



Report of the High Level Group on Systems and Procedures for Currency Distribution

August 2009

Contents

Executive Summary

I. Introduction

1. Constitution of the High Level Group
2. Terms of Reference
3. Members
4. Meetings by the Group
5. Methodology Adopted
6. Acknowledgements

II. Need for Review of Currency Management

1. Currency Management in India
2. Currency Chests
3. Currency Chest Mechanism
4. Steps taken by Reserve Bank of India in the area of currency management
5. Recent Trends

III. Cross Country Experience

1. USA
2. United Kingdom
3. Euro banknotes
4. Australia

IV. Observations and Recommendations

- A. Measures for facilitating detection of counterfeit notes and maintaining quality of notes in circulation.
- B. Measures for better cash holding and cash distribution system.
- C. Measures for strengthening security systems and procedures.
- D. Measures for developing Human Resources.

Report of the High Level Group on Systems and Procedures for Currency Distribution

Executive Summary

I. The Dumariaganj incident

1. The Special Task Force of the Uttar Pradesh (UP) Police seized in July 2008 a large number of counterfeit notes in Rs.500 and Rs.1000 denomination from a person arrested in Siddharthnagar, UP, who revealed about the involvement of a cashier from Dumariaganj branch of a nationalized bank in the fake note racket. Immediately upon receipt of this information from the UP Police, a team of officers from Reserve Bank of India (RBI) and the bank concerned carried out a special scrutiny of the cash held at the said Currency Chest and detected more than 75,000 pieces of counterfeit notes to the tune of Rs.4.02 crore, most of which were in the denomination of Rs.500 and Rs.1000. The scrutiny also revealed shortage of around Rs.70 lakh in the chest balances. The cashier concerned was arrested by the State Police and the matter is under investigation.

2. The Dumariaganj incident was unprecedented in that it was for the first time that such a large quantity of counterfeit notes had found its way into a currency chest. Basically, non-adherence to the laid down guidelines for currency chest operations and failure of internal control systems had facilitated the perpetration of the fraud by the cashier in question. RBI took up the matter with the bank concerned, which initiated necessary corrective action.

II. Setting up of the High level Group

3. In order to address the systemic concerns thrown-up by the Dumariaganj incident, the Governor, Reserve Bank of India, vide his order dated August 26, 2008, constituted a High Level Group headed by Smt. Usha Thorat, Deputy Governor to review the existing arrangements for stocking and distribution of currency notes with a view to enhancing the integrity and efficiency of the systems and procedures and suggest appropriate measures. The High Level Group included representatives from IBA and a few major banks, an IT industry expert, a former Director General of CRPF/CISF and senior officials of RBI.

III. Banknotes (currency) scenario in India Reserve Bank's Responsibility

4. Currency management is one of the core functions of a Central Bank, one which commands a high degree of public visibility, especially so in a country like India, where there is a marked preference for cash transactions. The Reserve Bank of India Act, 1934 casts on the RBI the responsibility of not only providing banknotes in adequate quantities throughout the country, but also maintaining the quality of bank notes in circulation.

IV. Growth in Notes in Circulation

5. There has been significant growth in the banknotes in circulation in the country over the years as may be seen from the following table.

(pieces in million and value in Rs. crore)

| Year (As at end of March) | NIC (Notes in circulation) (Pieces) | Increase over previous year (per cent) | NIC (Notes in circulation) (Value) | Increase over previous year (per cent) |
|--|--|---|---|---|
| 2001 | 35,704 | - | 2,12,460 | 8.3 |
| 2002 | 38,338 | 7.4 | 2,44,655 | 15.1 |
| 2003 | 37,309 | - 2.7 | 2,75,096 | 12.4 |
| 2004 | 38,336 | 2.8 | 3,19,761 | 16.2 |
| 2005 | 36,984 | -3.5 | 3,61,227 | 13.0 |
| 2006 | 37,851 | 2.3 | 4,21,911 | 16.8 |
| 2007 | 39,831 | 5.2 | 4,96,138 | 17.6 |
| 2008 | 44,225 | 11.0 | 5,81,598 | 17.2 |
| 2009 | 48,963 | 10.7 | 6,81,113 | 17.1 |

V. Incidence of counterfeit notes

6. The absolute number of counterfeit notes detected at bank branches and the Reserve Bank offices increased from 1,02,687 in 2000-01 to 3,98,111 in 2008-09. The number of counterfeits detected per million pieces in the banking channel has ranged from 3 to 8.

| Counterfeits detected in the banking channel vis-à-vis Notes in Circulation (NIC) | | | |
|--|---------------------------------|-------------------------|--|
| Year (April – March) | Counterfeits (No. of pieces) | NIC (Million pieces) | No. of Counterfeits per million NIC |
| 2000-01 | 1,02,687 | 35,704 | 3 |
| 2001-02 | 1,24,515 | 38,338 | 3 |
| 2002-03 | 2,11,754 | 37,309 | 6 |
| 2003-04 | 2,05,226 | 38,336 | 5 |
| 2004-05 | 1,81,928 | 36,984 | 5 |
| 2005-06 | 1,23,917 | 37,851 | 3 |
| 2006-07 | 1,04,743 | 39,831 | 3 |
| 2007-08 | 1,95,811 | 44,225 | 4 |
| 2008-09 | @3,98,111 | 48,963 | 8 |

@Provisional figures

Notes:

The jump in the detection of counterfeit notes during 2008-09 is attributable to: -

- (i) Detection of 76,273 pieces at the currency chest at Dumariaganj.
- (ii) Installation and putting into effective use of Note Sorting Machines (NSMs) at all currency chests, which has led to increase in detection at such chests.

In recent times, the media has been erroneously quoting Nayak Committee having estimated the forged notes in circulation to be around Rs 1,69,000 crore. The Group notes that the RBI appointed Nayak Committee (1988) did not make any estimate of forged notes; the figure of Rs 1,69,000 crore refers to projection made by the Committee of actual total notes in circulation in the year 2000. In fact the actual total notes in circulation when the Nayak Committee submitted its report was Rs 38,600 crore compared to Rs. 1,96,157 crore in 2000 and Rs. 6,81,113 crore as at the end of March 2009. Against this the number of notes detected through the banking system as forged ranged from 3 notes in a million to 8 in a million in the nine year period ending March 2009.

VI. Summary of main recommendations of the Group

7. After detailed deliberations and interaction with major banks, leading manufacturers and suppliers of Note Sorting Machines/Desktop Sorters as well as Cash-in-Transit (CIT) companies, the High level Group makes the following main recommendations:

(A) Measures for facilitating detection of counterfeit notes and maintaining quality of notes in circulation

- (i)** Note Sorting Machines (NSMs) / Desktop Sorters may be installed in all bank branches in a phased manner for early detection of counterfeit notes.
- (ii)** Banks may ensure the quality of the notes fed in ATMs. They may conduct periodic audit of the agents used for outsourcing this activity viz. the CIT companies. Banks may switch over to the 'cassette swap' system for feeding the ATMs. New ATMs installed may be provided with in built note detectors. Over a period existing ATMs may also be required to have in built note detectors.
- (iii)** Performance parameters of NSMs may be standardized by RBI to ensure that all NSMs installed adhere to the laid down standards for detection of counterfeit notes.
- (iv)** RBI may ensure that the plan for withdrawal of notes of old series is implemented strictly as formulated and that the new series of banknotes with more robust security features be introduced as early as possible. RBI may also facilitate R and D efforts for development of new security features.
- (v)** Where any person inadvertently in possession of counterfeit notes upto five (5) pieces tenders the same at a bank counter, the requirement of filing FIR may be done away with. A simple report may be filed with the branch which in turn may include this in the Counterfeit Currency Report (CCR) to FIU-IND / RBI.
- (vi)** RBI may review the system of incentives and disincentives for detection and disclosure of counterfeit notes while assisting the enforcement agencies in dealing appropriately with those involved in making and distribution of counterfeit notes.

(B) Measures relating to cash holding and distribution

- (vii)** RBI may stipulate suitable cash holding limits for all currency chests beyond which the cash should necessarily be moved to a chest with larger limits or to RBI.
- (viii)** Each RBI office may undertake a review of the requirement of currency chests in their jurisdiction based on the volume and nature of transactions,

accessibility of the chest and other factors including security so as to rationalize the number of chests and upgrade the facilities thereat for better security and efficiency.

- (ix) To tap advantages arising out of economies of scale, minimize overnight cash risks at bank branches and to benefit from sophisticated logistics techniques banks may be encouraged to establish Currency Processing Centres, which should be permitted to charge other banks for processing services.
- (x) As NSMs have to be installed at all branches for sorting notes before dispensation, banks will have to make necessary investments. The cost of such investments will need to be recovered from the bulk tenderers of cash. Banks may put in place a transparent policy for such charges of cash handling/processing with the approval of their respective boards as already advised by RBI vide its DBOD directive DIR.BC.86 / 13.10.00 dated September 7, 1999.
- (xi) RBI may take initiatives in promoting use of cards and electronic means of payment.

