

CENTRAL
BANK OF
KENYA



BANKI
KUU YA
KENYA

PAYMENT SYSTEM IN KENYA

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PAYMENT SYSTEMS IN KENYA

1. INTRODUCTION

The Central Bank of Kenya is aware of the numerous benefits of an efficient payment system, especially in its role in the effective implementation of the monetary policy operations and financial stability, and is collaborating with the Bankers Association in co-ordinating the modernization and the reform programme of the payment system in Kenya.

It is now some ten years since the Central Bank of Kenya (CBK), in joint collaboration with the industry association, launched its first initiative to create a modern payment system. The starting point was the need to improve the system for clearing cheques, at that time the only and most important non-cash payment instrument in use. Cheques were then cleared locally in the centres where the Central Bank had branches. The cheques were listed on hand-operated machines and reconciled manually. In co-operation with the commercial banks, new procedures and rules for inter-bank clearing and settlement were designed based on MICR technology, resulting into a centralised automated clearing house with-national wide clearing cycle reduced from 3 to 4 weeks to 3 days. (T+3) presently and high value are clearing at T+2.

1.1 General Legal Aspects:

Banking business and the conditions in which they operate in Kenya are governed by the Banking and Central Bank of Kenya (CBK) Acts. Other legislations include Bills of Exchange Act, Companies Act, Building Societies Act and Cheques Act. Laws relating to the use of cheques are derived from the English law mainly the Cheques Act of 1957 and the Bills of Exchange Act 1882.

In Kenya there is no law that explicitly and exclusively deals with payment systems. However, in its current form, Central Bank of Kenya (CBK) Act, as amended in 1996 gives the Bank implicit powers to oversee and regulate the payment systems. Section 4A of the Central Bank of Kenya Act provides that the Bank shall “promote the smooth operations of payments, clearing and settlement systems”. Section 4A further stipulates that the Bank has the sole right to “issue currency notes and coins”.

The new statutes recognize these two tasks as secondary objectives of the Central Bank.

To promote public confidence in the banking system, a legal mechanism for liquidating the assets and paying off the liabilities of failed banks and financial institutions has been bestowed upon the Deposit Protection Fund Board under the Banking Act. There is also an Act of Parliament governing the Central Depository System for the trading in equities on the Nairobi Stock Exchange. The legal basis for CDS operations in government securities is at an advanced stage of implementation; a review of the Internal Loans Act.

The CBK is already working on an explicit legal framework an NPS Act, while the Government is working on the Information Communication and Technology Law to support the payment system modernization process. A draft EFT Act; with the primary objective of the provision of individual customer rights is already documented.

1.2 Role of Financial Intermediaries that provide Payment Services

The major institutions that provide payment services in Kenya include Commercial Banks, Non-Bank Financial Institutions, Post Office Savings Bank, Specialized Financial Institutions, Building societies and Mortgage Finance Companies.

1.2.1 Credit Institutions

Kenya has a well diversified financial sector. Currently the industry comprises 43 commercial banks, 2 non-bank financial institutions, 2 mortgage finance companies, 48 forex bureaus, and about 17 credit institutions under liquidation. Others include 4 Building Societies, 37 insurance companies, 57 hire-purchase companies, and some 2,670 Savings and Co-operative Credit Societies.

1.2.2 Specialised Financial Institutions

There are specialized organizations set up by the Government to assist the specific sectors of the economy; the major ones include the Agriculture Finance Corporation, Agriculture Development Corporation, Industrial and Commercial Development Corporation Kenya Industrial Estates.

1.2.3 Other Institutions

Kenya has 890 post offices, 400,000 private letter boxes and 60 postal/courier operators.

Currently there are about 1300 registered administrators of pension schemes in Kenya with an estimated portfolio of Kshs 140 billion, which is 27% of GDP. Kshs 59 billion is held by the National Social Security Fund (NSSF) which is a mandatory pension scheme. There are about 1100 other registered private pension and provident fund providers countrywide. The Retirement Benefits Authority Act 1997, governs operations within the sector.

1.2.4 The Post Office

The Post Office has three main payment instruments: Ordinary Money Orders, which identify the recipient and can only be cashed at specified Post Offices. They can be drawn for any sum up to a maximum of Kshs 35,000 per order. The Telegraphic Money Order guarantees customers Same Day Value while the Postal Order is a bearer instrument, which can be cashed at any Post Office.

The main advantage of the Post Office is accessibility, having the largest distribution network and reaching almost every village in the country.

1.3 The Role of Central Bank in National Payment Systems.

The CBK Act of 1996 (amended) stated six specific responsibilities of the CBK as:

- (a) formulate and implement foreign exchange policy;
- (b) hold and manage its foreign exchange reserves;
- (c) license and supervise authorized dealers;
- (d) promote the smooth operation of payments, clearing and settlement systems;
- (e) act as banker and adviser to, and as fiscal agent of the Government; and
- (f) issue currency notes and coins

1.3.1 General Responsibilities

The Central Bank of Kenya is empowered by the Central Bank of Kenya Act to formulate and implement monetary policy directed to achieving and maintaining

stability in the general level of prices and to generally make regulations for the proper functioning of a stable market – based financial system. The Central Bank of Kenya is also empowered by the Banking Act and the Building Societies Act to oversee the operations of commercial banks, financial institutions, mortgage finance companies and building societies.

1.3.2 Provision of Settlement and Credit Facilities

The Central Bank of Kenya provides deposit accounts for commercial banks to facilitate interbank settlements and to manage mandatory cash ratio reserves. Financial institutions also maintain accounts in Central Bank mainly to cater for the minimum cash reserves for monetary policy requirement only.

The Central Bank facilitates the clearing and settlement services on a net-multilateral arrangement at the Nairobi Clearing House

The Central Bank offers “the Lender of Last Resort” facility where government securities are rediscounted or used as collateral for central banking lending to the banking system on an overnight basis.

