REPORT OF THE WORKING GROUP ON TECHNOLOGY UPGRADATION OF REGIONAL RURAL BANKS

RESERVE BANK OF INDIA

MUMBAI

August 2008

Contents

List of Abbreviations

ALPM	-	Advanced Ledger Posting Machine
ASP	-	Application Service Provider
CBS	-	Core Banking Solution
CRAR	-	Capital to Risk Weighted Assets Ratio
CVC	-	Central Vigilance Commission
DC	-	Data Centre
DG	-	Diesel Generator
DRC	-	Data Recovery Centre
FITF	-	Financial Inclusion Technology Fund
FCNR	-	Foreign Currency Non Resident
HO	-	Head Office
IDRBT	-	Institute for Development and Research in Banking Technology
ISDN	-	Integrated Services Digital Network
IT	-	Information Technology
MIS	-	Management Information System
NABARD	-	National Bank for Agriculture and Rural Development
NRO	-	Non Resident Ordinary
RRB	-	Regional Rural Bank
TBA	-	Total Bank Automation
TBM	-	Total Bank Mechanisation
TFT	-	Thin Film Transistor
UPS	-	Uninterrupted Power Supply
VPN	-	Virtual Private Network
VSAT	-	Very Small Aperture Terminal

SECTION 1

INTRODUCTION

Background

1.1 Despite the measures for social control and nationalisation of major commercial banks in 1969, a large proportion of the rural poor continued to be outside the banking fold. A Working Group under the Chairmanship of Shri M. Narasimham was set up in 1975 to explore the possibilities of evolving an alternative rural credit agency to benefit the rural poor. The Group recommended formation of a new set of regionally oriented rural banks which would combine the local feel and familiarity of rural problems characteristic of cooperatives and the professionalism and large resource base of commercial banks. Regional Rural Banks (RRBs) were set up as a sequel to this recommendation.

1.2 The RRBs have a special place in the multi-agency approach adopted to provide agricultural and rural credit in India. These banks were established under the Regional Rural Banks Act, 1976 “with a view to developing the rural economy by providing, for the purpose of development of agriculture, trade, commerce, industry and other productive activities in the rural areas, credit and other facilities, particularly to small and marginal farmers, agricultural labourers, artisans and small entrepreneurs, and for matters connected therewith and incidental thereto”. The capital of RRBs is contributed by the Union Government, concerned State Government and a sponsor bank in the ratio 50:15:35.

1.3 The RRBs have played a key role in rural institutional financing in terms of geographical coverage, clientele outreach, business volume and contribution to the development of the rural economy. Between 1975 and 1987, 196 RRBs were established. From a modest beginning of 17 branches covering 12 districts of the country in December 1975, they grew to 14,446 branches in 518 districts of the country by the end of June 2005.

Initiatives taken

1.4 The RRBs have been in sharp focus over the last few years with several measures initiated towards strengthening them and making them vibrant channels of credit delivery, particularly for the rural sector. The most prominent of these has been the process of state-wise amalgamation of RRBs sponsored by the same sponsor bank. The process of amalgamation, initiated in 2005, is now nearing completion. As a result of the amalgamation process, the number of RRBs in the country declined from 196 to 96 at the end of March 2007 and further to 88 at the end of June 2008. These included 45 amalgamated banks, 42 stand alone banks and one new bank (Puduvai Bharathiar Grama Bank with jurisdiction over the Union Territory of Puducherry).

1.5 The structural consolidation of RRBs has resulted in formation of new RRBs, which are financially stronger and bigger in size in terms of business volume and outreach. They will thus be able to take advantages of the economies of scale and reduce their operational costs. With the advantages of local feel and familiarity acquired by the RRBs, they would now be in a better position to achieve the objectives of rural development and financial inclusion.

1.6 At the end of March 2007, 27 RRBs were having negative net worth of Rs 1740.97 crore. The recapitalisation of such banks, in a phased manner, was announced in the Union Budget of 2007-08. The process of recapitalisation has already commenced and its completion would make all RRBs comply with the necessary prescribed minimum capital requirements. As a first step to bring RRBs to international capital adequacy standards, all RRBs have been advised to disclose their Capital to Risk Weighted Assets Ratio (CRAR) as on March 31, 2008 in their balance sheets. Following this disclosure, a road-map for achieving the desired CRAR norms would be drawn up.

1.7 Further, measures have been taken to provide greater autonomy to RRBs and enlarge their business activities. A majority of the recommendations of the Task Force on Empowering RRB Boards for Operational Efficiency (Chairman: Dr K.G. Karmakar) have already been implemented. RRBs have also been allowed to open currency chests, conduct State government business as sub-agents of sponsor banks, take up corporate agency business without risk participation for distribution of all types of insurance products and open NRO/FCNR accounts, subject to certain conditions. The branch licensing procedure for RRBs has been simplified with powers now delegated to

the Regional Offices of Reserve Bank. The branch licensing policy has also been liberalised and the norms for opening new branches in hitherto uncovered districts have been relaxed. As a result, there has been a rapid increase in the number of branches of RRBs during the last one year. The spread of RRBs has also increased and at the end of June 2008, they covered 585 out of the 622 districts of the country. (Source: NABARD)

1.8 Measures have also been taken to address the manpower challenges in the RRBs. A committee under the chairmanship of Dr Y.S.P. Thorat, then Chairman, NABARD was set up to examine and lay down parameters for staffing norms in RRBs and suggest norms and procedures for new recruitments. The report of the committee is under examination of Government. It is hoped that many of the manpower related issues would be taken care of after the recommendations of the committee are implemented.

1.9 It is envisaged that with their increasing strength and spread, RRBs would have to enlarge their client base and become the principal vehicles for financial inclusion and rural banking in the country. However, technological changes are sweeping the banking sector. In order to survive effectively in the present scenario, the RRBs would require to be adequately equipped in terms of technology to provide efficient customer service to their clientele. While the commercial banks have gone ahead in computerisation of their operations and most banks are in an advanced stage of implementing total Core Banking Solutions (CBS), the RRBs are lagging behind in this area.

1.10 The expectations of the Union Government and the State Governments from the RRBs are also increasing. It is envisaged that RRBs are able to render the same quality of service that commercial banks are able to give to their clients. Further, the Government, in order to reduce intermediation and reach out directly to the beneficiaries under several of its programmes, proposes to reach these persons through the electronic mechanisms. It is thus becoming imperative for RRBs to become increasingly technologically sound so as to offer competitive services to their clients.

1.11 The Task Force on Empowering RRB Boards for Operational Efficiency had reviewed the computerisation scenario in RRBs and recommended that RRBs need to take up computerisation of major areas of operation, MIS in branches, controlling offices and HO in the next three years by adopting an Action Plan. It had also indicated broad

indicative norms for the same. Within such norms, the Task Force suggested that RRBs may be given autonomy to take their own decision on designing of their computerisation process and they may seek guidance from their sponsor institutions wherever necessary.

Setting up of Working Group

1.12 In paragraph 148 of the Reserve Bank's Mid-term Review of Annual Policy for 2007-08, it was stated that in order to prepare RRBs to adopt appropriate technology and migrate to Core Banking Solutions (CBS) for better customer services, it is proposed to constitute a Working Group with representatives from Reserve Bank, NABARD, sponsor banks and RRBs for preparing a road-map for migration to core banking solutions by RRBs.

1.13 Accordingly, a Working Group under the chairmanship of Shri G.Srinivasan, Chief General Manager in-Charge, Rural Planning and Credit Department, Reserve Bank of India was set up with the following Terms of Reference:

(i) To determine the nature of core banking solutions required for RRBs having regard to the range of their business and customer service;
(ii) To examine various options including extending core banking solutions of the sponsor banks to their RRBs with necessary modifications and firewalls;
(iii) To estimate the likely costs involved and funding and training arrangements that may be necessary; and
(iv) To draw out a time-bound road map for implementation.

The Working Group was also requested to examine the possibility of using solar power generating devices for meeting the power requirements of RRBs, especially in remote areas.

1.14 The Working Group comprised of the following members:
1. Shri C. Ramnath, CGM, State Bank of India
2. Shri G. Gupta, GM, Central Bank of India
3. Shri A. Srinivasan, DGM, Indian Bank
4. Shri T.K. Srivastava, DGM, Union Bank of India

5. Shri M. Dhananjaya, Chairman, Karnataka Vikas Grameen Bank
6. Shri S.K. Chopra, Chairman, Haryana Gramin Bank
7. Shri N.S. Bose, Chairman, South Malabar Gramin Bank
8. Shri A.B. Jog, Chairman, Uttar Bihar Kshetriya Gramin Bank
9. Dr U.S. Saha, DGM, IDD, NABARD
10. Shri K.B. Bhingarkar, Estb. Officer, Ahmednagar DCC Bank
11. Shri M.M. Khan, GM, DIT, RBI
12. Shri N.K. Bhatia, DGM, RPCD – Member-Secretary

Meetings held and methodology adopted

1.15 The Working Group held meetings on February 19, March 19, April 6, 17 and 18, May 8 and 28 and August 4, 2008. During the process, the Group interacted with IT and priority sector functionaries of sponsor banks as well as Chairmen of selected RRBs. Further, representatives of officers' and employees' associations of RRBs shared their views on the subject. In addition, several vendors made presentation of their products regarding CBS solutions for RRBs before the Group. The Group took into account all the inputs provided by these sources while deliberating on the terms of reference.