(C) Measures for strengthening security systems and procedures

- (xii) RBI may explore enlisting the services of a specialized and dedicated force / other approved agencies to provide security at chests and for movement of treasure.
- (xiii) RBI may explore upgradation of the security systems in currency chests and RBI vaults incorporating electronic bio-metric access, electronic locking of bins, and surveillance through Closed Circuit Television (CCTVs). Networking of CCTVs at chests within the jurisdiction of a controlling office of the bank may be explored for better surveillance.
- (xiv) Tamper-proof *shrink* wrapping of soiled notes with bar coding of details of the branch remitting them may be introduced.
- (xv) A system of quarterly security audit of currency chest branches by controlling offices may be introduced. Comprehensive guideline / format may be prepared by RBI /IBA.

- (xvi)** A system of risk based inspection of currency chests may be introduced by banks / RBI taking into account various parameters for evaluating the extent of risk.
- (xvii)** Banks may draw up a contingency plan / disaster management plan in consultation with local police.
- (xviii)** RBI may explore the possibility of introducing a defacing system of self inking / marking of banknotes in transit or in chests, which would automatically trigger-in if there is an attack / attempted robbery/ theft etc.

(D) HR Measures

- (xix)** Banks may modify their transfer pricing policy or equivalent policy so as to pass on the benefit on account of having a currency chest to the branch where the chest is maintained.
- (xx)** Rotation of staff posted at currency chests may be ensured to prevent vested interest and entrenched non adherence of laid down systems and procedures.
- (xxi)** Where deviations and irregularities are found, controlling offices may take immediate punitive action after fixing accountability.
- (xxii)** Bank may accord recognition to currency handling operations as a sensitive and skilled activity and provide necessary incentives and training.

Chapter I

INTRODUCTION

1. Constitution of the High Level Group:

The bank notes in circulation in the country have grown significantly over the years and as one might anticipate, incidence of counterfeit notes has increased too, more so in the recent times. Although the number of counterfeit notes detected in the system would seem insignificant in comparison to the huge volume of the bank notes in circulation, the counterfeiting menace is by no means less daunting. Counterfeit notes pose a huge challenge to the Reserve Bank of India, which has the responsibility to ensure the integrity of bank notes while putting in place infallible distribution channels and custodial arrangements. Towards this end, the Reserve Bank has been constantly taking steps to prevent counterfeiting of the banknotes by introducing new / improved security features periodically, besides taking various measures for arresting circulation of counterfeit notes.

However, counterfeit notes, usually in small numbers, manage to find their way into the banking system time and again. There are also isolated incidents of detection of counterfeit notes in significant numbers pointing to the vulnerabilities in the system. One such incident came to light in July 2008, when the Special Task Force of Uttar Pradesh Police seized a large number of forged notes in Rs.500 and Rs.1000 denomination from a person arrested in Siddharthnagar, UP. On interrogation by the Police, the person revealed that a cashier from the currency chest branch of a nationalized bank at Dumariaganj was involved in the fake note racket. Immediately upon receipt of this information from the UP Police, a team of officers from RBI and the bank concerned carried out a special scrutiny of the cash balances held at the said Currency Chest and detected more than 75,000 pieces of counterfeit notes to the tune of Rs.4.02 crore, many of which were in the denomination of Rs.500 and Rs.1000. The scrutiny also revealed shortage of around Rs.70 lakh in the chest balances. The cashier concerned was arrested by the State Police, who are investigating the matter.

The Dumariaganj incident was unprecedented in that it was for the first time that such a large quantity of counterfeit notes had found its way into a currency chest. Basically, non-adherence to the laid down guidelines for currency chest operations and failure of internal control systems had facilitated the perpetration of the fraud by the cashier in question. The Reserve Bank took up the matter with the bank concerned, which initiated necessary corrective action.

In order to address the systemic concerns thrown-up by the Dumariaganj incident, the Governor, Reserve Bank of India vide his order dated August 26, 2008, constituted a High Level Group headed by Smt. Usha Thorat, Deputy Governor to review the existing arrangements for stocking and distribution of currency notes with a view to enhancing the integrity and efficiency of the systems and procedures in this regard and suggest appropriate measures. The High Level Group included representatives from IBA and a few leading banks, besides an IT expert, a former Director General of CRPF/CISF and senior officials of RBI.

2. Terms of Reference:

The terms of reference of the High Level Group were as under:

[1] To review the current systems and procedures for Stocking and Distribution of currency notes by RBI and analyse the strength and weaknesses with particular reference to the evolving security and technology environment.

[2] To study the international best practices in distribution of currency by other central banks.

[3] To recommend measures for building on the existing strengths and enhancing the integrity and efficiency of the systems and procedures.

3. Composition of the High Level Group:

| | | |
|----|---|-------------------|
| 1. | Smt. Usha Thorat, Deputy Governor, RBI | Chairperson |
| 2. | Shri T.V. Mohandas Pai, Director (HR), Infosys Ltd. | Member |
| 3. | Shri S.I.S Ahmed, IPS (Retd.) former Director General CRPF & CISF | Member |
| 4. | Dr. K. Ramakrishnan, CEO, IBA | Member |
| 5. | Shri K. Sitaramam, DMD, SBI | Member |
| 6. | Smt. Madhabi Buch, ED, ICICI Bank Ltd. | Member |
| 7. | Shri V.K. Sharma, ED, RBI | Permanent Invitee |
| 8. | Shri C. Krishnan, ED, RBI | Permanent Invitee |
| 9. | Shri U.S. Paliwal, CGM, DCM, RBI | Member Secretary |

4. Methodology adopted:

The Group met on five occasions during September 2008 – May 2009. The Group deliberated on the currency management systems and practices existing in India as also those prevailing in leading central banks, the availability of technology to address the issues in Currency Management and the need to leverage it to greater advantage. The members undertook visits to different currency chests covering the four zones in the country to study the existing practices, custodial arrangements, security aspects, etc. They also interacted with major banks maintaining currency chests, leading manufacturers and suppliers of Note Sorting Machines and Desktop Sorters as well as Cash-in-Transit (CIT) companies so as to gain valuable insights into various aspects of currency stocking and distribution, the technological options available to improve the same as well as for counterfeit management.

5. Acknowledgements:

The members of the Group wish to place on record their deep sense of appreciation for the support provided by the following Officers of the Bank in preparation of the Report:

Shri Ajay Michyari, General Manager

Smt. Pratibha Raghavan, Deputy General Manager

Shri H M Dash, Assistant General Manager

Shri S Shankar, Assistant General Manager

Chapter II

Need for Review of Currency Management

1. Currency Management in India:

The management of currency is one of the core functions of a central bank and one, which commands a high degree of public visibility. This is especially so in a country like India, where people have a marked preference for cash transactions. The fact that there are a number of inaccessible pockets in the country adds to the already formidable challenges in managing currency in India.

In terms of Section 22 of the Reserve Bank of India Act, 1934 the Reserve Bank is the sole authority for the issue of currency in India. Although one rupee notes / coins and other small coins are issued by the Government, they are put into circulation only through the Reserve Bank of India.

The RBI Act casts on the Reserve Bank the responsibility of not only providing banknotes in adequate quantity throughout the country, but also maintaining the quality of banknotes in circulation.

2. Currency Chests:

The currency chests are essentially extension of the Issue Department of the RBI set up at various places across the country to meet the currency requirements of the public. The Currency chests are storehouses of notes and rupee coins and are established at authorised branches of public and private sector banks/Regional Rural Banks/Urban Co-op Banks. Though presently no currency chest is allowed to be opened with treasuries/sub-treasuries, there are some currency chests opened earlier with non-banking district treasuries and sub treasuries where the volume of transactions is of a sufficiently high order. The core central banking function of note issue and currency management is performed by the Reserve Bank through its 19 Issue Offices, a currency chest at RBI Kochi and a wide network of 4299 currency chests and 4040 small coin depots with banks.

The Reserve Bank has put in place agency arrangements with banks under which a currency chest facility is granted to them. The State Bank Group continued to have the largest share (71.4 per cent) of currency chests, followed by nationalised banks (22.9

per cent). There are still a small number of currency chests at STOs. Two Regional Rural Banks (Prathama Gramin Bank, Uttar Pradesh and Tripura Gramin Bank, Tripura) were granted 'in principle' approval for setting up currency chests. Prathama Gramin Bank has operationalised its currency chest.