1.3.3 The Risk Reduction Measures

There are two clearing sessions at the Automated Clearing House at 10 am and 12 noon. Members of the Clearing House are required to maintain a credit balance in the clearing account with the Central Bank of Kenya at the close of each working day. To avoid debit positions, banks get funds from alternative sources e.g. through interbank borrowings including Central Bank or discounting of government securities, to replenish the accounts before next clearing session. Where a member fails to replenish the account all the clearing items are unwound. The Central Bank in collaboration with Kenya Bankers Association – the owners of the Clearing House, are working on a “Failure to Settle” mechanisms.

If a member fails to meet its clearing obligations for **two days**, within 30 days the rules stipulate that such a member discontinues participating in the Clearing House and ceases to be a member of the Clearing House.

Central Bank oversees the operations of all commercial banks, financial institutions, mortgage finance companies and building societies. During the on-site inspections all risks are evaluated and necessary remedial actions are recommended. Off-site surveillance is also conducted by reviewing data received from institutions on a regular basis. Corporate governance issues have also taken a centre stage in the supervising process.

2. SUMMARY INFORMATION ON PAYMENT MEDIA USED BY NON BANKS

2.1 Cash Payments:

Cash is the most common form of payment media because it is readily accepted, no need for authorization and provides instant value. However, it has the major disadvantage of insecurity, bulkiness and high cost of production, hence the need for other media. The CBK policy is to encourage the populace to move to non-cash payment instruments.

2.2 Non-Cash Payments

2.2.1 Cheques

The cheque is the most widely used non-cash mode of payment accounting for 48% of non-cash payments. In the year 2002, the average monthly volume of cheques cleared through the Nairobi Clearing house amounted to over 1,127,090 cheques or Kshs 10.1 billion in value. Kenya has a 2 day clearing period for large value payments (Kshs 10m and above) 3 day period for small value payments country-wide and 10 day for remote areas.

2.2.2. Payment Cards/Plastic Money

Payment Cards have become increasingly important as non cash payment instruments. There are credit, debit and pre-paid cards. The Credit Card is the most common of the category although debit cards are becoming more popular.

Credit cards enable the holders to make purchases and draw cash upto a pre-arranged ceiling. The credit granted can be settled in full by the end of a specified period.

Charge cards operate on a similar principle as credit cards, except that you must pay off all debits each month. An annual fee is usually levied for the convenience of not having to carry cash.

Pre-Paid Cards/Smart Cards are cards on which value is stored. The stored value/balance available for use reduces with usage. In Kenya these cards are available especially for telephone services issued by Telkom, mobile phone companies, for visiting of game parks issued by Kenya Wildlife Services (KWS) etc.

Debit cards imply a “pay now” type of payment, to be used in conjunction with the card holder’s saving or current accounts. Generally the issuer would develop its ATM cards into debit cards. Examples include those issued by the Standard Chartered Bank. Example of an international debit card is VISA Electronic Cards.

2.2.3 Automated Teller Machines (ATM) Cards are cards used in ATMs that allow bank customers to perform basic routine transactions without having to visit a bank. In Kenya there are 230 ATMs belonging to five (5) major banks and a few other banks. Major banks in Kenya now issue ATM cards to holders of both demand and savings accounts in order to ease long queues in banking halls and enable the withdrawal of cash.

Kenswitch, an on-line ATM network set up by a consortium of 18 small and medium banks provides a shared network for switching ATM transactions among member bank. Other big banks providing ATM facilities run their own individual networks for ATMs and POS terminals.

2.2.4 Paperless Payment/EFT

Proliferations of computer applications and communication technology within the Kenyan Financial Sector has resulted in enhanced paper-based payments correspondingly evolving into electronic forms. These include EFTs, ATM,

EFTPOS, and international electronic funds transfer systems such as SWIFT. Presently paperless payment media in Kenya comprise of the following:

2.2.5 Electronic Funds Transfer (EFT) System

EFTs are used for transferring value between banks on behalf of customers. Within Kenya's inter bank exchange arrangement, EFT system is used as a facility for processing payments electronically via the Automated Nairobi Clearing House between the Kenya Bankers Association member banks. Value is given on a same day basis while finality and irrevocability of the payment is guaranteed.

2.2.6 Direct Debits

Direct debits are in use in countries all around the world and are fast becoming the preferred way of paying regular bills and making utility service related payments globally. They are pre-authorised by the paying customer who gives permission for his/her bank to debit his/her account upon receipt of instructions initiated by the receiving customer e.g. insurance or mortgage companies.

The Kenya Bankers Association introduced the Direct Debit Scheme, effective from 1st June 2003. Direct Debits provide a simple, safe and convenient banking service that enables one ("the debtor") to settle his or her bills as and when they fall due. This is typically done by the service provider ("the creditor"), who initiates the transfer of funds due from the debtor's account in settlement of goods sold, or services rendered to him or her. The transfer is based on the **Direct Debit Authority (DDA)** signed by the debtor and the service provider, provided his or her account has adequate funds to pay.

Types of payments that can be made using Direct Debits, typically are: Insurance premium payments; Hire purchase repayments; Public utility e.g. power, water, telephone payments; Mortgage repayments.

2.2.7 SWIFT

Society For Worldwide Interbank Financial Telecommunication (SWIFT) is a cooperative owned by members banks in 199 countries worldwide. It has a track record of supplying secure, standardized financial messages securely since 1974. In Kenya 34 out of 43 commercial banks are members of SWIFT. The Central bank of Kenya is encouraging Banks to join SWIFT because of its robust secure network. Where the banks consider membership costly they are encouraged to consider joining it via a bureau. Currently 11 commercial banks in Kenya have joined SWIFT via the Fin-x Bureau in South Africa and 32 have joined the Kenya Exchange Service Bureau (KENEX) in Kenya.

2.2.8 Other Electronic Banking Services

Commercial banks in Kenya also provide other electronic banking services such as office-banking, home-banking, internet-banking or tele-banking etc. These are electronic services where the customers can instantly access their account balance and other information on an on-line basis using a telephone and a personal computer (PC).

3. INTER-BANK EXCHANGE AND SETTLEMENT SYSTEMS

3.1 Inter-Bank Money Market

Thirty four banks transmit information via SWIFT while others use messengerial services to deliver payment instructions to CBK. Value is on same day basis.