Organisation of the Report

1.16 The report is organised in the following sections:
Section 2: Profile of RRBs and status of computerisation
Section 3: Need for CBS in RRBs
Section 4: Options for introducing CBS
Section 5: Use of solar power generating devices for RRBs
Section 6: Costing aspects and training requirements
Section 7: Road map for implementation
Section 8: Summary of recommendations

Acknowledgements

1.17 The Committee would like to place on record its thanks to all the representatives of banks and institutions for sharing their views on the subject and providing the necessary information. The Committee would also like to acknowledge the assistance provided by

Shri V.S.Vagad, Assistant General Manager in organising the meetings and Shri M.S.Bagga, Manager for the data collation and analysis.

(G. Srinivasan)
Chairman

(C. Ramnath)
Member

(G. Gupta)
Member

(T.K. Srivastava)
Member

(A. Srinivasan)
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Member

(U.S. Saha)
Member

(K.B. Bhingarkar)
Member

(N.K. Bhatia)
Member Secretary

SECTION 2

PROFILE OF RRBs AND STATUS OF COMPUTERISATION

Profile of RRBs

2.1 As at the end of March 2008, there were 91 RRBs with a total of 14,816 branches. These included 46 amalgamated and 45 stand alone banks. These RRBs employed 68,069 staff.

2.2 However, there was a wide disparity among these banks in regard to various parameters. The number of branches varied from 10 to over 600 branches. The total deposits ranged from less than Rs 20 crore to more than Rs 5,000 crore. Similarly, total assets varied from less than Rs 20 crore to over Rs 4,000 crore. As regards profitability, while 83 RRBs made net profits, the remaining 8 RRBs incurred losses. The net profits ranged from less than Rs 1 crore to over Rs 90 crore. The total owned funds (share capital + share capital deposits + reserves) varied from Rs 1 crore to over Rs 500 crore.

2.3 The distribution of RRBs on various parameters as per their financial position as on March 31, 2008 is given below (provisional data given by NABARD).

Table 1: Branches

Sr. No.	Branches	No. of RRBs
1	Up to 50	15
2	51-100	22
3	101-250	39
4	251-500	12
5	> 500	3
	Total	91

Table 2: Deposits

Sr. No.	Amount of deposits (Rs. in crore)	No. of RRBs
1	Up to 250	13
2	251-1000	36
3	1001-2000	28
4	2001-3000	9
5	> 3000	5
	Total	91

Table 3: Assets

Sr. No.	Total assets (Rs. in crore)	No. of RRBs
1	Up to 200	27
2	201-500	20
3	501-1000	22
4	1001-2000	15
5	> 2000	7
	Total	91

Table 4: Net Profit

Sr. No.	Net profit (Rs. in crore)	No. of RRBs
1	Up to 1	10
2	Over 1 and up to 5	20
3	Over 5 and up to 10	20
4	Over 10 and up to 30	24
5	Over 30	9
	Total	83

Note: There were 8 RRBs which reported losses

Table 5: Total Owned Funds (Share Capital +Share Capital Deposits+ Reserves)

Sr. No.	Total owned funds (Rs. in crore)	No. of RRBs
1	Up to 25	26
2	Over 25 and up to 50	19
3	Over 50 and up to 100	21
4	Over 100 and up to 400	21
5	Over 400	4
	Total	91

Table 6: Net Worth (Owned Fund – Accumulated losses)

Sr. No.	Net worth (Rs. in crore)	No. of RRBs
1	Up to 25	19
2	Over 25 and up to 50	11
3	Over 50 and up to 100	17
4	Over 100 and up to 400	19
5	Over 400	2
	Total	68

Note: There were 23 RRBs with negative net worth

Computerisation in RRBs

2.4 The need for having computerisation in RRBs had been felt since long and some RRBs had been taking some steps in that direction. In July 2001, Government of India and NABARD advised the RRBs to initiate immediate steps so that Head Office, Area Office and a minimum of 50 per cent of the branches are computerised in a phased manner in the next five years. Sponsor banks were also advised to formulate RRB-wise Action Plans, keeping in view the financial position of RRBs, infrastructure facilities available in their command area and the business potential of the RRB branches. Necessary support to implement the programme was also required to come from the sponsor bank.

2.5 NABARD made a beginning by extending support to select RRBs by providing PCs, peripherals, standard software packages as also customised MIS package and training inputs under its Swiss Agency for Development and Cooperation (SDC) programme. A review made by NABARD in respect of 152 RRBs in 2005 indicated that only nine banks had reported achieving 100 per cent computerisation. Most of the RRBs were lagging behind the target of computerising 50 per cent of their branches.

2.6 In paragraph 7.05 of its report, the Task Force on Empowering RRBs for Operational Efficiency (Chairman: Dr K.G.Karmakar) had made the following observations regarding the computerisation scenario in RRBs:

- Level of computerisation is far behind schedule
- Even RRBs of same sponsor banks although following the same technology, are at different levels of computerisation due to varied financial health, environment, local conditions which has become a problem when such RRBs have been amalgamated
- Computerisation needs both capital and recurring expenses which are beyond the capability of some of the banks
- RRBs, which have progressed well, have adopted a particular technology mainly of the sponsor bank and invested sizeable amounts
- Such amalgamated RRBs have grown bigger in size and volume of business is likely to grow further
- While there is much benefit in standardisation of technology application, it may not pose any problem for such RRBs which are in a nascent stage of development; for such of the RRBs which have progressed well in computerisation will face difficulties not only in financial implications, but also for switching over to new technology
- A few RRBs reaped the benefit of hosting their own website by way of mobilisation of deposits from non traditional segments
- A few of them established direct links with money market operators for investments
- Internet facilities have been used for faster communication with techno savvy customers and other agencies.

2.7 These observations highlight the varying status of RRBs with regard to computerisation. Another dimension to this problem has been that the process of amalgamation of RRBs has resulted in RRBs at different levels of computerisation being amalgamated leading to intra-RRB differences among the new amalgamated banks.

2.8 The status of computerisation at the end of March 2007 as reported by 76 of the 96 RRBs to the Committee to Formulate a Comprehensive Human Resource Policy for RRBs (Chairman: Dr Y.S.P.Thorat) indicated that 35 of the reporting banks had achieved 100 per cent computerisation while 25 banks had achieved 50 to 100 per cent computerisation. However, it was noticed that the interpretation of the word 'computerisation' is also not uniform among banks as certain banks with ALPM while others with TBM have reported them as computerised.

Present status

2.9 The Committee also reviewed the present status of computerisation in RRBs by obtaining information from NABARD as well as the sponsor banks of RRBs. Two statements prepared in this regard in respect of 89 of the 91 RRBs, which were in existence in March 2008, state-wise and sponsor bank-wise are given in Annex 2.1 and 2.2 respectively. Although the data in the statements may not be fully accurate, it gives a fairly true picture of the state of computerisation of the RRB sector. It may be seen that the progress of computerisation varied greatly among the RRBs at the individual level, group of RRBs at state level and group of RRBs at sponsor bank level.

2.10 At the bank level, it may be seen that out of 89 RRBs, 20 (22 per cent) had reported 100 per cent computerisation of all their branches. Among these, there were four RRBs from Maharashtra, three each from Gujarat and Karnataka, two each from Madhya Pradesh and Punjab and one each from the states of Andhra Pradesh, Haryana, Himachal Pradesh, Kerala, Rajasthan, and Tamil Nadu.

2.11 At the branch level, it may be seen that out of 14,456 branches for which information was furnished 4,944 branches (34 per cent) had achieved 100 per cent computerisation. In addition, 3,829 branches (26 per cent) had achieved partial computerisation. Thus, even part computerisation had not yet taken place in as many as 40 per cent of the RRB branches.

2.12 Among states, while Gujarat and Kerala had achieved 100 per cent computerisation of all RRB branches, the percentage was only 3 per cent and 5 per cent for Jharkhand and Jammu and Kashmir respectively.

2.13 Six sponsor banks namely, Indian Bank, State Bank of Bikaner and Jaipur, State Bank of Indore, State Bank of Patiala, State Bank of Saurashtra and Vijaya Bank had achieved 100 per cent computerisation of the seven RRBs sponsored by them. On the other hand, in the seven RRBs sponsored by five banks namely, Indian Overseas Bank, Punjab and Sind Bank, Union Bank of India, The Bank of Rajasthan Ltd and Uttar Pradesh State Cooperative Bank, there was no branch which had been 100 per cent computerised. Further, within the same sponsor bank also, there were extreme variations in the level of computerisation of RRBs.
While some RRBs had achieved 100 per cent computerisation of all their branches, other RRBs had not achieved that level in any of their branches. Thus the percentage of branches computerised even within a sponsor bank ranged from zero to cent per cent (for example, in Bank of Maharashtra, Syndicate Bank and State Bank of India).

2.14 Further analysis carried out by NABARD revealed that the total number of personal computers (PCs) in RRBs was 32,376, of which 28,587 PCs were at the branch level. The average number of PCs per branch worked out to 2.02. There were over 5,000 branches where the PCs were either not available or non-functional.

2.15 The committee is of the view that these significant differences in the level of computerisation between different RRBs need to be taken into account while preparing any plan for further technology upgradation of RRBs.

