

ASIAN DEVELOPMENT BANK

**TA NO. 7055-IND: CAPACITY DEVELOPMENT OF NATIONAL CAPITAL REGION
PLANNING BOARD (NCRPB) – PACKAGE 1 (COMPONENTS A AND C)**

VOLUME II: NCRPB DIAGNOSTIC REPORT

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Abbreviations and Acronyms

ADB	Asian Development Bank
BCBS	Basel Committee on Banking Supervision
BE	Budget Estimates
BIS	Bank for International Settlements
CRAMEL	Capital adequacy, Resources, Assets Quality, Management Quality, Earnings and Liquidity
CA	Chartered Accountant
CA&G	Comptroller & Auditor General of India
CII	Confederation of Indian Industry
CMA	Counter Magnet Areas
CoA	Chart of Account
ERP	Enterprise Resource Planning
FIs	Financial Intermediaries
FICCI	Federation of Indian Chambers of Commerce and Industry
FMS	Financial Management System
FRBM	Fiscal Responsibility and Budget Management
FY	Fiscal Year
GoI	Government of India
IPSAS	International Public Sector Accounting Standards
IEBR	Internal and Extra Budgetary Resources
IRDA	Insurance Regulatory Development Authority
MoF	Ministry of Finance
MoUD	Ministry of Urban Development
MIS	Management Information System
MTEF	Medium Term Fiscal Framework
NGOs	Non-Governmental Organizations
NIC	National Informatics Centre
NCRPB	National Capital Planning Regional Board
NCT	National Capital Territory
PEFA	Public Expenditure and Financial Accountability
PMC	Project Monitoring and Coordination
PSMG	Project Sanction and Monitoring Groups
REs	Revised Estimates
TA	Technical Assistance
TNUDF	Tamil Nadu Urban Development Fund
UP	Uttar Pradesh
WACC	Weighted Average Cost of Capital

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SECTION I: INTRODUCTION

A. National Capital Region Planning Board

1. The National Capital Region Planning Board (NCRPB) was created as a special purpose body for promoting a balanced development of the National Capital Region (NCR). It was first conceived by the first Master Plan for Delhi (1961-81), which envisaged development of Delhi in its regional context. Besides identifying the Delhi Metropolitan Area, the Master Plan for Delhi also identified the NCR comprising the National Territory of Delhi and eight adjoining districts and additional Tehsils of Meerut, Hapur, and Bulandshahr. It recommended creating a statutory National Capital Region Planning Board and preparing a Regional Plan for the NCR. The Government of India therefore initially created a High Powered Board chaired by the Union Minister of Home Affairs with the Chief Ministers of Haryana and Uttar Pradesh, representatives of the Planning Commission, and the Mayor and the Commissioner of Delhi as its members. Subsequently, the Parliament enacted the National Capital Region Planning Board Act, 1985.

2. In accordance with its mandate to promote development in the national capital region, NCRPB has formulated regional plans and established the NCRPB fund to provide concessional financing to critical infrastructure projects. At this critical stage of its evolution, NCRPB is re-examining its role in infrastructure development. NCRPB Members and other stakeholders are questioning themselves whether NCRPB has maximized its potential? If not, then how can NCRPB fulfil its mission?

3. **TA Objective:** In this context, the Government of India sought technical assistance from the Asian Development Bank to enhance the organisational capacity of the NCRPB and its implementing agencies involved in the implementation of the NCR Regional Plan. The objective of this TA is to strengthen the capacity of NCRPB, state level NCR Planning Cells, and other implementing agencies in the area of planning for urban infrastructure and to impart necessary skills to conceive, design, develop, appraise and implement good quality infrastructure projects for planned development of the NCR. This TA is expected to assist NCRPB in defining a road map for its future and to maximize its potential in regional planning and infrastructure financing.

4. Out of the two components to be undertaken as part of the current NCRPB technical assistance, this document comprises two parts:

- Volume I: Inception Report – Presents a detailed work plan outlining the activities, timing of deliverables and notional budget for undertaking training activities. And,
- Volume II: Diagnostic Study NCRPB - Presents a detailed review and diagnosis of the business activities related to components A (e.g., which covers Business Process Reengineering of NCRPB's operations and financial management systems); and, Component C (e.g., which deals with strengthening integrated urban planning and human resource management).

B. Structure of Diagnostic Report

This volume can be described as a diagnostic of NCRPBs operations. As such, the structure of this Volume II is as follows:

Section II: Review of Legal and Administrative Framework in NCRPB: Offers a review of the legal and administrative framework and focuses on operational realities, organizational development and structure, human resource management practices and related practices.

Section III: Review of regional, sector(functional), sub-regional Planning Processes: Provides a review of the regional planning processes including brief description of status of the planning function at NCRPB and an incisive analysis of key issues and the proposed next steps.

Section IV: Legal and Regulatory Framework, Financial Policies, Financial Management and Systems and Financial Performance: Describes and analyzes NCRPB's financing activities within the context of the extant regulatory framework and prevailing financial policies, financial management systems and financial performance.

Section V: Review of MIS Systems at NCRPB: Offers a review of the Management Information Systems (MIS) at NCRPB. This section also outlines strategies for future implementation including design and implementation plan for an ERP system.

SECTION II: REVIEW OF LEGAL AND ADMINISTRATIVE FRAMEWORK IN NCRPB

A. Background

5. Legal framework determines both the nature of functions an organisation is required to perform and also the enabling processes as well as the structure needed for performance of mandated functions. The National Capital Region Planning Board Act, 1985 (“the Act”) enacted by the Indian Parliament constitutes the enabling law that governs the functioning of the Board. In a multi-state jurisdiction such as the National Capital Region that consists of the states of Uttar Pradesh, Haryana, and Rajasthan and the National Capital Territory (NCT) of Delhi, the legal framework would need to be such that enables the NCRPB develop the region according to Plan. The Act has provisos for enabling the Board to ensure plan implementation in a multi-state, multiple implementing agencies regime. But in its operational context, these are constrained by the inter-state nature of its jurisdiction. Explicit provisos in the Act, some of which are in the nature of strong mandates, are mentioned below:

Table 2.1: Provisos in the National Capital Region Planning Board Act, 1985 for Enabling the Board to Implement the NCR Plan according to the Plan

S. No.	Section, Sub-section	Proviso
1	7 (d)	to ensure proper and systematic programming by the participating States and the Union territory in regard to project formulation, determination of priorities in the National Capital Region in accordance with stages indicated in the Regional Plan;
2	8 (a)	call for reports and information from the participating States and the Union territory with regard to preparation, enactment and implementation of Functional Plans and Sub-regional Plans;
3	8 (b)	<i>ensure that the preparation, enforcement and implementation of Functional plan, or Sub-Regional Plan, as the case may be , is in conformity with the Regional Plan (emphasis added);</i>
4	8 (e)	<i>select and approve</i> comprehensive projects, call for priority development and provide such assistance for the implementation of those projects as the Board may deem fit (emphasis added);
5	10 (2)	The Regional Plan shall indicate the manner in which the land in the National Capital Region shall be used
6	17(1)	Each participating State <i>shall prepare a Sub-Regional Plan</i> within the State and the Union territory shall prepare a Sub-Regional Plan for the sub-region within the Union territory (emphasis added).
7	19(1)	Before publishing any Sub-Regional Plan, <i>each participating State or, as the case may be the Union territory, shall refer such plan to the Board to enable the Board to ensure that such Plan is in conformity with the Regional Plan</i> (emphasis added);
8	27	The provisions of this Act shall have effect, notwithstanding anything inconsistent therewith contained in any other law for the time being in force or in any instrument having effect by virtue of any other than this Act; or in any decree or order of any court, tribunal or other authority.
9	29(1)	... no development shall be made in the region which is inconsistent with the Regional Plan as finally published.

6. As is seen in the Table given above, the Act enables the Board to give approval to Sub-Regional Plans prepared by the sub-national entities for ensuring compliance of such plans to the grand Plan that the NCR Plan is. The Act under its Section 29(2) also provides for preventing violations of the NCR Plan by the states/ NCT of Delhi though the consequence of violation is limited only to withholding the financial assistance given by the Board.

B. Operational Realities

7. In actual practice, the Board is not in a position to effectively promote and co-ordinate development in the region according to Plan because of involvement of more than one state. States being constitutionally autonomous entities, the Board created under an Act of the Parliament is constrained in using its overriding powers. It cannot override the powers of the states that flow to them directly from the Constitution of India. A statutory body cannot override constitutional entities.

8. The situation is further exacerbated by the fact that land constitutes a State subject (List II of the Constitution) and despite the proviso in the NCRPB Act under Section 10(2) that the Regional Plan “shall indicate the manner in which the land in the National Capital Region shall be used...”, the Board is not in a position to ensure implementation of this proviso in the Act. Even the proviso under Section 19(1) does not enable the Board to approve the Master Plan which basically constitutes an operational land use plan; it provides for approval of only the Sub-Regional Plans that are largely in the nature of policy plans. The consequence of not complying with the mandatory provisions of the NCRPB Act (withholding of financial assistance) is not deterrent in nature. Providing teeth to the Board would necessitate revisiting the Act for rewarding the states in situations of good performance by the state agencies and also severe punishment in case of violation.

9. The emerging case law on the subject indicates that the NCRPB is recognised legally as a “federal agency” that needs to be consulted by the constituent states at every stage in reference to the plans...¹ The Board would therefore need to have a legal cell that could perform watchdog functions for observing non-compliance to the Plan provisions and take the required legal remedy. This, in the prevailing situation, is expected to enhance the authority of the Board for ensuring compliance by the constituent states and the NCT of Delhi.

C. Organization Development and Structure

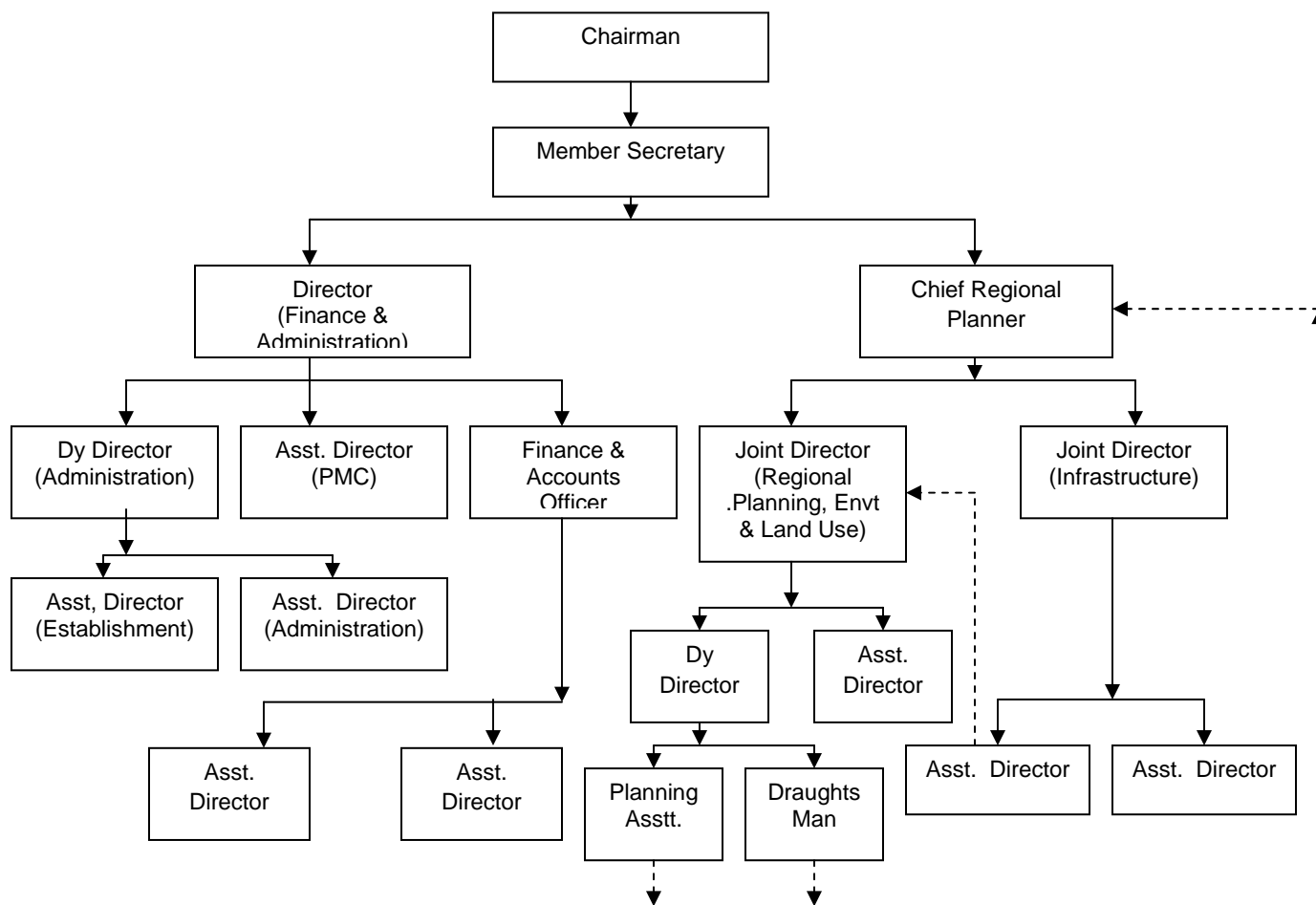
NCRPB is organised to consist of several organs: i.) focused on planning; and, ii.) finance and administration. The latter also has a small one man cell devoted to Project Management and Coordination (PMC). The planning organ of the NCRPB consists of planners that are required to prepare the Regional Plan, Functional Plans, and “arrange for the preparation of Sub-Regional Plans and Projects Plans by each of the participating States and the Union Territory”.² Finance and Accounts Officer (FAO) in the Finance Department helps the Director, Finance in financing of projects and financial management of the Board. Apart from these overall responsibilities, the FAO also helps in planning and mobilisation of financial resources, project financing and monitoring, budgeting and preparation of annual plans, investment planning and overall supervision of finance and accounts functions.

¹ Observations of the Allahabad High Court quoted in the Regional Plan 2021 National Capital Region.,

² Section 7(b), National Region Planning Board Act, 1985

10. In addition to these two organs of the NCRPB that form an integral part of the Board located in the national capital, there is yet a third organ of the Board, located in the constituent states and the NCT of Delhi. In order to perform the mandated functions, the Board works with the NCR Planning and Monitoring Cells (herein after to be called as the NCR Planning Cells) created in 1987 and located in the states of Haryana, Uttar Pradesh, and Rajasthan and in the NCT of Delhi. These Cells are multi-disciplinary in nature and act as coordinating agencies for various sectoral programmes.

Organisational Structure of the National Capital Region Planning Board



11. The Board also works with them to coordinate programmes and policies as contained in the Regional/Sub-Regional/ Functional Plans of the NCRPB. The NCR Cells perform the following functions:

- Preparation of Sub-Regional Plan;
- Preparation of Master Plan for urban centres falling in the NCR;
- Assistance to the implementing agencies in preparation of projects and schemes and forwarding them to the NCRPB for financing and monitoring of projects; and
- Feed back to the NCRPB in matters relating to planning, development and projects

D. Human Resource Management Practices

12. Effective performance of mandated functions depends to a large extent on such elements as motivation, commitment, technical and managerial skills and capacity and these are often determined by the organisation's approach to managing its human resources. Recruitment, induction, job description, performance evaluation, career development, institutional incentives, and training constitute important ingredients of human resource management. IPE provides a brief review of NCRPB's human resource practices in the following sections.

13. Staffing and Recruitment: NCRPB has a total sanctioned position of 58. Staffing at the NCRPB consists of technical and non-technical staff. The Technical staff consists of functionaries working in the Planning wing of the Board; others are treated as non-technical staff. The Board has its own Recruitment Rules that are revised from time to time. Presently, recruitment at the NCRPB for various positions is governed by the National Capital Region Planning Board Recruitment and Promotion Rules, 2006. Service conditions for these positions are governed by the Central Government service conditions as devised from time to time. Pay scales and promotions, as well, are governed by the central government service(s) rules for the non-technical staff.

14. The authority for creation of posts in the Board vests with the Personnel Group that is chaired by the Secretary, Ministry of Urban Development. Members of this Group include Secretary (Expenditure) in the Union Ministry of Finance, Secretaries in charge of NCR work in the constituent states and the NCT of Delhi and the Member Secretary of NCRPB as the Convener of the Group. Selection of personnel for appointment on positions with a pay scale of more than Rs.15, 200 (according to the Fifth Pay Commission) is made by the Group. For positions with a pay scale of Rs.15, 200 and less, selection is made by the Member Secretary of the NCRPB with the help of a Selection Committee chaired by him. Against a sanctioned position of 58, 50 positions are presently filled up; the remaining 8 positions are vacant as is shown in Table below:

Table 2.2: Sanctioned, Filled up and Vacant Positions in the NCRPB

S. No.	Category	Filled up	Vacant	Total
1	Group 'A'	12	1	13
2	Group 'B'	6	1	7
3	Group 'C'	24	4	28
4	Group 'D'	8	2	10
Total		50	8	58

15. Number of vacant positions is thus quite less. However, a couple of positions amongst the vacant ones (Deputy Director, Power; and Assistant Director, Establishment) are quite conspicuous. Another gap in staffing relates to existence of technical staff vis-à-vis the ones provided for in the Recruitment Rules. The Recruitment Rules provide for ten technical (planning) positions in the Planning wing of the Board. These positions are allocated to three specific disciplines such as (1) Urban and Regional Planning, (2) Project Development, Appraisal and Management, and (3) Demographic Assessment and Social Infrastructure. However, the disciplines of incumbents presently working on the technical positions in the Board do not conform to the ones provided for in the Recruitment Rules. The obvious result of such a recruitment practice is that one expert has also to give inputs to the disciplines other than his own. Though this contributes to multi-skilling, it also deprives the Board from the expertise required. It needs to be mentioned that if the incumbents actually belong to the disciplines

provided for in the Recruitment Rules, it would provide the Board with the expertise that are needed for project appraisal, which is presently being performed by institutions outsourced by the Board.

16. NCR Planning Cell: The Board also finances the working of the NCR Planning and Monitoring Cells located in states and the NCT of Delhi. Presently, as many as 86 positions are sanctioned in these Cells. The wages and salaries of these positions are paid for by the Board. Of the total sanctioned positions, 54 are filled up and the remaining 32 are vacant. Vacant positions are thus quite large; more than one-third of the sanctioned positions are vacant. Some of the vacant positions include Commissioner, Economic Planner, and Assistant Architect in Uttar Pradesh and Senior Town Planner and Assistant Town Planner in Rajasthan. Such a large number of vacant positions constitutes a constraining factor.

17. Promotion: NCRPB has good system of promotion of staff at all levels. For the non-technical staff, there is a scheme known as Assured Career Progression scheme that ensures that every incumbent gets three promotions during the tenure of service; the periodicity of promotion being one promotion in every ten years (Sixth Pay Commission). For the career development of the technical staff, the Board has an Assessment Scheme. The Scheme provides for personal promotion of the technical staff. The Assessment Scheme provides for assessment of the incumbents after completion of seven years of service for promotion wherein s/he gets the next higher pay scale but retains the same position. In case an incumbent fails to get through the next promotion through assessment, this is repeated again in the eighth and ninth years of service.