3.2 Automated Clearing House (ACH) – Cheque Clearing process

The clearing and settlement arrangement is divided into retail and wholesale segments and there are no limits to the value of credit or debit items that pass through the Clearing House.

The Central Bank facilitates the ACH operations through the Kenya Bankers' Association (KBA) which owns, operates, and administers the clearing for cheques and EFTs that are used by 38 clearing banks, including the CBK and 5 other non-clearing banks. Membership is restrictive and banks must comply with certain criteria approved by KBA. Members share Clearing House expenses via KBA.

MICR (Magnetic Ink Character Recognition) system was adopted during 1998 as the basis for the automation of clearing effects in the whole country. The cheque amounts are however entered manually as the amounts are not encoded.

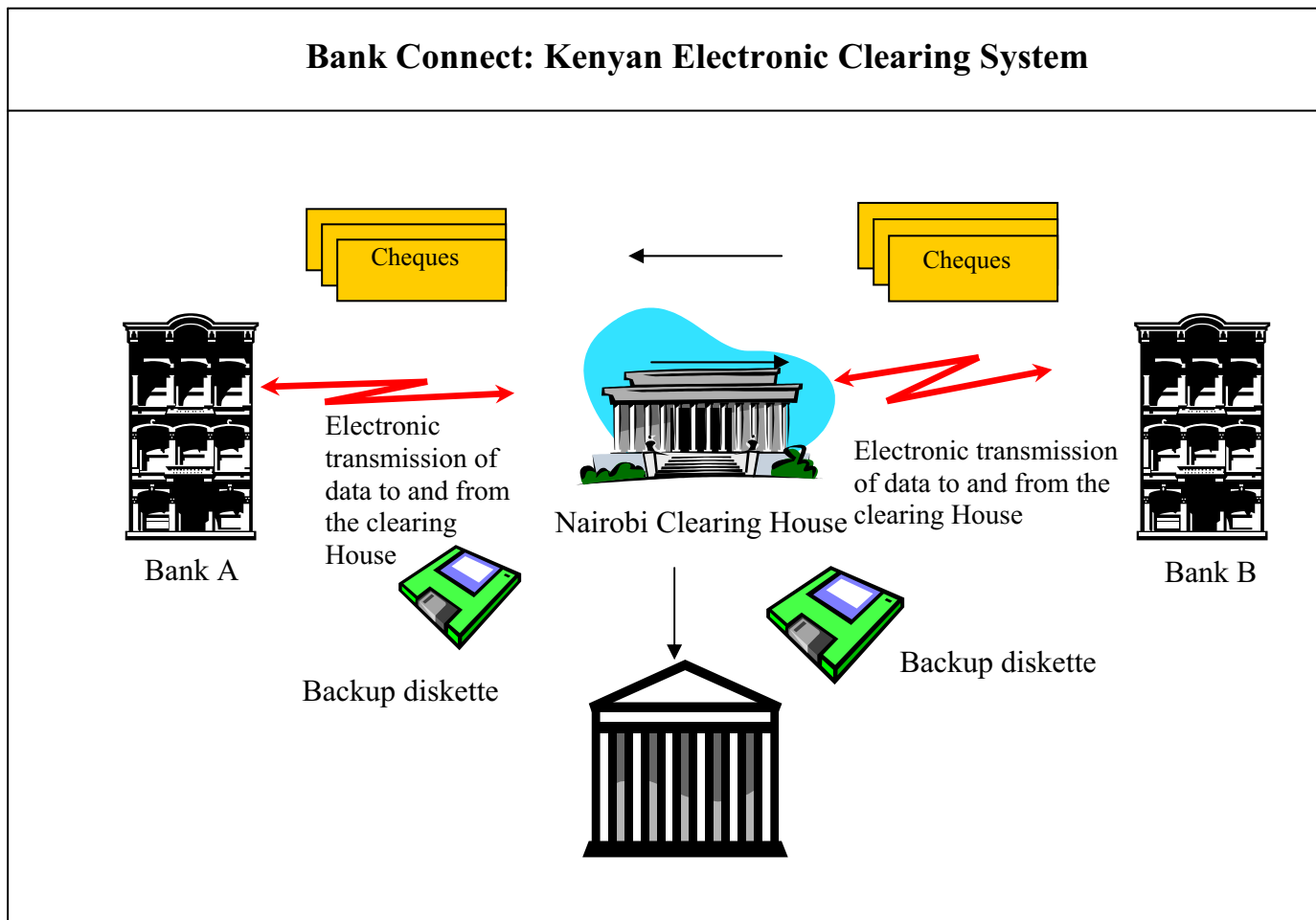
For security purpose all files to and from the Clearing House are signed by a system which generates signature files for the exchanged files.

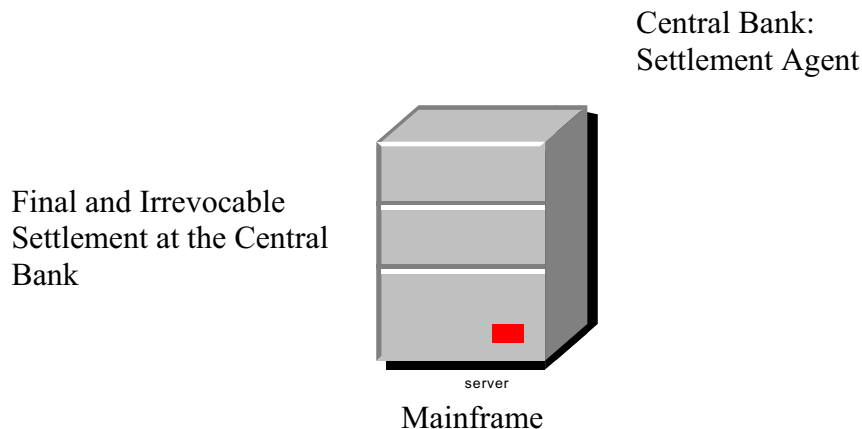
All banks must have the signature software installed to participate in the Clearing House. Each signature file is associated with a data file that enables the authenticity of the data file to be verified.