ANNEX 2.1							
STATUS OF COMPUTERISATION IN RRBs- STATEWISE							
SR. NO.	**NAME OF STATE**	**NAME OF RRB**	**NO. OF BRANCHES**	**BRANCHES COMPUTERISED**		**BRANCHES(ALPM)**	**BRANCHES (TBA)**
				100%	**PARTIAL**		
1	Andhra Pradesh	Andhra Pradesh GVB	483	302	11	0	0
2		Andhra Pragati GB	336	70	266	266	70
3		Chaitanya Godavari	91	91	0	91	0
4		Deccan GB	167	77	0	0	0
5		Saptagiri GB	103	103	0	0	0
	Sub Total		**1180**	**643**	**277**	**357**	**70**
6	Arunachal Pradesh	APRB	19	6	7	0	0
	Sub Total		**19**	**6**	**7**	**0**	**0**
7	Assam	Assam GB	355	5	240	13	227
8		Lengpi Dehani RB	43	14	7	0	0
	Sub Total		**398**	**19**	**247**	**13**	**227**
9	Bihar	Bihar KGB	153	53	0	0	53
10		Koshi KGB	164	10	0	0	10
11		Madhya Bihar GB	400	118	221	0	0
12		Samastipur KGB	66	16	50	0	0
13		Uttar Bihar KGB	676	68	0	0	68
	Sub Total		**1459**	**265**	**271**	**0**	**131**
14	Chhattisgarh	Chhattisgarh GB	235	0	103	0	0
15		Durg-Rajnandgaon GB	101	61	0	0	61
16		Surguja Kshetriya GB	83	82	1	0	82
	Sub Total		**419**	**143**	**104**	**0**	**143**
17	Gujarat	Baroda Gujarat GB	127	127	0	0	127
18		Dena Gujarat GB	131	131	0	0	131
19		Saurashtra GB	131	131	0	0	131

	Sub Total		**389**	**389**	**0**	**0**	**389**
20	Haryana	Gurgoan GB	141	68	73	73	68
21		Haryana GB	185	185	0	185	185
	Sub Total		**326**	**253**	**73**	**258**	**253**
22	Jammu	Ellaqui Dehati GB	76	0	0	0	0
SR. NO.	**NAME OF STATE**	**NAME OF RRB**	**NO. OF BRANCHES**	**BRANCHES COMPUTERISED**		**BRANCHES(ALPM)**	**BRANCHES (TBA)**
				100%	**PARTIAL**		
23		Jammu RB	91	0	3	0	0
24		Kamraz RB	104	11	0	0	11
	Sub Total		**271**	**11**	**3**	**0**	**11**
25	Jharkhand	Jharkhand GB	211	3	0	116	3
26		Vananchal GB	178	10	5	0	10
	Sub Total		**389**	**13**	**5**	**116**	**13**
27	Karnataka	Cauvery Kalpatharu GB	202	144	58	58	144
28		Chickmagalur Kodagu GB	47	23	4	0	27
29		Karnatak VGB	402	402	0	0	402
30		Krishan GB	106	106	0	0	106
31		Pragathi GB	354	0	0	0	0
32		Visveshvarya GB	27	27	0	0	27
	Sub Total		**1138**	**702**	**62**	**58**	**706**
33	Kerala	NMGB	163	132	31	31	132
34		SMGB	224	224	0	0	224
	Sub Total		**387**	**356**	**31**	**31**	**356**
35	Madhya Pradesh	Chambal - Gawalior	59	54	0	0	54
36		Jhabua Dhar	79	32	8	4	40
37		Madhya Bharat	208	4	120	120	4
38		Mahakaushal	42	31	0	0	31
39		Narmada malwa	201	89	112	112	89
40		Ratlam Mandsaur	40	40	0	0	40
41		Rewa Sidhi	84	0	80	80	0
42		Satpura	239	0	137	0	137
43		Sharda	59	34	0	0	34
44		Vidhsha Bhopal	23	23	0	23	23
	Sub Total		**1034**	**307**	**457**	**339**	**452**
45	Maharashtra	Aurangabad Jalna GB	55	55	0	0	55

46		Marathwada GB	242	0	0	0	0
47		Ratnagiri Sindhudurg GB	40	40	0	27	13
48		Solapur GB	33	33	0	10	23
49		Thane GB	20	20	0	0	20
50		Vidharbha KGB	96	91	0	0	91
51		Wainganga GB	105	96	0	74	22
SR. NO.	**NAME OF STATE**	**NAME OF RRB**	**NO. OF BRANCHES**	**BRANCHES COMPUTERISED**		**BRANCHES(ALPM)**	**BRANCHES (TBA)**
				100%	**PARTIAL**		
	Sub Total		**591**	**335**	**0**	**111**	**224**
52	Mizoram	Mizoram Rural Bank	60	50	0	0	50
	Sub Total		**60**	**50**	**0**	**0**	**50**
53	Nagaland	Nagaland Rural Bank	10	4	2	0	6
	Sub Total		**10**	**4**	**2**	**0**	**6**
54	Orissa	Baitarani GB	102	0	102	97	5
55		Kalinga GB	182	5	0	0	5
56		Neelachal GB	168	0	150	147	3
57		Rushikulya GB	77	70	0	0	70
58		Utkal GB	322	91	6	0	97
	Sub Total		**851**	**166**	**258**	**244**	**180**
59	Punjab	Faridkot-Bhatinda KGB	25	0	0	25	0
60		Malwa GB	41	41	0	0	41
61		Punjab GB	153	153	0	0	153
	Sub Total		**219**	**194**	**0**	**25**	**194**
62	Rajasthan	BRGB, Ajmer	267	123	69	0	192
63		HKGB Kota	81	73	0	0	73
64		JTGB, Jaipur	209	66	40	0	106
65		MAGB, Udaipur	58	0	54	54	0
66		MGB GB, Pali	206	206	0	0	206
67		RGB, Alwar	195	121	68	0	0
	Sub Total		**1016**	**589**	**231**	**54**	**577**
68	Himachal Pradesh	Himachal GB	118	118	0	118	118
69		Parvatiya GB	29	14	0	14	0
	Sub Total		**147**	**132**	**0**	**132**	**118**
70	Tamil Nadu	Pallavan GB	56	56	0	0	0
71		Pandyan GB	182	0	182	180	2
	Sub Total		**238**	**56**	**182**	**180**	**2**

72	Uttar Pradesh	Aryavart GB	287	0	0	251	36
73		Ballia KGB	87	0	35	0	35
74		Baroda Eastern UPGB	539	0	256	0	256
75		Baroda Western UPGB	116	0	97	0	97
76		Etawah KGB	50	0	30	0	30
77		KGS Gramin Bank	336	0	0	329	7
SR. NO.	**NAME OF STATE**	**NAME OF RRB**	**NO. OF BRANCHES**	**BRANCHES COMPUTERISED**		**BRANCHES(ALPM)**	**BRANCHES (TBA)**
				100%	**PARTIAL**		
78		Kshetriya KGB	63	0	6	0	6
79		Lucknow KGB	240	0	174	0	174
80		Prathama Bank	186	0	186	165	21
81		Purvanchal GB	305	0	285	0	255
82		Serva UPGB	265	0	255	0	255
83		Shreyas GB	183	0	183	183	0
84		Triveni KGB	208	0	104	11	93
	Sub Total		**2865**	**0**	**1611**	**939**	**1265**
85	Uttarakhand	Uttaranchal Gramin Bank	115	62	0	28	62
86		Nainital Almora KGB	58	32	8	0	40
	Sub Total		**173**	**94**	**8**	**28**	**102**
87	West Bengal	Bangiya Gramin Vikash Bank	547	184	0	0	184
88		Paschim Banga Gramin Bank	216	32	0	0	32
89		Uttarbanga Kshetriya GB	114	1	0	0	1
	Sub Total		**877**	**217**	**0**	**0**	**217**
	Grand Total		**14456**	**4944**	**3829**	**2885**	**5686**

ANNEX 2.2							
STATUS OF COMPUTERISATION IN RRBS - SPONSOR BANK WISE							
SR. NO.	NAME OF SPONSOR BANK	NAME OF RRB	NO. OF BRANCHES	NO. OF COMPUTERISED BRANCHES		ALPM BRANCHES	TBA BRANCHES
				100%	PARTIAL		
1	Allahabad Bank	Sharda	59	34	0	0	34
2		Lucknow KGB	240	0	174	0	174
3		Triveni KGB	208	0	104	11	93
	Sub Total		**507**	**34**	**278**	**11**	**301**
4	Andhra Bank	Chaitanya Godavari	91	91	0	91	0
5		Rushikulya GB	77	70	0	0	70
	Sub Total		**168**	**161**	**0**	**91**	**70**
6	Bank of Baroda	Baroda Gujarat GB	127	127	0	0	127
7		Jhabua Dhar	79	32	8	4	40
8		BRGB, Ajmer	267	123	69	0	192
9		Baroda Eastern UPGB	539	0	256	0	256
10		Baroda Western UPGB	116	0	97	0	97
11		Nainital Almora KGB	58	32	8	0	40
	Sub Total		**1186**	**314**	**438**	**4**	**752**
12	Bank of India	Jharkhand GB	211	3	0	116	3
13		Narmada malwa	201	89	112	112	89
14		Ratnagiri Sindhudurg GB	40	40	0	27	13
15		Solapur GB	33	33	0	10	23
16		Baitarani GB	102	0	102	97	5
17		Aryavart GB	287	0	0	251	36
	Sub Total		**874**	**165**	**214**	**613**	**169**
18	Bank of Maharashtra	Aurangabad Jalna GB	55	55	0	0	55