18. Job Description and Performance Evaluation: The Board also has job description for its staff at all levels. This is a good human resource management practice that helps in training needs assessment (TNA) and also in performance evaluation. The Board follows the Central Government practice of writing of confidential reports for the staff for performance evaluation. The result of performance evaluation is used for promotion of the staff. NCR Planning Cells, however, do not have any job description for their staff. This is yet another constraining factor for training needs assessment for preparation of a training plan. An even more important constraining factor in the Cells is the fact that the staff working in these Cells are in no way accountable to the NCRPB even though the Board pays for the working of these Cells. The employees working in these Cells are accountable to their own line departments in their respective states. Attempts have been made in the past to bring the staff working in the NCR Planning Cells under the purview of accountability to the Board. However, a multi-state jurisdiction and the state-federal constitutional relationships do not permit to do so.

19. Training: Training provides learning opportunities to the staff of an organisation. Learning events substantially contributes to enhancement of knowledge, skills and positive changes in attitudes of the functionaries at every level in an organisation. However, the Board does not have an organised system of training. Presently, training is limited to sporadic participation of the functionaries of the Board whenever the Board receives a circular from a training institution for nomination to the training courses. Also the Board does not have any practice for induction training, training on functional transfer, refresher courses, and orientation training courses. As the Board does not have any system of organised training of its staff, it does not as well have the system of periodical training needs assessment (TNA).

20. This T.A. will therefore suggest the modalities of institutionalising training in the NCRPB on the basis of formal TNA, training policy and training plans along with identified potential training

institutions that could be used for imparting training to the functionaries of the Board at different levels. This will be supplemented by visit to good practices in planning, project management and financing.

SECTION III: REVIEW OF REGIONAL, SECTORAL (FUNCTIONAL), SUB-REGIONAL PLANNING PROCESS

A. Background

21. Plan Preparation: The Regional Plan 2021 (RP2021) is the overall strategic planning document for the NCR. It was prepared during 2001 – 2002, initially by widely representative Study Groups (including State Governments) and then through extensive consultation with interested parties. It was finally approved in July 2005. No sub-regional plans have since been prepared by the States although both Haryana and UP have sub-regional plans that are dated. However, a Master Plan for NCT Delhi was approved in September 2007. The NCRPB is currently preparing a Transportation Functional Plan and several other pre-RP2021 Functional Plans also exist.

22. Barriers to Plan Preparation: Barriers to plan preparation identified in the Technical Proposal include:

- (i) lack of capacities within concerned State departments involved in physical planning leading to disregard for overall planning concepts propagated by the Regional Plan-2021 (Green Field Development);
- (ii) lack of capacity within most State Governments to prepare effective Master Plans and Sub-Regional Plans, especially the former, to guide development within central NCR towns and cities;
- (iii) lack of awareness within NCRPB staff towards modern tools and techniques of planning in the context of regional planning for a national capital region in the international context;
- (iv) need to identify new concepts of regional planning in light of the present day development, real-estate and infrastructure constraints; and
- (v) varied administrative, institutional and political structures operating within the NCR.

23. However, it is not certain whether the identified lack of capacity with the States is actually valid or whether the States are intentionally not preparing the required plans (after 3 years of repeated requests and encouragement from the NCRPB). It may be that the States are unwilling to produce such plans and/or that the technical staff has not been instructed to prepare them. In addition, there is no legal requirement for the States to prepare such plans within any prescribed time limit and neither are there any procedures set in place for undertaking the plan making process³. It is important to mention that the NCR only forms part of each of the States (except Delhi) and they will also have other planning priorities. The reasons behind this lack of plan preparation will be followed up with the States themselves in due course.

24. State Strategy and Regional Plan 2021: In the meantime, the lack of such plans means that there may be no official State strategy for dealing with pressing issues identified in the RP2021 and thus planning decisions on new planned developments may be taken in a policy vacuum.

³ For example, there is no requirement for any Sub-Regional Plan to be made available for public comment unlike the Regional Plan

25. Prioritisation of Financing: Also importantly for the NCR, there is no current plan highlighting priorities in the allocation of NCR funding for State projects. At present, if States do apply for loans from the NCRPB they are merely required to show that any such project complies with the RP2021 and any Master Plan which they may have for that area. There are currently very few applications for project funding from the States. This also makes it difficult for the NCRPB to set priorities amongst a small list of projects when there is sufficient funding for all applications.

26. Other identified barriers to plan preparation include the following:

- (i) Lack of widely available digital base maps (especially cadastral) as a basis for creating a spatial database which can be shared through a GIS;
- (ii) Lack of a National Urban Information System (NUIS) as was identified in the RP2021;
- (iii) Outdated remote sensing data (1999)⁴; and
- (iv) With most land related data in non-digital format, this leads to restricted access to the limited copies of data, degradation of historical information, opaqueness on records and distrust among the public.

B. Analysis

27. Preparation of Sub-Regional and Master Plans: With regard to the preparation of Sub-Regional and Master Plans, the RP2021 (Section 17.1.1) says. “The detailed specific reservation of areas for various land uses of Sub-regional and urban importance will be detailed out in the Sub-regional Plans and Master Plans, which are to be prepared by the respective participating States within the overall framework of the Regional Plan”. The key phrase is “detailed specific reservation” which means that the actual boundaries of the proposed uses must eventually be delineated on a map (Master Plan) so that the current owners/occupiers of land will be aware of the specific impacts.

28. Unrestricted Movement of Commercial and other Vehicles within the NCR: The NCR Planning Board has to its credit easing of vehicle movement within the NCR comprising four constituent states. The initiative taken by the Board has decongested the roads of Delhi and facilitated movement of vehicles in the NCR by making the constituent states sign bilateral agreements (Delhi-Rajasthan, Delhi-Uttar Pradesh, Delhi-Haryana, Rajasthan-Uttar Pradesh, Haryana-Rajasthan, and Haryana-Uttar Pradesh). Travelling to the constituent states in commercial vehicles has been constrained by very high duties imposed on the commercial vehicles. The Board has worked with the constituent states and signed a Reciprocal Common Transport Agreement for facilitating unrestricted/seamless travel from one state to another within the NCR. Common Reciprocal Transport Agreement relating to Contract Carriage as well has been signed by the constituent states. This is going to facilitate movement of Auto-Rickshaws and Taxis within the NCR without any additional passenger tax. Common Reciprocal Transport Agreement relating to Stage Carriage, with designated routes and trips for commuting buses, is to be notified soon.

29. Digital Spatial System: Without a move to a digital spatial system, this task will prove difficult, time consuming and error prone, given the large amounts of data which need to be processed and analysed in growing urban areas for the scale of mapping required prior to actual

⁴ A request has been made to National Remote Sensing Centre (NRSC) for updated aerial photography and it is currently planned to fly the area next October/November as good weather is common at that time.

planning of future land uses. The recent hand coloured Delhi Master Plan 2021 is an example of such an old technology. However, a digital land information system linked to a GIS will not be available soon from current sources even if work was to commence on digitising all land records immediately. The process of digitising and checking land administration maps will expose many “anomalies” even with regard to plot identification which will require resolution prior to public release of such data. The process for the NCR as a whole will be made even more complex by each State having its own land administration system. And “land” is a very sensitive subject to tackle in a short period.

30. But this does not mean that a start should not be made on modernising the planning system to give it the capacity for dealing with current and future challenges and on which to employ techniques and tools which will assist planners to make better qualified recommendations and decisions. And if the States remain reluctant to fulfil their legal responsibilities it may have to fall to the NCRPB to set an example, which should then be followed by the States, once they see the inherent benefits.

31. The National Capital Region Planning Board Act of 1985 says that “*before publishing any Sub-Regional Plan, each participating State or, as the case may be the Union territory, shall refer such plan to the Board to enable the Board to ensure that such Plan is in conformity with the Regional Plan*”. Unfortunately, the States are not required to seek approval from the NCRPB with regard to the provisions of any Master Plans that they may produce (although the NCRPB may review the draft when it is made available for public comment). And it is the Master Plans, rather than the more general Sub-Regional Plans, which actually delineate the actual land use implications on the ground. However, Master Plans form a logical progression from the Sub-Regional Plans which are required to develop the policies and strategies approved in the Regional Plan. Failure to undertake Sub-Regional Plans means that key RP2021 policies may not be considered and developed in the relevant Master Plan. The recently approved Master Plan for Delhi, for example, does not fully address how adequate water supplies will be ensured to its residents in future, nor whether sufficient land will be available for solid waste disposal. These are key topics, which should have been fully analysed in the umbrella Sub-Regional Plan for Delhi, which has not yet been prepared.

C. Three Pronged Approach

32. Given the lack of new Sub-Regional plans to interpret the provisions of the RP2021, it is recommended that a three-pronged approach be taken with regard to continued planning in the NCR.

33. Preparation of Sub-Regional/Master Plans: Firstly, the Ministry of Urban Development should be encouraged to urge the States to fulfill their statutory requirements to produce Sub-Regional and Master Plans for their area. Although Master Plans may take longer to produce due to their more detailed nature, it is anticipated that the technical part of a Sub-Regional plan for each State could be completed in less than one year, given that much of the overall strategy is already present in the RP2021. The NCRPB should be prepared to assist in any agreed plan making strategy to the best of their capabilities.

34. Preparation of Functional Plans: Secondly, and in any event, the NCRPB should continue with its preparation of Functional Plans⁵ for key sectors. Key identified NCRPB priorities at present are for Transportation, Drainage and Water, although the latter will need to look outside the NCR, particularly to the north, to ensure that all potential water resource areas are included. A Protection Functional Plan is also a major requirement to delineate areas that should not be developed rather than just identifying areas that should be developed.

35. The continued expected growth of the NCR (from 37.1 million in 2001 to 64.1 million by 2021) will place extreme pressure on all important natural resources. The RP2021 provides for the protection of such resources and identifies several green buffers between future urban growth areas. However, the absence of Master Plans which physically delineate such areas and the growing demand for development of land reflected in high prices means that there is and will continue to be intense market pressures to continue the existing urban sprawl. Experience elsewhere shows that there must be a transparent, clear and justified physical delineation of key areas for protection which can and will be enforced: otherwise urban sprawl will absorb such areas on a piecemeal basis.

36. Preparation of Protection Plan: It is therefore suggested that a key priority Functional Plan is a Protection Plan. Essentially, the Protection Plan would delineate all key areas which should be protected for whatever reason. The remaining land can then be considered as suitable for development in either short or longer term.

37. Thirdly, preparation of a Protection Plan provides an opportunity to commence work on the preparation of an NCR-wide digital spatial database which would also input to an overall National Urban Information System (NUIS). This would require the acquisition of good quality remote sensing coverage for the whole of the NCR⁶ (with sufficient licences).

38. Remote Sensing: The acquisition of recent high quality remote sensing (and its associated requirements of hardware, software and trained personnel), is the first priority for upgrading the technical capability of the NCRPB (and by association of the States) and should be a pre-condition for the preparation of any new NCR-wide plans. The identification and/or hiring of appropriate staff and their training by GIS experts can start immediately while awaiting delivery of remote sensing and associated hardware/software.

39. The acquired digital remote sensing would then form the base for the mapping of:

- ☞ all major administrative boundaries;
- ☞ details of all types of Areas/Zones to be Conserved/Protected as identified in Chapter 14 of the RP2021 (including security zones);
- ☞ details of all current and proposed transportation reserves/corridors (from 30 – 100 metres either side of the right of way as provided for in the RP2021);
- ☞ details of other known or anticipated services and utilities; and
- ☞ other planned land uses as identified in the RP2021.

⁵ It is recognised that Functional Plans have no legal backing and are designed to act purely as guidance for the States in their planning and project identification.

⁶ The NCRPB obtains its remote sensing data through the National Remote Sensing Centre (NRSC) in the Department of Space, which is a distributor for both Ikonos and QuickBird.

40. The result of all these discussions and agreements translated into spatial form should provide a basic sieve map which will show areas to be protected and those which may have potential for development.

41. In addition, a comparison of recent remote sensing with that from the past⁷ will show development trends during that time. The digital spatial database may then be distributed to States and/or other agencies for their own (subject to restrictions on its use) project identification purposes. It is recommended that a condition of any distribution agreement would be that any other users provide a copy of any value added data back to the NCRPB.

42. It is proposed that the current capabilities of the NCRPB be examined with regard to the preparation of new Functional Plans and also the setting up of a Digital Spatial Database. It would need to be decided on the appropriateness of supporting a GIS/Database unit within the NCRPB (together with equipment and training). Other options or supplementary action would include the setting up of sub-units within the States and/or the outsourcing of some or all of the works to external consultants.

D. Different Levels of Commitment in Implementing Regional Plans Background

43. **Regional Plan Implementation:** The implementation of regional plan provisions must be considered in two parts as mentioned below:

- **Category 1:** Those projects identified by individual States for which funding is sought from the NCRPB; and
- **Category 2:** All other projects, policies and actions taken by the States, government agencies, private sector and others within the NCR or which impact on the NCR from outside.

44. The following especially apply to category 1:

- The individual States identify the projects⁸ that they require to be implemented;
- The interest rate charged by the NCRPB may be lower than from other sources;
- Prior to approving a loan the NCRPB must be satisfied that the project complies with the provisions of the Regional Plan and any valid Sub-Regional or Master Plans;
- Given the broad nature of the RP2021, this should be reasonably easy unless there is a glaring departure from the plan's provisions;
- States are free to choose financing from other sources than the NCRPB, if they consider they can get more advantageous terms or if it is considered that the project does not comply with the Regional Plan;
- As previously stated, there are currently few applications for project funding from the States to the NCRPB so this also makes it difficult for the NCRPB to set priorities amongst a small list of projects when there is sufficient funding for all applications; and
- Therefore, a priority project from the point of view of a State may be different to one of the NCRPB which is considering the needs of the wider NCR.

⁷ Aerial photography and/or remote sensing exists within the NCRPB for years 1986, 1993 and 1999.

⁸ Projects may be conceived for a range of activities whether they are networks (e.g. road) or specific to one area (e.g. township).

45. It is clear that by itself, the lack of a Sub-Regional plan is not enough to delay or prevent implementation of projects using funding from the NCRPB or other sources. The eventual preparation of new Master Plans and other more detailed Development Plans would provide more of a check on project compliance due to their more accurate portrayal of permitted land use zonings.

46. For the category 2 mentioned above, the team identified the following constraints:

- Lack of personnel within NCRPB to uphold the regional plan across the 33,000 sq.km. of area that the Plan covers (although NCR comprises of 2000 sq.km. area);
- Need to identify new concepts of regional planning in the light of the present day development, real-estate and infrastructure constraint; and,
- Need to have greater powers to deter violation of Regional Plan-2021 under the NCRPB Act, 1985, among others.

47. However, implementation is not solely about Development Control and Enforcement of the RP2021. Development Control is usually reactive: waiting to receive proposals from (usually the private sector or agencies) and then determining whether the project complies with plan provisions or not. Enforcement is intended to make sure that approved projects are implemented correctly and that unauthorized development is not carried out.

48. Implementation should also be proactive: ensuring that the key components of the RP2021 are put in place by the responsible parties in a timely manner as anticipated by the RP2021. These may be NCR-wide initiatives such as transportation or drainage networks for which Functional Plans are to be prepared by the NCRPB. They may be projects, policies and/or other actions, which will determine whether people, businesses and facilities locate within, or move to a specific area.

49. The key players involved in implementation are the:

- States who are to translate the RP 2021 into the framework for directing and phasing activities through the Sub-Regional and Master Plans;
- Agencies responsible for the phased provision of supporting (or proactive) services and utilities;
- Private Sector, through market based decision making on where to locate; and
- Public, who react to events and try to anticipate the future.

50. Collectively, these are the forces, which shape the NCR, for better or for worse. To ensure successful planning and implementation, their various motivations need to be understood and their energies directed towards an acceptable development scenario for the benefit of all residents. Implementation should also deal with issues fully or partly outside the NCR but which will impact upon planning and development of the NCR. These issues include planning and development of the Counter Magnets outside the NCR and also ensuring that available water resources are sustainably maximized for the benefit of all those within the relevant water catchments.

E. Next Steps

51. **Comparative Analysis:** In order to assess whether development is proceeding according to the provisions of the Regional Plan, there needs to be some starting reference point and an

assessment of what has happened since then right up to the current date. The RP2021 used remote sensing from 1999 to create a GIS and map the land use at that time. The proposals above recommend the acquisition of new 2008 remote sensing from the NRSC. A simple comparison of the two data sets will identify changes in land use from 1999 - 2008. These changes can then be compared with the GIS layer for the planned land uses under the RP2021.

52. These comparisons will be able to show the changes in land use within each State and whether the changes are within the provisions of the RP2021. From the type and size of developments, the seriousness of any such deviations from the RP2021 can be gauged. The comparison will also be able to show whether much of the required infrastructure in support of the RP2021 is being constructed in a timely manner by the respective agencies.

53. **National Capital Region Development Authority (NCRDA):** Feasibility of a common NCR Development Authority for managing complex inter-jurisdictional infrastructure projects would need to be addressed. Many models for managing complex inter-jurisdictional infrastructure projects have been tried throughout the world. They range at one level from the creation of a powerful unitary authority for a large identified area to a system of informal coordination at the other. Such arrangements may solely cover the operation of already set-up services or projects. Alternatively, they may include capital works. Some arrangements include both construction and operation.

54. The most applicable sectors chosen are usually those, which involve networks such as transport, drainage or water supply, which do not naturally follow artificial administrative boundaries. They usually involve a variety of interested parties, which have potentially different views. The more complex the situations are, the more likely that there will be pressures (internal and external) to set up a common arrangement to deal with the issues involved.

55. At this early stage in the project, it is difficult to assess which model may or may not be appropriate. Intensive discussions with the States and relevant agencies will be needed in the next few months to further analyse the various issues.

SECTION IV: REGULATORY FRAMEWORK, FINANCIAL POLICIES, FINANCIAL MANAGEMENT AND SYSTEMS AND FINANCIAL PERFORMANCE

A. Introduction

56. The following sections analyze financial functions of NCRPB under the given legal framework, reviews current financial performance as per ADB's guidelines and assesses financial management systems based on Public Expenditure and Financial Accountability (PEFA⁹) framework.

B. Legal and Regulatory Framework

57. NCRPB fund has been constituted under the NCRPB Act to provide financial assistance to States for implementing projects in the NCR Region. The fund largely comprises non-lapsable grants from the Govt. of India and NCT, Delhi. In addition, the Board has resorted to market borrowings through private placement of bonds, which have enjoyed an AAA rating for over 9 years from CRISIL (the subsidiary of Standard & Poor), and more recently FITCH Ratings (AAA(SO)). The financial assistance provided by the NCRPB fund has so far been in the form of loans at a concessionary rate of interest. The operating expenses of the Board are met through grants from the Ministry of Urban Development, Gol. This represents the basic fiscal framework under which the NCRPB operates.

