payment system.

(i) There is a monopoly government owned public power utility company but it can not satisfy the country’s needs for electricity as it only covers mostly urban, less than 10% of the country’s population. The average tariff is USD 9 cents per kWh. About 80% of the consumed electricity is hydro-based --there is even less available when there are droughts. Plans are now underway to increase capacity (i.e. privatising and allowing competition);

(ii) The country has about 3 lines per 1,000 people and a high disparity of lines per capita between rural, urban areas and towns. Most lines were manual and old until the recent modernisation expansion programmes and entry of private operators. These developments enabled most districts and some rural areas to link via electronic batch processing and digital telecommunication. All centres with over 80% of the existing banking business are within reach of a modern backbone network. The government owned telecommunication operator that dominates this sector expects to be privatised in 1998. Depending on various factors, a minute’s call costs between USD 3 and 48 cents (local) and between USD 1.60 and 3.60 (international) --mobile phone tariffs are higher;

(iii) Freight and passenger road transport is the most used form of mobility in the country though only about 10,300km of trunk roads and 25,000km regional
roads are all weather. Most regional centres are within 1000km of the commercial capital (Dar es Salaam) and all regional and the major district centres are linked and can be covered in 12 hours on most of these roads. Most roads need rehabilitation (already underway), particularly the rural and remote district roads that are inaccessible during rain seasons;

(iv) Small private operators and a dominant government airline cover air transport between most major trade centres though most airports are under-utilised. There are also plans to privatise the government owned airline;

(v) Two railway networks exist. Most of the main (TRC) network has 2,605km lines of single track, with over 70 years old and lack locomotives and freight handling facilities making it unreliable and slow. There are now plans to improve it. TAZARA is the other network --it has a reliable 975km line connecting Dar to land locked Zambia but is now faced with problems due to economic decline of both Tanzania and Zambia and competition;

(vi) Small sea transport private operators serve the coastal towns and islands. Inland water transport on the lakes is also inadequate (Victoria, Tanganyika and Nyasa). Recently private operators have been encouraged but this needs to improve particularly on reliability; and

(vii) The state owned postal service transfers mail and postal financial instruments (money /postal orders and money fax). There is seven other courier private companies concentrating on international rather than domestic service. Few have contracts with some banks to transport payment items. The biggest bank (NBC —1997 Ltd) has its own internal courier service.

Key payment problems related to poor infrastructure have been identified as:

(i) **Excessive delays** leading to costly floats, payment risks exposure, extra standby system costs, customers inconvenience and loss of confidence and trust;
(ii) **Fraud** --using the delays to defraud banks and customers (e.g. Government); and
(iii) **Excess Bureaucracy and controls** as banks set extra checks to mitigate and control potential frauds --adding costs, over cover and operational problems.

The report concludes that the infrastructure needs further development. Nonetheless, despite this many banks already use computer processing and some VSAT, leased lines or dial up telecommunication systems. This shows readiness to move towards modern payment systems.

4. **Legal-Regulatory Support Structure**

The report takes stock of the Legal Framework for the Tanzania Payment System. It traces the origin and evolution of the Tanzanian Legal System in general and then goes on to identify the specific legislation which has relevance to payment systems.

At least 15 pieces of legislation, which govern different aspects of payment systems in Tanzania, are identified. These include banking laws (i.e. the Bills of Exchange Ordinance, the Cheques Act (1969), the Banking and Financial institutions Act (1991), the Bank of Tanzania Act (1995), etc). It is also noted that some of this legislation has their parallel in Zanzibar.
The other identified legislation deals with aspects related to financial markets, such as the Capital Markets and Securities Act (1994), the Government Loans, Guarantees and Grants Act (1974), etc.

Lastly, it covers legislation catering for the governing of various relevant aspects and judicial enforcement. These include the Contract Ordinance, the Penal Code, Civil Procedure Code, the Companies Ordinance, the Fair Trade Practices Act (1995), the Arbitration Ordinance and Transfer of Businesses (Protection of Creditors) Ordinance. Issues such as the introduction of commercial courts, Ombudsman, Zanzibar-Tanganyika dual legislation, etc. are also discussed.

Importantly, the report identifies deficiencies prevalent in each of the named Acts which if plugged by way of either amendment or enactment of new laws would create a sound legal environment to regulate a payment system. Notable in the deficiencies are the lag or failure of the laws to cope with developments in technology.