19		Marathwada GB	242	0	0	0	0
SR. NO.	NAME OF SPONSOR BANK	NAME OF RRB	NO. OF BRANCHES	NO. OF COMPUTERISED BRANCHES		ALPM BRANCHES	TBA BRANCHES
				100%	PARTIAL		
20		Thane GB	20	20	0	0	20
21		Wainganga GB	105	96	0	74	22
	Sub Total		**422**	**171**	**0**	**74**	**97**
22	Bank of Rajasthan	MAGB, Udaipur	58	0	54	54	0
	Sub Total		**58**	**0**	**54**	**54**	**0**
23	Canara Bank	Pragathi GB	354	0	0	0	0
24		SMGB	224	224	0	0	224
25		Shreyas GB	183	0	183	183	0
	Sub Total		**761**	**224**	**183**	**183**	**224**
26	Central Bank of India	Koshi KGB	164	10	0	0	10
27		Uttar Bihar KGB	676	68	0	0	68
28		Surguja Kshetriya GB	83	82	1	0	82
29		Chambal - Gawalior	59	54	0	0	54
30		Ratlam Mandsaur	40	40	0	0	40
31		Satpura	239	0	137	0	137
32		Vidharbha KGB	96	91	0	0	91
33	Central Bank of India	HKGB Kota	81	73	0	0	73
34		Ballia KGB	87	0	35	0	35
35		Etawah KGB	50	0	30	0	30
36		Uttarbanga Kshetriya GB	114	1	0	0	1
	Sub Total		**1689**	**419**	**203**	**0**	**621**
37	Corporation Bank	Chickmagalur Kodagu GB	47	23	4	0	27
	Sub Total		**47**	**23**	**4**	**0**	**27**
38	Dena Bank	Durg-Rajnandgaon GB	101	61	0	0	61
39		Dena Gujarat GB	131	131	0	0	131

	Sub Total		**232**	**192**	**0**	**0**	**192**
40	Indian Bank	Saptagiri GB	103	103	0	0	0
41		Pallavan GB	56	56	0	0	0
SR. NO.	NAME OF SPONSOR BANK	NAME OF RRB	NO. OF BRANCHES	NO. OF COMPUTERISED BRANCHES		ALPM BRANCHES	TBA BRANCHES
				100%	PARTIAL		
	Sub Total		**159**	**159**	**0**	**0**	**0**
42	Indian Overseas Bank	Pandyan GB	182	0	182	180	2
43		Neelachal GB	168	0	150	147	3
	Sub Total		**350**	**0**	**332**	**327**	**5**
44	J&K Bank	Jammu RB	91	0	3	0	0
45		Kamraz RB	104	11	0	0	11
	Sub Total		**195**	**11**	**3**	**0**	**11**
46	Punjab & Sindh Bank	Faridkot-Bhatinda KGB	25	0	0	25	0
	Sub Total		**25**	**0**	**0**	**25**	**0**
47	Punjab National Bank	Madhya Bihar GB	400	118	221	0	0
48		Haryana GB	185	185	0	185	185
49		Punjab GB	153	153	0	0	153
50		RGB, Alwar	195	121	68	0	0
51		Himachal GB	118	118	0	118	118
52		Serva UPGB	265	0	255	0	255
	Sub Total		**1316**	**695**	**544**	**303**	**711**
53	State Bank of India	Andhra Pradesh GVB	483	302	11	0	0
54		APRB	19	6	7	0	0
55		Lengpi Dehani RB	43	14	7	0	0
56		Samastipur KGB	66	16	50	0	0
57		Chhattisgarh GB	235	0	103	0	0
58		Ellaqui Dehati GB	76	0	0	0	0
59		Vananchal GB	178	10	5	0	10
60		Krishan GB	106	106	0	0	106

61		Madhya Bharat	208	4	120	120	4
62		Mizoram Rural Bank	60	50	0	0	50
63		Nagaland Rural Bank	10	4	2	0	6
64		Utkal GB	322	91	6	0	97
SR. NO.	NAME OF SPONSOR BANK	NAME OF RRB	NO. OF BRANCHES	NO. OF COMPUTERISED BRANCHES		ALPM BRANCHES	TBA BRANCHES
				100%	PARTIAL		
65		Parvatiya GB	29	14	0	14	0
66		Purvanchal GB	305	0	285	0	255
67		Uttaranchal Gramin Bank	115	62	0	28	62
	Sub Total		**2255**	**679**	**596**	**162**	**590**
68	State Bank of Bikaner & Jaipur	MGB GB, Palli	206	206	0	0	206
	Sub Total		**206**	**206**	**0**	**0**	**206**
69	State Bank of Hyderabad	Deccan GB	167	77	0	0	0
	Sub Total		**167**	**77**	**0**	**0**	**0**
70	State Bank of Indore	Vidhsha Bhopal	23	23	0	23	23
	Sub Total		**23**	**23**	**0**	**23**	**23**
71	State Bank of Mysore	Cauvery Kalpatharu GB	202	144	58	58	144
	Sub Total		**202**	**144**	**58**	**58**	**144**
72	State Bank of Patiala	Malwa GB	41	41	0	0	41
	Sub Total		**41**	**41**	**0**	**0**	**41**
73	State Bank of Saurashtra	Saurashtra GB	131	131	0	0	131
	Sub Total		**131**	**131**	**0**	**0**	**131**
74	Syndicate Bank	Andhra Pragati GB	336	70	266	266	70
75		Gurgoan GB	141	68	73	73	68
76		Karnatak VGB	402	402	0	0	402
77		NMGB	163	132	31	31	132

78		Prathama Bank	186	0	186	165	21
	Sub Total		**1228**	**672**	**556**	**535**	**693**
79	UCO Bank	JTGB, Jaipur	209	66	40	0	106
80		Paschim Banga Gramin Bank	216	32	0	0	32
81		Bihar KGB	153	53	0	0	53
SR. NO.	NAME OF SPONSOR BANK	NAME OF RRB	NO. OF BRANCHES	NO. OF COMPUTERISED BRANCHES		ALPM BRANCHES	TBA BRANCHES
				100%	PARTIAL		
82		Mahakaushal	42	31	0	0	31
83		Kalinga GB	182	5	0	0	5
	Sub Total		**802**	**187**	**40**	**0**	**227**
84	Union Bank of India	Rewa Sidhi	84	0	80	80	0
85		KGS Gramin Bank	336	0	0	329	7
	Sub Total		**420**	**0**	**80**	**409**	**7**
86	United Bank of India	Assam GB	355	5	240	13	227
87		Bangiya Gramin Vikash Bank	547	184	0	0	184
	Sub Total		**902**	**189**	**240**	**13**	**411**
88	UPSCB	Kshetriya KGB	63	0	6	0	6
	Sub Total		**63**	**0**	**6**	**0**	**6**
89	Vijaya Bank	Visveshvarya GB	27	27	0	0	27
	Sub Total		**27**	**27**	**0**	**0**	**27**
	Grand Total		**14456**	**4944**	**3829**	**2885**	**5686**

SECTION 3

NEED FOR CBS IN RRBs

3.1 Although there is no formal definition of CBS, the term has been in use during the last few years. The advancement in technology, especially internet and information technology, has led to a new way of doing business in banking. The technologies have cut down time, working simultaneously on different issues and increased efficiency. The platform where information and communication technology are merged to suit core needs of banking may be referred to as CBS. In CBS, computer software performs the core operations of banking like handling and recording of transactions, maintenance of passbooks, interest calculations on deposits and loans, maintaining customer records and generating reports and statements. The software is installed at bank branches and then interconnected by means of communication lines telephone, internet and satellite communication. It allows customers to transact with the bank from any branch if it has installed CBS. This new platform has changed the way of working of banks.

3.2 In an ideal CBS scenario, all products, processes, channels and customer relationship management tools are integrated and administered via a central database of the bank with branches and channels as delivery points. This enables data integration for various purposes including regulatory reporting and internal MIS all at considerably lower cost. The new generation private sector banks were the first to adopt CBS technologies in India followed by a few public sector banks. Gradually, the same were adopted by most of the commercial banks as part of their computerisation processes.

3.3 As per the Report on Trend and Progress of Banking in India 2006-07, the process of computerisation in commercial banks was now reaching near completion for most of the banks. Public sector banks continued to expend large amounts on computerisation and development of communication networks. The cumulative amount spent during September 1999 to March 2007 aggregated Rs 12,826 crore. Of this, the State Bank Group itself had spent Rs 4,703 crore.

3.4 Further, the proportion of branches providing CBS increased rapidly from 28.9 per cent at the end of March 2006 to 44.4 per cent at the end of March 2007. Seven subsidiary banks of State Bank of India had fully implemented CBS. Additionally, eight public sector banks, viz., Andhra Bank, Bank of Baroda, Bank of India, Bank of Maharashtra, Corporation Bank, Punjab National Bank, Vijaya Bank and State Bank of India had achieved full computerisation of branches. At the end of March 2007, fully computerised branches, including branches under CBS, formed 85.6 per cent of the total branches of public sector banks. Of the 27 public sector banks, 15 banks had computerised their branches fully, while six banks had computerised between 70 to 90 per cent of their branches. Only four banks (Punjab and Sind Bank, UCO Bank, Union Bank of India and United Bank of India) had yet to computerise more than half of their branches.