58. The constitution and operations, including financial management of NCRPB are governed by the following Legislation and Rules:-

- The National Capital Region Planning Board Act, 1985- No. 2 of 1985;
- The National Capital Region Planning Board Rules, 1985 in exercise of the powers conferred by section 36 of the NCRPB Act. Chapter VI of these Rules contains rules framed in respect of Budget, Accounts and Audit of the Board.
- Disclosure regarding Fiscal Responsibility and Budget Management (FRBM) Rules, 2004 (i.e. Guarantees given by Gol)

59. Regulation of financial intermediation in the area of urban infrastructure finance is currently at a nascent stage.

There are four sets of institutions, each regulated and supervised differently:

- 1) The All India Finance Institutions like HUDCO and others, which are regulated as per their sectors of operation. For example, HUDCO is regulated by NHB for its housing finance operations;
- 2) TNUDF, which is incorporated as a trust under the Indian Trust Act, is not regulated by the RBI or any other regulator; and,

⁹ PFMA benchmarks for NCRPB is based on the Performance Measurement Framework for Public Financial Management developed by the PEFA Secretariat (www.pefa.org). The PEFA program is a partnership among the European Commission, the UK Department for International Development, the Swiss State Secretariat for Economic Affairs, the French Ministry of Foreign Affairs, the Royal Norwegian Ministry of Foreign Affairs, the Strategic Partnership with Africa, IMF, and the World Bank. A Steering Committee, comprising members of these agencies, manages the program. A Secretariat is located in the World Bank in Washington, DC.

- 3) NCRPB, which has been established under an Act of the Parliament, is accountable to the Parliament and the standing committee of the Ministry of Urban Development. It is currently under C&AG audit.
- 4) The Pooled Municipal Debt obligation facility managed by IL&FS has lines of credit from 15 banks and FIs. The exposure of each of the contributing entities is regulated by their respective regulator, such as RBI, IRDA, etc.

60. In the case of NCRPB, borrowing through Bonds is regulated by SEBI. For other financial transactions, the Board is being regulated through directives from Government. As NCRPB enhances its role as a FI, there is a need for some form of regulatory supervision outside the current Govt. supervision mechanism. As a public entity, there may be a case for oversight by civil society including NGOs and Industry associations.

C. Financial Policies

61. **Grants:** Section 21 (1) of NCRPB Act provides that the Central Government may make to the Board grants and loans to enable the Board to carry out its functions under this Act such as conducting surveys, studies, drawing plans and providing financial assistance to the States for implementation of plans.

62. Section 21 (2) further provides that the Central Government shall also pay to the Board such other sums as may be necessary for meeting the salaries of the Member-Secretary and other employees of the Board and other administrative expenses of the Board.

63. **NCRPB Fund:** Section 22(1) provides for constitution of NCRPB Fund wherein all receipts are to be credited viz.:

- a. Any grants and loans made to the Board by the Central Government under section 21;
- b. All sums paid to the Board by the participating States and the Union territory; and
- c. All sums received by the Board from such other sources as may be decided upon by the Central Government in consultation with the participating States and the Union territory.

64. NCRPB Fund is required to be applied for:

- a. Meeting the salaries, allowances and other remuneration of the Member- Secretary, officers and other employees of the Board and for meeting other administrative expenses of the Board. However, the total expenses shall not exceed the amount appropriated for this purpose under sub-section (2) of section 21;
- b. Conducting surveys, preliminary studies and drawing up of plans for the National Capital Region;
- c. Providing financial assistance to the participating States and the Union territory for the implementation of Sub-regional Plans and Project Plans; and
- d. Providing financial assistance to the State concerned for the development of the counter-magnet area subject to such terms and conditions as may be agreed upon between such State and the Board.

65. **Borrowing Powers:** There is no mention of borrowing powers under Section 8 of the Act, which defines the powers of the Board. However, opinion of the Solicitor General of India (SGI) was sought in 1993 on two issues:

-
- a. Whether the Board is competent to promote a company under the Companies Act to arrange and oversee financing of selected development projects in the NCR. and
 - b. Whether the Board is competent to raise funds by borrowing from financial institutions, commercial banks and general public in the shape of shares, debentures, fixed deposits receipts, loans and other money market instruments.

66. SGI's¹⁰ opinion was "Generally, I am of the view that the Board does have the power to raise funds by borrowing. This would specifically come with the expression to arrange for financing through other sources of revenue". I must however point out that by virtue of Section 22(1) (C) the decision of the Central Government in consultation with the participating States and the Union Territory would be necessary to identify the sources from which sums may be received. Raising funds through shares and debentures is not appropriate so far as the Board is concerned". As such, in the opinion of the Solicitor General of India, borrowing powers are vested in the Board by virtue of Clause (e) of Section 7 (Functions of the Board) which reads as "to arrange for, and oversee, the financing of selected development projects in the National Capital Region through Central and State Plan funds and other sources of revenue".

67. Investment Policy: Amended Rule 32 empowers the Board to invest surplus money in the RBI, Govt. securities or in such other securities/instruments in accordance with the guidelines and directions issued by the Central Government from time to time in this regard. NCRPB, in March 2004, prepared guidelines for empanelment of public and private sector banks and fixed exposure ceilings for investment based on net worth, capital adequacy ratio and credit rating of instrument. Maximum tenure for investment of surplus money in public sector banks is one year and six months for private sector banks.

68. Financial Assistance Policies: Grants-in-Aid by NCRPB - Rule 34 of NCRPB Rules, 1985 empowers the Board to sanction grants-in-aid to the participating State Governments and to the State Governments having a counter-magnet area and the local authorities, urban development authorities, housing boards and such other authorities of the State Government for implementing the sub-regional plans and project plans or for developing the counter-magnet area. Procedure and conditions for sanctioning and issuance of utilization certificates for grants-in-aid are specified in Rule 35 to 37.

69. Loans by NCRPB: Rule 38 empowers the Board to sanction loans to governments and their agencies for implementing the sub regional plans and project plans or for developing counter magnet areas.

70. Credit Enhancement: Rules 41 and 42 make it mandatory to have adequate security and agreement for loans to State government agencies. Rule 42 prescribes that "loans to such agencies shall be sanctioned only against adequate security. The security to be taken shall ordinarily be at least 33 1/3% more than the amount of loan, provided that the Board may accept a State guarantee in lieu of the security".

71. *Form of Security* required from the State government agencies has not been prescribed in the Rules. However, the Reserve Bank of India has restricted State Governments from giving guarantees on behalf of state action agencies, in view of the FRBM Act and the current level of State finances. In the light of this RBI directive, the State governments are offering either a letter

¹⁰ Solicitor General of India

of comfort or more often, the agencies themselves are providing escrow mechanism, with a strong responsibility upon the escrow agent to ensure compliance.

72. Interest Rate: Rule 40 prescribes “Interest shall be charged at such rates as may be specified by the Board for any particular loan or for the class of loans concerned and the rate of interest prescribed by the Government from time to time shall invariably be adopted by the Board”.

73. Repayment Schedule and Delay Penalty: The Board may allow, in deserving cases, a moratorium towards repayment of principal but not for the payment of interest. Each installment of loan shall be treated as a separate loan. The borrower shall arrange repayment of principal and loan annually. The Board is also empowered to provide for lower rate of interest in case of punctual payments and higher or penal rate of interest not less than 2.75% per annum above the normal rate of interest. (Rule 45). Pre-payment of loan is, however, allowed by the Board on a case-to-case basis. Further, 1%¹¹ of the prepaid installment is charged as prepayment penalty.

74. Violation of Regional Plan: Section 29. (2) empowers the Board to withhold financial assistance to the concerned participating State in case of violation of Regional Plan.

D. Review of Accounting Policies and Procedures

75. Accounting Function: The accounting function is carried out by a small team of two employees, who are part of accounts and finance department. The functions and responsibilities of accounts and finance department is described in details in Table 2.

76. Accounting System and Practices: Based upon the review of the accounting system and practices used in NCRPB, the following observations are note-worthy:-

- The account heads and format of financial statements prescribed by C&AG for autonomous organizations are used. The Board also follows the guidelines and forms advised from time to time by various departments under Ministry of Finance (MoF) through its nodal Ministry i.e. Ministry of Urban Development (MoUD). The notes on accounts and significant accounting policies attached as a schedule to audited accounts appear comprehensive;
- The accounts of the Board are finalized on accrual basis and are computerised using software “Tally 7.2”. Further, they are not finalized periodically, e.g. monthly or quarterly or half-yearly. Only at the end of fiscal year, the accounts are prepared, finalized and audited. The income is recorded and accounted for in the computerised accounts as and when sums are received and expenditures are recorded only upon payments. However, towards the end of the year, adequate provisions are given for the same. Journal vouchers are passed mostly at the end of year for depreciation, adjustments/accruals. As such, the Board is following only cash accounting during the year and accrual accounting on an annual basis.
- The chart of account is not digital, which can be useful in eliminating any ambiguity and can be used for more effective classification and structuring of account classification and sub-classifications. Because of the descriptive account codes, which are not digital, the

¹¹ Prepayment charges at 1 per cent of the amount prepaid were levied from August 2004 and are not linked to reduction in market rates.

Accounts do not carry desirable sub-classifications. Also, at times, the descriptive CoA lends itself to incorrect classification of revenue and expenses heads;

- The board is maintaining General Provident Fund Account and Contributory Provident Fund Account, which have been recognized by the Department of Pension and Pensioners Welfare. However, all transactions related to these are intermingled with the NCRPB Fund and appear in the Annual accounts of the Board, which for obvious reasons, should be isolated from Board's operations and its Annual Accounts;
- The staff needs capacity development in respect of Accounting Standards issued by the Institute of Chartered Accountants of India (ICAI) and the International Public Sector Accounting Standards (IPSAS). The latter are drawn from good practices worldwide in government and public sector accounting.
- The Accounting records kept through "Tally" are not found complete and comprehensive in respect of loan records. Instead, Loan Registers are kept on manual basis. As many as 16 Loan Registers (Haryana -7; UP-4; Rajasthan-3 and CMA-2) are kept for this purpose with record of interest and repayment for each loan on separate page. There is no reconciliation statement made available for balances as per Loan Registers and as per respective Ledger Accounts based on Tally accounting system;

77. Asset Register: List of all movable and immovable assets is available and up to date recorded in an Asset Register with details of each item, purchase details with the signature of the person handing over and taking over. Updated annual asset register with clear rules for valuation and depreciation are in place. Information available from the asset base is effectively used for decision-making and used as a tool to monitor recoveries (current assets) and maintenance (of fixed assets). Records for unpaid bills / contingent liabilities are not maintained.

78. Payroll: In respect of preparation of monthly payroll, there is no formal system regarding "Absentee Register" in use but informally attendance information is obtained for necessary adjustments in Allowances etc. by Accounts staff. Payroll of about 52 employees is processed using software obtained through NIC. Net salary is transferred to all employees into their bank accounts by the Board except for few employees to whom cheques are personally handed over.

79. Income Tax: NCRPB's income was exempted u/s 10(20-A) of the Income Tax Act, 1961 upto 31st March 2002. After withdrawal of section 10(20-A) NCRPB applied for exemption u/s 10(23) C as charitable institution. Exemption has been granted recently u/s 10(23)C w.e.f 1st April 2002, and NCRPB is expecting a refund of about Rs.200 crore towards income tax paid for the assessment years 2003-04 to 07-08 and interest thereon.

80. Internal Control and Audit: Though there is no formal position approved for internal auditor, one of the two Assistant Directors (Finance) is assigned responsibility for pre-auditing specific payments like staff, allowances. It is noted that the pre-audit checks are not applied for all disbursements and also do not have a threshold fixed above which all transactions must be pre-audited. There is no Audit committee in place.

81. Further, it is noted that though duties are segregated amongst three or four total members of staff in Accounts and Finance, yet there is no rotation of duties practiced as some of these staff positions have remained in their present positions for last several years. This area needs to be looked into in order to minimize disruption to regular workflow due to prolonged absence of any staff members.

82. **External Audit and Oversight:** This role is performed by C&AG, the statutory auditor of the GOI.

83. The Annual Accounts of NCRPB are audited under section 19 (2) by the Comptroller and Auditor General's (Duties, Powers and Condition of Service) Act, 1971 read with section 25 of the NCRPB Act, 1985 and rule 33 (3) of NCRPB Rules, 1985. The certification of Accounts is also done by a CA firm selected from a panel of CA firms with C&AG office. As per section 26 of the NCRPB Act, the annual report along with Report of the C&AG is laid before Parliament within 9 months of the end of the fiscal year by 31st December.

E. Review of Financial Management Systems

84. **Planning and Budgeting:** Presently, the Board prepares annual budgets estimates and provides inputs to each Five Year Plan. The budgets are prepared based upon guidelines received from Department of Economic Affairs, MoF, through MoUD. The budgets are prepared using Outcome Budget approach based on guidelines issued by the Department of Expenditure, MoF, GoI dated December 17th, 2007. As stipulated under Rules 28 and 29 of the NCRPB Rules, the budgets are sent to MoUD before 15th October, each year after its approval by the Board in the first week of October each year. The Board also submits the revised budget estimates for the current year based upon actual allocations by the GoI and the latest resource constraints around middle of September. The Board's approval is taken on post facto basis. No gender Budget cell is yet established in the Board. Internal and Extra Budgetary Resources (IEBR) have been prepared for inputs to 11th Five year Plan.

85. It is noted that the original budget estimates (BE) submissions are not realistic since the Board assumes higher sanctions and disbursements that are reduced to realistic levels at the time of submitting the Revised Budget Estimates. This leads to changes in almost all other budgeted heads of income and expenditure. For example, the actual disbursement was Rs.705.37 Crores for FY 2007-08, while the corresponding figures as per BE and RE were Rs.1136 Crores and Rs.700 Crores respectively. For BE for FY 2008-09 lending was again projected at Rs.1375 Crores and brought down again to Rs. 1000 crores as per RE 2008-09. The Budget estimates are submitted in September each year but based upon Actual allocations by MoUD, the Revised Budget Estimates are brought down. There is a need for some realistic Inputs from MOUD for the budgets preparation to be more realistic. The actual Plan and Non-Plan expenditure against Budget Estimates and Revised Budget Estimates for FY 2007-08 are presented in tables 4.1 and 4.2.

Table 4.1: Budget Vs Actual Plan Expenditure in 2007-08

Rs. In Crores						
S. No.	Head of Expenditure	2007-08			Variation %	
		BE	RE	Actuals		
	1	2	3	4	5	6
1	Loans to State Govts./agencies	1136.00	700.00	705.37	-37.91	0.77
2	Study & surveys incl. study tours & training abroad	8.00	6.00	0.58	-92.75	-90.33
3	Expenditure on mkt. borrowing	0.40	0.40	0.22	-45.00	-45.00
4	Interest on bonds			2.74		
5	Rating Agency Charges	0.30	0.30	0.16	-46.67	-46.67
6	Bond Redemption Reserve			0.00		
7	Plan expenses	0.20	0.20	0.87	335.00	335.00
8	Long term advances to employees of the Board (scooter/HBA/Car etc)	0.25	0.25	0.00	-100.00	-100.00

Rs. In Crores						
S. No.	Head of Expenditure	2007-08			Variation %	
		BE	RE	Actuals		
	1	2	3	4	5	6
9	NCR Books & Publications	0.01	0.01	0.00	-100.00	-100.00
10	Payment to NCR Cells	2.00	2.00	1.08	-46.00	-46.00
11	Imageries satellite procurement	0.06	0.05	0.00	-100.00	-100.00
12	Fixed Assets	0.15	0.10	0.05	-66.67	-50.00
13	Transport Cell	0.10		0.00	-100.00	
14	Tax payments on Income Tax of the Board	30.00	30.00	35.16	17.20	17.20
15	Payment of Stamp Duty	4.00	4.00	0.73	-81.75	-81.75
	Total	1181.47	743.31	746.96	-36.78	0.49
	Financing of Expenditure					
1	GIA from Ministry of Urban Development	300.00	100.00	100.00	-66.67	0.00
2	Contribution from NCT Delhi	60.00	50.00	50.00	-16.67	0.00
3	Internal accruals (interest on loans/bank)	115.00	90.00	114.09	-0.79	26.77
4	Repayment of loans	180.00	205.00	207.62	15.34	1.28
5	Accumulated internal accruals out of previous years (partly)	130.00	100.00	75.25	-42.12	-24.75
6	Loans from the Multi-lateral Aid Agencies			0.00		
7	Market borrowings	400.00	200.00	200.00	-50.00	0.00
	Total	1185.00	745.00	746.96	-36.97	0.26

86. **Budget Execution:** Review of expenditure trends (with expenditure less than 60% of BE) is done on total basis for Plan and Non-Plan expenditure, as directed by MoF.

As per Rule 31, re-appropriations and emergent expenditure not covered by a provision in the approved budget estimates or which is likely to be in excess over the amount provided under any Head shall be incurred by the Board without provision being made by re-appropriation from some other Head where savings are firmly established and available.

87. Compliance of this rule can be ensured through regular review of actual income and expenditure as against budgeted income and expenditure on monthly or other periodic basis. During current year, no statements for Plan and Non-Plan expenses compared with corresponding budgeted allocations. As accounts are not updated on a monthly basis, vital financial information on financial health of the Board including necessary ratio analysis is available only at the end of the year after accounts are finalized.

88. Even though budget versus actual income and expenditure is not compared on a periodic basis, the Accounts Department keeps sufficient controls to ensure that Plan as well as Non-Plan grants are used in full so that the unutilized balances are not to be returned / adjusted. As per requirements from MoUD, the Board prepares and submit on monthly basis the IEBR component of the Budget with actual. Also on quarterly basis, the Internal and Extra Budgetary Resources are compared with the actual.

Table 4.2: Budget Vs Actual Plan Expenditure in 2007-08

Rs. In Crores						
S. No.	Head of Expenditure	2007-08			Variation between	
		BE	RE	Actual		
	1	2	3	4	5	6
1	Salaries, allowances, bonus & pension & other obligatory expenses	140.00	135	140.79	0.56	4.29
2	Administrative Expenses	31.00	27	27.39	-11.65	1.44
3	Other Expenses					
	i) Rent rate and taxes	14.00	12	7.39	-47.21	-38.42
	ii) Travelling & con. Expenses	5.00	4	4.37	-12.60	9.25
	iii) Expenses on legal fees	3.00	5	1.06	-64.67	-78.80
	iv) Auditors remuneration	1.00	1	0.34	-66.00	-66.00
	v) Hospitality expenses	3.00	3	1.08	-64.00	-64.00
	vi) Professional fees			4.09		
	v) Misc. Expenses	5.00	5	0.99	-80.20	-80.20
	Total	202.00	192.00	187.50	-7.18	-2.34

89. Though budgets are prepared using outcome methodology, the budget and actual outcomes are not compared and disseminated to public through website or some other modes. As such, the full benefits of outcome budgeting are not being realized. The variance between actual and BE are substantially high and need to be looked into. Also in case of Actuals and RE, the variations are in excess of 10% and need to be looked into against several income as well as expenditure heads.

90. The Board needs to consider preparation of Medium Term Expenditure Framework (MTEF), which is a three to five-years rolling macroeconomic framework, which outlines the overall resource envelope and forms the basis for setting of its institutional priorities and expenditure/ sectoral / project prioritisation. This will link to planning and budgeting by focusing on public expenditure management.