The cited examples include:

Whereas the Bills of Exchange Ordinance requires physical presentment for acceptance of a bill, technological advancement has made it possible to present bills by transmitting essential data electronically without having to present the instrument physically. The Ordinance should therefore be made to accommodate this.

Equally important is the admissibility of electronically generated information in evidence by courts. The current status is that the law does not openly recognise such information if tendered as evidence. The Evidence Act, 1967 needs to be amended to make such evidence admissible without ambiguity.

The identified deficiencies will be dealt with according to an order of priorities, categorised short, medium and long term measures.

5 Institutional Structures, Transfers and Intra-bank systems

Tanzania’s institutional “Structures,” functions and operational institutions are centred around the Central Bank (Bank of Tanzania, BOT), Commercial Banks, Non-Bank Financial Institutions and other Financial Intermediaries such as SACCOS, Micro-Finance institutions, Non Governmental Organisations (NGOs), etc. The relevant operational aspects of major customers (mainly Government) and main service and infrastructure providers (e.g. the Telecommunication Company, TTCL) together with regulatory bodies and associations are mostly tuned to servicing government enterprise. However, the situation is changing now with the establishment and strengthening of regulatory bodies. For example, the Capital Markets and Securities Authority (CMSA), the Tanzania Institute of Bankers (TIOB), the National Board of Accountants and Auditors (NBAA), Tanzania Bankers Association (TBA) and other collective forums.

The transfer and clearing operations used by banks between branches, the accounting procedures, credit transfers and level of automation are also new to operating in free markets. Non-Bank institutions’ payment transfer systems are also similarly new and are still dominated by the volumes of Government and Post Office transfers.
The excessive movement of paper (cheques, vouchers, credit/debit advice and their copies and attachments) covering wide distances across the country from the collecting bank branches to the paying branches, the collecting bank Head Office/ Clearing Departments, etc. underscores the current situation.

The report observes the following institutional concerns:

(i) The banking sector is improving with better regulation and supervision, restructuring and privatisation, split of the dominant bank (NBC), expansion of private banks’ competition into more parts of the country, etc;

(ii) Major customers’ cashiers (e.g. revenue collectors, breweries, utilities and pension funds) carry huge amounts of cash between office stations. This adds processing overheads and tempts people in the process. Similarly, the same applies to paying customers who are forced to pay in cash — banks normally do not honour cheques upon presentation except for special customers;

(iii) The Postal bank (TPB) with over 200 post office outlets (going through the NBC bank) is a key player in the country’s high volume small value customer transfers and savings mobilisation despite its relatively higher operations cost. TPB also acts as an agent for Western Union international fund transfers.

(iv) Money Fax is rapidly replacing the traditional telegraphic money orders due to speed and convenience (bank telegraphic transfers are not readily available and can randomly take over 30 days);

(v) Apart from bank products, there are few other non bank financial products in the market though the number is expected to increase in a few years;

(vi) The only existing standards in payment systems are the MICR cheque document standards, national accounting standards and SWIFT (in international transfers).

Human resources capacity building noted were as follows:

(i) Survey of the financial sector training reveals capacity training though diverse but lacks focus on real institutional needs hence shortfall of critical technical staff, including not being deep enough to cope with modern payment systems and best professional standards;

(ii) Apart from a few suppliers organisations, most training facilities are government owned and their curriculum do not address fully payment system capacity building needs including staff retention;

(iii) Most organisations have yet to create suitable and sustainable structures to address training needs and manage payment systems.

(iv) The public needs to be sensitised, better informed and promote best payment practices.

In conclusion, the existing structures may need further detailed strategies to create the necessary institutional governance and capacity appropriate for national payment system
6. Tanzania Inter-Bank Payments Business Perspectives

(i) Inter-Bank Payment Instruments.

Instruments used to initiate inter-bank clearing are customer cheques, bankers cheques, drafts, mail transfers, clearance transfer vouchers and direct debits. Debit paper instruments and few Mail transfers are the main inter-bank exchange instruments.

Tanzania is a cash society given that only about 40% of business are handled through the banking system. The instrument usage by sector includes:

a). Cheques are mainly used by government;
b). The commercial sector prefers drafts and cash; and,
c). The general public prefers cash and rarely cheques or drafts.

This situation raises the following observations concerning cash:

a). The level of development favours cash use since the majority do not use banks. About 40% in volume and 8% in value of commercial bank transaction uses cash but Cash cost implications are in general not well appreciated.