3.5 The latest position in this regard was sought by the committee from all sponsor banks. The data indicated that the position had significantly improved during the past year.

3.6 The committee obtained the views of sponsor banks, RRBs and the representative bodies of the RRBs on the requirement of CBS in RRBs. Three broad views emerged: first, there was no need for CBS in RRBs at the present juncture; second, CBS was required but only in larger or urban branches of RRBs; and third, RRBs require CBS in order to compete with commercial banks.

3.7 It was stated that CBS is a sophisticated and costly system which may not be suited to the needs of the RRBs. It was argued that though RRBs are implementing various schemes of both state and central governments, the quantum of business handled by them was not adequate and remunerative for moving towards CBS. Sometimes there was no fee or commission for transacting such operations. It was suggested that before moving towards CBS, both state and central governments should provide adequate fees to RRBs for strengthening their operations and keep their deposits with RRBs. A view expressed was that since many RRB branches were still at a manual stage and had not moved towards computerisation and since even TBA had not yet stabilised in most RRBs, at the first stage RRBs should complete computerisation of all branches under TBA before moving towards CBS.

3.8 It was also stated that CBS, though required in RRBs, was not necessary for their entire network. There were many branches in all RRBs where the business was extremely low and the number of vouchers per day was very limited. In such branches, there would not be any need for CBS at this juncture. It was suggested that CBS may be restricted to only urban and semi-urban branches and such branches where the business requirement demanded it. Business criteria in terms of volume could be an indicator for fixing the limit for introducing CBS.

3.9 The third view expressed was that CBS was necessary for RRBs in view of the emerging trends in the banking sector. RRBs could not afford to remain left behind the commercial banks. In fact, state and central governments were reluctant to give business to RRBs because they were not in a position to offer the same kind of service as commercial banks. Further, the present ALPM and TBM platforms were not able to handle large number of standard applications. However, the high cost likely to be incurred during CBS was a deterring factor and it was expressed that either the stakeholders should come forward and share the costs or financial resources should be made available to RRBs so that they are not burdened with the cost.

3.10 The committee is of the opinion that RRBs cannot afford to remain isolated from the technological developments sweeping the banking sector. With the commercial banks racing towards a higher degree of technological sophistication, the RRBs would be required to adopt technology for improving the quality of their customer service. However, given the different levels at which the different RRBs are presently placed in regard to their status of computerisation, a “one strategy fits all” approach may not be workable.

3.11 The committee is of the view that as a matter of policy, all RRBs should begin moving towards CBS. The CBS in RRBs should be geared towards better management control and monitoring, wider range of services offered and enhanced level of customer satisfaction. Adoption of CBS would lead to uniformity in work environment, more informed decision making, centralised processing and better MIS and reporting and improved regulatory compliance.

SECTION 4

OPTIONS FOR INTRODUCING CBS

4.1 The various options available for introducing CBS in RRBs were explored by the committee. In this connection, several presentations were made by various vendors who presented their solutions for achieving CBS in RRBs. The experience of CBS in commercial banks was also taken into account. After taking into account all the available inputs, it was observed that there could be three broad approaches for introducing CBS in RRBs.

4.2 First, the individual RRBs develop their own Data Centre (DC) and Data Recovery Centre (DRC). A variant of this model could be the Application Service Provider (ASP) Model where the entire work is outsourced to an outside agency. Second, all RRBs in the country brought under a common DC and DRC, owned and managed by a centralised agency. Third, all RRBs sponsored by a particular bank share the DC and DRC of the sponsor bank.

4.3 So far, the computerisation efforts in RRBs have largely remained bank-specific. Only in the case of a very few sponsor banks, some uniform strategy for computerisation of their RRBs has been implemented. However, CBS being a cost intensive technology, individual decisions by RRBs in going in for their own strategies may not be desirable. Moreover, most RRBs would not have the technical expertise available to take sound decisions in the matter. They would thus be exposed to the different vendors trying to push their products in the market. Further, RRBs lack the manpower skills that would be required for such technology management, particularly in the initial stages. Therefore, the first approach mentioned above, could not be considered further.

4.4 A variant of the first approach discussed was the case of an Application Service Provider (ASP) which would outsource the entire work for the RRB. It would provide the DC/ DRC facilities and take care of the operations for a price. However, it was viewed that for individual RRBs the proposition would be costly. It would be more advantageous

if a group of RRBs adopt this approach. For logical reasons, the grouping could be on sponsor bank basis. In that respect, the third approach was favoured.

4.5 The case for bringing all RRBs under a common umbrella for the purpose of CBS was put forth before the committee. It was highlighted that a single agency having this responsibility would lead to huge economies of scale and ensure uniform technology and processes among the entire RRB sector. It was suggested that RBI or NABARD may take up this responsibility. It was also suggested that even a separate institution or company could be created to initially install the system and thereafter manage it.

4.6 This approach was examined by the committee and it was observed that it would not be possible for RBI to enter this domain in view of its regulatory responsibilities. At present, NABARD is the supervisory authority for RRBs and hence it may not be appropriate to entrust it with this operational area. Creating a new authority for this purpose may also be difficult in view of multiple stakeholders of RRBs and numerous sponsor banks, which include public sector banks, private sector banks and a cooperative bank. The integration of different RRBs, which are at varying stages of computerisation and adopting different platforms, would also be an extremely difficult task to manage.

4.7 The third approach merited detailed consideration. Most of the sponsor banks as well as RRBs which interacted with the committee during its deliberations were of the opinion that RRBs could share the infrastructure of their sponsor banks. Almost all sponsor banks have achieved considerable experience in CBS in their banks. It was suggested that a separate database instance could be created for the RRBs in the DC and DRC of the sponsor bank. This would make the implementation cost effective. It was pointed out that Central Vigilance Commission (CVC) guidelines would not permit extending the sponsor bank's CBS in its entirety to their RRBs. The requirements of RRBs may also be different form their sponsor banks, although not to a great extent. Under this approach, the sponsor bank could provide all necessary technical, managerial and training support to the RRBs. In the light of the above, the committee is of the opinion that the ASP model for CBS of RRBs may be suitable. However, where significant cost reduction and economies of scale result, the resource sharing model with sponsor bank may be considered.

4.8 It may be noted that out of 28 sponsor banks, 11 banks have sponsored only one RRB while 7 others have sponsored two RRBs each. These RRBs are mostly located in the state where the Head office of the sponsor bank is located. The approach of these sponsor banks could be different from sponsor banks which had more number of RRBs, spread over different states.

4.9 Most sponsor banks have relied upon a few providers for their CBS requirements. While 11 banks have adopted Finacle solutions provided by Infosys Technologies, State Bank of India, its associate banks and 4 other banks are on the TCS Bancs 24 platform. Two banks are using the Flexicube solution of iflex while one bank has developed its in-house system.

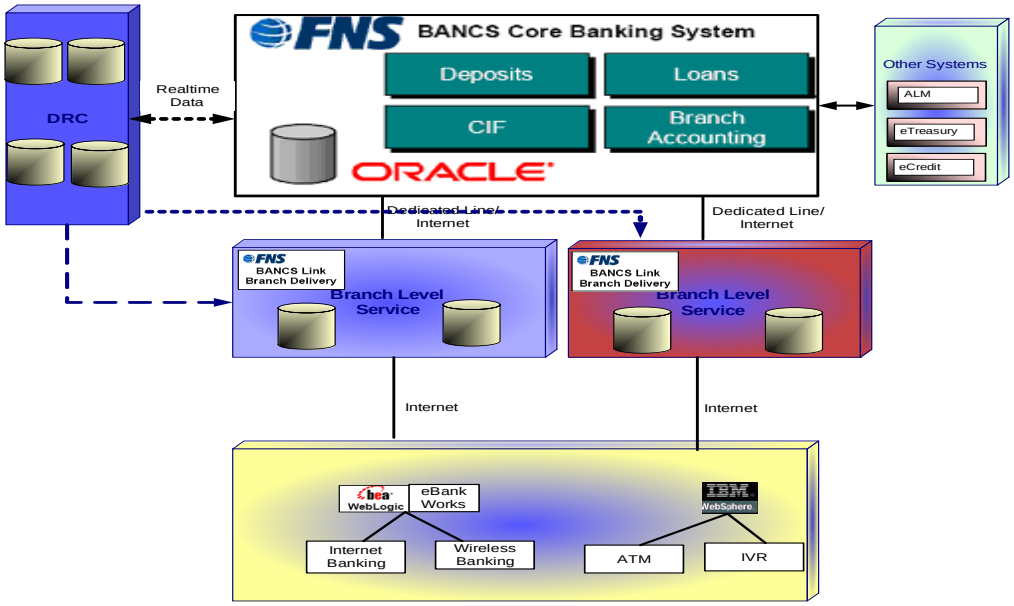
ASP model

4.10 The Application Service Provider (ASP) model is based on outsourcing of the DC, DRC and system management process. Typically, ASPs develop, deploy, and manage specialized software services from centralized facilities for a broad customer base. ASPs offer economies of scale, enabling their customers to eliminate high upfront and fixed capital costs, and reduce ongoing maintenance costs through the sharing of application services. In addition to cost savings, ASPs also deliver continually enhanced capabilities – freeing up a bank's resources and enabling it to focus on its core business. Many companies have constructed DCs, DRCs and system applications for individual banks. The committee invited selected vendors to make presentation of their products for banks and also obtained the views of sponsor banks and RRBs regarding their experience with the vendors.