91. Review of Reporting and MIS: Preparation of various financial reports and the analysis enables comparison and helps identify deviations. This in turn facilitates better budgeting and timely and informed decision-making. Though there is no formal MIS in operation, some reports are generated through Tally system, which are disseminated to senior management staff. These are daily cash report and bank balances report prepared and disseminated in the first week of each month. Besides, the following routine reports are prepared based on requirements of MoUD:-

- Monthly monitoring of IEBR component of the Budget;
- Overview of Expenditure Trends; and,
- Position regarding Liquidation of pending Utilization Certificates.

92. The accounts department also keeps important financial information, which are required from time to time by the management. Some of this information include the following:-

- Cost of borrowing from FY 1997-98 to FY 2007-08;
- Statement of Loans sanctioned;

- Net Profit, Income Tax Liability, Income Tax paid year wise from FY 2002-03 to FY 2007-08;
- Year wise and project wise Loans Released;
- Interest Income on Loans, Interest on Bank Deposits from FY 2002-03 to 2007-08; and,
- Grant –in-aid received from FY 1985-86 to date from MoUD and Delhi Govt. separately for Plan and Non-Plan etc.

F. Review of Financial Performance

93. We have attempted to analyze the performance of NCRPB as a Financial Intermediary, in a CRAMEL Framework, where,

C – Capital Adequacy

R – Resources

A – Asset Quality

M – Management Quality

E – Earnings Quality

L - Liquidity

94. **Capital Adequacy:** The sources of capital for NCRPB largely consist of grants, which are given by the Central Government through its plan and non-plan funds and market borrowings. These are supplemented by internal accruals on repayment of loans. As internal accruals are also credited to the fund in accordance with the Act, the fund functions like a revolving fund. The following table provides the quantum of grants and internal accruals generated over the past five years, which has been treated as capital for the purpose of analysis.

Table 4.3: Grants and Internal Accruals

Rs. In Crores						
Sources of Funds	FY03	FY04	FY05	FY06	FY07	FY08
Additions during the year	105.81	134.14	134.01	148.61	164.97	257.80
Grants (Plan) from MoUD	55.00	52.00	61.70	70.00	75.00	100.00
Grants from Delhi Govt.	0.00	30.00	30.00	30.00	27.00	50.00
Surplus (Non Plan)	0.08	0.14	0.01	0.01	0.10	0.08
Surplus (Plan)	50.73	52.00	42.29	48.60	62.87	107.72
Closing balance	983.93	1117.82	1251.63	1400.13	1565.10	1822.90

95. The capital adequacy ratio is worked out as follows

Capital Adequacy Ratio = (Grants + Internal Accruals *100) / (Total Assets – Risk Free Assets)

96. As per RBI guidelines, lending institutions have to provide 20% risk weight to loan assets backed by State Government guarantees. In the case of recent loans of NCRPB, the Board has not been getting State Government guarantee as security, but has got tripartite agreements with borrowing entities, their bankers and NCRPB, wherein, the Bank is obliged to make the payment in the event of default on payments by the borrowing entity. This arrangement is supported by a letter of comfort from the respective State Government. Therefore, for the purposes of calculating Capital adequacy, 100% risk weight is being given on loan assets. The risk-free assets here include Cash and bank balances and the fixed deposits maintained as security for bond redemption.

Table 4.4: Capital Adequacy Ratio

Ratio	FY03	FY04	FY05	FY06	FY07	FY08
Capital Adequacy (%)	108.48	126.92	133.18	128.16	119.01	98.54

97. The above ratio estimates the capital that has to be allocated / available to protect against loan defaults. Typically, most banks in India are required to have a capital adequacy of 12% to provide cushion against losses. In NCRPB's case, the capital adequacy is very high and almost equal to loan assets. This is primarily because the resources raised are predominantly in the form of Government Grants. The capital adequacy ratio could change significantly in the future, as NCRPB resorts to borrowings from ADB and other multilaterals, to support a larger asset book. Going by the minimum capital adequacy of 12%, the loan asset portfolio could increase to Rs.15190 crores, which is 8.33 times the present asset portfolio. This inference is strictly not applicable to NCRPB, because it is neither a Bank nor an FI regulated by the RBI. Further, the credit quality of the asset portfolio is quite weak, despite a history of no delinquency. This is discussed in the section on Asset Quality.

98. **Resource Mobilization:** In order to scale up the operations of NCRPB to achieve the target of funding - Rs.15,000 crore worth of infrastructure development projects as stated in 11th Five Year Plan, the resources mobilization by NCRPB assumes significant importance. The Government of India (GoI), through the Ministry of Urban Development, provides grants to NCRPB as Plan funds, to carry out its functions under the NCRPB Act. GoI also provides grants (Non-Plan funds) for salaries and other administrative expenses of the Board. Additionally, Government of NCT of Delhi contributes to the NCRPB Fund. Major internal resources consist of accruals from interest on loans released. NCRPB augments its resources by issuing bonds. In the initial years, NCRPB had a separate 'Asset fund' for fixed assets, and depreciation on fixed assets is charged to the fund. They had a separate 'Project Development Fund', for project preparatory works and appraisals, and all these funds got merged into the main funds as the C&AG objected to creation of separate funds in its audit report.

99. The overall resource position for the last five fiscal years is summarized in the following table.

Table 4.5: Resource Position of NCRPB

Sources of Funds	FY04	FY05	FY06	FY07	FY08
Owned Funds	1117.82	1251.63	1400.13	1565.10	1822.90
Market Borrowings	597.70	387.15	387.15	0.00	200.00
Total	1715.52	1638.78	1787.28	1565.10	2022.90

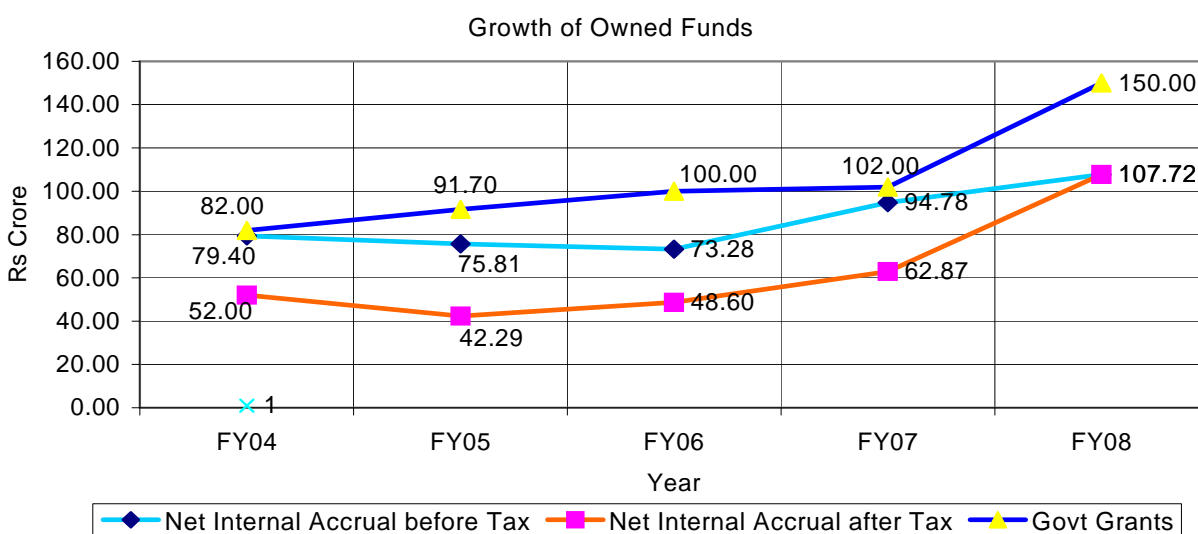
100. *Grants by Governments:* GoI has given plan grants to the extent of Rs.824.62 crore from the time of the creation of the Board till March 2008, apart from non-plan grants for salaries and administrative expenses of the Board. The annual grant amount increased from a modest Rs.3.90 crore in 1985-86 to Rs.100 crore in fiscal 2007-08. But for 2008-09, GoI has sanctioned only Rs.50 crore against the demand of Rs.100 crore. Out of the four participating States, only the Government of NCT of Delhi has contributed Rs.300.75 crore to NCRPB Fund till March 2008. The initial contribution was Rs.3.5 crore in 1993-94 which has been raised to Rs.50 crore in 2007-08. However, the grant for the current year 2008-09 has not yet been received.

101. Of the total grants of Rs.1125.37 crore received till March 2008 (excluding those for administrative expenses), 73% (Rs.824.62 crore) were provided by GoI, and 27% (Rs.300.75 crore) by Government of NCT of Delhi. GoI grants are released quarterly after a demand is

raised by NCRPB based on the budgetary allocation for a five year plan. MoUD takes about a month to process the demand and release the grant.

102. *Internal Accruals:* The Board has added a substantial amount to its owned funds through internal accruals i.e. the interest paid by borrowing States and their agencies, despite a low rate of interest charged on loans. In the last five years, the net internal accruals after tax amounted to Rs.313.48 crore, equivalent to 60% of the grants received. Internal accruals before tax were in the sum of Rs.430.99 crore, about 82% of grants as depicted in the graphs below.

Figure 4.1: Internal Accruals Compared to Grants Received



103. *Growth of Own Funds:* Own funds increased by about Rs.838.97 crores - 85% in last five years with CAGR of 13.1%. . The average year-on-year growth in owned funds was 13%. Increase of 16.5% in FY 08 was mainly due to income tax exemption.

Table 4.6: Owned Funds of NCRPB

Rs. In crores						
Fiscal Year	FY04	FY05	FY06	FY07	FY08	
Total Own Funds at end of Year	1117.82	1251.63	1400.13	1565.10	1822.90	
Increase during the year	133.89	133.81	148.51	164.97	257.80	838.97
% Increase over previous year	13.61	11.97	11.87	11.78	16.47	85.27

104. *Borrowings:* NCRBP started borrowing from the market in 1996-97 with a line of credit from HUDCO for Rs.60 crore for development of Manesar Industrial Town in Haryana. However, this arrangement could not be carried on in later years. In 1998-99, NCRPB had to raise debt from the market to bridge the resource gap for loan disbursements. All the bonds were taxable bonds except two bond issues in FY 97-98 and FY 98-99 for Rs.84.50 crore and Rs.60.00 crore respectively, which were tax-free bonds. The bonds issued till 2001-02 was of 7-year tenure and were redeemed after five years by exercising the call option, indicating liquidity position of the Board.

105. NCRPB had not raised any debt after 2001-02 till February 2008, when Rs.200 crore debt was raised with a coupon rate of 8.98% p.a. (payable half yearly) and tenure of 10 years with a call/put option after 7 years. The instrument was rated AAA/Stable by CRISIL and AAA

(ind) (SO) by Fitch Rating Services. The bonds have a Call/Put option at the end of 7th year, due to which rating agencies insisted on a Bond Redemption Reserve, which is to be funded to the full extent of the bond issue by the end of the 7th year, in the form of fixed deposit with public sector banks. The details of debts raised by the Board to date since 1998-99 are provided below.

Table 4.7: Debt Raised By NCRPB

Year	Crore Rs.	Interest Rate	Interest Payment	Redeemed In	Taxable/Tax-Free	Rating	Rating By
1998-99	83.30	14.00%	Half yr	2003-04	Taxable	AAA(So)	Crisil
1998-99	58.60	13.50%	Half yr	2003-04	Taxable	AAA(So)	Crisil
1998-99	84.50	10.50%	Half yr	2003-04	Tax free	AAA(So)	Crisil
1998-99	14.45	13.50%	Annual	2003-04	Taxable	AAA(So)	Crisil
1998-99	60.00	9.70%	Annual	2003-04	Tax free	AAA(So)	Crisil
1999-00	210.55	13.50%	Annual	2004-05	Taxable	AAA(So)	Crisil
2001-02	152.40	10.85%	Annual	2006-07	Taxable	AAA(So)	Crisil
2001-02	234.75	9.55%	Annual	2006-07	Taxable	AAA(So)	Crisil
2007-08	200.00	8.98%	Half yr		Taxable	AAA AAA (So)	Crisil Fitch
Total	1098.55						

106. **Asset Quality:** In order to assess the asset quality, we have analysed the parameters viz., lending guidelines, existing lending portfolio, credit risk appraisal systems, credit enhancement systems, collections and recoveries.

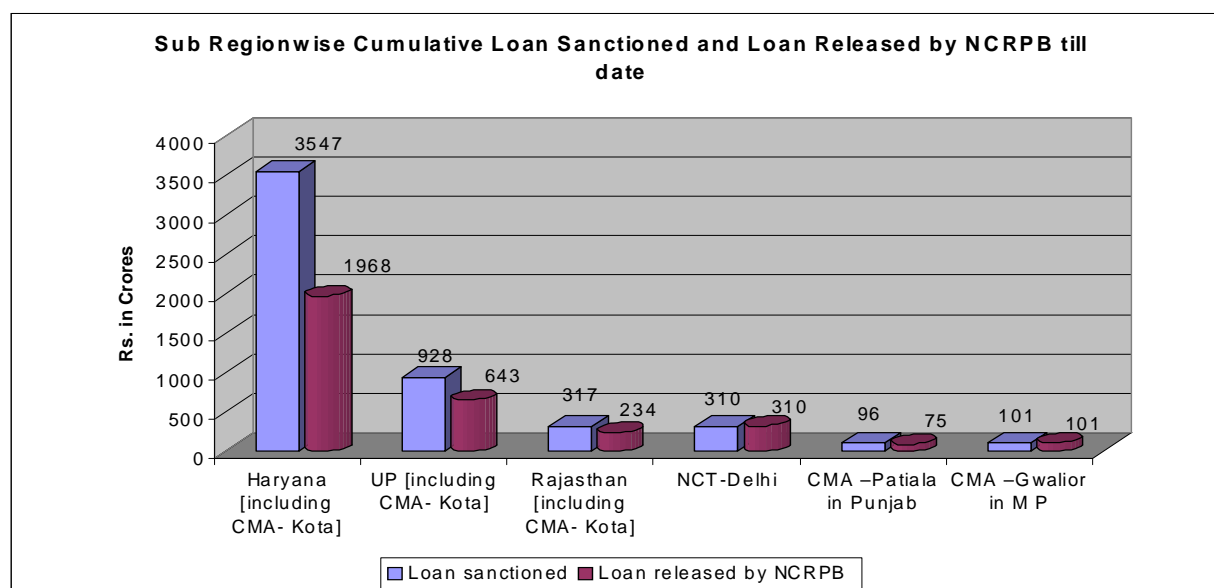
107. **Lending Guidelines:** The existing guidelines, eligible sectors, agencies and lending terms and conditions are well document and available on their website. The current TA will look at the need for changes in the same in view of the proposed business plan.

108. **Lending Portfolio:** The total number of projects financed by NCRPB is about 214 out of which 111 projects are completed and the balance is under implementation. While the total loans sanctioned by NCRPB till FY 2008 is Rs.5,299 crores, (the client-wise and sector-wise break up is given below, at the end of the FY 2006-07, the total loans outstanding in the books of NCRPB stood at Rs.1,062 crores. This has increased to Rs.1, 771 crores by the end of FY 2007-08.

Status	Completed				Ongoing				Total			
	Number	Estimated Cost	Loan Sanctioned	Loan Released	Number	Estimated Cost	Loan Sanctioned	Loan Released	Number	Estimated Cost	Loan Sanctioned	Loan Released
Land Development	81	3239.95	1014.79	922.75	16	1300.95	660.75	451.46	97	4540.9	1675.54	1374.21
Sewerage/ SWM etc.	5	12.23	9.18	7.65	23	517.07	333.18	184.48	28	529.3	342.36	192.13
Water Supply	8	148.01	83.04	35.39	24	850.09	637.58	379.48	32	998.1	720.62	414.87
Transport	14	183.41	128.41	123.17	23	1304.69	931.12	309.48	37	1488.1	1059.53	432.65
Power	1	16	12	12	13	5814.27	1153.27	578.7	14	5830.27	1165.27	590.7
Others	1	2.45	1.83	1.83	5	552.71	334.11	326.55	6	555.16	335.94	328.38
Total	110	3602.05	1249.25	1102.79	104	10339.78	4050.01	2230.15	214	13941.83	5299.26	3332.94

109. There are about 24 borrowing agencies as on date with NCRPB. About 62% of the loans sanctioned¹² by NCRPB have been disbursed by the Board as on 31st March 2008. The following graph indicates the State-wise amount of sanctions and releases by the Board. Further, the average loan releases for on-going projects are about 55% and that of the completed projects is about 88%.

Figure 4.2: Loan Sanction Vs Loan Release



110. The maximum loans have been sanctioned and released to Haryana. The exposure to Haryana State has been in the range of 195% of the own funds as at the end of FY 2007-08. There are no specified exposure norms. The Board is constrained by the fact that only Haryana has been pro-active in terms of posing project to the board, and any attempt to address this skew or restrict further lending to Haryana is likely to lead to a situation where the board would not be able to deploy its funds.

111. *Loan releases:* A project construction period is determined based on its complexity to a maximum of 3 years. The first tranche, being budget for the first year, is released by the Board in advance. The next tranches are released based on a Utilization Certificate produced by the borrower. A due diligence is to be conducted by the Board through its NCR cells located in different states, but, the Board finds it difficult to monitor project implementation in practice. This is on account of the fact that project monitoring and co-ordination wing is under-staffed (one senior staff member only), and the NCR Cells located in the states are not really performing their due diligence function. There have been attempts to look at third party monitoring of projects, but with limited success so far.

112. It has been the experience that a large quantum of loan is released in advance as the first tranche and typically most borrowers do not come back for further releases. This is due to various reasons like balance loan not required, completed at reduced cost, extension requested due to land acquisition problems, delayed due to litigation and non-clearance for environmental

¹² It is to be noticed that loan sanctions are made by the PSMG. The PSMG, however, does not meet periodically. They meet as and when there are adequate project proposals to be placed or based on the cash flow availability of the Board.

and other compliance, etc. This points out to the need for designing adequate safeguards (conditions precedent), before loans draw down as well as a staggered system of loan releases and restriction of advance to a certain percentage. This will be developed further as part of our Operational Manual.