The total number of currency chests and Sub Treasury Offices (STOs) has declined marginally over the last four years following the on-going policy of rationalisation and consolidation of currency chests by public sector banks, mainly the State Bank of India and its Associate banks. The number of currency chests at STOs declined to 15 and efforts are afoot to close them gradually. The following table traces the decline in the number of currency chests since 2005.

| Category | Number of Currency Chests as at the end of | | | |
|--|--|--------------|--------------|---------------|
| | June 2006 | June 2007 | June 2008 | December 2008 |
| 1 | 2 | 3 | 4 | 5 |
| Treasuries | 116 | 23 | 19 | 15 |
| State Bank of India | 2,182 | 2,127 | 2,089 | 2,166* |
| SBI Associate Banks | 994 | 988 | 985 | 900 |
| Nationalized Banks | 1,028 | 1,061 | 1,084 | 1,090 |
| Private Sector Banks | 83 | 94 | 101 | 102 |
| Co-operative Banks | 1 | 1 | 1 | 1 |
| Regional Rural Banks | 0 | 0 | 0 | 1 |
| Foreign Banks | 4 | 4 | 4 | 4 |
| Reserve Bank (offices and currency chests) | 20 | 20 | 20 | 20 |
| Total | 4,428 | 4,318 | 4,303 | 4,299 |

*Includes 84 currency chests belonging to erstwhile State Bank of Saurashtra

3. Currency Chest Mechanism

The Reserve Bank of India carries out the function of currency management through its network of Issue offices and currency chests. On opening of a currency chest, an initial remittance of banknotes and rupee coins is arranged from the Issue Office, under whose jurisdiction it functions, or by diversion from a chest in the circle/outside the circle.

Administrative instructions to currency chests regarding banknotes and coins, new series of banknotes/ coins, changes in procedure, etc are issued from time to time.

Each Issue Office of RBI is responsible for the supply and withdrawal of banknotes and coins to and from the chests in its circle. The annual requirement of notes and coins of currency chests is assessed through indents submitted by the chests through their link offices. The currency chest branches are required to realistically assess their requirements and forward their indents for banknotes and coins on an annual basis (April to March) to their respective link offices who in turn submit a consolidated chest-wise, denomination-wise indent for notes and coins to the Issue Offices concerned. The currency chests are also required to indicate in their indents, the surplus and soiled banknote balances and the surplus and withdrawn coins, which are required to be removed.

Banknotes and rupee coins which are unfit or cannot be issued for further circulation or are not required for immediate requirements of the branches are deposited into the chests. When sufficient quantities of non-issuable banknotes accumulate, they are remitted to the Issue Office concerned. Currency chests thus obviate the necessity for frequent physical movement of currency and enable banks/treasuries to work with minimum cash balance of their own.

The requirement of currency chests is also at times met by arranging supplies from other surplus chests by issuing diversion orders by Issue Offices. The surplus chests from which supplies can be drawn and the deficit chests to which these can be sent are identified on the basis of database of chests maintained at the RBI's Issue Offices.

The non-chest branches can deposit their surplus cash with or obtain their cash requirements from the bank branches maintaining currency chests at the same or another centre. This also helps in pooling soiled banknotes accumulated with non-chest bank branches with the chest branches for onward transmission to the Issue office in due course. The non-chest branches are required to sort the banknotes into re-issuable and soiled/non-issuable before depositing the same with the chest branch to which they remit their cash. Presently, chest branches levy a charge of Rs. 2/- per packet while accepting cash from non chest branches of other banks.

4. Steps taken by RBI to improve the quality of banknotes in circulation and enhance controls and security.

A. Distribution of currency

- i) The printing capacity at the four note presses was augmented with a view to close the demand-supply gap in currency.
- ii) The role of currency chests in the currency distribution system was augmented so also the role of non-currency chest branches was increased through the Linkage Scheme.
- iii) Incentives for opening of currency chests, installation of coin vending machines & distribution of coins have been introduced.
- iv) Direct remittance of fresh notes from the press directly to currency chests to reduce transit risk.

B. Clean Note Policy

(i) In November 2001, the Reserve Bank issued to all banks a directive in public interest prohibiting the stapling of bank notes, and mandating that soiled notes tendered to the Reserve Bank should be in unstapled condition. Banks were also instructed to issue only clean notes in unstapled condition to the public. By end July 2003, more than 4400 currency chest had destapled the stock of notes lying in their vaults.

(ii) The Reserve Bank embarked upon mechanisation of currency processing operations in the Issue offices. For handling the increasing quantum of notes received for examination, the Reserve Bank installed **Currency Verification and Processing (CVP) Systems** at its Issue Offices. The CVP systems are capable of sorting the notes on the basis of denomination, design and level of soilage. Generally, the system sorts the notes into 'Fit', 'Unfit', 'Reject' and 'Suspect' categories. The 'Unfit' notes are destroyed in an eco-friendly manner through shredding and briquetting systems. The 'Fit' notes are retrieved from the system in packets of 100 pieces. These packets are banded by the system and information such as denomination, date of processing, name of office, operator code is printed on the label to facilitate easy identification. The notes in the 'Reject' and 'Suspect' categories are received in separate stackers and these have to be inspected manually for the presence of counterfeit or notes of other denominations.

The CVPS ensures uniformity and consistency in the examination of notes on the basis of soilage levels and other parameters and classification thereof into re-issuable and non-issuable. The element of subjectivity, which characterises manual examination of notes, is thus eliminated through CVPS.

The system has provision for graded access rights as part of security measures, besides the other routine checks and balances in place at the Issue Offices. The system can also

capture and store data as well as provide reports depending upon the requirement of the users. All the 19 Issue Offices have been equipped with such systems for examination and disposal of soiled notes.

(iii) In addition to the CVPS, the Reserve Bank launched a special drive for faster disposal of soiled notes accumulated in the vaults of its offices as well as in currency chests. As a result, the annual disposal of soiled notes increased considerably from 10.6 billion pieces during 2000-01 to 15.6 billion pieces during 2002-03 (when the drive was initiated) and has been maintained through the years. The soiled note disposal stood at 11.9 billion pieces during 2008-09.

(iv) As a part of the plan to effectively control the circulation of counterfeit notes at the entry point itself as also to ensure furtherance of 'Clean Note Policy', banks were advised to mechanise the currency chest operations in a time bound manner. Accordingly, banks were required to provide Note Sorting Machines (NSMs) of appropriate capacity at all their chest branches. All the currency chest branches in the banking network have since installed NSMs. RBI has also installed NSMs at select non-chest branches over the country based on their proximity to international borders, higher counterfeit detection and those having high cash handling requirements.

(v) All banks have been advised to secure note packets with paper/polymer bands or twines instead of wire staples. As a supplement to this system, banks are required to install dual- display note counting machines for the satisfaction of their staff as well as their customers.

C. Security and Controls

i) Installation of Close Circuit Television (CCTV) in the currency chests.

ii) Security sealing of fresh note packets to enable visual inspection and taking over the remittance without opening the bundles/packages.

iii) The Reserve Bank's inspectors have been given guidelines to include an assessment on the quality of sorting of notes by branches.

iv) Levy of penal interest for wrong reporting of transactions by currency chests, penalties for detection of counterfeit notes in the currency chests/ chest remittances, penalties for inadequacies / deficiencies in maintenance of currency chests.

D. Management Information System

In order to achieve seamless flow of information from currency chests to Reserve Bank on stock position etc. the Reserve Bank established the Integrated Computerised Currency Operations and Management System (ICCOMS). Implementation of ICCOMS has facilitated prompt, efficient and error-free reporting and accounting of the currency chest transactions and seamless flow of information.

E. Steps taken by the Reserve Bank to curb currency counterfeiting

To check the menace of counterfeiting of banknotes, the Reserve Bank initiated several measures. These measures include augmenting security features on the bank notes so as to render counterfeiting difficult and expensive and running education campaigns for members of public and cash handlers so as to facilitate detection of counterfeits. Some of the steps taken in this regard are as follows:

- All Currency chest branches of banks (and certain identified non-chest branches which are close to international borders or have heavy cash transactions) have been equipped with Note Sorting Machines to detect and curb the circulation of counterfeit notes.
- The Reserve Bank has been coordinating with the investigating agencies as well as State police authorities for information sharing. State Level Committees headed by Director General of Police involving all agencies concerned have been formed to deal with the issue of counterfeiting.
- Forged Note Vigilance Cells have been formed at all the banks to pay focused attention to counterfeiting.
- As a part of the ongoing endeavour to stay ahead of the counterfeiters, new security features/ new designs in the banknotes in all denominations were introduced in 2005-06, incorporating improved anti-counterfeiting design and security features.
- Instructions have been issued to banks to disburse only sorted and genuine notes through their counters /ATMs.
- The Reserve Bank regularly conducts training programmes for employees of banks and other organisations handling bulk quantities of cash like Railways etc. as well as police authorities.
- As a part of the public awareness campaign, the Reserve Bank has placed on its web site extensive information on security features of Indian bank notes. Posters on “Know Your Banknotes” are also displayed at bank branches.
- A film on ‘Know Your Banknotes’ prepared by Films Division has been released in theatrical circuit and is also been exhibited at prominent places.

5. Recent Trends

The Notes in Circulation (NIC) have increased significantly from 36,984 million pieces in March 2005 to 48,963 million pieces in March 2009 in terms of volume (and from Rs 3,61,227 crore to Rs 6,81,113 crore in terms of value during the same period). With a policy of 'zero tolerance' for counterfeiting adopted both by the Bank and the Government, there is a huge challenge on the system to deliver both on the front of cash handling at ever increasing volumes and maintaining effective customer service, while ensuring integrity of the notes in circulation.

During 2008-09 (April-March), the value of banknotes in circulation rose by 17.1 per cent as compared to the growth of 17.2 per cent during 2007-08, whereas the volume of banknotes rose by 10.7 per cent vis-à-vis 11.0 per cent a year ago.