The cheques are then taken to Clearing House by a bank representative where they are physically exchanged. The data files are transmitted through dial up telephone lines to the ACH where they are processed to produce settlement figures by 10.00 a.m. The second session of clearing at 12.00 noon is used for returning suspected instruments or returning unpaid large value cheques – (currently Kshs 10m - and above).

The type of settlement is End – of - Day Multi-lateral Net Settlement through the banks' clearing accounts domiciled at the CBK on the same day. The ACH is able to manage the settlement risk by way of ACH Rules allowing for unwinding of a bank's position when in an overdrawn position. The Kenya Bankers Association are already working on "Failure to settle" rules.

The cost of running the Clearing House is borne by the CBK but the acquisition of new technology and computer applications is equally shared among the membership including the CBK.





3.3 Securities Settlement Systems

Major categories of financial instruments commonly traded in Kenya include, Equity Securities, Corporate Debt Securities, Treasury Bills and Treasury Bonds.

3.3.1 Government Securities

Government Securities include Treasury Bills which are short term (1 – 6 months) and Treasury Bonds which are medium to long term (1 – 5 years). Investors are required to open a Central Depository System (CDS) Account with the CBK. The CDS is a paperless book entry account used as evidence of investment instead of paper certificates. On redemption the CDS account holders, are paid by crediting their commercial bank accounts.

3.3.2 Equity Securities

Capital Markets Authority (CMA) is the regulator of equity markets. Settlement is still manual but there are plans to automate settlement within the Exchange. Already the Central Depository System Law is in place and the only remaining functionality is the computerization of the CDS and the Automated Trading System (ATS) which is slated for implementation by September 2003.

4. THE NATIONAL PAYMENT SYSTEMS (NPS) REFORM INITIATIVE

4.1 NPS project initiatives

The Central Bank of Kenya together with Kenya Bankers Association (KBA) formed the nuclear National Payment Systems (NPS) Operations Committee with the National Payment Systems Division of the Central Bank providing secretarial services. The Committee is chaired by the Deputy Governor. Since the formation of the NPS Operations Committee several initiatives have been started to improve the payment systems in Kenya.

4.2 The NPS Achievements

€ Automated Clearing House	-	May 1998
€ Two session Clearing	-	March 15,1999
€ 3 day clearing period countrywide	-	March 15, 1999
€ Shared ATM/POS consortium formed	-	May 1999
€ 2 day High Value Clearing	-	June 02, 2000
€ Amendment of the Bills of Exchange Act to allow electronic Evidence in our courts and also allow electronic clearing (Legal Notice No.9 of 2000)	-	Dec 2000
€ Introduction of Electronic Funds Transfer Mechanism (EFT)	-	August 2000
€ Pilot on Electronic Clearing Begins	-	July 01, 2001
€ Kenswitch Goes Live (4 Bank	-	Dec 30, 2002
€ Electronic transmission of clearing data	-	June 01, 2003
€ Commencement of CDS Act for Listed Securities	-	June 01, 2003
€ Direct Debit	-	June 2003

4.3 Projects in Progress

4.3.1 Foreign Currency Clearing Arrangement

A self regulating foreign local currency clearing “Club” comprising thirteen member banks has been in existence since August 1994 when the Central Bank authorized commercial banks customers to open foreign currency accounts with cheque book facilities. Any non-member wishing to participate is at liberty to align with a member bank to act as its clearing agent. The National Payment Systems Operations Committee adopted the Local Foreign Cheques Clearing System (LFCCS) as one of its projects. A study was carried out and a case for a formal, open and integrated Local Foreign Cheque Clearing System was established. Following the recommendation of the Study Group the project was initiated and it is now at the testing stage.

The core features of the proposed model, which should be operational by end of August 2003 includes:-

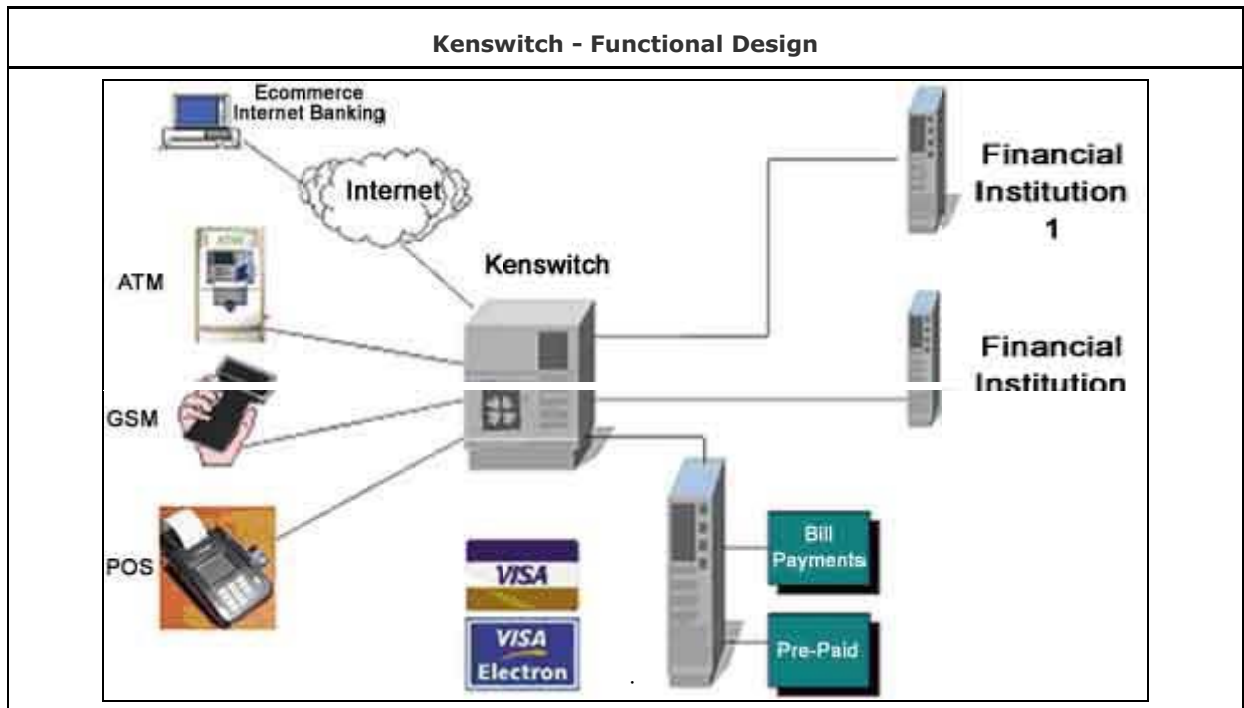
- ∓ Nairobi Automated Clearing House (ACH) to operate the US Dollar Cheque Clearing System under their own Rules and Regulations.
- ∓ It is to be an open access membership subject to meeting conditions.
- ∓ The CBK to be the Settlement Agent and Service Provider
- ∓ Participating banks to maintain an account in US Dollar, Euro and Sterling and to maintain at the close of each working day an overall credit balance with a defined minimum balance.