Banks have started introducing ATMs. As banks did not offer any cash substitutes, utility service companies introduced pre-paid smart and magnetic stripe cards for electricity bill payment and phone cards. Domestic credit or debit cards are yet to be introduced.

Few debit instruments are available and these raise the following issues:

b). Cheques:

- About 80% in volume and 50% in value of total non-cash transactions in the country is by cheque;
- Cheque costs are mostly subsidised, which make cheques more popular to business enterprises --particularly paying companies (due to big floats) but not to payees (risk of bounced cheques).
- Threat of fraud has resulted in higher printing security costs. Banks also clear cheques on collection since trust is low and the public lacks confidence in cheques; mainly due to presence of dishonest staff, unreliable courier services, difficulties of enforcing the law and clearing delays;
- Increased fraud, forgery and unfunded cheques lead to beneficiaries preferring payment by Bankers cheques (e.g. government and big business); and
- International traveler’s’ cheques are available in banks and bureaux de change. The former NBC (now split into NBC (1997) and NMB) is the only bank issuing shilling travelers’ cheques for local use (yet to be popular).

The only domestic credit instruments in use are the Mail Transfer (MT) and Telegraphic Transfers (TT):

c). Mail Transfers (MTs) - cost less and are preferred where telecommunication is poor and speed is not critical;
d). Telegraphic Transfers (TTs) - Big businesses and Government transfer large values domestically and across borders through TTs. Fraud, forgeries and errors are associated with the abnormal delays experienced now (i.e. from 13 up to 28 days). Telecomm lines congestion, electricity unavailability (for days sometimes) and staff have been linked to this problem resulting into few branches getting authority and facilities for such payments. The absence of SWIFT and telecomm encryption devices at upcountry branches also deters use of TTs.

e). Four banks use SWIFT at present but there are plans to adopt it for domestic inter-bank transfer messages by mid 1998.

(ii) Inter-Bank Payment Clearance

Bilateral clearing of paper based instruments existed until 1993 when the first Clearinghouse was established. The members of the existing clearinghouses are the demand deposit taking (commercial banks) and the central bank in Dar, Arusha and Mwanza. All other non-bank financial institutions (including savings banks) must clear through the members.

The four non-cash inter-bank payment streams in the country are the Shilling, US dollar, Bank credit and Foreign exchange transfer clearance. There are also proposals for a Dar stock exchange and a domestic inter-bank SWIFT transfer system.

The clearing practice in Tanzania is similar to elsewhere in the world. It is done through different localities or zones as outlined below:

a). Local clearing:

- All branches sort their items into batches by drawer bank for dispatch with schedule to a co-ordinating branch in a clearinghouse. They are summarised by paying banks, number of items and amount and sent to the local clearinghouse on next start of clearing;

- There is only one daily clearing session at the clearinghouse where all members participate normally. It takes about an hour, starting at 10 am for shilling denominated items followed by a US dollar clearing. Outward items are exchanged and booked as inward items by recipient members and then all netted out using standard clearing forms and registers. A settlement certificate is ultimately issued-and signed by the Central Bank and clearinghouse supervisors when all banks settlement balances have been balanced;

- Returned items are included with the outward clearing items. The clearinghouse rules recognises 34 reasons for return of items from a branch where it is drawn from; and

- When banks receive inward clearing items from the clearinghouse with copy

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5 The Dar es Salaam Stock Exchange (DSE) is now in place.
of the settlement certificate, they debit (or credit if returned items) mirror accounts of the paying branch. The bank’s clearing house position is also checked for the next clearing.

b). Non Local clearing

- All cheques drawn on district branches have to be sent on collection;
- Bilateral agreements are used to determine the time, which branches should clear with one another and agency agreements for banks without branches at a location where no clearinghouse exists. This only involves inter-bank clearing between CRDB, NBC (1997) Ltd and NMB; which have branches in other parts of the country;
- A net balance position is determined and settlement is effected through correspondent accounts. The net debit bank raises a draft or bankers payment cheque to the net credit bank, which forwards it to its central clearing department to be presented at the clearinghouse for settlement. This eventually debits a paying bank branch account; and
- Up-country branches send their clearance items with banks in Dar by courier to the respective central clearing departments, en-route to the clearinghouse. However, clearance between two different up-country centres is done through a central clearing department by courier; or, directly through the nearest coordinating branch. The later is faster and with less paperwork or costs when available.