113. *Credit Risk Appraisal Systems:* Sound credit risk appraisal systems are the backbone of any FI involved in lending to projects. Basically, the credit appraisal process consists of appraising the project in terms of technical, financial, institutional, environmental and social aspects and assessing its overall financial viability. Further, in the case of lending with recourse to project promoter, it is important to assess the credit quality of the borrower. In the case of NCRPB, State Government departments and other entities under the SG sponsor the projects. The existing guidelines are presented in the Box 5.1 and their actual implementation is detailed below:

Box 4.1: Content of Detailed Project Report (DPR)

Detailed Project Report: According to the guidelines issued by the Board, the borrowing agencies have to submit a detailed project report to NCRPB for an appraisal, which should include a feasibility report. The DPR is required to contain the following:

- General Information
- Justification for the project
- Conformity of regional plan / master plan
- Site conditions
- Service Availability
- Lay out plan
- Project Components
- Details of plots
- Implementing agency
- Implementation schedule
- Cost estimates
- Sources of funds
- Cash flow statements
- Financial viability
- Loan withdrawal and repayment schedule

Supplementary information, if any

- Technical appraisal: According to the guidelines, the technical appraisal, is to contain and establish facts relating to-
 - Achieving objectives of Regional Plan;
 - Conformity with Regional/sub-regional/functional plans;
 - Meeting the present/future requirements in terms of service delivery to the towns;
 - Whether the technical parameters are technically strong and feasible; and
 - Environmental impacts in the project

114. In actual practice, a review of a few DPRs received by the Board, as well as discussions with NCRPB staff involved in oversight of these reports, suggest that the DPRs are inadequate in terms of preparation. This leads to repeated interventions with the state agencies for improvement with little success. This illustrates the need for comprehensive training which is

partly being addressed through Component B. NCRPB has also engaged National level technical agencies such as, NEERI, EIL, etc. for project appraisal. These appraisal reports, examined by the team, also have scope for significant improvement, particularly in the area of financial appraisal. Strengthening the appraisal process would be one of the desired outcomes of this TA.

115. *Credit Enhancement Systems:* NCRPB lends to the State Governments and other parastatal agencies in the NCR region in accordance with its Act. For lending to the State Governments, the Board insists on a collateral security for loans 331/3% over and above the loans approved by the Board, in addition to State Government guarantees. For lending to agencies other than the Government, the Board insists on an escrow mechanism¹³ which includes bank guarantee, and credit enhancement by way of a letter of comfort by the State, wherever required. In addition, the Board also takes collateral security of the assets created, wherever possible.

116. Historically, the Board has had negligible delinquency, which seems to indicate that the credit enhancement systems are adequate. However, the experience of other agencies lending to similar projects in the same region such as HUDCO, another govt. owned FI, which is structured as an NBFC, has not been good. This leads to the conclusion that NCRPB's low level of delinquency may be arising more out of its statutory nature with Chief Ministers of the respective State Governments as members¹⁴. The overall quantum of loans provided by NCRPB at highly subsidized rates compared to alternative sources such as HUDCO or nationalized banks may be very small in relation to the overall borrowing by the States and their agencies. Therefore, States may be prioritising repayments to NCRPB. Further, the economic growth witnessed in the last few years, has led to tax buoyancy and improved fiscal situation for most state governments.

117. **Management:** The fund management expenses of the Board are determined by analyzing the ratio of operating costs to loans disbursed. For the purpose of this analysis, NCRPB's administrative costs and project development costs are included. The results are as follows-

Table 4.8: Ratio of operating costs

Ratio	FY03	FY04	FY05	FY06	FY07	FY08
Operating costs / loans assets (%)	0.31	0.29	0.41	0.28	0.24	0.23

118. This ratio is used to determine the efficiency of operations of an FI. In the case of NCRPB, the operating cost ratio is quite low¹⁵. Also, as NCRPB goes in for further borrowings, additional staffing and capacity building activities, this ratio is likely to change.

Table 4.9: Grants for Non-Plan expenditure

Rs. In crore	FY04	FY05	FY06	FY07	FY08
Grant from MoUD for Adm. Exp ¹⁶	1.73	1.83	1.77	1.90	1.87
Actual Administrative expenses ¹⁷	1.72	2.05	1.96	1.89	1.95

¹³ This is a tripartite agreement between NCRPB, borrower and the borrower's bank, where the borrower will agree to pay annuities on due dates, and the Bank undertakes to pay NCRPB on the due date if the borrower fails to pay. This way, it becomes a Bank guarantee.

¹⁴ A recent instance of delayed loan repayment has happened in the case of Patiala Urban Planning & Development Authority (PDA). Rs.44.95 crore loan was given to PDA for augmentation of water supply, sewerage and solid waste management in Patiala city.

¹⁵ The aspect of grant support and other issues require deeper analysis, and this is to be done as part of this TA.

¹⁶ Non-plan grants balance after financing fixed assets

¹⁷ includes expenses charged to I&E account, plan and non-plan

Surplus/Deficit	0.01	-0.22	-0.19	0.01	-0.08
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119. It is noted that in FY 05, FY 06 and FY 08 the administrative expenses exceeded grants from Gol. NCRPB Act provides that its administrative expenses shall not exceed the amount appropriated for this purpose under Section 21(2). Though NCRPB is a lean organization and its operating costs are low, Gol grants for the administrative expenses were constant for FY 04 to FY 07 and marginally declined in FY 08. The contribution from Gol has not even kept pace with the increases due to inflation and pay revisions. As a result, part of the salaries and board meeting expenses are paid out of the internal accruals and charged to Income & Expenditure A/c (Plan). There was a proposal by MoUD in 1998 to make the Board self-sufficient in meeting its administrative expenses through internal accruals but it was not implemented. Instead, the Board was allowed to charge certain expenses against the internal accruals. In future, the size of the NCRPB is bound to increase as it scales up its operations and it may be practical to allow NCRPB to charge a percentage of its operating expenses to its internal accruals, as is the practice in other FIs.

120. **Earnings:** As discussed in the previous sections, NCRPB fund has been largely financed through grants. Its lending to States and State agencies has been on concessionary terms in keeping with its charter of promoting planned development of NCR region. While lending at concessionary terms is a strategic decision, made by NCRPB and the Gol, the following section attempts to analyze NCRPB's weighted average cost of capital and its earning profile like other FIs.

121. *Weighted Average Cost of Capital (WACC):* As per ADB guidelines, grants are to be treated as equity. Cost of government equity is considered at G-sec rate for 10-year Gol bonds i.e. 8.14%, which is also applied for internal accruals. Bond cost has been estimated after taking into consideration all expenses related to bond issue. Weighted Average Cost of Capital for the fund as on 31st March 2008 has been worked out at 8.25% in the following table-

Table 4.10: Weighted Average Cost of Capital

Source of capital	Creore (in Rs.)	Weight	Nominal ¹⁸ Cost %	WACC
Gol Grants	824.62	0.41	8.14	3.32
State Govt. Grants	300.75	0.15	8.14	1.21
Internal Accruals	697.53	0.34	8.14	2.81
Bonds	200.00	0.10	9.28	0.92
Total	2022.90	1.00		8.25
WACC (%)				8.25

¹⁸ Opportunity cost of owned funds being equivalent to 10years Gol Bonds.

122. *Interest Rate Regime:* NCRPB followed Gol lending rates to States and other implementing agencies till 1995. Thereafter it was de-linked from Gol interest rates and the Board adopted a policy of fixing interest rates with approval of Gol. From December 2003 to August 2004 the Board's interest rate for a 10-year tenure loan was in the range of 7 to 9% pa. Due to poor off take of loans, it was revised downwards to 7 to 8% p.a. in August 2004 and again in July 2006 to 5.5 to 6.5% p.a. The Board has now proposed to increase rates from 8.25 to 9.5% and reduced incentives from 1.5 % to 1%. Therefore, the effective interest rate is 7.25 to 8.5% p.a. as shown in the table given below.

Table 4.11: Annual Interest Rates charged by NCRPB

Sector	Dec-03	Aug-04	Jul-06	Nov 08
Priority infrastructure ¹⁹	7.00%	7.00%	5.50%	7.25%
Other infrastructure	7.50%	7.00%	5.50%	7.25%
Residential/Industrial	8.50%	7.00%	5.50%	7.25%
Commercial	9.00%	8.00%	6.50%	8.50%
Bank PLR				13.00%

¹⁹ Priority infrastructure includes schemes for water supply, sewerage, solid waste management, environment protection and preservation, housing for weaker sections and low-income group, schemes for the poor in physical and social infrastructure sectors.

123. In addition, NCRPB gives Interest rebate/incentives on account of the following parameters to its borrowers.

Table 4.12: Rebates given for Borrowers for NCRPB

Rebate %	Nature of incentive	Remarks
0.10%	Timely drawal of loan assistance	Withdrawn from Nov 08
0.25%	Timely withdrawal of loan and interest	
0.15%	Timely completion of project	
0.25%	Cost control as per approved DPR	Reduced to 0.10% with effect from Nov 08
0.25%	Quality assurance	Withdrawn from Nov 08
0.25%	Conformity with Regional Plan 2021 & master plan of the city approved by NCRPB	
0.25%	Conformity with Regional Plan 2021 & District plan of the area approved by NCRPB	

124. As shown in the table below, the impact of interest rate regime followed by NCRPB, was a swing from a net reduction of 17.42 crore in loan portfolio in FY 05 to a net increase of Rs.497.75 crore in FY 08. During the period of global decline in interest rates NCRPB rate was comparatively higher due to which the borrowing agencies resorted to prepayment of loans. After downward revision of interest rates in July 2006, there was increase in loan disbursements, which peaked to Rs.705.37 crore due to steep hike in market interest rates as compared to the NCRPB lending rates of 5.5% p.a. The increased demand for loans caused shortage of funds and NCRPB had to raise debt at a coupon rate of 8.98% i.e. 3.48% above its lending rate.

Table 4.13: Loans disbursements linked with interest rates

Fiscal Year	FY04	FY05	FY06	FY07	FY08
Fresh Loans to States/Agencies	274.08	275.72	364.95	416.46	705.37
Repayment of Loans by States/Agencies	234.71	293.14	198.18	205.31	207.62
Net increase in Loan portfolio	39.37	-17.42	166.76	211.14	497.75
Growth in Loan (%)	147.22	0.60	32.36	14.11	69.37
Growth in Repayments (%)	42.92	24.90	-32.39	3.60	1.12
Interest Rates (p.a.)	7.0-8.0%	7.0-8.0%	5.5 – 6.5%	5.5 – 6.5%	5.5 – 6.5%

(Annual interest rate charged after rebate)

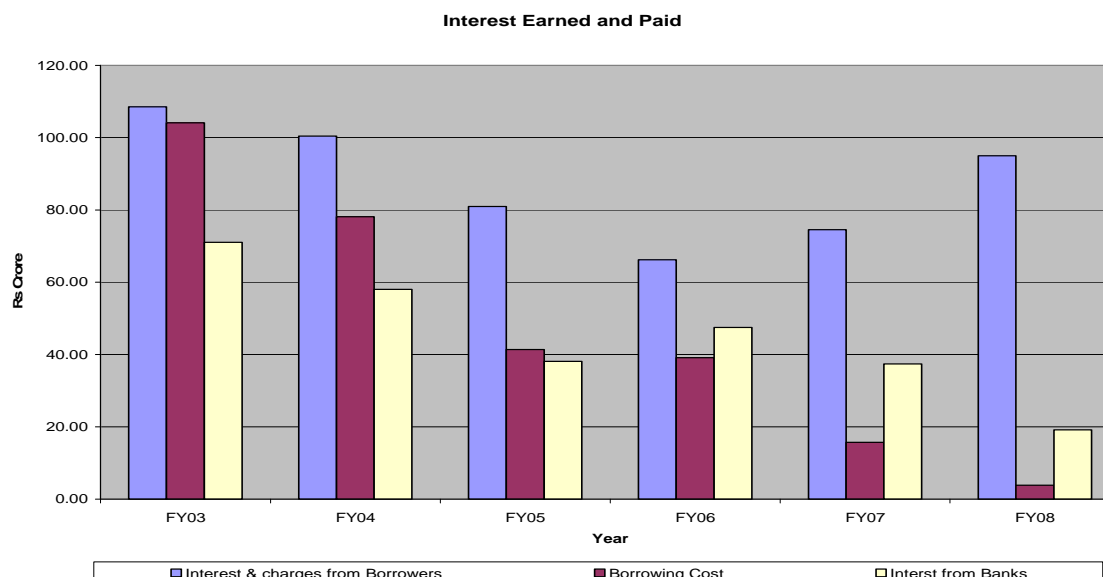
125. *Interest Spread:* Interest paid, interest earned on loans and investments in bank deposits during last five years have been compared in Table.

Table 4.14: Interest spread

Details	FY04	FY05	FY06	FY07	FY08
Interest paid on Bonds %	13.01	10.65	10.06		
Return on Loans ²⁰ %	11.33	8.06	7.30	6.97	7.45
Return on Investments %	5.95	4.56	6.79	5.38	7.65

126. Though there is negative spread on borrowed funds in the range of 2 to 3 %, it is a strategic decision by GOI to support NCRPB's lending at subsidised rate. Return on loans has declined in line with the reduction in interest rates by the Board. Average return on liquid funds in the form of bank deposits has consistently increased except in FY 07 and even surpassed return on loan by 20 basis points in FY 08. It indicates efficient deployment of surplus funds for enhancing earnings profile.

²⁰ Return has been calculated on opening balance of loans and investments. Abnormal interest earnings e.g penal, prepayment and upfront charges have been ignored to a trend analysis

Figure 3.3: Net Interest Earned by NCRPB

127. **Ratio Analysis:** With respect to earnings the following ratios are computed for assessing the performance of NCRPB as a FI

Table 4.15: Ratio Analysis

Ratios	FY04	FY05	FY06	FY07	FY08
Earnings					
Return on Equity (%) ²¹	4.79	3.42	3.53	4.12	6.25
Return on Assets (After Tax) (%) ²²	2.80	2.41	2.73	3.64	5.90
Return on Assets (Before Tax) (%)	4.32	4.41	4.18	5.55	5.90
Earnings Spread Ratio (%) ²³	4.47	4.65	4.50	5.89	6.37
Intermediation Cost Ratio (%)	0.15	0.22	0.18	0.20	0.24
Returns on loans net of borrowing cost (%) ²⁴	2.39	3.52	2.93	5.49	7.15
Return on Loans (excl. cost of debt) (%)	11.33	8.06	7.30	6.97	7.45
Return on Investments (%)	5.95	4.56	6.79	5.38	7.65

128. In view of its subsidised lending regime, its earnings profile is different from other commercial lenders.

129. **Liquidity Management:** While analysing the treasury operations of NCRPB, we have looked at the deployment of funds and liquidity available with NCRPB over the past 5 years. The funds position is as follows:

Table 4.16: Sources and deployment of funds

Rs. In Crores					
Sources of Funds	FY 04	FY 05	FY 06	FY 07	FY 08
Owned Funds	1117.82	1251.63	1400.13	1565.10	1822.90

²¹ Net income after tax *100/Average accruals

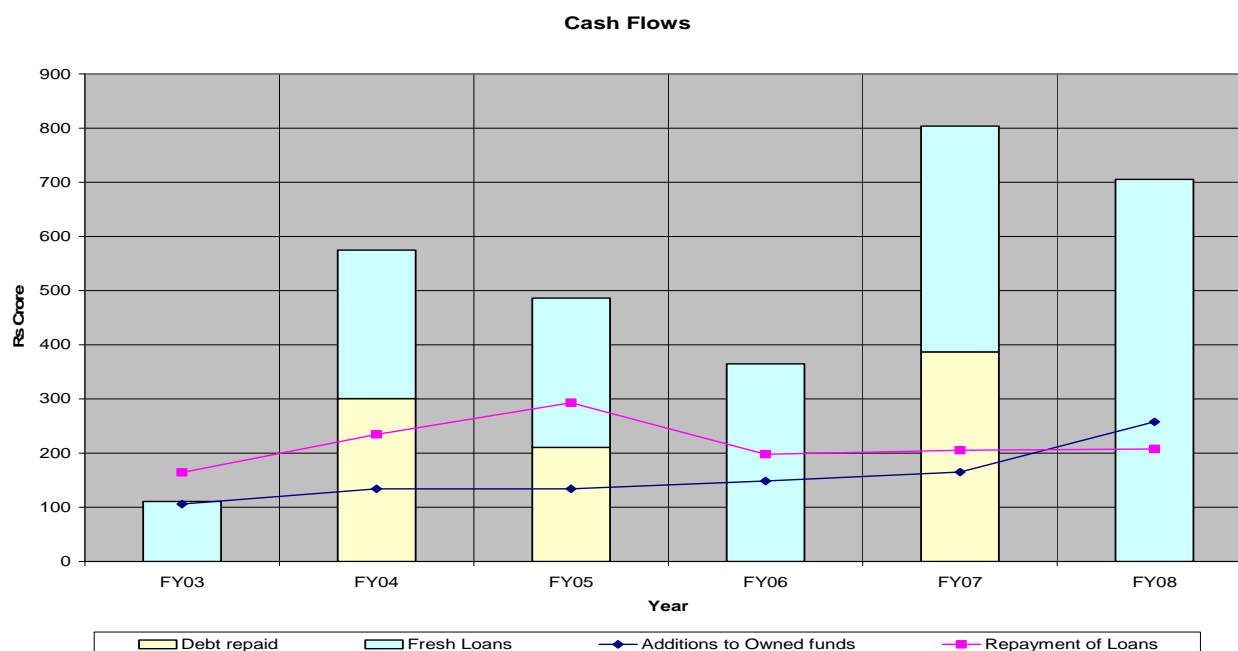
²² (Net income – Revenue grants)*100/Average assets

²³ ((Total Income – Non operating Income * 100) / Average Total portfolio including investments) – (Interest expenses and other financial charges *100) / Average Total Resources)

²⁴ (Interest from borrowers-Interest paid)/ Average loans given

Market Borrowings	597.70	387.15	387.15	0.00	200.00
Total	1715.52	1638.78	1787.28	1565.10	2022.90
Deployment of Funds					
Loans to States/agencies	912.94	895.51	1062.27	1273.42	1771.17
Bond redemption reserve investment	264.57	268.03	385.64		
Surplus funds in Bank deposits	570.25	430.98	309.14	250.02	172.93
Other assests/liabilities	-32.23	44.26	30.23	41.67	78.80
Total	1715.52	1638.78	1787.28	1565.10	2022.90

Figure 4.4: Cash Flows Indicating Liquidity Position of NCRPB



130. In FY 04, NCRPB had surplus liquidity, when loans to states were only 46% of its fund, 25% funds were invested in short term deposits and 27% were invested as bond redemption reserve fund. In FY 08, NCRPB raised a debt of Rs.200 crore²⁵ to meet the demand for loan disbursement. Loans to states were to the extent of 88% of the funds, only 9% of the funds were held in short term deposits. There is no fixed deposit with banks as on date. The transition from a surplus to deficit liquidity state was mainly due to very low interest rate as compared to prevailing market rates.

131. *Existing Cash flow Monitoring Procedures:* Monthly cash flow statements are prepared taking into account projects in pipeline and requirements of ongoing projects. The projections are compared with actuals and adjusted accordingly. It is to be noted that disbursements happen throughout the year, whereas repayments of loan and interest are mostly towards the end of the financial year (March). At the beginning of the year, statement of interest and principal repayment due in the year is sent to each borrowing agency. Cash flow Statement and

²⁵Proactive planning of comprehensive projects for the priority areas to implement the Regional Plan 2021, could have lead to a steady stream of projects for financing and PSMG meetings could be held regularly preferable once in quarters to ensure a stream of projects for financing and monitoring of project execution, drawal of loan instalments, gradually

Estimates of Internal & External Budgetary Resources (IEBR) are prepared for the five-year period coinciding with Gol plans.

132. The list of clients with their dues is prepared at the start of the year itself and the Board has effective follow up system for its dues against interest and repayment of principal loan sums. However, the transactions presently are few and far between and a computerised system for tracking loans and payments should be planned to meet requirements in case of proposed scaling up of lending operations.