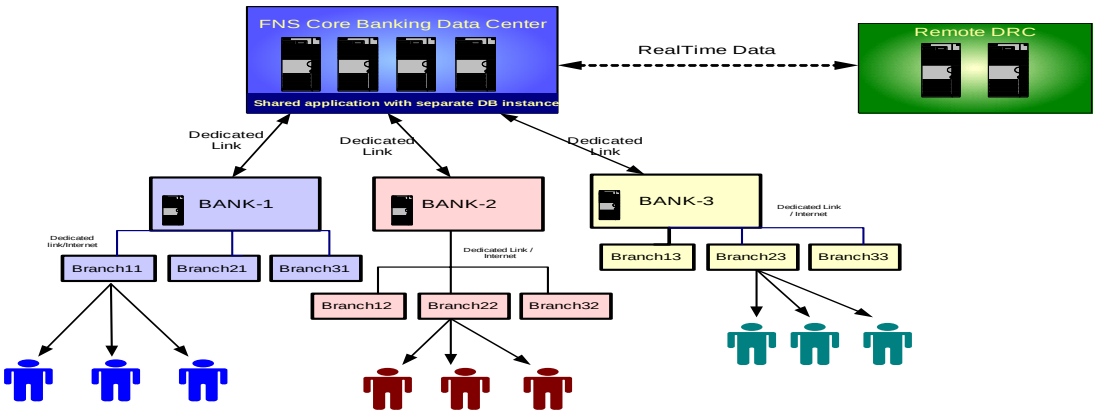
4.11 One vendor who made a presentation before the committee depicted a model using B@NCS 24 software, which has already been adopted by 116 banks in 35 countries, including India. The software is being used in the CBS of State Bank of India, its seven associate banks, Allahabad Bank, Indian Bank, Central Bank of India and Bank of Maharashtra. It was mentioned that the software is a highly advanced, state-of-the-art system that provides reliability, flexibility and rapid response to market pressures. Using on-line, real time transaction processing technology along with the latest in relational data base techniques, it provides a stable, resilient and flexible core banking facility. It

can be scaled from the smallest organisations to the largest depending on the performance required.

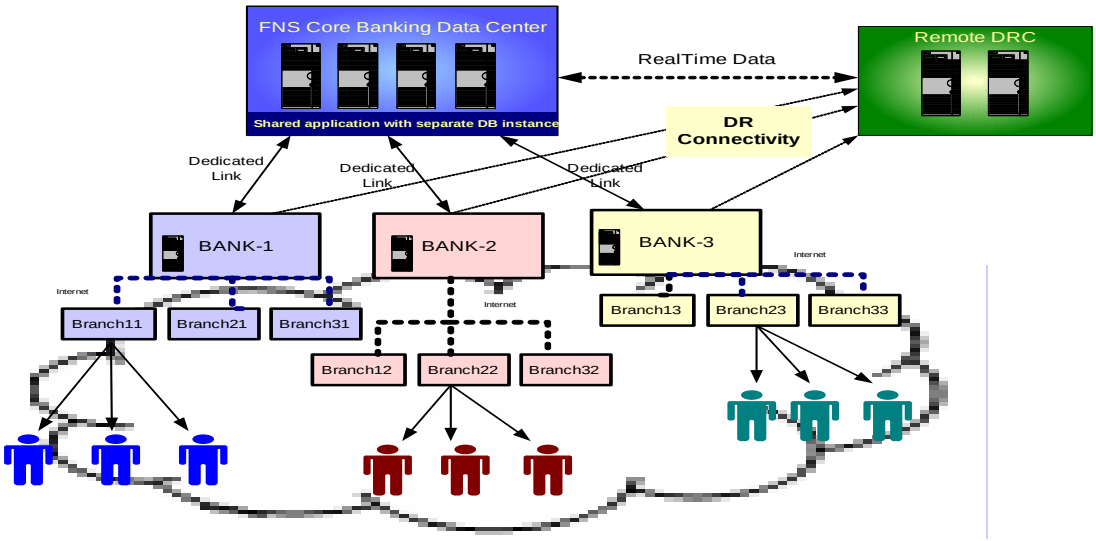
4.12 A typical ASP architecture, using this software as the core banking solution, is represented as follows:



4.13 There are multiple models to deploy the above solution based on an individual bank's requirement. In one option, the bank and its branch servers are connected through high speed dedicated links. This may be required where customer base is huge and demand for application connectivity is of a high order. It is depicted as follows



4.14 The other option provides for a dedicated link from the main server of the service provider to the Head Office of the bank and creates a virtual private network (VPN) for branch level connectivity. It can be depicted as follows



4.15 The system has offline 'store and forward' processing features that enable branch operations to continue should there be a communication malfunction. This system caters for transaction data storage and posting and forwards the data when the communication has been re-established.

4.16 Different providers have varying products in the market. In this context, the committee is of the view that respective sponsor banks may be given the option of selecting the provider for their RRBs. This provider may be same as for the sponsor bank or different as per the requirement of the RRBs. In case a sponsor bank has developed its own software, it may consider making the same available to its RRBs.

4.17 The committee is of the view that any technology platform for CBS needs to be reliable, scalable, easily available, manageable and secure. For this, the background, credentials and experience of the vendor are extremely important. It would therefore be prudent to rely on the trusted and established vendors to provide services to RRBs.

4.18 The committee is also of the view that sponsor banks must own major responsibility in taking RRBs on the path to CBS. However, the requirements of the RRBs have to be borne in mind as these banks may not require the full suite of services that are available in sponsor banks and hence a plain vanilla tailored to their needs should be provided.

4.19 As regards connectivity, there are several methods of connecting the branches, such as leased lines, ISDN line, VSATs and radio connectivity. Most of the banks are using leased line connectivity for their branches with minimum 64 kbps bandwidth. As a fall back, they are using ISDN lines. At remote branches, where the leased line and ISDN lines are not available, banks have used VSAT connectivity, which provides limited bandwidth sufficient up to four users. Connectivity through VSAT is cost effective too. RRBs may go in for economic connectivity options, depending upon the situational position of the branch.

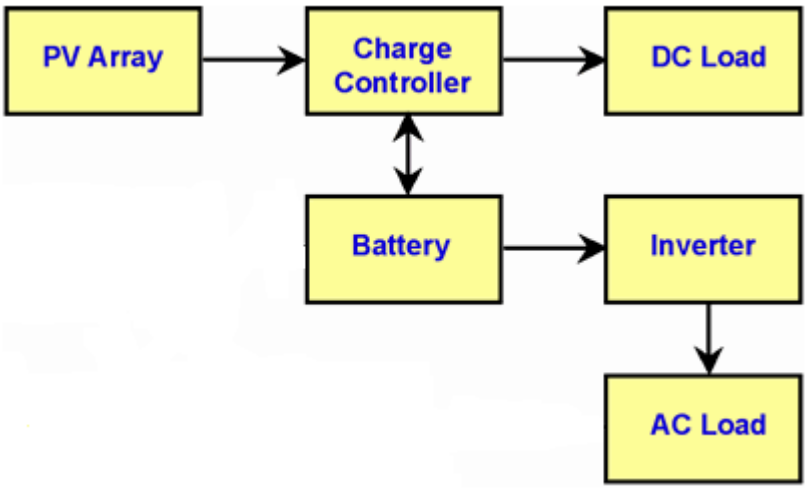
4.20 The committee is of the view that while the critical branches (say up to 10 per cent of the total branches) may be completely online, other branches may be in hybrid mode. Such branches would be on offline mode with local memory and the data incrementally uploaded at desired hours during the day. This would help bring down connectivity costs considerably.

SECTION 5

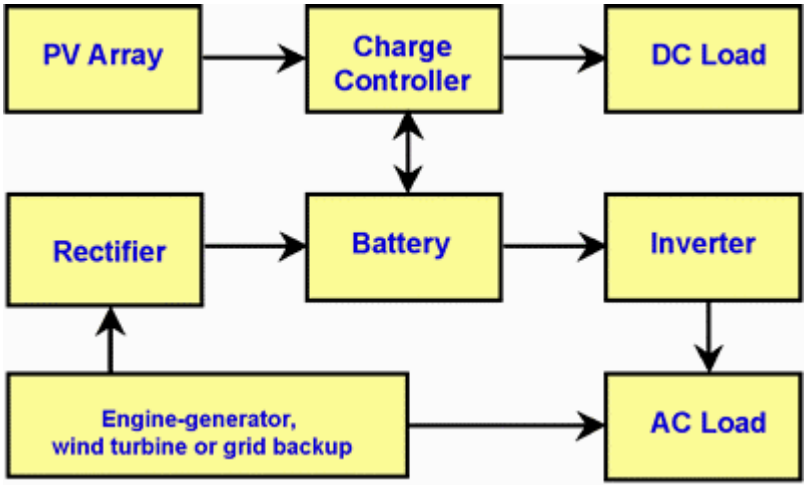
USE OF SOLAR POWERED DEVICES FOR RRBs

5.1 The Working Group also examined the use of solar power devices for RRBs, particularly in respect of branches located in remote areas which are not assured of continuous power supply. In this context, the experience of one of the RRBs in Uttar Pradesh, which has made a beginning in this direction, was also studied.