The growth in the volume of banknotes continued to be lower than that in value terms, reflecting the gradual compositional shift towards higher denomination banknotes, particularly Rs.1000 and Rs.500. While the volume of Rs.500 denomination banknotes increased by 17.2 per cent during 2008-09 (16.7 per cent a year ago), that of Rs.1,000 denomination banknotes rose by 35.8 per cent (50.7 per cent a year ago). The volume of Rs.10 denomination banknotes increased by 30.9 per cent due to sustained efforts made to infuse a greater number of fresh banknotes into circulation to bring about an improvement in the quality of these banknotes. As a result of sustained efforts to release the stock held with currency chests, the volume of banknotes in the denominations of Rs. 2 and Rs. 5 also increased by 6.2 per cent. While , the volumes of banknotes of denominations of Rs. 20 increased by 7.1 per cent and Rs. 100 increased marginally by 1.8 per cent the volume of Rs.50 decreased by 7.8 per cent as compared with those in 2007-08 (April – March).

As at end March 2009, Rs.100 denomination banknotes had the largest share in terms of volume (28.0 per cent of the total pieces in circulation) and Rs. 500 denomination banknotes, the largest share in terms of value (45.3 per cent of the total value of banknotes in circulation). The consistent shift from lower denomination to higher denomination banknotes could be partly attributed to the technological advancements (growing network of ATMs) coupled with the rising income levels.

Counterfeit Notes in circulation

| Year | FICN detected (Number of pieces) | Value (In Rupees) | Notes in Circulation(NIC) (Million pieces) | FICN as % to NIC | No. of FICN per million NIC |
|---------|-------------------------------------|----------------------|---|------------------|-----------------------------|
| 2000-01 | 102687 | 3,28,59,860 | 35,704 | 0.000288 | 3 |
| 2001-02 | 124515 | 3,37,78,270 | 38,338 | 0.000325 | 3 |
| 2002-03 | 211754 | 3,51,74,760 | 37,309 | 0.000568 | 6 |
| 2003-04 | 205226 | 2,76,12,540 | 38,336 | 0.000535 | 5 |
| 2004-05 | 181928 | 2,43,79,460 | 36,984 | 0.000492 | 5 |
| 2005-06 | 123917 | 1,76,75,150 | 37,851 | 0.000327 | 3 |
| 2006-07 | 104743 | 2,31,90,300 | 39,831 | 0.000263 | 3 |
| 2007-08 | 195811 | 5,49,91,180 | 44,225 | 0.000443 | 4 |
| 2008-09 | 398111 | 15,57,05,000 | 48,963 | 0.000813 | 8 |

Note: Data are exclusive of the counterfeit notes seized by police and other enforcement agencies.

Counterfeit Management

During 2008-09 (April-March), the number of counterfeit notes detected at the Reserve Bank offices and bank branches increased by 103.3 per cent as compared to 2007-08 (April-March).

Counterfeit Notes Detected (April-March)

| Denomination | Number of pieces | | | Value (Rupees) | | |
|--------------|--------------------------|--------------------------|----------------------------|--------------------|--------------------|---------------------|
| | 2006-07 | 2007-08 | 2008-09@ | 2006-07 | 2007-08 | 2008-09@ |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Rs. 10 | 110 (-) | 107 (-) | 68 (-) | 1,100 | 1,070 | 680 |
| Rs. 20 | 305 (0.1) | 343 (0.2) | 341 (0.2) | 6,100 | 6,860 | 6,820 |
| Rs. 50 | 6,800 (1.2) | 8,119 (1.5) | 12,792 (2.6) | 3,40,000 | 4,05,950 | 6,39,600 |
| Rs. 100 | 68,741 (5.1) | 1,10,273 (8.2) | 1,33,314 (9.7) | 68,74,100 | 1,10,27,300 | 1,33,31,400 |
| Rs. 500 | 25,636 (5.7) | 66,838 (12.7) | 2,19,739 (35.6) | 1,28,18,000 | 3,34,19,000 | 10,98,69,500 |
| Rs. 1,000 | 3,151 (3.4) | 10,131 (7.2) | 31,857 (16.6) | 31,51,000 | 1,01,31,000 | 3,18,57,000 |
| Total | 104,743 (2.6) | 195,811 (4.4) | 3,98,111* (8.1) | 2,31,90,300 | 5,49,91,180 | 15,57,05,000 |

@ Provisional figures

Notes:

1. Data are exclusive of the counterfeit notes seized by police and other enforcement agencies.
2. Figures in parenthesis in columns 2,3 and 4 indicate pieces per million (ppm) to total banknotes in circulation (- means negligible).
3. * Includes 9 pieces of Rs. 50; 3,513 pieces of Rs. 100; 65,805 pieces of Rs. 500 and 6,946 pieces of Rs. 1,000 seized at the Currency Chest at, Dumariaganj.

In value terms, the counterfeit notes increased by 183.1 per cent during 2008-09 on account of rise in detections in the notes of higher denominations, viz., Rs.100 and above and also on account of the large detection of counterfeit notes of higher denominations at Dumariaganj in September 2008. The increase in detection is attributable to installation of NSMs by all the banks at their currency chest branches (to

facilitate examination and detection of counterfeit notes at the currency chest level itself) and the setting up of the Forged Note Vigilance Cells (FNVCs) at the banks (to ensure stringent levels of anti counterfeit management in the banking system).

The Reserve Bank of India formed State / District level Committees on FICNs headed by Director General of Police involving all agencies concerned for taking necessary measures to effectively deal with all matters regarding counterfeit notes. It also embarked on mass awareness campaign to educate the public about the security features of genuine banknotes and undertaking training programmes for bankers / government / police authorities etc., to detect counterfeit notes.

In July 2008, the country witnessed the detection of a huge quantity of counterfeit notes in a currency chest in a small township of Dumariaganj, in Sidharthnagar district (Uttar Pradesh) close to Indo-Nepal border. This incident prompted the Reserve Bank of India to reinforce its drive against the circulation of counterfeit notes. It undertook an extensive scrutiny of all currency chests / ATMs nearer to our international borders and those located in areas identified as sensitive. Instructions were re-iterated to the banks to fix staff accountability and take appropriate action at chests where counterfeit notes are detected in large numbers and ensure the rotation of staff in all currency chests. This also led to the setting up of the present High Level Group.

Chapter III

Cross Country Experience

United States of America

The responsibility of Federal Reserve Banks for international currency distribution derives from the Federal Reserve's charge under the Federal Reserve Act (FRA) 1913, to provide an elastic supply of currency. The Reserve Banks facilitate the wholesale distribution U.S. currency to meet international demand through banking channels, primarily through depository institutions that are globally active in the wholesale banknote business. The New Currency Design (NCD) \$100 note introduced in 1996 represented the first major design change to U.S. currency in nearly 70 years. The Federal Reserve System, in consultation with the U.S. Treasury, established an Extended Custodial Inventory (ECI) program in March 1996 to facilitate the international distribution of the New Currency Design (NCD) banknotes, foster the repatriation of older-design U.S. banknotes, and promote the recirculation of fit U.S. banknotes. ECI

program was subsequently, expanded to include the collection of information to further the U.S. Treasury, Federal Reserve, and U.S. Secret Service's knowledge and understanding about the international use of USD, international U.S. banknote flows, and counterfeiting of U.S. currency in international markets. An ECI is an overseas cash depot maintained by a private-sector bank that holds U.S. banknotes on a custodial basis in a segregated area of its vaults. While at the ECI site, and during transit between a Reserve Bank and the ECI site, all U.S. banknotes remain on the books of the Federal Reserve Bank of New York the Federal Reserve debits the reserve account of the bank operating the ECI when it withdraws U.S. banknotes from the ECI inventory to sell to its customers. In addition, several central banks obtain U.S. banknotes directly from the Reserve Banks. Finally, a few globally active depository institutions in the banknote business do not obtain currency services from the Reserve Banks but instead rely on other market sources.

The three key elements of the US counterfeit deterrence program are an effective currency design, law enforcement and public education program. A new currency design, known as NCD, was introduced in 1996, and began with the \$100 denomination. The NCD incorporated additional security features that made verification of the authenticity of USD easier for their users. Preceding the introduction of the NCD for the \$100 note, an education program to acquaint the international market with the new currency design was undertaken. Subsequently, the education program targeted domestic issuance for the lower-denomination notes. A redesigned series, known as the Series 2004 New Color of Money (NCM), was introduced in 2003, and began with the \$20 note. The design incorporated enhanced security features and the introduction of subtle background colors, which added complexity to the design. The NCM \$50 note was issued in October 2004 and the NCM \$10 note was issued in March 2006.

As far as law enforcement is concerned, inside the United States, the U.S. Secret Service has jurisdiction over counterfeiting cases, and it routinely receives information about counterfeit activity from the Federal Reserve, commercial banks, and local law enforcement authorities. Outside of the United States, the U.S. Secret Service relies on its international law enforcement counterparts, contacts in the banking community, and U.S. diplomatic staff. U.S. currency received by Federal Reserve Banks is authenticated, and any suspect notes detected are forwarded to the U.S. Secret Service for further investigation.