133. Deployment of Surplus Funds: NCRPB maintains a savings bank account with State Bank of Indore, Corporation Bank and Punjab National Bank (all public sector banks) with auto sweep facility, wherein receipts exceeding Rs. 1.00 lakh are automatically converted into short term deposits of 15 days' tenure. This enables NCRPB to earn interest on funds received after the 10th day of the month. Otherwise in Savings bank account, interest is paid on the minimum balance between 10th and last day of the month.

134. Surplus funds are invested in fixed deposit with public and private sector banks as per the guidelines for empanelment of public and private sector banks approved by NCRPB Board. Exposure ceilings for investment with banks based on their net worth, capital adequacy ratio and credit rating of instrument have been prescribed. Maximum tenure for investment of surplus money in public sector banks is one year and six months for private sector banks. Fixed deposit record is maintained and its monitoring is regularly done to maximize returns from surplus funds.

135. Department of Expenditure, Ministry of Finance, Gol vide Office Memorandum F.No. 7(2)/E.Coord/2007 dated 15th January 2008 has directed to place at least 60% of surplus money with public sector banks and to discontinue the practice of inviting competitive bids for bulk deposits. It has also directed the government corporations to place bulk deposits with bank(s) with whom regular course of business is done.

136. This review of the financial position of NCRPB leads to several conclusions, including: i) limited nature of financial products; and ii) inadequate leverage of NCRPBs role as a provider of regional infrastructure financing. On the positive side, there appear to be no delinquencies of outstanding loans. Furthermore, prescribed financial management processes are consistently followed.

SECTION V: REVIEW OF MIS SYSTEMS AND ENTERPRISE RESOURCE PLANNING (ERP)

A. Rationale for an ERP System

137. Several stakeholders have urged that NCRPB is in a unique position to play a more proactive role including providing support for priority inter-state projects and the like. In order to do this, with the ultimate objective of translating the vision of the National Capital Region to develop as a region of global excellence the NCR Planning Board sees a strong need to substantially scale up its operations by proactively developing large/mega infrastructural projects in the thrust areas identified in the Regional Plan-2021 and undertaking financing of these projects.

Box 5.1: Proactive Development of Projects by NCRPB to Enhance Regional Plan Implementation

Component B of the ADB TA is making model projects in 6 core sectors and that should facilitate more bankable projects to be submitted by the States and Action agencies to NCRPB. Also, under component A and C, a range of interventions are likely to enhance the effectiveness of plan implementation and these again, are likely to substantially increase the number of bankable projects. Also, the earlier studies would result in technically viable proposals in the area of new townships, integrated water supply and Regional Rapid Transit System for financing during the 11th plan period besides other identified mega projects for financing during 11th Plan period in the area of power generation, 100% sewerage development and road networks. These mega projects would be in addition to the projects the Board would be receiving for financing from the State Governments including GNCTD and their implementing agencies during the 11th Plan. In totality, the projects identified by the NCR Planning Board for financing during the 11th Plan (2007-12) involve a total outlay of Rs.15, 000 crore. Some of these projects will be taken up in collaboration with other stake-holders.

138. In this context a good ERP system can greatly enhance the work of staff, enabling them to better monitor their plans and project portfolio as well as serve the various stakeholders, all the while working with a growing number of stakeholders and clients. Specifically, such a system will enable leadership, senior management, officers, managers and supervisors to better monitor the work under their responsibility, provide better guidance to their staff, and pinpoint the areas that most require their attention.

139. And it can help them to orchestrate the work of the entire organization by allowing them to better: a) monitor NCRPB's achievement of its own long/medium/short terms goals and also implementation of regional/functional and other plans; b) understand current status/financial health through a set of well-chosen indicators and thereby continually strive for higher performance; and c) assist in making critical and timely strategic and operational decisions.

140. **Most importantly, it should help NCRPB to more effectively serve its various stakeholders and constituents, especially, in the light of their growing expectations**

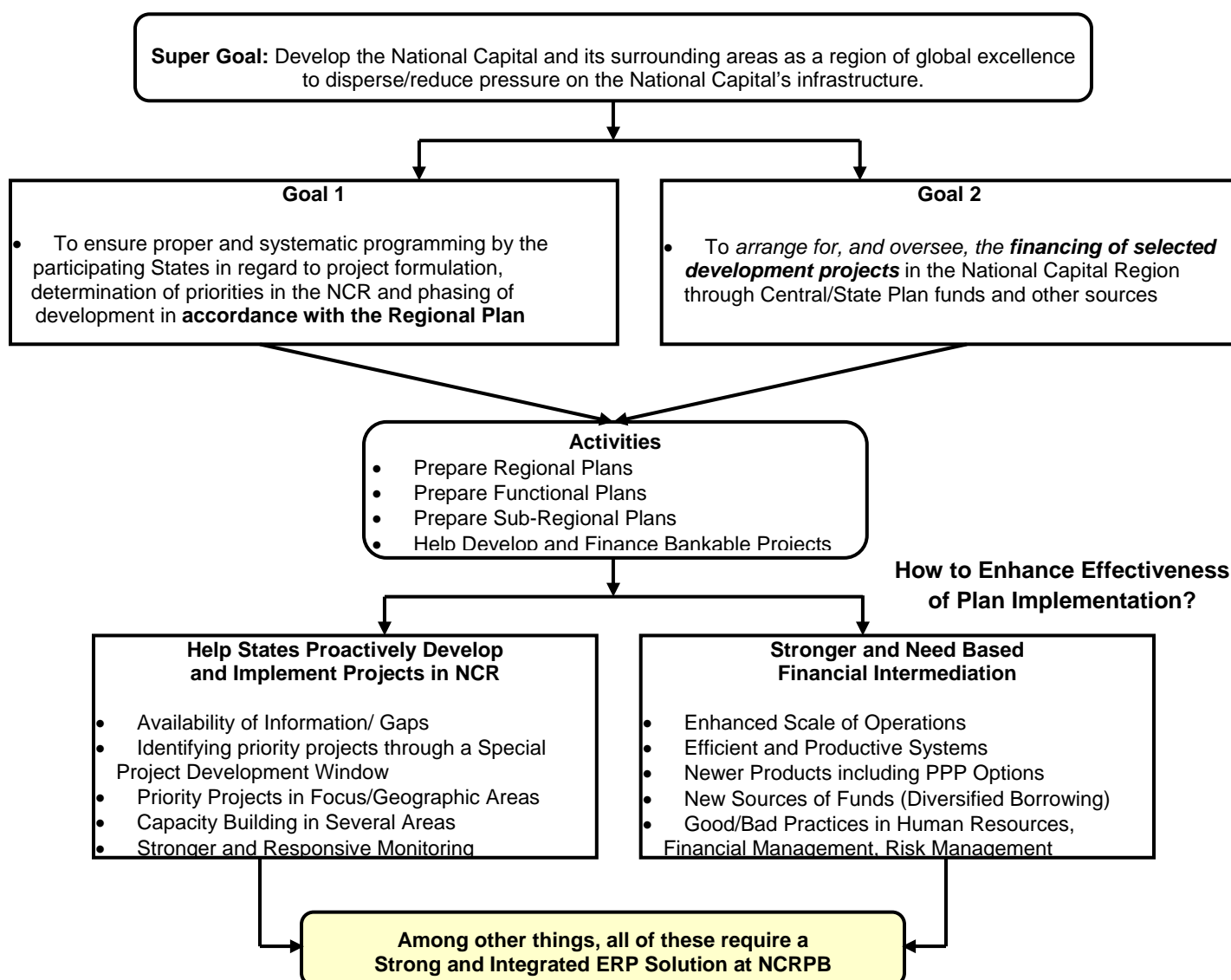
141. Accordingly, from the perspective of this ADB TA, in the assessment of the existing information systems at NCRPB, three distinct steps are followed:

- **Diagnostic:** This exercise will focus on getting a **basic understanding** of the current state of the MIS practices at NCRPB including: *current workflow and business processes; information management, application management and infrastructure available.*
- **Future Desired State:** The overall strategic objectives and business plan (if any) are very critical inputs in the TA. In this case, a new business plan is under preparation and hence, current strategic objectives (as available from the discussions with the NCRPB staff) are used in shaping the larger environment for MIS assessment and implementation. These

objectives, articulated by NCRPB, provide a reasonably clear understanding of where NCRPB is headed in the future and they also outline parameters and structure of systems that would be required for operating effectively and efficiently – especially, at the scale proposed and also for the kind of financial products and processes envisaged.

- **Actionable Implementation Plan:** Having assessed the current state and articulated the desired state, an actionable implementation plan is developed to bring the two together. This plan provides the yardstick against which progress can be measured, with regard to the ERP aspect of the TA

Figure 5.1: NCRPB Future Strategies and Rationale for An ERP System



B. Status of MIS at NCRPB²⁶

142. The MIS analysis is done for the following departments: (a) Project Monitoring Coordination (PMC) Wing; (b) Finance and Accounts Wing; (c) Planning Wing, and (d) Administration. These are discussed below

The various departments use the following for MIS:

- PMC uses excel and manual systems;
- Accounts and Finance use Tally 7.2, excel and manual systems (for Loan Registers) and NIC software for Payroll etc.:
- Planning has Unix based GIS system and it used MS office with manual field based data collection using specific formats; and,
- Administration has mainly physical systems but MS office is also used.

143. At the outset, it must be mentioned that NCRPB has managed quite effectively despite its basic MIS. Some of the key achievements are:

- Staff have managed very well with limited technology/systems and fewer people;
- Disbursements of several Crores have gone through these systems and they are quite robust;
- There are a large number of physical and electronic records and key information is available;
- Data input and upkeep, although tedious, is quite accurate and has happened on a timely basis, by and large;
- However, a lot of time is spent on data collection, compilation, reconciliation, and analysis; and,
- Basic reports are available and used for information sharing and decision making.

144. **Project Monitoring & Coordination (PMC) Wing:** The functions and responsibilities of the PMC wing at NCRPB are as follows:

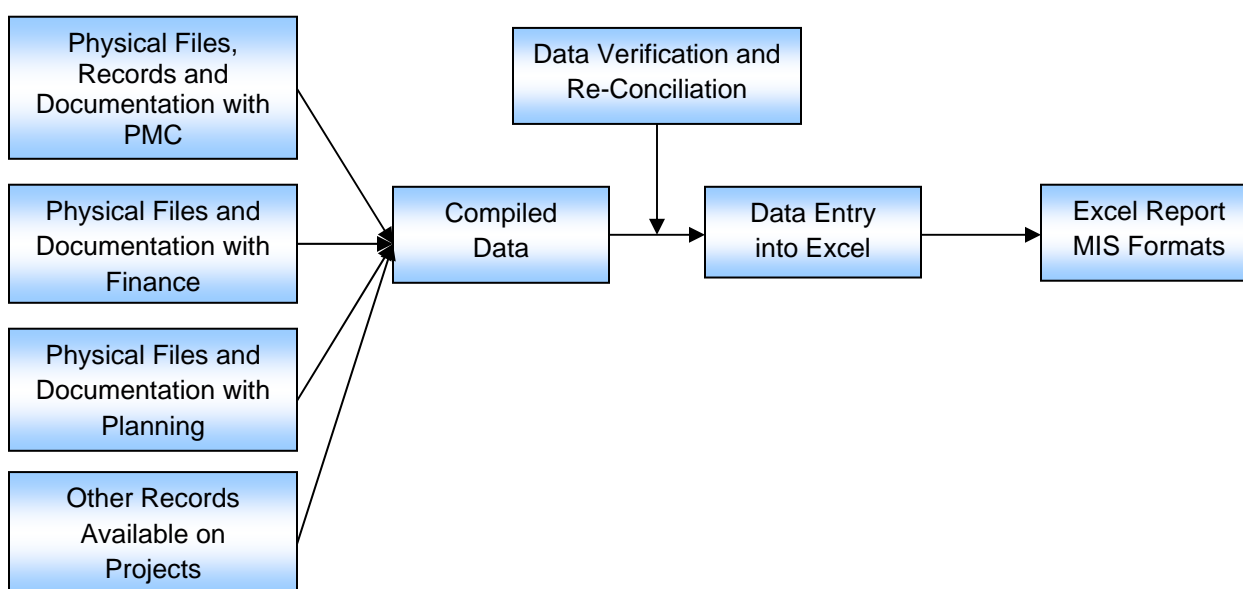
Table 5.1: Functions and Responsibilities of PMC Wing at NCRPB

Aspect	Description
Project Mining & Development	<ul style="list-style-type: none"> • To arrange for Meetings between the officials of the constituent state governments including GNCT of Delhi and their implementing agencies to explore and identify suitable infrastructure development projects for financing and to review progress of on-going Projects; and • Follow up of the Minutes of Meeting particularly with regard to preparation and submission of Detailed Project Reports (DPRs) by the implementing agencies as identified during the Meetings or otherwise to the NCRPB for financial assistance.
Project Appraisal & Sanction	<ul style="list-style-type: none"> • To empanel the selection of National Institutions for providing project appraisal services, • To get the DPRs received from the state governments and their implementing agencies appraised from the selected National Institutions who have been empanelled for providing Project Appraisal Services and all other work connected thereto, • To prepare Agenda Notes for sanction of the appraised projects for placing before Project Sanction & Monitoring Group-I/II (PSMG-I/II) as the case may be,

²⁶ This section attempts to understand where NCRPB is today with regard to MIS.

Aspect	Description
	<ul style="list-style-type: none"> To convene the Meetings of PSMG and circulate agenda notes, To record the Minutes of the PSMG Meetings and circulation of the approved Minutes to all concerned, and To forward projects sanctioned by the PSMG alongwith the Minutes to the Finance & Accounts Wing for further processing of loan.
Project Monitoring	<ul style="list-style-type: none"> To empanel and appoint Third Party Inspection & Monitoring Agents for sanctioned projects, To call for and compile Monthly and Quarterly Progress Reports in respect of On-going Projects, To process the loan installment release request of the implementing agencies and constitute verification teams, To process the reports of the verification teams/TPI Agency and obtain the approval of the competent authority for further loan release, To organise verification of physical and financial completion of the Projects and process the reports of the verification team and, To maintain databases of on-going and completed projects.

145. At PMC, a basic management information system is in place, using mostly manual records compiled on Excel with regard to project management and monitoring - it is maintained by PMC. Data is compiled from manual records and physical files and entered on specially created spreadsheets which contains data (on several parameters) on completed and on-going projects. Data collation and compilation appears to be a very difficult and cumbersome task. Also, given the nature of Excel (*not being a relational database and not having other capacities*) and given the available systems and staff, it can be said that reasonably accurate and timely monitoring data is available from this MIS. However, the task of maintaining this Excel database is far too demanding and requires considerable time. Also, the nature of Excel does not permit the data to be integrated into a common database for use by other departments like finance or planning or administration – as a result, discrepancies in data across departments may exist



146. This apart, there are several general limitations of using Excel as a database and these are given in the Box below.

Box 5.2: Excel and Its Limitations

1. Excel is commonly used to store and send financial data, but users run into limitations when using it for large-scale analysis;
2. Complex workbooks with multiple tabs and intertwined cell references are very difficult to maintain and validate;
3. And of course, once the data grows beyond 65,000 records, Excel can no longer handle it;
4. Security threat in Excel data is a serious issue as also unknown data changes;
5. Data filter or search records is very complex in Excel;
6. Excel does not allow changing locale-dependent formatting attributes;
7. Nested tables are quite complex;
8. Excel is not user friendly;
9. Data entry is complex and cumbersome when compared to a software application; and,
10. Using Excel, as a database, is time consuming and makes users less productive.

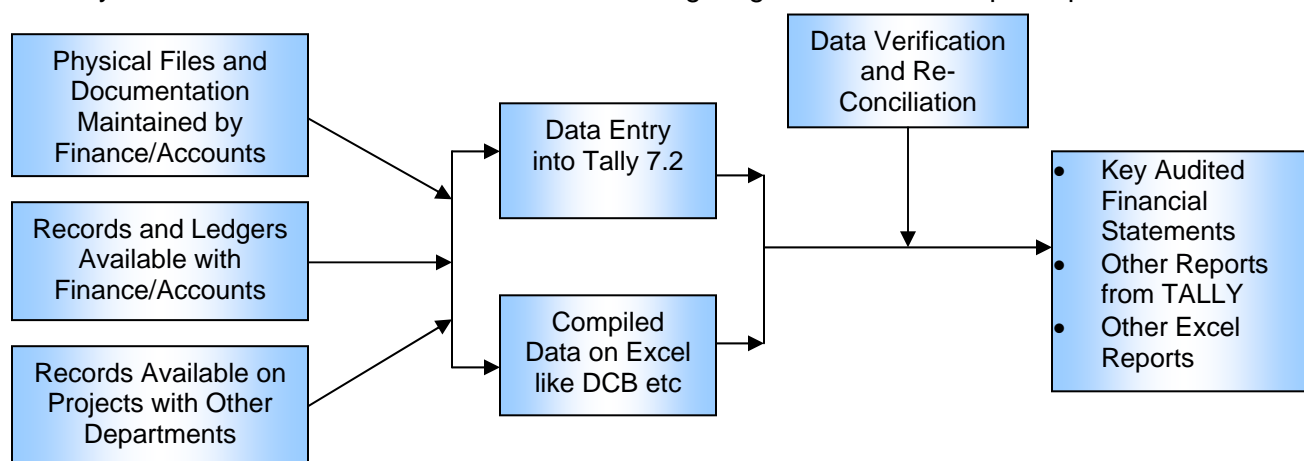
147. **Finance and Accounts Wing:** The duties and functions of the Finance and Accounts wing at NCRPB are as follows:

Table 5.2: Functions and Responsibilities of Finance and Accounts Wing at NCRPB

Aspect	Description
Sanction of Loan Installments	<ul style="list-style-type: none"> • To process loan release requests of the implementing agencies based on sanctions received from the PMC wing, • To prepare terms and conditions of the loan and issue of loan sanction letter to the implementing agencies, • To prepare and execute loan documents including Mortgage deed, Hypothecation deed, Guarantees and Escrow Accounts and, • To issue installment sanction letter after obtaining the approval of the competent authority
Maintenance of Loan Accounts	<ul style="list-style-type: none"> • To open and maintain loan accounts of the project and implementing agencies, • To prepare loan repayment schedule for the principal amount outstanding and interest thereof and forward them to the loanee/implementing agencies, • Receipt of loan repayments- principal and interest and posting them in the corresponding loan account ledger, • Watching repayments and issue of letters/notices in case of delayed recoveries indicating penal interest due, • Monitoring of recoveries of prepayment charges, penal interest charges and other charges/fees relating to loans and accounting thereof and, • Yearly Closing of loan accounts and working out Principal Received, Interest Received, Interest Accrued and Interest Receivable Amount for inclusion in Annual Accounts of the Board.
Fund Management	<ul style="list-style-type: none"> • To prepare Fund Flow Statement showing inflow and outflow on monthly basis and work out net surplus, • To invest net surplus as per the investment policy of the Board- calling for bids from the empanelled banks, processing of the bids etc, • To process the case for empanelment of banks as per the policy, • To maintain Fixed Deposit Register and monitor maturity dates, receipt of maturity proceeds etc, and • To yearly close the register and work out Interest Accrued for inclusion in the final Accounts of the Board.
Accounts and Related Aspects	<p>Among other things, the following are key responsibilities.</p> <ul style="list-style-type: none"> - Regular maintenance of accounts. - Preparation & Submission of Annual Accounts and Annual Report of the Board. - Tax matters and planning. - Audits for taxation etc., and several other aspects.