The proposed Stock Exchange and SWIFT Clearances:

- The Dar Stock Exchange (DSE) is expected to start anytime. Trades will be matched and executed using its clearing and depository system with a daily confirmation report available by 15:00 hours. All brokers will be required to have their money accounts with a single bank that is not involved in securities business; and
- Same day clearing and settlement of payment instructions between domestic branches whose banks are on SWIFT is soon to be implemented. Correspondent relationships will be initiated for participants in this scheme.

Observations and Assessment:

- Banks are sending items to the clearinghouse through their central clearing departments for purpose of consolidation, treasury and liquidity management and fraud control; and
- Clearing of physical instruments between remote branches experience excessive delays due to transportation constraints.

(iii) Inter-Bank Settlement

The current settlement arrangements have the advantages of participants just maintaining sufficient funds for settlement at the end of the day. However the multilateral netting process exposes participants to a number of settlement risks, particularly intra-day credit exposure. Also, as a settlement agent, BOT implicitly guarantees finality of outgoing payments for the day, and thus covers members against intra-day credit risks.
7 Risks and Financial Costs
The nine types of Payment risks affecting Tanzania today are: credit risk, liquidity risk, settlement risk, cross currency settlement risk, operational risk, legal risk, systemic risk, market risks and country risk.

There are several measures put in place to mitigate these risks which include Clearing House Regulations, Bank Supervision Regulations and guidelines, rediscounting and inter-bank market arrangements, and the introduction of security features and standardization of document processing features.

However despite these measures the system is still very much exposed to these risks. It is therefore proposed that:

(i) More hedging instruments be introduced to facilitate mitigation of foreign exchange risks;
(ii) The legal safeguards against unfunded cheques be improved;
(iii) Joint funds and insurance programmes be established to serve as a collateral in case of settlement deficit and as contingency fund when need arises;
(iv) Capacity building and professionalism training as well as systems for recruitment of staff be enhanced; and
(v) An “Early Warning System” (EWS) be established on the national payment systems risks.

The report concludes that most of the country’s payment systems costs are not properly costing and that there is need for more awareness to be developed on both direct and indirect payment systems costs.

8 Preliminary User Needs and Recommendations.
Finally, this report concludes with an outline of the sectoral payment needs in the country and identifies areas to be addressed in the payment system modernisation project according to priority and timeframe (immediate or long term) based on the preliminary vision of these systems.

The four broad parameters stated below:

(i) High value, Small Value and retail end transactions.

a). RTGS for high value (or net-settlements);

b). Networks of ATMs, POS terminals and credit based instruments (e.g. Giro System) for small value high volume and retail end transactions;

(ii) Compatibility of short-term plans with long-term plans. The short-term electronic data communication plans should be open to possible future expansions and hook up to a nation-wide data communication set-up. This includes strategic position regarding future payment systems, such as Electronic Commerce;

(iii) Spatial coverage. Data communication solutions need to cover as much of the economy as possible so as to make optimal use of the few institutions available in the country; and

(iv) Standardization. Standards must be set in respect of instruments, accounting message formats, security features etc. to facilitate common use of the payment systems facilities.
Such parameters need establishment of systems that integrate a set of services and the market needs that will be satisfied by each service. The services should be based on best international practices, custom tailored, where necessary, to suit specific Tanzania conditions. Therefore it will involve review of roles, responsibilities and structures of key NPS players and legal-regulatory framework for the envisaged NPS systems.

Generally, it is expected that as a minimum the services will cover:

- Local clearing house arrangements for processing inter-bank cheques and other instruments;
- National electronic inter-bank arrangements for processing non-local debit and credit transfers, including future card based transactions;
- The rapid processing of time critical funds transfer instructions; and
- The processing of international payments.
Appendix - IV

LIST OF STAKEHOLDERS.

**Banks:**
1. Bank Of Tanzania (BOT)
2. NBC (1997) Ltd
3. CRDB (1996) Ltd
4. National Microfinance Bank Ltd
5. Stanbic Bank (T) Ltd
6. Standard Chartered Bank (T) Ltd
7. The Peoples Bank Of Zanzibar Ltd (PBZ)
8. Citibank (T) Ltd
9. Diamond Trust Bank (T) Ltd
10. Exim Bank (T) Ltd
11. Eurafican Bank (T) Ltd
12. Kenya Commercial Bank Ltd
13. Kilimanjaro Cooperative Bank Ltd
15. Habib Bank Ltd
16. Greenland Bank (T) Ltd
17. Trust Bank Ltd
18. National Bureau De Change Ltd.
19. Akiba Commercial Bank Ltd.