4.3.2 Shared ATM/POS SWITCH - KENSWITCH

The Shared Automated Teller Machines is a project of eighteen banks whose objective is to establish shared ATMs. The shared ATMs operations under a trade name Kenswitch (Kenya Switch). The Kenswitch board was constituted on August 02, 2002 and its membership comprises 7 directors 3 of whom are from the banking industry. The switch went live to the public on December 20, 2002 with 4 banks which have all issued cards to their customers. ATM locations currently number 14 and it is expected that by end of year 2003 the number will have increased to 50. A

customer will have access to any of the ATMs operated by the switch. Settlement is via a sponsoring bank which is a member of the consortium.

The switch software, is capable of providing various solutions, transactions switching, payments and remote banking through internet and WAP, mobile commerce and prepayments and finally Call Centre acquiring. Future plans include expanding the network to other towns and establishing connectivity with international payment networks such as VISA and Master Card.



4.3.3 Real Time Gross Settlement Project:

The Draft conceptual Design document is ready and is under discussion. A taskforce has been formed to chart a way forward for the country's Real Time Gross Settlement (RTGS) System. Draft NPS Bill is ready for presentation to Parliament. The implementation target is slated for June/September 2004.

4.3.4 NPS Legislation Review

The necessary legal framework governing payment transactions over the years has progressively been put in place to ensure certainty of payment. Although the Central Bank of Kenya Act empowers the Central Bank to promote the smooth operations of payments, clearing and settlement systems, an NPS Act is considered necessary to provide for the management, administration, operation, regulation and supervision of payment clearing and settlement system.

The Central Bank is also in consultation with other stakeholders participating in the introduction of an Electronic Transactions Law to cover E-Banking, E-Commerce, E-Signatures among other products. The Bills of Exchange Act was also amended in 1999 to allow for the electronic presentation of data for clearing purposes. An Electronic Funds Transfer (EFT) bill has also been drafted and is awaiting presentation to the Attorney General's Chambers. The bill is intended to provide a basic framework establishing the rights, liabilities and responsibilities of participation in electronic funds transfer systems, including ATMs and pre-authorised Credit/Debit transfers. The Government has also adopted the UNCITRAL Model Law on E-Commerce and E-Systems; ICT Act 2003 Draft is under discussion by the major stakeholders.

5. Regional Cooperation On Payment Systems

Within the regional context, the Central Bank of Kenya is committed to the initiatives of the East African Payment Systems Harmonisation Committee which is the technical arm of the Monetary Affairs Committee comprising the Central Bank Governors of the East African Community.

Under the E.A. Co-operation, the Monetary Affairs Committee of the three E.A Central Bank Governors meet at least annually at the headquarters of the Community in Arusha, Tanzania. For the strategic development and harmonisation of payment systems in the region, the Governors constituted the E.A. Payment Systems Harmonisation Committee (EAPSHC) during the 1998 meeting.

The main objectives of the EAPSHC are to:-

- ∓ Co-ordinate and harmonise payment system developments within the East African region:
- ∓ Promote a sound regional payment system to further economic integration within the region.

Some of the projects achieved to date are:-

- (a) the automation of the three countries' Clearing Houses based on the E.A. Common Data Transfer Standards;
- (b) Development of guidelines for licensing and regulating E-Money Schemes and Products;
- (c) Formation of E.A. SWIFT User Technical Working Group;
- (d) Harmonisation of Definition of Payment Systems, Concepts and Terms;
- (e) A Checklist for Payment Systems Oversight;
- (f) Development of Risk Management Measures.

The spirit of the EAPSHC is in furtherance of the East African Community initiatives in the areas of payment systems so that the region's populace of about 89 million enjoy the benefits of an efficient and secure payment system.

6. PROJECTS AND POLICIES SCHEDULED FOR IMPLEMENTATION BY THE NPS OPERATIONS COMMITTEE

- ∓ Develop and Document Kenya's NPS Vision and Strategic Framework, **(Done and Awaiting Launching by the Governor)**.
- ∓ Develop Guidelines Relating to Credit Reference Bureaus Implementation of Operational Credit Reference Bureaus **(Proposed Operational Guidelines are being discussed by the industry)**.

€ Implement Cheque Truncation/Imaging (**Long-term**).

(a) Promote SWIFT for Domestic payments.---(continuous Approach)

(b) Promote SWIFT for Regional payments. .---(continuous Approach)

(c) Encourage Connection of all banks to Swift. .---(continuous Approach)

€ Implement RTGS for Large Value Payments

€ An Act of Parliament governing Central Depository System for trading in equities on Nairobi Stock Exchange has been enacted since 2000. Commence date was June 01, 2003.

7. INFRASTRUCTURE

Kenya has a well-developed transport and telecommunications system. The Government, as part of its policy for stimulating rapid economic development, has expanded both internal and external means of transport and communication to serve the economy as a whole. Currently, the emphasis is on the establishment of infrastructure to assist the private sector and generate productive employment in small towns and market centres by facilitating the efficient movement of goods and services, and establishing capable links not only countrywide but also regionally.