The U.S. Secret Service also endeavors to encourage, facilitate, and monitor public education in counterfeit detection. International initiatives include training and education

for the banking and law enforcement community through its foreign offices, foreign task forces, ICAP, and the International Law Enforcement Academies (ILEAs). As major contribution to the counterfeiting of US currency is from Colombia, U.S. Secret Service assists in implementing a counterfeit detection program in Colombia that employs specially trained canines to detect Colombian-produced counterfeit U.S. banknotes through the unique aroma present in these counterfeit notes.

The U.S. Secret Service maintains two systems to improve statistical reporting of counterfeit note seizures and passing activity: The Counterfeit Contraband System and the USDOLLARS note search website. The Counterfeit Contraband System facilitates the collection of statistical data on investigations regarding counterfeit currency. In March 1999, the U.S. Secret Service established the USDOLLARS counterfeit note search site on the Internet (www.usdollars.usss.gov) that allows authorized users to access a database containing descriptions of counterfeit notes known to the U.S. Secret Service.

United Kingdom

The wholesale distribution & circulation of Bank of England banknotes is managed under the Note Circulation Scheme (NCS) which promotes the processing and distribution of notes by the commercial sector. To make this arrangement economically viable, the NCS allows its members (commercial banks, cash-in-transit companies and the Post Office) to hold notes in custody for the Bank within their network of cash centres. The Bank of England's direct involvement in wholesale processing and distribution is limited to the issue of new notes, withdrawing notes superseded by new designs, and the authentication and destruction of notes that are no longer fit for circulation.

Notes paid into banks from retailers and the public need to be sorted to assess their fitness for re-issue and prepare them for either ATM or counter dispense. The Bank supports the note sorting process by purchasing from the NCS members the notes declared to be within their sorting processes at the end of each business day. Consequently, the notes being sorted by a member are not held overnight on its balance sheet so it does not incur the funding cost of holding those notes. It is a condition of this purchase that the NCS members undertake to re-purchase the same notes at the start of the next business day. The notes, however, always remain in the physical custody of the member. In order to promote efficiency, one of the conditions of the NCS is that each member meets a standard turn-around target of four business days for the note sorting

process. NCS members are required only to return notes of an unacceptable quality standard to the Bank of England for authentication and destruction.

The Bank of England owns a store of notes held throughout the network of cash centres run by the NCS members. This provides a means of adjusting for seasonal fluctuations in demand for notes by withdrawing surplus notes from the system to be stored in member's cash centres but off balance sheet. These surplus notes can be acquired by members in periods of high demand. However, members are expected to hold notes for which there is a short-term demand on their balance sheets and frequent transactions into and out of this 'store' are contrary to the terms that govern NCS. The store also acts as a means of re-distribution of note stocks between those members with an excess of notes and those with a shortage. This store is a common pool of notes; any member may withdraw notes from or pay notes in to any NCS cash centre, irrespective of which member owns the cash centre site.

Banknote destruction

Life of a note ranges from around one year for the £5 note to five or more years for the £50 note. High speed note sorting machines separate the returned notes into those which are fit for re-issue those which are too dirty or damaged for further circulation and any counterfeit notes which may have entered circulation.

Until 1990, unfit banknotes were incinerated. However, it was decided that it would be more cost effective and environmentally friendly if notes were shredded on site rather than burnt. The resultant material is then used as landfill or taken to an industrial incinerator for burning.

Counterfeit of bank notes

The Bank is responsible for providing banknotes that the public can use with confidence that they are genuine. As part of this objective, the Bank monitors the incidence of counterfeit Bank of England banknotes by recording the number of counterfeits removed from circulation. The vast majority of counterfeits are discovered by the banking system when they are separated from genuine banknotes during the sorting process. They are also taken out of circulation when the public or retailers hand them into the police or banks

The Bank combats counterfeiting in four ways.

First, Bank of England banknotes are designed to be difficult and time consuming to copy by both traditional and computer-based printing methods. The security features that the notes carry, including raised print and feel of the paper, watermarks, holograms and fluorescent inks, provide a series of hurdles for the would-be counterfeiter. In addition, the designs are very intricate with varying patterns and fine lines. The Bank works closely with De La Rue, the printer of Bank of England banknotes, to ensure that the banknotes issued are of a uniformly high quality. The Bank continues to research and develop enhanced security features which may be suitable for future designs.

Second, the Bank provides a range of education and training materials about Bank of England banknotes to help cash users check that their banknotes are genuine. Information is available on the Bank's website, in leaflets and posters, in a short film guide and on a computer-based training package aimed at professional cash handlers. The Bank also conducts public perception surveys about the quality of banknotes in circulation and about the incidence of counterfeits.

Third, the Bank works closely with law enforcement agencies investigating counterfeit banknotes. Staffs in the Bank provide forensic expertise on counterfeiting methods and expert witness statements for court cases.

Fourth, the Bank works with the manufacturers of automatic banknote processing machines. The bank provides access to the latest library of counterfeits for testing purposes to ensure that their machines do not give value for a counterfeit note.

The Forgery and Counterfeiting Act 1981 is the primary piece of legislation used to bring about successful convictions in the courts. The maximum sentence under this Act is ten years imprisonment. The Proceeds of Crime Act 2002 is also used by the prosecution authorities to carry out financial investigations on convicted individuals in order to confiscate assets which comprise the proceeds of crime. In addition, they can also apply to the court for a Serious Crime Prevention Order (SCPO) under the Serious Crime Act 2007. A SCPO could, for example, prohibit an individual from buying, owning or using equipment or materials that could be used to manufacture counterfeit currency. Breach of a SCPO is a criminal offence, punishable by a maximum sentence of five years imprisonment.

Information regarding the production, distribution or passing of counterfeit notes may be reported to local police or anonymously to Crime Stoppers- an independent charity working to fight crime.

Euro Bank notes

Since the introduction of Euro bank notes and coins in 2002, the European Central Bank (ECB) has the exclusive right to authorize the issue of banknotes by the National Central Banks (NCBs) within the euro area. All decisions on the banknote designs, denominations, etc. are taken by the ECB. The different NCBs of the euro area are then in charge of the practical aspects of producing and putting banknotes into circulation, since they provide commercial banks and the cash-in-transit sector with the necessary quantities. Euro banknote production is organized on a decentralized basis with pooling, in order to increase efficiency by achieving economies of scale. ECB allocates production on an annual basis to the euro-area NCBs, whereby each denomination is produced by a limited number of printing works and each NCB is responsible for the procurement of only one or a few denominations. The ECB has adopted a guideline on the setting up of a single Euro system tender procedure (SETP) for procurement of banknotes that will start at the latest in 2012.

The ECB has established a framework for the detection of counterfeits and fitness sorting by credit institutions and other professional cash handlers in 2005. The “Framework” is designed to ensure that credit institutions and other professional cash handlers re-issue euro banknotes to their customers only if these banknotes have been checked, both on their fitness and authenticity. In order to support manufacturers of counterfeit detection devices in their endeavors to develop and enhance their products, the national central banks of the Euro system (NCBs) offer manufacturers of counterfeit detection devices, or their appointed agents, the possibility of testing their devices with a wide range of topical euro counterfeits. The European Central Bank (ECB) publishes information on the tested devices to help banknote users in making a selection from among the available devices. Each device is tested by an NCB according to a common Euro system procedure for testing its ability to correctly detect counterfeit euro banknotes contained in a test deck of euro counterfeits (counterfeit test); and correctly identify genuine euro banknotes contained in a test deck of genuine banknotes (recognition test). The purpose of the tests is not to determine whether a device is user-friendly, safe, durable, easily serviceable etc. The ECB also publishes information on tested counterfeit detection devices to help banknote users choose the one that suits their needs.

While Member States continue to be primarily responsible for ensuring the protection of the euro, trans-national cooperation has been put in place to support anti-counterfeiting efforts. The European Central Bank (ECB) performs a technical analysis of counterfeit

euro banknotes of a new type at the Counterfeit Analysis Centre located on the premises of the ECB, stores the technical and statistical data on counterfeit banknotes and coins in a central database, also located at the ECB, and disseminates the relevant technical and statistical information to all those involved in combating counterfeiting. Further responsibilities are shared between the European Commission/European Anti-Fraud Office (OLAF,) the ECB, Europol, Eurojust and Interpol. As a basis, an efficient legal framework has been adopted at European level to increase the general level of protection and harmonize national legislation in this area. National analysis centres for counterfeit banknotes (NAC) and coins (CNAC) work closely with the ECB's Counterfeit Analysis Centre (CAC) and Commission/OLAF's European Technical and Scientific Centre (ETSC) to identify, analyze and withdraw counterfeit euro banknotes and coins from circulation, while periodic measures are taken to complete and achieve an appropriate level of harmonization in criminal sanctions.