**Financial Institutions:**
1. 1st Adili Bankcorp Ltd
2. Tanzania Investment Bank
3. Tanzania Postal Bank (TPB)
4. uLc (T) LTD
5. Karadha Company
6. Savings and Finance
7. Crown Finance and Leasing Ltd
8. TDFL
9. Dar Es Salaam Stock Exchange (DSE)
10. Capital and Securities Market Authority (CMSA)
11. All Bureaux De Changes
12. Furaha Finance Ltd

**Others:**
1. Government
2. Tanzania Revenue Authority (TRA)
3. Planning Commission
4. National Communications Commission (NCC)
5. National Board Of Accountants And Auditors (NBAA)
6. Tanzania Institute Of Bankers (TIOB)
7. Parastatals Pension Fund (PPF)
8. National Social Security Fund (NSSF)
9. Tanzania Chamber Of Commerce, Industries and Agriculture
10. Confederation Of Tanzania Industries (CTI)
11. Tanzania Bureau Of Standards (TBS)
12. Tanzania Bankers Association (TBA)
13. Tanzania Law Society
14. Tanzania Postal Company
15. Courier Operators
16. Tanzania Telecommunications Company (TTCL)
17. National Insurance Company (NIC)
18. Tanzania Electric Supply Company (TANESCO)
19. University Of Dar Es Salaam, (and other Institutions of Higher Learning)
20. Tanzania Consumers Protection Association (TCPA)
21. Tanganyika Farmers Association Ltd (Arusha)
22. Tanzania Harbours
23. NBC Holding Corporation
24. Pride Tanzania Ltd
25. Economic And Social Research Foundation (ESRF).
### Appendix – V

**STAKEHOLDERS’ STRATEGY FORMULATION TEAM**

<table>
<thead>
<tr>
<th>No</th>
<th>Institution /Department</th>
<th>Name</th>
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<tbody>
<tr>
<td>1.</td>
<td>Attorney General’s Office</td>
<td>Ms. Manyesha, E.</td>
</tr>
<tr>
<td>2.</td>
<td>Bank of Tanzania (Banking Operations)</td>
<td>Mr. Kisarika, Leonard</td>
</tr>
<tr>
<td>3.</td>
<td>Bank of Tanzania (Banking Supervision)</td>
<td>Mr. Hotay, A.</td>
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<tr>
<td>4.</td>
<td>Bank of Tanzania (Domestic Markets)</td>
<td>Mr. Yamo, C.</td>
</tr>
<tr>
<td>5.</td>
<td>Bank of Tanzania (Financial Markets)</td>
<td>Mr. Ndambala, Harry</td>
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<tr>
<td>6.</td>
<td>Bank of Tanzania (Management Information Systems)</td>
<td>Mr. Makwaia, Edward</td>
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<td>7.</td>
<td>Bank of Tanzania (Micro - Finance Institutions)</td>
<td>Ms. Mbusa</td>
</tr>
<tr>
<td>8.</td>
<td>Bank of Tanzania (NPS – Accounting)</td>
<td>Mr. Mapogha, N.</td>
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<td>9.</td>
<td>Bank of Tanzania (NPS - Advisor)</td>
<td>Mr. Robotham, M.</td>
</tr>
<tr>
<td>10.</td>
<td>Bank of Tanzania (NPS - Commercial Banking)</td>
<td>Mr. Ayugi, Elijah</td>
</tr>
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<td>11.</td>
<td>Bank of Tanzania (NPS - Director)</td>
<td>Mr. Kilato, Isaac</td>
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<td>12.</td>
<td>Bank of Tanzania (NPS - Economic Analysis)</td>
<td>Mr. Liyau, Ally</td>
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<td>13.</td>
<td>Bank of Tanzania (NPS - Legal Counsel)</td>