148. A basic accounting package (Tally 7.2) is presently operational with the usual accounting records. A chart of accounts exists but account codes are only descriptive²⁷. Double entry book-keeping system is in place as is *accrual accounting*²⁸, and *relevant policies* provided by CAG²⁹ for non-profits are generally followed to the extent possible and feasible. Given the constraints of staff and available systems, the accounting records and system are reasonably well kept and audits (*CAG and IT Statutory Audits*) are also available. Also, the accounts using Tally system do not use budget figures and hence, the system cannot be used for budgetary control. However, bank reconciliations are done regularly and Excel is used for reconciliation of bank account.

149. The Tally system does generate some reports and these are disseminated to senior management staff. These are daily cash reports and bank balances reports for the first week of each month. Yearly statements for Plan and Non-Plan expenses compared with corresponding budgeted allocations are also available. Because of the absence of (preparation of) routine periodic accounts, vital financial information on financial health of the Board, including necessary ratio analysis, is available only at the end of year after accounts are finalized. Preparation of various financial analysis and other reports enables comparison and helps identify deviations. This in turn facilitates better budgeting and stakeholder participation.



150. There is also a very basic loan tracking system. The finance wing maintains loan repayment data/information³⁰. Loan disbursement and repayment data are maintained in manual ledgers in the Finance wing and are also entered in Excel/Tally and compiled to give

²⁷ A digitized chart of accounts can be very useful in eliminating any ambiguity associated with a descriptive type chart of accounts. Here, each account in the chart of accounts is assigned a serial number (ASN). The concept of an Assigned Serial Number (ASN) is the same concept as an account code number being assigned to a verbal account description. The ASN is subsequently used on all accounting records. A dictionary of ASNs and their designated account code and description is maintained in computer memory. Computer input is by ASN but output is by account code and description. The ASN may be any size but is normally recommended to be at least five digits. It may be assigned sequentially or it may be assigned bearing some relationship to the account number and description. Because of the descriptive account codes and non use of digitized codes, the Accounts cannot carry desirable sub-classifications. Also, at times, the descriptive CoA may lend itself to incorrect classification

²⁸ The receipts are recorded and accounted for in Tally only upon receipt of sums and payments are booked upon issuance of cheques; Also, the process of accruing expenditure and interest due as also receivables, depreciation and other fixed expenditure is not monthly or even quarterly – in fact, journal vouchers are passed mostly at the end of year for depreciation, adjustments/accruals

²⁹ The account heads and format of financial statements prescribed by CA&G for autonomous organizations are used.

³⁰ PMC, has data on the clients, sectors, etc. Basically, PMC maintains files on projects for the pre-sanction stage while Finance maintains files on projects for the post sanction stage. PMC is also involved in post sanction stage for loan monitoring.

specific reports to Finance and PMC. PMC and Finance share data and files as per requirements and there is a very good working relationship between PMC and Finance.

151. As an illustration, the process of loan register maintenance is given in Annex VII and it shows how laborious and difficult the whole process of maintenance is, especially when one considers the thin staffing at NCRPB and also the larger scale of operations envisaged. Without question, a fully automated ERP system would enable the efficiency and productivity of the very hard working staff to really burgeon

152. One aspect that deserves mention is the fact that the accounting records kept through “Tally” are not as per financial intermediation norms (recommended by RBI and others) in respect of loan records. Manual loan registers are maintained in parallel and there are 16 Loan Registers (Haryana -7; UP-4; Rajasthan-3 and CMA-2), which record interest and repayment for each loan on separate pages. However, the consolidated data from manual loan records are reconciled with Tally and other records. Further, Tally is not fully integrated with the project monitoring and management MIS discussed above. For processing payroll, another software developed by NIC is used. Overall, the accounting system and processes as well as outputs are very transparent and meet the highest standards but the issue of a lot of labour, duplication, inefficiency remain and will have to be addressed

153. While the sheer labour and difficulty of maintaining multiple and non-integrated systems (including manual, semi-automated systems) is a very critical issue that needs mention, duplication of records is another aspect and this is certainly also a concern given that there is limited space. This apart, there are several issues with Tally 7.2 as a package and these are given below

1. It does not have a comprehensive audit trail facility;
2. There is no proper workflow orientation in Tally;
3. Position level authorization and associated approval of transactions is difficult and almost impossible to configure in Tally; and,
4. Tally can't be customized to suit tailored requirements – it is a given.

Box 5.3: Tally and Its Limitations

Tally 7.2 has several errors and these are listed below:

- A payment or receipt involving deductions entered in single entry mode and viewed in double entry mode displays incorrect values most often.
- Attempting to view TDS or VAT computation reports from voluminous data displays an error and quits Tally 7.2 in several instances.
- In a Multi-user environment, many times, when more than one user tries to create a purchase transaction simultaneously, only one purchase transaction is saved and the other users get an error causing Tally 7.2 to shut down.
- Tally 7.2 generally quits while creating a purchase transaction with *Print after saving* in the Purchase voucher type set to Yes.
- Tally 7.2 sometimes shuts down while saving a void purchase transaction using *Ctrl+A*.
- Tally 7.2 often displays an error and shuts down when the filter is applied for a Party in Day Book containing a Delivery note or Receipt raised against the same party.
- Tally 7.2 generally shuts down while generating e-TDS reports for users with large volume data.

- Technology limitations in Tally 7.2 do not comprehensive by capture payment details such as VAT Payable, Interest, penalty and so on.
- When a Purchase for an item is made on the same date as and when the Opening Stock was recorded, the Stock Aging Analysis Report shows incorrect values.
- Sometimes, if *Use Common Ledger A/c for Item Allocation* is enabled and a transaction is recorded with VAT/Tax Classification set to Not Applicable, on altering the transaction the VAT/Tax Classification detail defined previously is not retrieved.
- The ledger address is not printed when a Ledger Account for a ledger is printed.
- In Multi-Voucher Printing, Page Numbers are printed even while *Print Page Numbers* is set to No.
- If 'Print after Save' is enabled for a *Rejection In* and *Rejection Out* Voucher type, the option does not appear while creating the same.
- Altering a bank ledger for which the Opening Balance is specified in foreign currency with the multi-currency exchange rate, displays the unit rate as 1.
- Sometimes, rate values for amounts with many digits appear illegible in Inventory Vouchers. For example, 30, 000.
- Company *User name* and *Password* length is limited to 15 characters.
- User interface is difficult to read as the text is compressed to fit the window, e.g., F11 Features screen.

Planning Wing: The duties and functions of the planning wing at NCRPB are as follows:

Table 5.3: Functions and Responsibilities of Planning Wing at NCRPB

Aspect	Description
Plan Preparation	<ul style="list-style-type: none"> • To prepare regional plans and functions plans in accordance with overall mandate. • To enable states to prepare sub-regional plans. • To help states implement the hierarchy of plans through development of appropriate projects. • To participate in the financing process of bankable project.

154. Planning has several formats for collecting data for plan preparation, monitoring and review but while the department has managed to get a lot of the required information for plan preparation, it is updating of this information and also monitoring/review which is an issue for two reasons: a) Planning does not have specialized research staff who can coordinate flow and compilation of information; b) The NCR Cells, which were set up to provide this support to planning are not able to provide this support and information.

155. Additionally, the nature of planning data required also means that a lot of the data collection would have to occur at the State level (data is collectable from specialized agencies) and this is where there is a critical need for staff at the local level to oversee, facilitate and collect required data on an on-going basis. Planning also gets data from specialized studies commissioned by NCRPB but this again is said to suffer from aspects like delay in completing the study, quality of study and the like. The planning department also has a basic GIS in place but most of the systems are not state of the art. Please refer to box below for an update on GIS systems available at NCRPB

Box 5.4: GIS – Status and What can be Done at NCRPB?

Status

<ul style="list-style-type: none"> Entire region (of 33,578 kms) is covered by 75 maps sheet at a scale of 1:50,000 (SOI Topographical map sheets pertaining to year 1970). Data updated from Satellite imageries (IRS-1C+PAN) pertaining to year 1999. The data has been prepared for following theme layers: <i>Land-use, Roads, Railways, Canals/Drains, Contours, Administrative Boundaries and Map Grid</i> Coordinate System Description of GIS Data of NCR. 	
✓ Projection	India Polyconic
✓ Spheroid	Everest
✓ Units	Meters
✓ Longitudinal Central Meridian	77° 15' 00"
✓ Latitude of Origin	27° 15' 00"
<ul style="list-style-type: none"> The available hardware are 1 SGI Silicon Octane (Unix machine) and 1 SGI Silicon O2 (Unix machine) The available software are: a) ArcInfo 8.x (Preloaded on SGI m/c but can't be loaded on Win m/c); b) ERDAS 7.x (Preloaded on SGI m/c but can't be loaded on Win m/c); and c) ArcView 3.x Latest/Upgraded Hardware, Software and Training required. Presently at NCRPB, the system is able to Display and Edit the data provided by NRSA only on SGI machines which are Unix based. These machines have no output facility like CD Writers, USB ports etc. Utility of GIS in NCRPB <ol style="list-style-type: none"> Regional Planning for Land-use, Transportation etc. and time to time reviewing. Review Master/Development Plan pertaining to different Districts of constituent states. Review Regional Plan Updating the data for changes in Land-use/Controlled Areas, and addition and modification in Transportation Networks etc. 	

156. Need for a full-fledged GIS module was strongly articulated and the key aspects on requirements emerged out of discussions (within and outside NCRPB) are given below

Table 4.4: Available Geospatial Technology and Functional Applications

		Available Geospatial Technology				
		RDBMS	CAD	GIS Data Viewer	GIS	Image Processing
Function Requirements	Manage Data	X	x		X	
	Visualize Data		x	X	X	x
	Query Data	X		X	X	
	Spatial Analysis				X	x
	Model		x		X	x
	Feature Extraction		x		X	x

157. **Administration Wing:** The functions of the administration department are as follows: (a) To deal with staff and human resources matters; and (2) To deal with general administration and all other aspects required for effective and proper upkeep and maintenance of the NCRPB office and premises. The administration department currently uses physical records but desires to have a proper module for Human Resource Management that can focus on staff, their roles, responsibilities and capacity building as well as other aspects relating to human resource development. Specifically, two issues were mentioned as important with regard to administration: (1) Digital Archival of HR records of all staff; and (2) Database of Staff with requisite aspects including their work profile and tasks, attendance, trainings required and attended and several other aspects related human resource development

158. Based on the various discussions, the Table below offers further details on current status and use of management information systems (MIS) at various departments at NCRPB:

Table 5.5: Status of Management Information Systems at NCRPB

Departments Aspect	Finance and Accounts	Project Monitoring and Coordination (PMC)	Planning	Administration
Characteristic of Information System	<ul style="list-style-type: none"> Manual system used along with Excel, Tally and a special NIC Package 	<ul style="list-style-type: none"> Manual system used along with Excel; 	<ul style="list-style-type: none"> Manual system used along with Excel and specialized GIS; 	<ul style="list-style-type: none"> Manual System used with some word processing software and excel
Types of Records, Level of Updating Required	<ul style="list-style-type: none"> Records are mainly physical (Receipts, Loan Ledgers, Loan Documents etc) although compiled records available electronically; Small number of transactions presently and hence, task of compilation and updation are easily done 	<ul style="list-style-type: none"> Records are mainly physical (Loan Ledgers, Loan Documents etc) although compiled records available electronically; Current level of updating entries are manageable but volume is still high; 	<ul style="list-style-type: none"> Physical maps exist and there are other physical records; There are also GIS records electronically Depending on the breadth and depth of engagement, planning data updation could become high in the future 	<ul style="list-style-type: none"> Records are mainly physical and there are a number of them and archiving and storage are getting to be increasingly difficult
Data Back-up	<ul style="list-style-type: none"> Not as per required norms for financial intermediation and other important data; Data is quite insecure; organized Back-up procedures are not available. 			
Major Packages Used	<ul style="list-style-type: none"> Microsoft office (Excel), Tally for accounts and a special package developed by NIC for Payroll 	<ul style="list-style-type: none"> Microsoft office (Excel) 	<ul style="list-style-type: none"> Microsoft office and Unix based GIS 	<ul style="list-style-type: none"> Microsoft office (Word and Excel)
Connected on LAN and Internet	<ul style="list-style-type: none"> Yes, in cases, where required Internet website is updated by F and A team member 	<ul style="list-style-type: none"> Yes, in cases, where required 	<ul style="list-style-type: none"> GIS is in a UNIX based system, which is incompatible with other operating systems; Google Earth (Internet) Data is used when required Government of India security regulations prohibit internet connections on machines storing GIS data 	<ul style="list-style-type: none"> Yes, in cases and where required
Integration of Data and Information	<ul style="list-style-type: none"> Not so in a technical sense as there is no single electronic 	<ul style="list-style-type: none"> Not so in a technical sense as there is no 	<ul style="list-style-type: none"> Not so in a technical sense as there is no single electronic 	<ul style="list-style-type: none"> Not so in a technical sense as there is no single electronic

Departments Aspect	Finance and Accounts	Project Monitoring and Coordination (PMC)	Planning	Administration
Across Departments	<ul style="list-style-type: none"> database; Also existing physical databases cannot be shared; they are duplicated where necessary The same data, at times, may have to be re-entered/re-compiled in more than one place Data is reconciled between the manual loan ledgers and Tally in an overall sense but not necessarily and not always on a transaction basis (example of interest). Much of this takes place within finance and accounts and also with PMC, and is done where feasible and possible 	<ul style="list-style-type: none"> single electronic database Also existing physical databases cannot be shared; they are duplicated where necessary The same data, at times, may have to be re-entered/re-compiled in more than one place Data is reconciled between the manual records and excel/Tally in an overall sense Much of this takes place with finance and accounts, and is done where feasible and possible 	<ul style="list-style-type: none"> database and also existing physical databases cannot be shared. The same data, at times, may have to be re-entered/re-compiled in more than one place Data is reconciled between the manual records and excel as also GIS This takes place with the NCR Planning Cells and other stakeholders and is done as and when feasible and possible 	<ul style="list-style-type: none"> database; Also existing physical databases cannot be shared; Data is reconciled between the manual records and excel/Tally in an overall sense Much of this takes place with finance and accounts, and is done where feasible and possible
Functions	<ul style="list-style-type: none"> For loan disbursement and tracking, the necessary documents are prepared manually Demand collection balance formats are periodically prepared; Manual loan ledgers are manually maintained and compiled data are transferred to electronic form; Accounts Administration; Treasury Functions etc Payroll and related aspects 	<ul style="list-style-type: none"> Loan Disbursement and Tracking; and Project Monitoring and Management 	<ul style="list-style-type: none"> Digitalising Maps with Statistical and Non-Statistical Data and other aspects Compilation of data for Plan Preparation, Monitoring and Review 	<ul style="list-style-type: none"> For Administration and Office Maintenance For HR Management
Retrieval of	<ul style="list-style-type: none"> Possible for immediate years and at present scale of operations but will become quite difficult if the 			

Departments	Finance and Accounts	Project Monitoring and Coordination (PMC)	Planning	Administration
Aspect				
Data	scale increases. This is across departments			
Data Integrity and Accuracy	<ul style="list-style-type: none"> The current level of data quality is fine but the existing system is stretched to its limit because of staffing constraints as well; With enhanced scale of operations, the system may not be able to cope in terms of ensuring accurate, timely and reliable data; Flow of data for plan preparation, monitoring and review and also project monitoring is not supported by NCR Cells 			
Time spent on data reconciliation, verification and consolidation	<ul style="list-style-type: none"> This may be possibly now easily but as NCRPB fund enhances scale of operations and breadth and depth of engagement, it would be immensely difficult and would also consume a lot of time. 			
Physical Storage and Archival Facilities	<ul style="list-style-type: none"> Most records are in physical form Storage will become difficult as scale increases and especially for finance and accounts as project records will have to be maintained for the entire period of financing; Critical to have online archival facility to facilitate optimal storage and also ensure easy retrieval 	<ul style="list-style-type: none"> Most records are in physical form Storage will become difficult as scale increases and especially for PMC as project records will have to be maintained for the entire period of financing; Critical to have online archival facility to facilitate optimal storage and also ensure easy retrieval 	<ul style="list-style-type: none"> Most records are in physical form Storage will become difficult as depth and breadth of information required increases; Critical to have online archival facility to facilitate optimal storage and also ensure easy retrieval. For both, the creation of an appropriate database along with suitable archival facility is very critical 	<ul style="list-style-type: none"> Most records are in physical form Storage will become difficult as depth and breadth of information required increases; Critical to have online archival facility to facilitate optimal storage and also ensure easy retrieval. For both, the creation of an appropriate database along with suitable archival facility is very critical
Time Series Data	<ul style="list-style-type: none"> Currently available for some aspects but will have to be compiled from physical and Excel/Tally records, which may make it prone to errors and also consume time 		<ul style="list-style-type: none"> Time series may be available in maps and other records but extremely difficult to collate and analyse it 	<ul style="list-style-type: none"> Currently available for some aspects but will have to be compiled from physical and Excel/Tally records, which may make it prone to errors and also consume time

159. The various discussions also revealed specific areas where an ERP could play a role and these are highlighted in Table hereafter

Table 5.6: Status of Possible Future Interventions

Departments Aspect	Finance and Accounts	Project Monitoring and Coordination (PMC)	Planning	Administration
Nature of Interventions Possible	<ul style="list-style-type: none"> Automation of key tasks and use of online workflow with PMC and at least shared database with Planning on projects, sectors and other aspects; The financed projects can submit their documentation directly and online, as and when feasible and permitted legally 	<ul style="list-style-type: none"> Automation of key tasks and use of online workflow with Finance and Accounts as also with Planning in Pre-sanction areas of project financing. NCR Planning cells can also be integrated with regard to proactive search for projects; submission of DPRs; guidance on preparation of DPRs etc The financed projects can fill out their progress directly and online 	<ul style="list-style-type: none"> Online workflow with PMC for Pre-sanction areas of project financing and NCR Planning cells for data updation and specific data requests The financed projects can fill out their progress directly and online State-of-the art GIS Module Data for Plan preparation, monitoring and review All of the above in phases 	<ul style="list-style-type: none"> Automation of key tasks and use of online workflow with Finance and Accounts as also with PMC and NCR cells, as required
Specific Focus of Interventions	<ul style="list-style-type: none"> Financial Intermediation (Integrated Accounts and Finance) and Project Monitoring/ Management 	<ul style="list-style-type: none"> Financial Intermediation and Project Monitoring/ Management 	<ul style="list-style-type: none"> Integration of GIS and planning data with project data (Projects financed by NCRPB and projects financed by others) Tracking project progress and monitoring with regard to compliance to regional and sub-regional plans 	<ul style="list-style-type: none"> Administration and comprehensive HR module (with a focus on staff, their training, performance etc) integrated with finance and accounts
Scope for Integration Across Departments	<ul style="list-style-type: none"> Very high with PMC and high with planning 	<ul style="list-style-type: none"> Very high with Finance and Accounts and high with planning 	<ul style="list-style-type: none"> High with PMC and Finance 	<ul style="list-style-type: none"> Very high with Finance and Accounts
Scope for Client Interface in System	<ul style="list-style-type: none"> Clients can provide requested data online, if such a facility is available; this would be more useful for periodic data that is to be received 			
Potential Solutions for Gaps	<ul style="list-style-type: none"> Core Banking Solution Integrated with Other Modules in ERP – RBI Guidelines on CBS followed and especially using same prudential and exposure norms as for infrastructure financing and also clear and transparent chart of accounts 	<ul style="list-style-type: none"> Best Practices Project Monitoring and Management Module Integrated with Other Modules in ERP 	<ul style="list-style-type: none"> Best Practices Planning Module including Data for Plan Preparation – Regional, Functional and other Plans as appropriate Data for Monitoring of Plans Data for Review of Plan Progress Projects Data of All Projects in the Respective Areas – Not just NCRPB and Projects in database and visual maps Other Development in the Areas Comprehensive GIS Module Time Series Data Quantification of Functional and Other Plan Study Data Other Aspects as appropriate All of the above in a phased manner 	<ul style="list-style-type: none"> Comprehensive administration and HR Module integrated with finance and accounting HR Module, will apart from traditional HR data, would also include performance appraisal, incentives, training and other data

C. Analysis of MIS at NCRPB

160. Thus, the existing MIS at NCRPB is significantly manual, although packages like Excel are used for data compilation, reporting and tracking progress. Physical and manual records supported by Tally comprise the accounting MIS. A special NIC developed package is used for payroll. Planning uses Excel for compilation as also an older GIS module. Several key issues are discernible about the above MIS:

161. **Information Needs:** The nature of information needs at NCRPB is quite diverse. First, diverse data is required because of diverse NCRPB Functions, ranging from Planning to Finance and, especially, Planning requires diverse data even within. Also, Planning requires a lot of field based data to be collected from specialised agencies. Second, data is not always in a form for use directly and it has to be compiled and/or collated – so, ‘sorting or if then’ conditional statements have to be used and this can get quite tedious. Third, all data has to be updated as otherwise there will be out of date information, especially with regard to monitoring

162. **Data and Records:** There is no integrated database and hence, automatic data sharing and use is minimal. Records and entries are duplicated (see box 6.5) and re-created as each of these departments have their own systems. Record systems could be better organised so that records are easily accessible and records not duplicated.