5.2 Solar photovoltaic cells convert the sun's energy into DC electricity using silicon cells called solar cells. When sunlight falls on the solar cells, a DC voltage is generated across the cell. The solar cell is connected to a battery through a charge controller and electrical energy is stored in the battery. From the energy stored in the battery, either a DC load or an AC load through inverter is operated. The process can be depicted diagrammatically as follows:



5.3 In case the mains system, generator or an alternate energy source (such as wind power) is also connected along with the solar cell, the process would change as depicted below:



5.4 As our country is amply endowed with abundant sunlight, solar energy is easily available. It is 'green' energy and does not pollute the environment. The 'fuel' (sunlight) is available everywhere and is free. It does not require any transmission mechanism and the capacity can be expanded whenever required. As it is in solid state and has no movable machinery, the maintenance requirement is minimal. Moreover, solar panels have a long life of about twenty years. In the light of all these advantages, solar energy option for meeting the energy requirements of RRB branches, particularly in rural/ semi urban and remote areas where power supply may not be available for several hours in a day, is worth considering.

5.5 The power requirements of a rural branch should take into account the basic lighting needs of the branch as well the requirements for CBS infrastructure. A rural branch would typically require three computers with TFT monitor (without individual UPS), one server for CBS, one printer and scanner and five LED based lights for lighting. An average of eight hours of operation every day for five days in a week for the computers and 365 days in a year for server would be required. To meet these requirements, a 1.5 KW power solar system (stand alone) with battery and inverter would be required. The size of the solar system required would increase with the number of computers and vice versa.

5.6 One of the vendors who made a presentation before the committee indicated that the prices of 1.7 to 2.05 KW power solar systems would be between Rs 6.2 to Rs 7.4 lakh. It was further stated that the users could claim 80 per cent depreciation on the initial investment in the first year itself. It was mentioned that if the overall life of the solar power system is considered, it would be far economical compared to the traditional DG sets presently being used in branches to supply power at times of power failure.

5.7 Vijaya Bank, a public sector bank, had successfully done a pilot on powering 60 rural branches through solar power in 2006. It was also learnt that since the last one year, one of the RRBs in Uttar Pradesh (Aryavart Gramin Bank sponsored by Bank of India) has been using solar power packs for supplying power to five of its branches. The members of the committee visited the bank and also two of its branches to get a first hand knowledge of the experience of the bank in this regard.

5.8 It was learnt that the solar packs being used in the bank have a capacity of 0.64 KW power and are suitable for branches with area of less than 800 square feet. These packs can be used to run two PCs, one printer, four lights and three energy efficient fans. The cost of the system was stated to be Rs 2.30 lakh. The performance of the system was reported to be satisfactory. It was also stated that at one of the branches, both computers were used continuously for 48 hours with solar power at the time of annual closing without any problem being faced.

5.9 The system uses solar power panels mounted on the roof of the building at a specified angle. It was informed that these panels provided optimum output at temperatures of 25 degrees centigrade, irrespective of whether it was sunny or cloudy.

5.10 Recently, in order to cover slightly larger branches with area of 1200 square feet, a system with a higher capacity, capable of running two PCs (one of which can act as server), four disk less PCs, a pass book printer, a dot matrix printer, a scanner, a switch, a hub, four lights and three energy efficient fans had been installed in two branches of the bank. The cost of such a system was about Rs 3.64 lakh. The effective operational cost of the system over a seven year period was calculated as Rs 4.11 lakh after claiming a benefit of Rs 0.78 lakh as saving on depreciation during the first year. In comparison, the effective operational cost of a traditional DG set works out to Rs 8.06 lakh over a seven year period. The detailed cost-benefit analysis worked out in this regard is annexed.

5.11 It may be seen from the data that although the initial cost of solar power unit is far higher than a DG set that is traditionally used for power in the absence of direct power supply, the effective cost over a time period works out to be less. Thus, solar powered branches can prove to be viable and economical as compared to relying on DG sets in areas where power is a serious problem. Further, use of solar power is an environment friendly option and its use may be encouraged. The committee is of the opinion that RRB branches in such areas can take recourse to powering their branches through solar power, even in a CBS scenario.

ANNEX 5.1

COST BENEFIT ANALYSIS – DG SET AND SOLAR POWER SYSTEM

Item	Diesel Generator set	Solar Power system
Capital investment	Nil	363,610
Standard warranty	Nil	1 year with 7 years AMC
Rent plus running expenses per month	5,300	Nil
Electricity charges per month	600	250
Expense per annum	70,800	3,000
Overtime/ misc. expenses per annum	10,000	Nil
Total expenses per annum	80.800	3,000
Capital investment and running cost for 7 years	565,600	384,610
Interest cost on capital expenditure @9% for 37 months	Nil	52,320
Effect of inflation over next 7 years	45,248 @8% due to increase in price of fuel	Nil
Cost of UPS	71,500	Not required
Replacement cost of UPS/ invertor battery in 7 years	52,000 71,500	52,000
Total cost	805,848	488,930
Depreciation benefit	Nil	80% in first year
Tax benefit on capital investment	Nil	77,988 (30.09% tax saving on 80% of cost)
Effective operational cost of system over 7 years	805,848	410,942
Average expenses per month on DG set	805,848/ 84 = 9,543	
Payback time (effective cost of system/ monthly expenses on generator)		410,942/ 9,543 = 42.84, say 3 years 7 months

SECTION 6

COSTING ASPECTS AND TRAINING REQUIREMENTS

6.1 The costing aspects of migrating RRB branches to CBS would depend upon the CBS architecture used. These can be split into (a) branch requirements, which would include nodes and back-up server for local transactions and to be used during non-availability of connectivity; (b) data centre requirements, which would include application server, database server and web servers; and (c) disaster recovery centre requirements, which would include application server, database server and web servers.

6.2 Although half a dozen vendors made presentations of their products before the committee, it was not possible to come to an accurate estimate of the costing aspects of the exercise due to numerous variables involved. First, the situational aspects of the RRBs as well as their branches were vastly different. Second, the technology configurations taken into account were not uniform. Third, the vendors were themselves reluctant to place the costing details before the committee and did not furnish full details despite requests. Further, although the vendors had provided solutions for large commercial banks as well as small urban cooperative banks, none of them had actually provided any specific CBS solution to an RRB, which could be taken as the model. However, a rough cost estimate has been attempted by the committee based on the inputs received.

6.3 One sponsor bank, which has gone ahead towards implementing CBS architecture for all is sponsored RRBs has estimated that the total cost would be Rs 8,060 lakh for over 1,300 branches of its six RRBs. Of this, the cost of software and licences comes to Rs 2,670 lakh. The remaining cost of Rs 5,390 lakh will be of hardware, connectivity, networking and creating physical infrastructure of DC and DRC. However, these costs are stated to be indicative.

6.4 Another sponsor bank is exploring the option of networking of RRB branches by Virtual Private Network (VPN) by connecting to a central server at Head Office of the RRB through broad band connectivity and has launched a pilot for the same. The bank has estimated a total cost of Rs 1,976 lakh for 350 branches of its two RRBs. In addition

there would be a recurring cost of Rs 0.40 lakh per branch. As most branches of the banks are presently on ALPM, it plans to convert the branches first to TBA and then to CBS. If the pilot proves successful, it would be extended to all branches.

6.5 Similarly, one estimate of the cost of converting RRBs from TBA and ALPM to CBS is given below:

(Amount in Rs lakh)

Unit	Requirements	Fixed cost	Operating cost
Data Centre	2 database high end servers 4 application mid range servers Routers, switches, firewalls Annual rent for space	90.00 10.00 12.00	 15.00
DR site	Database high end servers Routers, switches, firewalls Annual rent for space	90.00 12.00	 15.00
	Total	214.00	30.00
Branch under TBA	CBS Application software licence Router, switch, modem Annual leased line charges	0.75 2.00	 0.30
	For 50 branches For 100 branches	100.75 200.75	15.00 30.00
	Total for RRB with 50 branches Total for RRB with 100 branches	314.75 414.75	45.00 60.00
Branch under ALPM	5 PCs with loaded software Licence cost of RDBMS Cost of printers, scanners CBS licence UPS 3KVA with 4 hours backup Router, switch, modem Leased line charges	1.50 0.35 0.50 0.75 1.10 2.00	 0.30
	For 50 branches For 100 branches	310.00 620.00	15.00 30.00
	Total for RRB with 50 branches Total for RRB with 100 branches	524.00 834.00	45.00 60.00

6.6 Another estimate given by a vendor for rolling out 150 RRB branches on CBS is given below:

(Amount in Rs lakh)

Item	Initial cost	Recurring cost
Physical infrastructure of centralised DC	15.85	
Cost of UPS and security equipments		3.17
Recurring electricity charges		6.00
Information security equipment at DC	2.50	0.25
Cost of central networking	9.20	0.92
Recurring cost in networking		2.00
Cost of hardware	28.00	2.80
Cost of software application	127.50	19.13
Cost of networking the branches	37.50	3.75
Recurring cost of networking		37.50
Fall back connectivity		22.50
Training costs	1.50	1.50
Cost of procuring 4 SQL licences	14.00	3.08
Contingency expenses	33.95	
Total	270.00	102.60

6.7 Another estimate of cost provided by another vendor is given as under:

(Amount in Rs lakh)

Item	100 branches	200 branches	500 branches
Branch infrastructure, DC/DRC infrastructure, application software, licensing, facility management, network and connectivity and branch rollout	1022.69	1290.08	2068.35
Annual recurring cost	95.61	134.64	249.81

The above cost estimate, which is not a commercial quote, does not consider the legacy issues in migration and assumes four users per branch.