Australia

The [Reserve Bank Act 1959](#) confers on the Reserve Bank of Australia (RBA) the responsibility for the production and issue, reissue and cancellation of Australia's notes. The RBA manages its note issue responsibilities through its Note Issue Department which arranges for Australia's currency notes to be printed by [Note Printing Australia Limited](#) (NPA), a separately incorporated wholly owned subsidiary of the RBA, located at Craigieburn in Victoria. Notes are ordered from the RBA by commercial banks and initially distributed from the RBA's National Note Processing and Distribution Centre (NNPDC) operated by NPA to cash centres operated by armored car companies. Day-to-day distribution, storage and note processing is undertaken by armored car companies on behalf of the commercial banks. The [Royal Australian Mint](#) in Canberra is responsible for the production of [Australia's circulating coins](#).

The RBA aims to have only good quality notes in circulation. This helps to maintain confidence in Australia's currency by making it more difficult for counterfeit notes to be passed or remain in circulation. To achieve this, the RBA has established quality standards for notes in circulation set out in a [Note Sorting Guide](#). Notes which are identified by banks, other authorized deposit-taking institutions and cash centre operators as no longer fit for circulation are returned to the NNPDC. From time to time, the RBA also arranges for the return of circulating notes to the NNPDC. The notes are processed through high-speed automated machines to check for quality and authenticity. This enables the RBA to monitor the quality and authenticity of notes in circulation,

gauge the level of fitness of notes in circulation and ensure they remain counterfeit-free. Authentic unfit notes are destroyed, authentic fit notes are reissued to commercial banks and counterfeit notes are passed to the Australian Federal Police. To assist the public and others to determine whether they have a counterfeit note, the RBA has produced a [Counterfeit Detection Guide](#).

Up until the mid-1990s the Reserve Bank operated a note processing and distribution centre in each of Australia's eight capital cities. These centres provided a 'retail' note service whereby consignments of notes were despatched to/received from commercial bank branches in metropolitan and near rural areas. They also provided a 'wholesale' note service to armoured car companies for the servicing of their commercial customers. Large regional centres in Australia were serviced by Note Issue Agencies stocked with Reserve Bank owned currency but operated by armoured car companies in conjunction with commercial banks. Other rural areas were serviced by a number of different arrangements, i.e. mail, courier, mobile cash services. Initially the cost of many of these arrangements was met by the Reserve Bank but over time the cost was passed to the commercial banks and others.

Such arrangements resulted in a significant flow back of notes to Reserve Bank processing and distribution centres. From the early 1980s the Reserve Bank's policy was to process through high speed note processing equipment all notes received by it. To facilitate this policy the Reserve Bank installed during the period 1981 to 1986, 21 Currency Verification Counting and Sorting (CVCS) systems in its processing and distribution centres. These systems were subsequently upgraded in 1991 through the installation of improved detectors and data processing technology.

There was a heavy reliance by the financial community on the 'free' fitness sorting services provided by the Reserve Bank.

In 1990 restrictions were placed on the return of notes to the Reserve Bank under the 'wholesale' arrangements for armoured car companies; From 1992 to 1996 the Reserve Bank replaced Australia's paper notes with polymer notes.

The re-engineering process

The first step in the re-engineering process was for the Reserve Bank to withdraw from the 'retail' note service it had provided to commercial banks since the mid-1960s. It did this in June 1998 after a period of consultation with commercial banks and the armoured

car companies. From that time, the armoured car companies provided a 'retail' service to the commercial banks.

At the same time, the Reserve Bank agreed to the establishment of Bank Note Pools – holdings of Reserve Bank owned notes by armoured car companies at some 80 sites Australia-wide. The purpose of these holdings was to enable armoured car companies to service the needs of commercial banks without notes having to be transported to/from the Reserve Bank. Rules were agreed with the commercial banks which saw them receiving same day credit for notes returned to Bank Note Pools by 5.00 pm each business day. Same day payment for notes drawn also occurred. Conditions applied for the sorting/presentation of notes lodged to Bank Note Pools and limits were set on the maximum amount to be held there. The basic operating concept for Bank Note Pools was that notes lodged today were to be used to make up deliveries for the day after tomorrow with surplus and unfit notes returned to the Reserve Bank once each week. Additional supplies of notes, if required, were also to be sourced once each week.

The effect of this change was that the number of notes returned to the Reserve Bank dropped to some 1.2 billion over the next 12 months, 1998/9. With the establishment of Bank Note Pools, the Reserve Bank closed three of its smaller processing and distribution centres.

By the middle of 1999, the Reserve Bank had decided to include the 'wholesale' distribution arrangements for armoured car companies in the Note Pool arrangements in an effort to further reduce the number of notes being returned to its note processing and distribution centres. This had the effect of significantly reducing the inflow of notes to those centres. During the period July 1999 to June 2000 less than 0.5 billion notes were returned to Reserve Bank centres.

With such processing levels it became difficult to sustain operations at the Reserve Bank's smaller processing and distribution centres and following a wide-ranging review of arrangements the Reserve Bank decided to close all its remaining note processing and distribution centres and centralise such activities to its note printing site in Craigieburn, Victoria.

The start of a new era –Note processing/storage/despatch

Around the middle of 2001, a new National Note Processing and Distribution Centre operated by Note Printing Australia (a wholly owned subsidiary of the Reserve Bank responsible for printing Australia's notes) took over the processing and distribution role for the Reserve Bank.

The National Note Processing and Distribution Centre accepts and distributes notes on a wholesale basis. Its primary functions is the despatch of new/reissue notes, the receipt and processing of unfit notes, the receipt and storage of surplus fit notes post peak periods and the receipt and processing of notes returned from circulation at the Reserve Bank's request for quality/authenticity control purposes.

The Centre has a staff complement of 25, operates four CVCS systems and processes up to 250 million notes each year based on a single daily shift operation. Access to the National Note Processing and Distribution Centre for collecting/returning notes is restricted to armoured car companies acting on behalf of the commercial banks and is also limited to three days each week between 9.30 am and 3.00 pm. Minimum quantities of 200 000 notes of the one denomination and quality type (100 000 for \$100 notes) apply to the despatch/receipt of notes. Unfit notes and notes returned at the Reserve Bank's request for quality/authenticity control are returned already prepared for CVCS processing. Surplus fit notes returned post peak periods in tamper evident packets/containers are stored without processing and reissued as required.

With the establishment of the National Note Processing and Distribution Centre, the Reserve Bank also re-engineered its processing methods and practices. A significant change was the introduction for part of the note processing operation of single person control/accountability supported by sophisticated CCTV (Closed Circuit Television) monitoring and other security/accountability control measures.

The start of a new era – Currency distribution arrangements

In the second half of 2001, the Reserve Bank introduced new currency distribution arrangements following lengthy discussion and negotiation involving the Reserve Bank, the commercial banks and the armoured car companies.

As mentioned at the start of this paper, the Reserve Bank believed that there was and still is scope to introduce efficiencies into currency distribution arrangements in Australia. With the exception of introduction of Note and Coin Pools, arrangements had not fundamentally changed for several decades. The Reserve Bank also believed (and continues to believe) that arrangements under which those who need stocks of currency for their ongoing business also own those stocks would facilitate the development of more efficient distribution practices and inventory management. Under previous arrangements no direct links existed between net receivers and net payers of working stocks of currency. The Reserve Bank also believed that such links were unlikely to develop while the Reserve Bank provided depository facilities through its ownership of working stocks of currency, i.e. Note and Coin Pools.

Accordingly, new currency distribution arrangements were introduced as part of a five year agreement between the Reserve Bank and the commercial banks whereby:

the commercial banks purchased and continue to own the working stocks of currency previously held in Reserve Bank owned Note and Coin Pools;

the Reserve Bank compensates the commercial banks for interest forgone on these stocks up to defined limits;

the payment of interest forgone is dependent on the commercial banks observing the requirements of a Deed executed by each bank with the Reserve Bank. There are too many requirements to list them here but generally they cover such matters as accountability, reporting, fitness sorting to Reserve Bank standards, exchange of currency between the various participants and the like; working stocks are held in Approved Cash Centres operated by the armoured car companies for the commercial banks. These are similar to the previous Note and Coin Pools. The cost of operating these centres is the responsibility of the commercial banks;

the commercial banks are also responsible for the cost of obtaining additional working stocks of notes from the National Note Processing and Distribution Centre and returning surplus fit notes post peak periods;

the Reserve Bank meets the cost of returning unfit notes to the National Note Processing and Distribution Centre. The Reserve Bank also meets the cost of moving other notes to and from the National Note Processing and Distribution Centre which it directs be returned for quality/authentication control purposes.

Review of the change process

Despite extensive consultation prior to the introduction of the new cash distribution arrangements, it took some time for the arrangements to bed down. Initially the commercial banks were more comfortable maintaining working stocks at significantly higher levels than those previously held on the Reserve Bank's account. This led to them incurring higher holding costs than expected as actual holdings exceeded the limits on which the Reserve Bank would pay interest forgone compensation. Also, initially, the exchange of surplus stocks occurred at a much lower level than expected.

Over time, however, as experience grew and the commercial banks became more comfortable with the new arrangements, the level of working stocks fell and the exchange of currency between the commercial banks increased. At the same time, the Reserve Bank accepted claims by the commercial banks that with several owners of working stocks the level of those stocks needed to be higher than that previously held in Note and Coin Pools. The limit on which interest forgone is paid was subsequently increased.