<td>Mr. Mukirya, N.</td>
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<td>14.</td>
<td>Bank of Tanzania (NPS - Systems Analysis)</td>
<td>Mr. Dadi, Bernard</td>
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<td>15.</td>
<td>Bank of Tanzania (NPS - Systems Analysis)</td>
<td>Mr. Mvamba, Daniel</td>
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<tr>
<td>16.</td>
<td>Bank of Tanzania (NPS - Financial Analysis)</td>
<td>Ms. Tabaro, G.</td>
</tr>
<tr>
<td>17.</td>
<td>Bank of Tanzania (NPS - Systems Analysis)</td>
<td>Mr. Wangwe, S.</td>
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<tr>
<td>18.</td>
<td>Bank of Tanzania (Personnel &amp; Administration)</td>
<td>Mr. Nyon, Cashmir</td>
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<td>19.</td>
<td>Bank of Tanzania (Research and Economic Policy)</td>
<td>Mr. Tuni</td>
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<tr>
<td>20.</td>
<td>CitiBank (T) Ltd.</td>
<td>Mr. Kihulla, J.</td>
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<td>22.</td>
<td>CRDB (1996) Limited.</td>
<td>Mr. Mayingu, Adam</td>
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<td>23.</td>
<td>Dar Es Salaam Stock Exchange (DSE)</td>
<td>Mr. Mathu, Robert</td>
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<td>24.</td>
<td>Greenland Bank (T) Ltd</td>
<td>Ms. Ngowe, R.</td>
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<td>Habib Bank (T) Ltd</td>
<td>Mr. Akhtar, S.</td>
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<td>26.</td>
<td>Kenya Commercial Bank (T) Ltd.</td>
<td>Mr. Tikani, P.</td>
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<td>27.</td>
<td>Ministry of Finance</td>
<td>Mr. Mbagoyo</td>
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<td>28.</td>
<td>National Board of Accountants and Auditors (NBAA).</td>
<td>Mr. Maneno, Pius</td>
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<td>29.</td>
<td>National Micro-Finance Bank (NMB).</td>
<td>Mr. Lebbi, N.</td>
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<td>31.</td>
<td>NBC (1997) Ltd</td>
<td>Mr. Njelekela, A.</td>
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<td>32.</td>
<td>Savings and Finance</td>
<td>Mr. Thaker, N.</td>
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<td>33.</td>
<td>Stanbic (T) Ltd</td>
<td>Mr. Whyte, D.</td>
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<td>Standard Chartered Bank (T) Ltd.</td>
<td>Ms. Chanda, M.</td>
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<td>35.</td>
<td>Tanzania Institute of Bankers (TIOB)</td>
<td>Ms. Kaisi, Mary</td>
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<td>36.</td>
<td>Tanzania Postal Bank (TPB)</td>
<td>Mr. Safe, S.</td>
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<td>37.</td>
<td>Tanzania Postal Co-operation (TPC)</td>
<td>Mr. Mvamba, H.</td>
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<td>38.</td>
<td>Tanzania Telecommunications Company Limited (TTCL)</td>
<td>Col. Katakweba, J.</td>
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Appendix – VI