6.8 Another vendor gave the following estimate of cost of its proposed CBS solution

No. of branches	Cost (Rs lakh)
50	125
100	225
200	400
500	1000

6.9 It may be seen that the different estimates given differ widely from one another. As such, the committee is unable to give precise uniform estimates for all RRBs. However, as a rough estimate, the committee estimates that the cost for taking RRBs to CBS may broadly be calculated as follows:

Parameter	No. of branches	Amount required (Rs lakh)	Total amount (Rs lakh)
Fully computerised branches	4944	2.00	9888
Partially computerised branches	3829	3.00	11487
Branches not computerized	5683	6.00	34098
Total for branches			55478
DC/ DRC per RRB		200	
DC/ DRC for 88 RRBs			17600
Total			73078

It may be noted that if the DC/ DRC of the sponsor bank is used as suggested elsewhere in the report, the above cost estimate would come down to some extent.

6.10 Funding the cost of moving towards CBS is an important issue for RRBs, particularly as several RRBs continue to incur operating losses. Further, many RRBs still continue to have accumulated losses and even negative net worth. Despite this position, there are RRBs which are healthy and making sustained profits. The committee considered this aspect and is of the view that funding support may be provided to all RRBs in the matter of adopting CBS, irrespective of their financial position. This would enable the entire sector to move uniformly towards adopting CBS.

6.11 The committee is of the view that while sponsor banks may contribute 25 per cent of the cost required for taking their RRBs to CBS, the remaining cost may be borne by Reserve Bank through Institute for Development and Research in Banking Technology (IDRBT). The IDRBT, in turn would provide necessary funds to the sponsor banks for their sponsored RRBs. The support could be in the form of interest free loans, repayable in three years.

6.12 The Financial Inclusion Technology Fund (FITF), with a corpus of Rs 500 crore, was announced in the Union Budget of 2007-08. The corpus of the fund would be contributed by Central Government, RBI and NABARD in the ratio 40:40:20. According to the paragraph 6.2 of the Guidelines for FITF, the eligible activities form the Fund include providing financial support to technological solutions aimed at providing affordable financial services to the disadvantaged sections of the society. According to paragraph 7.1 of the Guidelines, RRBs are among the eligible institutions for getting assistance from the Fund. As RRBs have embarked upon financial inclusion in a big way and an overwhelming percentage of their branches are located in rural areas, funding support to RRBs for implementing CBS could be considered from FITF. However, taking into account the total corpus of the Fund, the committee is of the view that funding support for initial capital investment by RRBs for powering their remote rural branches through solar power as part of CBS may be provided through FITF.

Training requirements

6.13 As is well known, the existing staff of RRBs has an adverse age profile with majority of staff in the above 45 years age group. Further, they are also not well versed with technology. Many RRBs are also short of staff. As such, implementing CBS in RRBs would be a challenge, for which proper planning is required.

6.14 It is known that RRBs do not have their own training establishments so far. The existing training facilities available for RRB staff are Bankers Institute for Rural Development, Lucknow, College of Agricultural Banking, Pune, Regional Training Colleges of NABARD at Mangalore and Bolpur, and the sponsor bank training institutes. However, all these institutions (other than sponsor bank training institutes) provide training only to officers and not to clerical or subordinate staff.

6.15 The Committee to Formulate a Comprehensive HR Policy for RRBs (Chairman: Y.S.P.Thorat) has, in its report recommended that RRBs should have an exclusive training cell within the Personnel Department at Head Office and bestow more attention to the training function. It also recommended that sponsor banks can consider earmarking in any one training institute in a state, at least one channel to cater to the training requirements of all RRBs within the state and/ or the adjoining states.

6.16 If the ASP model is adopted for the CBS of RRBs, the ASP would provide technical training to a core group of staff. The RRBs would be required to identify a few such staff members to build a core team. This team would have to take responsibility for executing the transition to CBS. It is expected that all RRBs would be able to identify such staff members.

6.17 As RRBs do not as yet have their own training set-ups, the committee is of the view that the training requirements of staff of RRBs on account of moving towards CBS would have to be met by sponsor banks through their training establishments. The sponsor banks should also meet the costs incurred in this regard.

6.18 It was also represented to the committee that RRBs may recruit fresh staff for their IT requirements. The committee is in agreement with this view and suggests IT specialists may be recruited in RRBs to cater to their IT requirements.

SECTION 7

ROAD MAP FOR IMPLEMENTATION

7.1 As has been detailed in an earlier section, different RRBs are at varying degrees of computerisation. As such, the road map for implementation of CBS would be different for different banks. The committee is of the view that the roll-out of the road map for implementation of CBS in RRBs should start at the earliest and proceed as follows.

7.2 In case of RRBs in which 100 per cent branches are computerised, available data would not be required to be created again for migration to CBS. As such, these banks should take the least time to move to CBS. The committee is of the view that such banks should implement CBS in all their branches by September 2009. There are 20 RRBs falling under this category.

7.3 The remaining RRBs may also start the process of moving their branches to CBS at the earliest. The committee envisages that such RRBs should implement CBS in at least 25 per cent of their branches by September 2009 and at least 50 per cent of their branches by September 2010. The remaining branches may be endeavoured to be covered by September 2011. By that date, at least 90 per cent of the business of the banks should be on CBS.

7.4 The overall responsibility of ensuring that the time frame suggested is adhered to would be that of the sponsor bank. The Board of Directors of RRBs may draw up a detailed time schedule and ensure implementation as prescribed.

7.5 In addition, all new branches opened after September 2009 may be made CBS compliant from day 1.

SECTION 8

SUMMARY OF RECOMMENDATIONS

A summary of the recommendations of the committee made in the earlier sections is given below.

- The significant differences in the level of computerisation between different RRBs need to be taken into account while preparing any plan for further technology upgradation of RRBs. (2.15)
- As a matter of policy, all RRBs should begin moving towards CBS. The CBS in RRBs should be geared towards better management control and monitoring, wider range of services offered and enhanced level of customer satisfaction. Adoption of CBS would lead to uniformity in work environment, more informed decision making, centralised processing and better MIS and reporting and improved regulatory compliance. (3.11)
- The committee is of the opinion that the ASP model for CBS of RRBs may be suitable. However, where significant cost reduction and economies of scale result, the resource sharing model with sponsor bank may be considered. (4.7)
- The respective sponsor banks may be given the option of selecting the service provider for their RRBs. This provider may be same as for the sponsor bank or different as per the requirement of the RRBs. In case a sponsor bank has developed its own software, it may consider making the same available to its RRBs. (4.16)
- Any technology platform for CBS needs to be reliable, scalable, easily available, manageable and secure. For this, the background, credentials and experience of the vendor are extremely important. It would therefore be prudent to rely on the trusted and established vendors to provide services to RRBs. (4.17)
- Sponsor banks must own major responsibility in taking RRBs on the path to CBS. However, the requirements of the RRBs have to be borne in mind as these banks may not require the full suite of services that are available in sponsor banks and hence a plain vanilla tailored to their needs should be provided. (4.18)

- As regards connectivity, RRBs may go in for economic connectivity options, depending upon the situational position of the branch. (4.19)
- While the critical branches (say up to 10 per cent of the total branches) may be completely online, other branches may be in hybrid mode. Such branches would be on offline mode with local memory and the data incrementally uploaded at desired hours during the day. (4.20)
- RRB branches in remote areas where power is a serious problem may take recourse to powering their branches through solar power in a CBS scenario. (5.11)
- At a rough estimate, the technological cost of taking RRBs to CBS works out to Rs 730.78 crore. (6.9)
- Funding support may be provided to all RRBs in the matter of adopting CBS, irrespective of their financial position. This would enable the entire sector to move uniformly towards adopting CBS. (6.10)
- While sponsor banks may contribute 25 per cent of the cost required for taking their RRBs to CBS, the remaining cost may be borne by Reserve Bank through Institute for Development and Research in Banking Technology (IDRBT). The IDRBT, in turn would provide necessary funds to the sponsor banks for their sponsored RRBs. The support could be in the form of interest free loans, repayable in three years. (6.11)
- Funding support for initial capital investment by RRBs for powering their remote rural branches through solar power as part of CBS may be provided through FITF. (6.12)
- The training requirements of staff of RRBs on account of moving towards CBS would have to be met by sponsor banks through their training establishments. The sponsor banks should also meet the costs incurred in this regard. (6.17)
- The committee suggests IT specialists may be recruited in RRBs to cater to their IT requirements. (6.18)
- The roll-out of the road map for implementation of CBS in RRBs should start at the earliest. RRBs in which 100 per cent branches are computerised, should implement CBS in all their branches by September 2009. (7.2)
- The remaining RRBs may also start the process of moving their branches to CBS at the earliest. Such RRBs should implement CBS in at least 25 per cent of their branches by September 2009 and at least 50 per cent of their branches by September 2010. The remaining branches may be endeavoured to be covered

by September 2011. By that date, at least 90 per cent of the business of the banks should be on CBS. (7.3)

- The responsibility of ensuring that the time frame suggested is adhered to would be that of the sponsor bank. (7.4)
- All new branches opened after September 2009 may be made CBS compliant from day 1. (7.5)