The commercial banks also lobbied the Reserve Bank to modify a number of the arrangements agreed in the Cash Distribution Deed. Many of these related to reporting and logistic type arrangements but two involved the calculation of the interest forgone payment. The commercial banks argued that the arrangements did not necessarily encourage or reward individual banks which sought to minimise their level of working stocks nor did they recognise the short term cycles of movements in working stocks. Again, after extensive review of the arrangements, the method of calculation was modified.

The commercial banks now appear much more comfortable with the arrangements although review/discussion is ongoing. From the Reserve Bank's perspective, it believes that scope remains to further increase the efficiency of stocks movement and management outside the central bank. In its view, little has been done by the commercial banks and others involved in the currency supply chain during the re-engineering process to modernise the supply chain models used.

Over the past year or so the Reserve Bank has also observed a slight decline in the quality of some denominations of notes in circulation, albeit that quality generally is still quite high. This involves the lower denomination notes predominantly in rural areas – an outcome not expected from the new currency distribution arrangements but a problem we understand a number of other central banks face.

Since the introduction of the new arrangements, the commercial banks' out-sorting of unfit notes has fallen short of the quality targets indicated by the Reserve Bank. To meet these targets, the Reserve Bank needs to rely on the commercial banks and others in the currency supply chain to out-sort unfit notes and return them to the National Note Processing and Distribution Centre.

Consequently, the Reserve Bank has embarked on a project to work with the commercial banks and their agents the armoured car companies to increase the level of fitness sorting undertaken by them.

References

1. Joint Reports on the "Use and Counterfeiting of U.S. currency abroad" – February 2000, March 2003 and September 2006
2. Currency Design in the United States and Abroad: Counterfeit Deterrence and Visual Accessibility - Marcela M. Williams and Richard G. Anderson Federal Reserve Bank of St. Louis *Review*, September/October 2007,
3. Euro Bank Notes – Developments and Future Challenges – ECB Monthly Bulletin – August 2005.
4. "Protection of the Euro against Fraud and Counterfeiting" – European Commission (European Anti Fraud Office).
5. Framework for the detection of Counterfeits and fitness sorting by Credit Institutions and other Professional Handlers – ECB – January 2005.
6. Currency Note Processing and Distribution Arrangements in Australia - Peter Carlin, Senior Manager, Currency Operations, Note Issue Department Currency Conference, May 2004.
7. Educational materials on Banknotes extracted from the websites of select Central Banks viz., Federal Reserve System, Reserve Bank of Australia, European Central Bank and Bank of England.

Chapter IV Observations and Recommendations

With the sheer increase in the number of physical notes in circulation and the increase in the number of fake notes detected/seized in recent period it is apparent that steps have to be taken by all stakeholders to address the menace of fake notes. From the RBI's side the priority is to ensure that fake notes are promptly detected as soon as they enter into the banking channel and ensure that they are not put back into circulation. It is equally important to ensure that ATMs and other outlets for currency distribution dispense clean and good notes. At the same time, the security features have to be constantly upgraded, public have to be educated on how to detect a fake note, technology should be used in greater measure to improve the integrity and efficiency of the currency operations, information on detection has to be shared promptly with enforcement agencies, security systems for cash storage and handling at banks strengthened further and Note Sorting Machines installed at all bank branches and other locations.

It is also imperative to strengthen the systems and procedures for currency management by drawing from international best practices and adapting the same to suit Indian conditions.

For a variety of reasons / constraints, banks continue to rely on traditional systems and controls in respect of cash handling, requiring manual intervention at every stage. In the Committee's view, progressive adoption of available technology, both in respect of cash handling as well as security and surveillance will go a long way in minimizing the chances / likelihood of incidents similar to what happened at the currency chest at Dumariaganj.

Recommendations of the Group

(A) Measures for facilitating detection of counterfeit note and maintaining quality of notes in circulation

4.1 Installation of Note Sorting Machines (NSMs) / Desk Top Sorters

The growing volumes of banknotes in circulation and the need to ensure that only clean and genuine banknotes are put into circulation by banks has made reliance on Note Sorting Machines a necessity. The NSMs help in detection of counterfeit notes at the time of entry into the banking channel itself. The installation of NSMs at the currency chests has proved extremely beneficial in the early detection of counterfeit notes. The Group therefore recommends:

RBI may direct the banks that they should install Note Sorting Machines (NSMs) in all branches in a phased manner. In the first instance, all branches with average daily cash receipt of Rs. 1 crore or above may be equipped with NSMs by March 2010 and branches with average daily cash receipt of more than Rs. 50 lakh by March 2011. The banks should provide a road map to RBI for equipping the remaining branches with NSMs, which will be monitored by RBI.

4.2 Operations of Cash in Transit (CIT) Companies

On account of growing network of branches / ATMs and the manpower constraints, many banks have outsourced the work of replenishment / movement of cash to the CITs. Such CITs therefore form an integral part of the currency distribution process and there is a need to have a look into their processes. The present system used by CITs for replenishing cash in the ATMs leaves some scope for counterfeit notes gaining entry into the ATMs. The system of using cassettes for replenishment of cash as is being practiced by some banks minimizes manual intervention and is a more secure option. The Group therefore recommends that:

In order to reduce the incidence of forged notes at ATMs, banks may ensure the quality of the notes fed in ATMs by their agents' viz. the CIT companies. Banks may switch over to the 'cassette swap system' for feeding the ATMs. Banks should put in place appropriate controls and monitoring mechanisms over CIT companies as required vide RBI circular on outsourcing by banks (DBOD. No. BP. 40/21.04.158 dated November 3, 2008). New ATMs installed may be provided with in-built note detectors. Over a period existing ATMs may also be required to have in-built note detectors.

4.3 Standardisation of Note Sorting Machines (NSMs)

For uniform determination of the quality of bank notes fit for circulation the performance parameters of the NSMs need to be standardised across all banks and all makes. The Group therefore recommends:

(a) RBI should prescribe the technical parameters to be used by the banks and periodically revise the same taking into account the introduction of notes with new security features as also the experience of detecting counterfeit notes.

(b) Banks should use NSMs which conform to these specifications.

(c) Whether the machines are conforming to the parameters may be periodically reviewed / checked by RBI during inspection of currency chests/ CPCs/branches. Banks have to ensure on a continuous basis that the NSMs conform to the parameters and are in fact used for processing of all notes of Rs.100 and above.

4.4 Introduction of new security features

RBI in consultation with Government of India reviews the security features of banknotes periodically. RBI has already formulated a definite and time-bound plan to withdraw from circulation higher denomination banknotes which do not have the latest security features and the process of short- listing of easily distinguishable (visible)/ machine-readable security features to be introduced in the next series bank notes has also been initiated. The Group therefore recommends that:

RBI may ensure that the plan for withdrawal of notes is implemented strictly as formulated and that the new series of banknotes with more robust security features be introduced as early as possible. RBI may also facilitate R & D efforts for development of new security features.

4.5 Alternate Reporting to FIU-IND in lieu of First Information Reports (FIRs) on detection of counterfeit notes

As incidence of fake notes has been increasing individuals may come in possession of a counterfeit note without knowledge of it being a counterfeit and unintentionally become a conduit for circulation of the same by presenting it to a bank, business establishment, etc. This leads to harassment for the member of the public / branch personnel as currently the requirement is that FIR is filed in all such cases and therefore presently there is a marked tendency to under report such cases to the police/RBI. The Group recommends that:

Where any person inadvertently in possession of fake notes upto five (5) pieces tenders the same at a bank counter:

(a) Banks should impound such notes and provide acknowledgement to the tenderer as per current guidelines.

- (b) Banks should obtain approved ID document(s) of the tenderer (in case of a customer the bank would already have the necessary documents, for a non-customer approved ID document or finger prints may be obtained).**
- (c) Banks should include such instances in the Counterfeit Currency Report (CCR) to FIU-IND / RBI. The counterfeit notes may be sent to RBI.**
- (d) The bank need not file an FIR in such cases.**

4.6 System of Incentives and Disincentives

RBI may review the system of incentives and disincentives for detection and disclosure of counterfeit notes and put in place measures that facilitate detection and disclosure while helping the enforcement agencies to deal appropriately with those involved in making and distribution of counterfeit notes.

(B) Measures relating to cash holding and distribution

4.7 Cash Holding Limits for each currency chest

Today there are no cash holding limits prescribed for currency chests of public sector banks in India. The Group felt that in the wake of the incident at Dumariaganj and the huge balance maintained at that currency chest at that point of time, there is an urgent need to have cash holding limits for all currency chests and fix optimum balances commensurate with their average transactions that all currency chests need to hold. The following methodology is suggested:

The cash holding limit for each currency chest will be determined taking into account (i) the seasonality of operations of the CC, (ii) level of operations in peak and non-peak season, (iii) whether the CC is a paying/receiving branch, (iv) average monthly inflow and outflow of cash and (v) the frequency at which fresh notes can be supplied / soiled notes can be removed from the currency chests, accessibility to the chests, etc.