7.1 Telecommunications.

Liberalisation of the communications sector began 1999 with the split of the defunct Kenya Posts and Telecommunications Corporation into three (3) entities. Communication Commission of Kenya (CCK) is the industry regulator, while Telecom Kenya and Postal Corporation of Kenya provide telecommunication and postal services, respectively.

Telecommunication in Kenya is regulated by Communication Commission of Kenya (CCK). The main telecommunication provider is Telkom and its network has a switching capacity of about 400,000 land lines and presently at 340,000 and 7,000

payphones covering virtually every urban, rural and market center. Kenya has an estimated 500,00 internet users most of whom achieve access through cyber cafes. Currently Telkom offers the following services :

7.1.1 Safarisat

Safarisat is a mobile handset that provides voice, fax, data, telex and emergency position indicating radio beacon (EPIRB) communication anywhere on the globe 24 hours a day. It offers services for High Speed Data (HSD), Electronic Mail (Email), Supervisory Control and Data Acquisition (SCADA) and Fleet Monitoring and Tracing.

7.1.2 Kenstream

Kenstream is a high quality digital leased line service available for a specified monthly rental service regardless of the degree of use. It enables organisations to integrate a wide range of applications with a single access service with sufficient transmission capacity to interconnect local area networks (LAN) and computing systems to create private networks based on high quality leased line.

The leased lines are available at data speeds from 300 bits up to 2 x 64 kbit/s (128 Kbit/s) over ordinary telephone lines using the ISDN 2B+D transmission format.

It is useful for a high volume user especially businesses with intensive communications between their own sites or with other companies such as their suppliers or customers.

7.1.3 Kenpac

Is a Wide Area Networking solution using packet switching technology.

Typical applications include the following;

Batch processing

Wide area networking

Remote data base access

Automated Teller Machines

7.1.4 Kensat

Is a VSAT (Very Small Aperture Terminal) network service with the very best in data communications reliability and security. It extends the existing leased (Kenstream) line and packet switched (Kenpac) services to areas, which would otherwise take a

long time to reach with terrestrial-based technologies. There are currently four customers utilizing this service.

The key Kensat applications include the following;

- Automatic Teller Machines;
- Electronic Mail;
- Wide Area Networking (WAN);
- Electronic Point of Sale (EPOS);
- Real Time Market Quotation;
- Credit Card Verification;
- Supervisory Control And Data Acquisition (SCADA)
- Remote Printing
- High Speed Document Transfer (HSDT)
- Videos for marketing and training

7.1.5 Jambonet

This is an Internet backbone gateway for Internet service providers (ISP's) through dedicated digital links. It is offered in increments of 64 kbps.

7.1.6 Mobile phones

The mobile phone business in Kenya is regulated by the Communication Commission of Kenya. There are two mobile phone service providers : Kencell and Safaricom with a total subscriber base of 1.86 million as at the end of June 2003 and dwarfing the approximately 300,000 Telecom (fixed lines) customers. Despite the late arrival of mobile phones in Kenya, the two operators last year overtook the combined numbers of subscribers of both Tanzania (which has four mobile operators) and Uganda (with three) . When Kenya had 1.6 million cellular lines in March this year, Tanzania had 647,000 while Uganda 600,000. The third mobile service operator is slated for licensing by October 2003. Five operators have been pre-qualified for the third license. CCK believes the country has additional unserved demand of between 4.7 million to 9.4 million lines.

Safaricom

It is a subsidiary of Telkom Kenya and is 30 percent owned by Vodafone of the United Kingdom. Currently Safaricom has over 1.05 million subscribers.

Kencell

This is the second cellular mobile service operator with an extensive coverage of the country with about 780,000 subscribers.

Kenya has therefore a broad telecommunication infrastructure which is reliable and adequate making it possible for a reliable internet infrastructure to be developed. Kenya is in the process of setting up a universal fund to address the issue of universal access to communications services.

7.2 Availability of Electricity

Growth of the power sub-sector has been phenomenal with the number and country coverage of consumers growing from 260,000 to over 400,000 between 1990 and 2003. Over the same period, lengths of transmission and distribution lines have increased to over 17,000 kms.

The Government has encouraged generation of non-hydro power by independent power producers as an alternative source of electricity to circumvent weather patterns like drought.

Kenya Power & Lighting Company (KPLC) is in the process of enhancing Rural Electricity Programme making electricity available in both rural and urban areas.

7.2.1 Kenya Electricity Generating Company (KenGen)

KenGen is charged with the responsibility of managing all public power generation facilities in Kenya. The company generates over 90% of the total power output. It sells power in bulk to KPLC. Power generated from hydro stations forms 78% of the total Electricity output.

At the moment, KenGen owns hydropower stations with a total installed capacity of 598.5MW. The hydro power stations comprise the Seven Forks stations, the mini hydro stations and Turkwel hydro project.

7.2.2 Kenya Power and Lighting Company (KPLC)

KPLC is responsible for transmission and distribution of electricity. It is the sole distributor of electricity for all generating companies in the country.

7.2.3 Electricity Regulatory Board (ERB)

The Board approves power purchase agreement between KPLC and power generators. It is charged with reviewing and adjusting tariffs for power consumers.

The Board also enforces environmental and safety regulations in the power sub-sector.

7.2.4 Independent Power Producers (IPPs)

These are private investors who generate power and sell it in bulk to KPLC. At the moment, three IPPs are operational, namely, Iberafrica Power (K) Ltd Westmont Power and Or. Power (K) Ltd. Four more IPPs are coming up in Mombasa, Naivasha, Nakuru and Eldoret. In total, IPPs are expected to generate 331.5MW by the year 2003.

7.3 Roads Infrastructure

Kenya has an extensive road network connecting most parts of the country and linking up with road networks of its neighbours. All major commercial centres are connected by paved roads. Freight rates for trucking are reasonable and negotiable and vary from one transporter to another. About half of the freight traffic in Kenya is carried by road.

The present road transport network comprises a variety of roads, ranging from forest and farm tracks to multi-lane urban and suburban highways. The system is divided into classified and unclassified roads, with a total network of 151,000 km.