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1) Mr. Isaack H. Kilato, Director National Payment System – BOT.
2) Mr. Cashmir J. Nyoni, Director Personnel & Administration – BOT.
3) Mr. Edward A. Makwaia, Director Management Information System – BOT.
4) Mr. Leonard L. Kisarika, Director Banking – BOT.
6) Mr. Bernard J. Dadi, Senior Systems Analyst/Programmer – BOT.
7) Mr. Seronga M. Wangwe, Systems Analyst/Programmer – BOT.
8) Mrs. Ashura Seif, Personal Secretary to the Director of NPS.
**Appendix – VII**

**LIST OF ABBREVIATIONS.**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>ACH</td>
<td>Automated Clearing House</td>
</tr>
<tr>
<td>AG</td>
<td>Attorney General</td>
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<tr>
<td>APACS</td>
<td>Association for Payment Clearing Services</td>
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<tr>
<td>ATM</td>
<td>Automatic Tellers Machine</td>
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<tr>
<td>BACS</td>
<td>Bankers Automated Clearing Services</td>
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<tr>
<td>BAFIA</td>
<td>Banking and Financial Institutions Act</td>
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<tr>
<td>BOT</td>
<td>Bank of Tanzania</td>
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<tr>
<td>CEO</td>
<td>Chief Executive Officer</td>
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<td>CSD</td>
<td>Central Securities Depository</td>
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<td>DNPS</td>
<td>Directorate of National Payment System</td>
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<tr>
<td>DNS</td>
<td>Deferred Net Settlement System</td>
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<td>DVP</td>
<td>Delivery Versus Payment</td>
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<td>EBIS</td>
<td>Electronic Banking and Internet Based Systems</td>
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<td>EBT</td>
<td>Bulk Electronic Based Transfer System</td>
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<tr>
<td>EFT</td>
<td>Electronic Fund Transfer System</td>
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<tr>
<td>EPB</td>
<td>Electronic Processing/ Service Bureaux</td>
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<tr>
<td>G-10</td>
<td>Group of 10 countries (Belgium, Canada, France, Germany, Italy, Japan, Netherlands, Sweden, Switzerland, United Kingdom and United States)</td>
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<tr>
<td>IPSP</td>
<td>Internet Payment Service Providers</td>
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<tr>
<td>LVT</td>
<td>Large Value Transfers</td>
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<tr>
<td>LVT-DNS</td>
<td>Large Value Transfer for Deferred Net Settlement Finality</td>
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<tr>
<td>LVT-ISF</td>
<td>Large Value Transfer for Immediate Settlement Finality</td>
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<tr>
<td>MICR</td>
<td>Magnetic Ink Character Recognition</td>
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<td>NMB</td>
<td>National Micro-Finance Bank</td>
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<td>NPSC</td>
<td>National Payment System Advisory Council</td>
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<td>NPS</td>
<td>National Payment System</td>
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<td>PBT</td>
<td>Paper Based Transfer System</td>
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<td>PCPS</td>
<td>Payment Cards Processing System</td>
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<tr>
<td>Abbreviation</td>
<td>Description</td>
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<tr>
<td>PPF</td>
<td>Parastatal Pension Fund</td>
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<td>PSDP</td>
<td>Payment Systems Development Project</td>
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<td>PVP</td>
<td>Payment Versus Payment</td>
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<td>REPO</td>
<td>Repurchase Agreement</td>
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<td>RTGS</td>
<td>Real Time Gross Settlement</td>
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<td>SADC</td>
<td>Southern African Development Community</td>
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<tr>
<td>SWIFT</td>
<td>Society for Worldwide Interbank Financial Telecommunication</td>
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<tr>
<td>TBA</td>
<td>Tanzania Bankers’ Association</td>
</tr>
<tr>
<td>TIOB</td>
<td>Tanzania Institute of Bankers</td>
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<tr>
<td>VSAT</td>
<td>Very Small Aperture Terminal</td>
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</table>
Appendix - VIII

GLOSSARY OF TERMS AND ABBREVIATIONS

AG – Attorney General’s Chamber.

CMSA – Capital Markets and Securities Authority.

CSD (Central Securities Depository) System: A securities trading system for holding securities in a book entry from and enables securities transactions to be processed and transferred in a dematerialised and immobilized manner. The system may incorporate safekeeping comparison, clearing and settlement functions.

Clearing: Clearing is the process of transmitting, reconciling and confirming payment orders or security transfer instructions prior to settlement. Clearing may include netting of instructions and the establishment of final positions for settlement.

Clearing House: A central location or central processing mechanism through which financial institutions agree to exchange payment instructions or other financial obligations. The institutions settle for items exchanged at a designated time based on rules and procedures of the clearing house.

Credit Based Payments: Payments made by placing funds at the disposal of the beneficiary. The payment instructions and the funds described therein move together from the bank of the payer to the bank of the beneficiary.

Credit risk: The risks that a counterpart will not settle an obligation for full value either when due or at any time thereafter. It includes principal risk, cost risk. The counterpart may be insolvent.

Credit Transfer System (Giro System): A system through which payment instructions and the funds described therein may be transmitted for the purpose of effecting credit based payments.

Cross Currency Settlement Risk: Also known as Harstat Risk is the risk that a transaction with a correspondent bank may not materialize due to irreciprocity of transactions caused by time zones differences and currency differences.

DNS (Deferred Net Settlement) Systems: Settlement systems in which payment instructions are bunched and off-setting positions calculated between participating banks before settlement is done. Netting reduces a large number of individual obligations to a smaller number of obligations based on multilateral net positions of participants. Netting may take several forms, which have varying degrees of legal implications especially in the event of default.

DVP (Delivery Versus Payment): A mechanism in an exchange-for-value settlement system that ensures that the final transfer of one asset occurs if and only if the final transfer of the other asset occurs. DVP is mainly used in reference to securities trading where the transfer of securities ownership is tied to the transfer of respective funds.

Dynamic Collateralisation: A system in which automatic lending to a net deficit clearing participant is fully covered automatically by collateral drawn from a reserve of liquid collateral usually securities.

Electronic money: refers to electronically stored monetary value on a technical device that functions as a pre-paid bearer instrument, which can be widely used for making payments to undertakings other than the issuer, with or without involving bank accounts in the transactions. Technical device – includes stored value products in form of hardware or card based mechanisms (also called electronic purses) and software or network based mechanisms (also called digital cash).  

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6 This definition has been adopted from BIS publication No:BS/97/122 titled “Risk management for electronic banking and electronic money activities”, by Basel Committee on Banking Supervision, March 1998.