Any excess cash held by the currency chests over and above the holding limit would be treated as the bank's cash balance.

The Regional Directors of RBI may be delegated the authority to increase the limits especially during peak periods and for inaccessible locations.

4.8 Rationalization of currency chests

As per the present system, the currency management function by RBI is performed through its network of offices and 4,299 currency chests maintained with various Public

Sector Banks / Private Sector Banks / Co-operative Banks / Regional Rural Banks / Foreign Banks throughout the country.

A currency chest, being by nature an extension of RBI's vault, storing considerable amounts of banknotes, is an important link in the entire mechanism of currency management in India. The existing currency chests across the country have been established over a period of many years on the basis of the need for effectively serving the currency requirements of public and government transactions. However, in view of the technological advancements in the area of note processing and improved transportation and communication facilities there is need to re-assess the existing cash distribution channels, for bringing about greater efficiency in managing currency operation as well as improving the integrity of the entire system.

With a view to rationalizing the current number and spread of currency chests across the country, the Group recommends that the Regional Directors may in consultation with a cross section of banks assess the level of activity of the chests and recommend rationalization of chests. Regional Directors of RBI may map the currency chests in their region to ascertain the locations where the CCs are required based on the volume of transactions / ease of cash movement, remoteness of the area / topography and distance. Continuation of a CC for catering to Government business / members of public in the remote/under-banked areas will also be factored into the decision. These Currency Chests may then be upgraded with 'state of the art technology' by the banks that can make it a business model by charging for processing the notes of other banks. A time bound programme for closure of superfluous currency chests and opening of new chests in areas where such chest has been found necessary may be undertaken and may be completed by March 2011.

4.9 Setting up of Cash Processing Centers (CPCs)

The Group has received feedback that the existing currency chest network has developed several deficiencies and has become unwieldy for proper supervision due to the sheer numbers. Proper infrastructure is not available at the CCs which are used by the banks for their own cash management needs. Presently there is no incentive for the personnel posted at the CCs to work efficiently / provide better service. Given the technological advancements in the areas of storage, transport and modes of payment it is the need of the hour to look at changing the existing systems to reap the benefits of mechanization.

Setting up of Cash Processing Centers (CPCs) at various key locations with enhanced processing and storage capacities would not only strengthen the Clean Note Policy but will also lead to shorter cash processing cycles and minimize movement of cash. The Group therefore recommends that:

- (a) To tap advantages arising out of economies of scale, to minimise overnight cash risks at bank branches and to benefit from sophisticated logistics techniques, and as an alternative to what has been recommended in Para 4.1 above, banks may be encouraged to establish Currency Processing Centres (CPCs) at convenient locations, equip them with high speed sorting capacity and provide services to all its linked branches in such a way that cash collections at each of the serviced branches is received by the CPC on a daily basis and there is no overnight cash balance in that branch. The CPC should also arrange for daily supply of clean notes to the branch.**
- (b) To make the CPCs viable, and also to take advantage of capacity built up, the Reserve Bank should permit the CPCs to serve the branches of other banks which are not equipped with NSMs. The CPCs could also render services to others such as merchant establishments, petrol pumps etc. handling large volumes of cash.**
- (c) CPCs should be permitted to charge for services to other banks. The rates may be enhanced by RBI from the existing Rs. 2/- per packet to a reasonable rate that makes such operations sustainable. The rates may be reviewed periodically.**

4.10 Disincentivise the use of cash

Despite availability of various channels of payment systems, cash transactions form a major part of the Indian economy. It has to be recognized that processing of cash involves cost that has to be recovered.

As NSMs have to be installed at all branches for sorting notes before dispensation, banks will have to make necessary investments. The cost of such investments will need to be recovered from the bulk tenderers of cash.

Banks may put in place a transparent policy with the approval of their respective boards as already advised by RBI vide its DBOD directive DIR.BC.86 / 13.10.00 dated September 7, 1999.

4.11 Alternate means of payment

RBI may take initiatives in promoting use of cards and electronic means of payment and encourage the installation of note detectors at places where large volume cash transactions are conducted.

(C) Measures for strengthening security systems and procedures

4.12 Movement of treasure

Since cash holding limits are being prescribed for currency chests the incidence of movement of treasure from / to RBI from banks will get accelerated. Quick and safe movement of treasure is the basic requirement of currency management. It is the experience that at times police escort is not available for movement of treasure.

It is therefore recommended that enlisting the services of a specialized and dedicated force / other approved security agencies may be explored so as to provide security at chests and for movement of treasure. Regional Directors may approach the State Governments to raise special/dedicated protection force for guarding the treasure at RBI / currency chests and also for movement of treasure.

4.13 Strengthening of physical Security at RBI vaults/ currency chests.

With a view to making the systems foolproof, robust and free from deficiencies, there is a need for reducing to minimum the manual intervention in the operations of the currency chests. Accordingly, the Group recommends the following measures for strengthening the existing security systems:

(i) RBI may explore the possibility of installing suitable biometric access system / any other equivalent system at all the currency chests to ensure entry of the authorized staff only. For other officials entering the chests/Vaults, introduction of physical security with pre-validated photograph of the person entering the chest may be considered.

(ii) Arrangement for electronic locking of all the bins at the RBI vaults/currency chests may be explored. Subsequently RBI vaults / chests can be linked to a nodal server so as to ensure easy monitoring of the transactions with least manual intervention can be considered.

(iii) Installation of CCTVs at all currency chests with the facility for storage of recordings upto 90 days for proper monitoring by the branch in-charges.

Networking of CCTVs at chests within the jurisdiction of a controlling office of a bank may be explored for better surveillance.

(iv) Presently, all transactions of the currency chests are monitored by RBI through the Integrated Computerised Currency Operations and Management Systems (ICCOMS). With rationalization of currency chests and cash holding limit coming in, the Group recommends that individual banks may network their currency chests by inter-linking their Link-Offices, thus enabling them to manage the chest balance more efficiently.

4.14 Shrink- wrapping of soiled notes

There have been incidents of shortages at currency chests, in the soiled note remittances received from currency chests as also pilferage during transit. The Group therefore recommends that:

Tamper-proof shrink wrapping of soiled notes with bar coding of the details of the branch on the bundles may be introduced. This will facilitate easy identification of the branch from which the notes were received so that accountability for shortages, defects, counterfeits etc., can be fixed precisely and reduce the possibility of such incidents.

4.15 Security Audit of Currency Chests

It is observed that the Security Officers report directly to the Top Management of the banks. The Group therefore recommends that:

The Security Audits of currency chest branches may be conducted by the security officers of the banks on risk based frequency. However, the periodicity should be lower than one year and the findings may be reported to the Head Offices of the banks, who in turn should take necessary preventive / corrective action and keep RBI informed. The issue Offices may continue to monitor these aspects through inspections. Comprehensive guidelines / format for such audits may be prepared by RBI / IBA.

A system of Flying Squads by RBI to conduct inspections by surprise may also be introduced.

4.16 Strengthening the system of cash verification at Currency Chests

Systems already exist to ensure the safety and integrity of the cash held at Currency Chests through (i) periodic verification of cash balances (ii) inspection / audit of the chest by the controlling offices of bank (iii) on site inspection by Inspecting Officers from RBI. In order to ensure that no discrepancies viz. shortages/counterfeits creep into the cash held at the CCs it is recommended that verification certificates from the banks will comment on the qualitative aspects apart from the quantitative aspects. RBI Inspectors will also carry out random quality check of a minimum of 5% of the total banknotes, with appropriate minimum levels especially in the higher denomination (based on risk perception and categorization of the currency chest). The Group however recommends that:

A discriminatory schedule for inspection of currency chests providing for inspecting the chests in border areas and other sensitive areas, more frequently, based on the risk perception may be introduced.

4.17 Contingency / Disaster Management Plan

A contingency plan should be drawn up for each currency chest covering all eventualities including armed raids, terrorist/ fidayeen/suicide attack and natural calamities such as fire, floods, earthquakes and other such eventualities.

These contingency plans may be drawn in consultation with Local Police and should be tested periodically.

4.18 Defacement / Self-inking of banknotes during eventualities

The increased incidence of thefts / robberies of treasure at bank branches, during transit, in many parts of the country are detrimental to the health of the banking industry.

RBI may therefore explore the possibility of introducing the technology enabling self-inking / marking of all banknotes in transit or in chests which would automatically trigger-in if there is an attack / attempted robbery / theft/ etc.

(D) Human Resource initiatives

Currency operations being sensitive and fraught with risk, the Group recommends that:

- 4.19 Banks may modify their transfer pricing policy or equivalent policy so as to pass on the benefit on account of having currency chest to the branch where the chest is maintained.**
- 4.20 Rotation of staff posted at currency chests may be ensured to prevent vested interest and entrenched non adherence of laid down systems and procedures.**
- 4.21 Where deviations and irregularities are found, controlling offices may take immediate punitive action after fixing accountability.**
- 4.22 Bank may accord recognition to currency handling operations as a sensitive and skilled activity and provide necessary incentives and training.**

XXXXXXXXXX