The classified network consists of 62,667 km, with the remaining 88,333 km being unclassified. Out of the classified network of 62,667 km, 7,943.2 km are to bitumen standard (compared with 1811 km at independence), 26,180.8 km are to gravel standard and the rest are to earth standard.

7.4 Kenya Railways

The railway network, in Kenya comprises 2,755 km of track. The minor branch lines link Konza with Lake Magadi , Nairobi to Nanyuki on the slopes of Mount Kenya, Gilgil to Nyahururu, Rongai to Solai, Eldoret to Kitale and Kisumu to Butere. In addition to the railways, the Kenya Railways Corporation operates marine services on Lake Victoria, which include a wagon ferry service between Jinja in Uganda and Kisumu. The corporation has three steamers in service, one wagon ferry, two tugs and nine lighters.

7.5 Air Transport

Following the collapse of the East African Airways, Kenya Airways was formed by the Kenya Government. Apart from international, regional and domestic scheduled

international flights operated by Kenya Airways, over 30 foreign airlines operate to and from Kenya through the country's international airports, namely the Jomo Kenyatta International Airport (JKIA) in Nairobi and the Moi International Airport (MIA) in Mombasa. In addition many local and foreign private firms and individuals operate charter flight services within the country.

In addition, the Government has invested in the development of international and domestic aerodromes with adequate maintenance, security and safety systems. Because of the importance of these aerodromes, the Government has established the Kenya Airports Authority to improve their services and facilities. The Meteorological Department and the Directorate of Civil Aviation, under the Ministry of Transport and Communications, continue to provide essential support services to the aviation industry.

Internally, the country is well-served by an efficient network of charter flights, which use the widespread development of minor aerodromes, which can accommodate small and medium sized aircrafts. Scheduled and chartered domestic flights operated privately have taken advantage of the development of aerodromes at Wilson Airport (in Nairobi), at Kisumu, Malindi and Lamu to establish reliable domestic flight services linking these areas with commercial and rural centers in the rest of the country. The Government has plans to upgrade services currently provided at aerodromes serving important economic centers so as to increase efficiency and productivity in these areas, specifically including those at Kisumu, Eldoret and Garissa.

Kenya therefore has an excellent international and domestic air transport infrastructure.

8. CHALLENGES FACING THE REFORMS ON KENYAS' NATIONAL PAYMENT SYSTEMS

8.1 ICT (Information Communication and Technology) Developments

The first challenge is the fast growth and developments in ICT. The implications and impact of these products and developments on monetary policy, seigniorage and financial stability is yet to be fully comprehended by financial system regulators and government.

≠ Harmonization of technical IT standards and protocols, linkages between the various payment and settlement systems, open access to the systems and security are the other challenges that face the payment systems.

8.2 Cost of Technology

Many bank branches lack the appropriate equipment to serve a modern payment system. The shortage of funds is the main difficulty in modernizing the payment system at many banks especially the local banks and more so the indigenous banks. National Information and Communication Technology (ICT) policies have been identified and documented for the amenities application.

8.3 Public Acceptance

The public acceptance of new systems has been slow. Old habits die-hard and, accordingly, some segments of our society are reluctant to give up paper for electronic systems.

8.4 Payment Instruments Limitations

The payment instruments available and the quality of banking services do not meet the needs of customers for a low cost, convenient and reliable payment medium which is essential to a market economy. In addition, because the use of payment instruments is sometimes complicated, many people prefer cash to non-cash instruments when conducting payment transactions.

8.5 Economic Constraints and Cash Culture

Kenyan per capita income is still low, standing at only \$281, and the lowest in the region. This makes the cost of transactions through banks too high. The demand for holding deposits with banks and making payment transactions through banks is very low.

Most of the Kenya populace tend to prefer to use cash in payment transactions rather than non-cash instruments. People dislike using cheques due to incidences of bouncing and the fact that bouncing of cheques has not been criminalised in the Kenyan laws.

8.6 Legal Framework

Lack of a sound legal and regulatory framework for NPS operations is a challenge to underpinning all aspects of modern electronic payment operations. Due to this fact, the Central Bank of Kenya is already playing an important role in the development of a comprehensive legal framework for all facets of the payment system operations in Kenya.

9. TABLES OF PAYMENT SYSTEM STATISTICS (See the attachments)

Table 1

Basic statistical data

	1997	1998	1999	2000	2001	2002
Population (million)	28.1	28.8	29.5	30.2	30.8	31.5
Gross domestic product at market price (Kshs billion)	623.2	690.9	742.1	795.97	895	969
GDP growth rate (%)	2.4	1.8	1.4	(0.2)	1.2	1.0
Average exchange rate vis-à-vis USD	58.82	3.38	70.33	76.18	78.06	78.88
Average annual inflation (%)	11.20	6.60	3.50	6.20	5.80	1.80

Table 2

Settlement media by non-banks (end year) (kshs bn)

	1997	1998	1999	2000	2001	2002
Notes and coins (Currency outside banks)	36	39	43	43	45	54
Transferable deposits (local currency)	50.2	53.9	59.9	70.8	80.7	90.8
Of which held by:						
Households	13.4	14.7	17.9	19.8	24.1	30.8
Corporate sector	36.8	38.5	41.6	50.6	56.4	59.7
Other	0.0	0.7	0.4	0.4	0.2	0.3
Narrow money supply (M1)	91.1	94.7	110.0	119.3	130.0	150.1
Transferable local currency deposits not in (M1)	4.1	7.0	3.1	5.9	4.8	4.6
Broad money supply (M3X)	321.8	333.6	345.7	360.0	368.4	392.7

Table 3

Settlement media used by deposit-taking institutions Banks (end of year December 31).

	1997	1998	1999	2000	2001	2002
Cash reserve ratio	15%	12%	12%	10%	10%	10%
Required reserves held at central bank	34,627	28,709	28,390	24,843	25,417	27,522
Free reserves held at central bank	-1,946	1,796	-445	980	590	-1,667
Transferable deposits at other institutions	1,366	487.4	494.7	149.3	726	176.3

Table 4
Bank notes and coins.