Tanzania Payment System – Vision and Strategic Framework
**Float:** The aggregate value of all payment instruments submitted for clearing and settlement through a payment system but not cleared. The float magnitude is a factor of volume of transaction per period (usually a day) value per transaction and the payment cycle or payment lag.

**LVTS and/or LVCS (Large Value Transfer/Clearing Systems):** Interbank funds transfer/clearing systems through which large value and priority funds transfers/payments are made between participants. They are sometimes referred to as wholesale funds transfer/payment systems.

**Legal Risk:** The risk that a loss in a payment transaction may be incurred because of inadequate non-coverage of a certain element in a payment process or arrangement. It also includes differences in two legal systems covering the same payment arrangement in the case of payment counterparts operating in different countries.

**Liquidity Risk:** The risk that a counterpart will not settle an obligation for full value when due, but may be able to settle the required obligations at some other time. The risk includes replacement cost risk and adjustment cost risk. The counterpart in this case is still solvent.

**Local Clearing:** Clearing of instruments originating from and destined to banks or their branches located within the municipality of the same clearing center.

**Loss Sharing Arrangements:** Payment System Risks mitigating measures agreed upon by members of a clearing house or a transfer system which involve a bale-out mechanism or allocation of any loss arising when one or more participants fail to fulfil their obligation. They include “Defaulter Pays Mechanisms” which involve the use of the defaulter’s collateral to settle the deficit position, and the “Survivors” Pay Arrangement which means the surviving members assume the loss based on agreed formula.

**Market Risk:** The risk that a loss in a payment transaction may occur because of fluctuations in interest rates and foreign exchange rates. Market risks are linked to securities trading and trading in futures.

**Operational Risk:** The risk that a settlement finality may not be achieved due to mal-functioning of a system, mishandling, manipulations etc. Operational risks include systems risks, security risks, technology risk and intellectual risk.

**PVP (Payment Versus Payment):** A mechanism which ensures that the final transfer of one value is conditional to the final transfer of the correspondent value. PVP is used in foreign exchange or cross currency transactions.

**Payment Instrument:** A device or system or physical unit used to initiate instructions for transfer of value from a payer to a payee in settlement of an obligation, cash, cheques and cards are common payment instruments.

**Payment System:** A payment system consists of a set of instruments banking procedures and interbank funds transfer systems that ensure the circulation of money.

**RTGS (Real Time Gross Settlement) System:** A settlement system in which payment instructions are processed one by one in their gross nature (no netting) continuously, that is in real time as they are initiated and received.

**SWIFT (Society for World-wide Interbank Financial Telecommunication):** A cooperative organisation that operates a network for the exchange of payment and other financial messages between financial institutions throughout the world. The organisation is owned by banks.

**Sender Finality:** Indicates that once a payment instruction by the sender is sent, cannot be altered or reversed by the sender.

**Settlement:** An act that discharges obligations in respect of funds or securities transfers between two or more parties.
**Settlement lag**: The time-lag between the initiation of a payment instruction and its discharge by the final exchange of a financial asset for payment. It is sometimes referred to as a payment lag.

**Settlement finality**: Settlement that is irrevocable and unconditional. In this regard receiver finality refers to a point at which an unconditional obligation arises on the part of the receiving participant.

**Situational Risk**: Also known as circumstantial risk is the risk that settlement may not be achieved due to factors outside payment and settlement systems set up such as natural disasters, political uprising war etc. Situational risk includes country risks.

**Systemic Risk**: The risk that the failure of one participant in a transfer system or in financial markets to meet its required obligation will cause other participants or financial institutions to be unable to meet their obligations too. The risk refers to a payment and settlement system. It is important to differentiate systemic risk from systematic risk a term used by financial analysts to describe a situation where all share prices may fall leading to a major market setback and losses in investment opportunities. Systemic risk is also different from systems risk a term used by computer programmers to describe the possibility of a failure or malfunctioning of a group of hardware, software and peripherals working together.

**Time Critical Payments**: Payments whose settlement at due date trigger other financial transactions. Non-settlement of time critical payments lead to a non fulfillment of the secondary transactions.

**Time sensitive payments**: Payments whose non-settlement at the due date draws immediate legal and other implications including penalties and other obligations.

**Truncation**: A procedure in which the physical movement of paper based payment instruments is curtailed or eliminated, and is replaced in whole or in part by their electronic data contents for further processing and transmission.
References