	1997	1998	1999	2000	2001	2002
Kshs 1,000	23391.30	25,973.29	31,074.89	33,686.79	29,638.65	34,564.87
Kshs 500	7364.20	6,422.59	7,466.68	6,348.05	5,976.81	5,165.39
Kshs 200	4795.50	4,631.16	4,062.18	3,903.20	3,593.03	3,695.54
Kshs 100	4182.90	3,851.84	3,841.12	4,371.11	4,102.43	4,356.93
Kshs 50	819.30	872.45	1,290.02	1,316.84	1,222.09	1,449.72
Kshs 20	1465.10	1,355.42	491.22	255.58	257.11	231.58
Kshs 10	149.50	135.85	132.02	128.78	128.87	126.73
Kshs 5	24.40	24.31	24.28	24.25	24.25	24.23
Coins:						
Kshs 20	0.00	0.00	521.38	706.77	686.17	837.22
Kshs 10	330.90	394.79	482.87	547.26	531.35	547.22
Kshs 5	270.50	307.64	337.31	342.25	334.22	374.86
Kshs 1	254020	274.98	294.63	307.16	303.58	336.71
Kshs -/50	89.90	94.46	95.17	94.58	94.21	102.83
Kshs -/25	0.10	0.14	014	0.14	0.14	0.14
Kshs -/10	35.60	35.73	35.82	35.85	35.84	35.88
Kshs -/05	15.30	15.27	15.27	15.26	15.26	15.25

Table 5

**Institutional framework
(By June 2003)**

Categories	Number of institutions	Number of branches	Number of deposit accounts	Value of accounts (Kshs m)
Central	1	4	1,758	57,856
Commercial Banks	43	442	1,564,812	354,663,577
(a) Operating	42	1		
(b) Under Statutory Mgt	1			
(c) Under Liquidation by DPFB	22			
NBFIs	2	2	66,330	13,473,631
Building Societies	4	34	276,331	10,205,421
(a) Operating	3			
(b) Under Statutory Management	1			
Mortgage Finance Com.	2	18	63,063	11,865
Investment Banks	4	-	-	-
Forex Bureau	48	-	-	-

Table 6

Counterfeit Notes Received from Commercial Banks

Denomination Kshs	1999	2000	2001	2002
1000	319	402	389	602
500	76	733	594	466
200	22	78	415	207
100	10	9	10	60
TOTAL	427	1222	1408	1335

Reporting is as at 31st December

Table 7

Cash dispensers, ATMs and EFTPOS terminals

Cash dispensers and ATMs	(As at 2001)	2002	June 2003
Number of ATMS in provinces		93	-
Number of machines	159	170	230
Volume of transactions (millions)	-	-	-
Value of transactions (Kshs millions)	-	-	-

Table 8

Participation in SWIFT by domestic institutions

	1998	1999	2000	2001	June 2002 YTD
Total Kenya:					
Members:	12	9	9	9	9
Of which live	11	9	9	9	9
Sub-members:	2	4	4	4	4
of which live	2	4	4	4	4
Participants:	0	6	8	11	16
of which live	0	5	8	10	16
Total users:	14	19	21	24	29
of which live	13	18	21	23	29
Memorandum items:					
Total SWIFT	3,052	2,230	2,307	2,265	2,232
Members	2,980	2,214	2,288	2,241	2,219
of which live					
Sub-members	2,781	2,825	3,037	3,143	3,094
of which live	2,720	2,763	2,978	3,027	3,050
Participants	938	1,936	1,49	2,049	2,168
of which live	857	1,820	1,859	1,931	2,091
Users	6,771	6,991	7,293	7,457	7,494
of which live	6,557	6,797	7,125	7,199	7,360

Table 9

SWIFT Message flow to/from domestic users

	1998	1999	2000	2001	June 2002 YTD
Total messages sent.	331,999	362,936	431,566	509,583	250,277
of which:					
category I	122,964	136,090	165,782	203,980	100,074
category II	81,965	91,046	103,880	117,358	53,615
Total messages received	420,210	451,443	519,666	585,116	287,795
Of which:					
Category I	179,389	189,474	215,984	250,159	126,749
Category II	14,662	23,273	30,092	32,209	11,761
Between domestic Users	16,940	28,278	67,772	95,090	41,599
Global SWIFT traffic	937,039,995	1,076,490,597	1,298,668,103	1,533,906,047	873,415,853

Table 10
Capital Market Statistics

	1997	1998	1999	2000	2001	2002*
Shares Volume (Million)	143.47	111.11	157.49	141.42	109.19	135.75
Shares Turnover (Kshs.bn)	6.15	4.58	5.16	3.63	3.12	2.88
Market Capitalisation (Kshs bn)	114.31	128.94	106.74	101.42	86.10	112.31
Index (Year Close)	3115	2962	2303	1913	1355	1363
Foreign Investors Turnover (Kshs.bn)	2.23	1.16	1.13	0.70	0.39	0.42
Net Foreign Inflow (Kshs. Bn)	1.58	0.08	0.01	0.49	0.12	(0.06)
Bond (Treasury) Turnover (Kshs bn)	15.08	8.22	8.07	6.47	9.46	34.24
No. of New Issues)	3	2	1	3	3	0
No. of New Shares (Million)	63.89	37.42	26.58	22.61	404.97	0
Value of New Shares (Kshs bn)	1.94	2.1	0.37	0.45	2.4	0
Total No. of Listed Companies	57	56	56	54	54	51
No. of Stockbrokers	20	20	18	18	18	18
No. of Investment Advisors	19	19	22	22	26	25
No. of Authorized Depositories	5	5	5	5	5	5
No. of Dealers			1	1	1	1
No. of Investment Banks						2
No. of CIS						2
Shares Turnover – Financial Sector (Kshs bn)	2.50	1.87	1.63	1.30	1.33	1.10
Market Capitalization – Financial Sector (Khs. bn)	43.93	48.01	40.64	37.12	35.96	44.02
Approved Commercial Paper (Face Value) Issues (Kshs Million)	500	450	10,650	600	800	-
Outstanding Corporate Bonds (Medium Term Notes) (Kshs million)			1,200	350	6,000	1,000

* Provisional