163. **Data Updation, Maintenance and Reconciliation:** The level of data updation is quite high, especially for project management and monitoring as Excel is used with sorting and other ‘if then’ commands. Likewise, significant time is also perhaps spent on physically maintaining loan records and reconciling them at a composite level with Tally 7.2 – it should be further noted that there is no transaction by transaction reconciliation of the physical records and Tally data. As data is not integrated, there is significant scope for errors in the same data across departments and this is likely, with enhanced scale of operations

164. **Packages:** Also, the packages used for Finance and Accounting and PMC are not of the standards recommended by RBI and other regulators for financial intermediaries engaged in urban infrastructure finance – they therefore cannot continually produce the reports required for accounting/financial management, treasury, loan disbursement/tracking and other systems, as per the prudential norms and risk management frameworks prevalent for Urban Infrastructure Intermediaries.

165. **Back-up Procedures:** Back-up procedures recommended for Financial Intermediation do not exist. In fact, the entire loan records are kept manually in several (presently 16) registers. Though some part of loan information is maintained in Tally system, there is no full back up of these vital records. To mitigate the risks in case of any untoward happening, like loss due to fire, it is suggested that this entire application be computerized and central bank recommended systematic back up procedures are followed.

166. **Storage Systems:** Filing and storage systems are mainly physical. Most records are also physical and they are already filling up the space. Further, the number of years for which physical records have to be maintained and stored (while varying depending on tenure of project), is quite long overall, normally averaging at least 10 years. Clearly, storage is fast becoming an issue and with scale and growth, archival and storage would need to be addressed – the number of years of records to keep for active projects is another issue here

167. **GIS:** GIS, although used, is outdated and lacks latest data, tools and technology. The existing UNIX system is not compatible with other systems

168. **Huge Burden on Hardworking Staff:** The most important aspect is that staff strength is extremely low. The existing staff in Planning, Finance, PMC and Administration has worked hard in collecting and updating the data as well as maintaining the records. The staff is currently doing their best to keep updated and complete data in their respective areas but the level of data collation and compilation can be quite high, especially with the proposed scaling up of NCRPB. *The support of NCR cells has at best, been minimal, although they could have played a major role in all of these aspects, because of their local presence.* There is a critical need for research staff (research officers and assistants) to facilitate efficient collection (and compilation/analysis) of specialized data, at least for planning, if not for the entire organization.

169. **Other Aspects:** Processes are not documented as process maps and workflow is not integrated. Major procedures are written down as fairly detailed steps and rules. In some cases, existing rules/manuals like CAG accounting guides are used.

Thus, there are several emerging issues with regard to MIS

- Lack of an integrated database – data and records are duplicated and this could cause a number of problems as highlighted in box below;
- Multiple and diverse systems are used (packages, manual data and a combination of these) – a lot of time spent is on data entry, updation, reconciliation and verification;
- Packages are very basic and cannot easily handle complex and diverse data (such as those at NCRPB) and especially, at the proposed higher scale of operations – excel and tally have their physical limitations and are not RDBMS and it will collapse as complexity goes up and scale increases; likewise the Unix based GIS is an older package based on older data;
- Data retrieval and analysis also quite laborious as they are not pre-programmed and the same or similar operations may have to be done each time (on excel) when same/similar information is required – this makes the task of data manipulation and analysis quite tedious;
- Physical records are growing, space is becoming a constraint and retrieval is a problem;
- Information flow is a bottleneck and especially for field based data – there is no reliable and valid means to collect, store and transmit data from field, especially at the state level and the fact of the matter is that a lot of the data has to be collected locally. The role of NCR cells in field level data collection appears minimal;
- Standard data back-up procedures are lacking and aspects like fire could have a negative impact because many records are physical;
- There is a lot of data/information that is desired to be collected and information overload could occur. There is a need to rationalise data/information and the processes that will generate them; and,
- Also, as NCRPB desires to operate at a higher scale, all these problems could get compounded at this higher level of operations.

Box 5.5: Duplication of Data, Consequences and Potential Solutions

When the same data is required in multiple applications, usually different user groups enter it 2 or more times. When doing so – either the entry errors may increase or data entered in first application and second application will be different and the same. To avoid this, Enterprise Application Integration Tools may have to be used to map the once entered data to be replicated between different applications - thus reducing data entry and save time/effort IN DUPLICATE ENTRIES. This will also REDUCE ERRORS.

This study will try and examine these aspects and specifically strive to encourage the use of the following:

- a) Enhance existing data in Excel files to be imported into new applications to reduce data entry;
- b) Design applications to show default values - for e.g., current date or often selected values in data entry screens – and facilitate exceptions to be entered, thereby reducing data entry work;
- c) Developing applications to capture data using Imaging technologies;
- d) Providing export / import facility - so that the once entered data can be exported to another application/requirement - thus avoiding duplicate data entry;
- e) Having all required applications use the same integrated database;
- f) Capturing data in outreach devices and connecting to the network and transferring that. E.g., sometimes monitoring executives visit remote sites/offices for verification, inspection or audit - during which they collect information on paper and again update in their PC later. An option is to examine whether the data can be captured on hand held devices and connect to a network and update the central database;
- g) How to enhance data security through backing up procedures and other security guidelines? How to avoid data loss? Often times, a lot of data in applications are deleted or modified by others as well as there could be data loss due to failure of electronic devices; and,
- h) Overall, are there aspects and processes that can be largely automated so as to reduce data entry and increase access to business critical information. Organisations today can remove the need to manually process structured and unstructured business data/documents with automated forms processing. By reducing their reliance on manual data entry, they benefit from increased data accuracy, faster data processing, reduced costs and ultimately better access to business critical information. In this context, various technology solutions including Optical Character Recognition (OCR), Intelligent Character Recognition (ICR) and Optical Mark Recognition (OMR) can be used to automate data and document storage to business systems, image repositories and downstream workflow processes. These would be explored as well

All of the above would be examined with a view to solely reduce the WORK BURDEN on the Staff in data entry and use of the technology.

170. Thus, as noted above, the lack of integration of the accounting package with project loan disbursement and repayment and other data, maintenance of multiple sources of data, physical entry of manual loan data (and other data) into the accounting system are all issues that need to be addressed. Likewise, there is duplication of some records and also entry of manual records to Tally or Excel. Further, data is not integrated and hence, has to be entered more than once (in different places). Thus, using the existing databases and systems for measuring and tracking financial and other performance is increasingly getting difficult, especially with increasing scale.

171. In fact, the strongest theme that emerged from the discussions with various key staff in the organization is that they would like to eliminate duplicity of records and data, apart from

ensuring that necessary information is available through an integrated database that can provide accurate, relevant and timely information for decision making and communication.

172. Other aspects that were evident from the discussions were the fact that rather than attempting to provide a very comprehensive system that covers almost all needs and perhaps may not be implementable, it would be better to start with key modules and incrementally, add modules. All in all, the discussions clearly stressed the need for a platform and circumscribed approach to implementation, although the complete scope of the ERP system would be derived.

D. Key Questions Driving MIS Design

173. Accordingly, there are several key questions that will drive design of MIS and these include:

- How to reduce data duplication? How to simplify data handling and upkeep – reduce data input and data manipulations – without sacrificing the quality of information for decision making etc? How to reduce the time spent in generating newer reports or information (sudden queries or Parliamentary questions)? How to ensure appropriate and smooth flow of information from the field?
- How to have an integrated system - from Plan Preparation, Monitoring and Review to Implementation (Project Seeding) to Financing and Implementation along with Finance and Accounts, Possibly Treasury Management and other aspects like Administration, HR etc? In other words, how to replace the existing multiple systems of records/information with an integrated database?
- How to have information on all projects being implemented (by various stakeholders) and not just NCR sponsored projects? How to enable convergence of data with regard to projects of all stakeholders so that prioritisation for newer projects can occur in a meaningful manner?
- How to acquire the data (spatial, statistical and other data) and information required for plan preparation (baseline data), plan monitoring and plan review? How to ensure the continuous availability of such information?
- How to effectively collect data from specialised agencies³¹ like state Electricity Boards and other bodies? Can State Governments prepare special data pertaining to their respective NCR areas? Can their Bureau of Economics and Statistics do this specially for the NCRPB? Are there sources of secondary data that can be used – such as Social Infrastructure Data from RBI, NCAER and others? Can data on other stakeholder projects be got by networking with other financiers of infrastructure projects (Banks, All India FIs, State Level Funds etc)?

E. MIS Interventions for NCRPB

174. Given the above context, in generic terms, it appears that the following basic interventions would be useful, as per the discussions and diagnosis:

- Business process re-engineering (BPR), using best and good practices, to rationalise processes and better integrate/streamline work flow. BPR will also optimize use of data and information across departments, striving to reduce data collection and input. The objective would be efficient and effective operations, to enable NCRPB better achieve its objectives.

³¹ Much of the information is to be collected locally and would have to flow from the field

- A flexible web³² based ERP³³ that integrates and automates (re-engineered) processes and systems. The need for field based data collection from specialized and multiple stakeholders clearly suggest that an intranet/web system would be appropriate. Likewise, an *ERP is suggested because of integrated data/processing requirements, scale and diversity of data and kind of information required.* The integrated ERP system with certain CORE modules and certain add on modules will have to be implemented through a platform approach³⁴. It is also essential that data entry and transaction cost of using the ERP System are minimized through strategies such as:
 - Flexibility into the package through a business rules (define parameters and define values) layer for different products and processes;
 - Flexible product reports to generate information as and when required – especially for parliamentary queries and the like;
 - Automatic entry of default values and exception data entry – for entry of loan, financial and other data; and,
 - Content and document management system including the filing system, file tracker and use of imaging technologies where feasible. In fact, a content and document management system as part of the ERP would be extremely useful for NCRPB.

Box 5.6: What is an ERP and what are the Benefits of ERP Implementation?

An ERP system³⁵ is an extremely well-integrated system of a series of business processes and actions involved in capturing raw data, processing the data into usable information, and disseminating the information to users in the form needed. Hence, an ERP system focuses on the integrated work flow within the organisation and captures data, processes it and provides relevant information for control, analysis and decision-making at the operational and strategic level in a cost efficient and timely manner. A successful ERP implementation reduces the fragmentation of systems and data across an organization. Sharing data across multiple systems is labor intensive and disruptive, often requiring manual re-keying and reformatting of critical data. Incompatible software programs must be debugged and recoded, and uploading information must often be done in batches requiring exclusive use of mission critical operating and communication systems. *The hallmark of an ERP system is the creation of a single database that stores all-important information in a common storehouse accessible by all.* Reports, requisitions, inventory management and other processes are all automated. Real-time financial data, including updated budgets and cost accountings, are at the immediate disposal of decision-makers. For those institutions that desire greater central control, ERP forces accountability and transparency infused through all levels of the organization. For those wishing to decentralize decision-making, people at the periphery are empowered with the information they need to make appropriate decisions.

175. Both of the above interventions were emphasized as critical for NCRPB to achieve its objectives and also facilitating efficient and effective operations, especially at the proposed scale. It was also felt that these interventions would address current gaps in data quality, collection, organization, analysis, retrieval and utilization *for various functions including Planning, PMC, Human Resources, Administration and Accounting/Finance.* The discussions overall seem to suggest generic scoping of ERP as diagrammed the Figure below

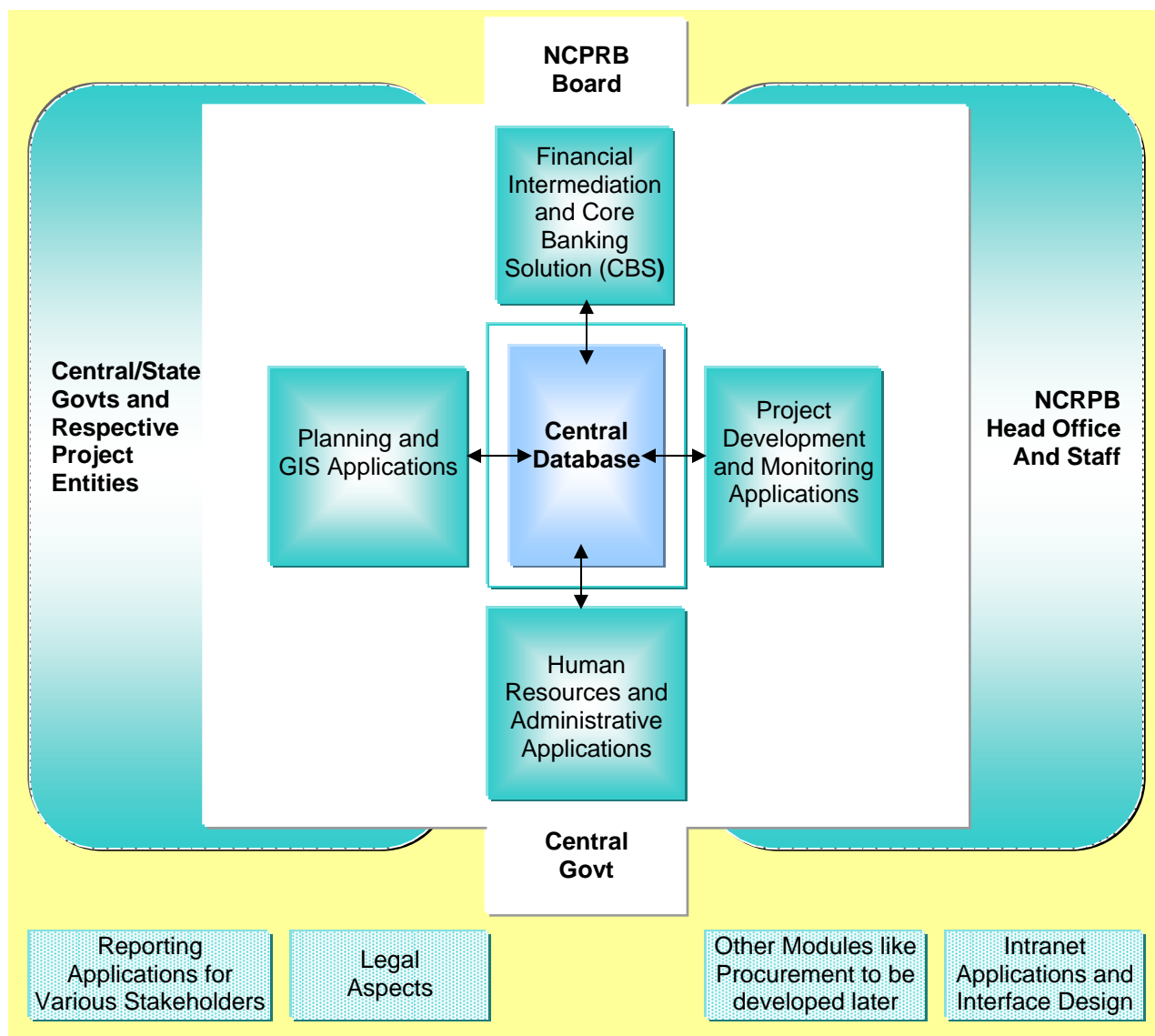
³² An Intranet system is being suggested as appropriate with different levels of users.

³³ *An ERP was mentioned as desirable for enhanced efficiency and effectiveness at NCRPB and is very much in demand.* ADB also saw the need for business process re-engineering along with ERP implementation as a critical step in enabling NCRPB to achieve its planning and other objectives and scale up its operations in an efficient manner

³⁴ While the scope of system would need to be designed completely, it is implementation that is preferred through a platform approach

³⁵ A system is a group of interrelated components working together towards a common goal by accepting inputs and producing outputs in an organized transformation process.

Figure 5.2: NCRPB Enterprise Resource System Broad Scope



176. As noted above, the basic modules for ERP can be classified as follows:

a) **Basic modules where customisation would be less than 50%.** For Finance and Accounts, a CORE Banking Solution, adapted to NCRPB seems appropriate

b) **Modules specially created for NCRPB and having 100% Customisation.** This would include:

- *A complete module for PMC* – From project seeding through implementation to final closure of NCRPB sponsored projects;
- *A projects data collection and analytics module* - For all projects implemented in NCR (NCRPB and other stakeholders sponsored) – *this is very necessary to populate GIS later*

- A *planning data collection and analytics* module - For specialized data being collected currently through formats from several agencies with regard to power, water, sewerage, drainage, solid waste, transport, slum and informal sectors; and,
- A *GIS module for planning* – Based on Recommendation of Urban Planning Expert and NCRPB (Planning and Finance) which would also include strategies for data collection and population of GIS database.

c) Other Customised Modules (Customisation is > 50%) such as:

- A *basic administration and human resources* module;
- A *legal database of ongoing cases supported by case laws, acts etc.*; and,
- A *content/document management* module for NCRPB.

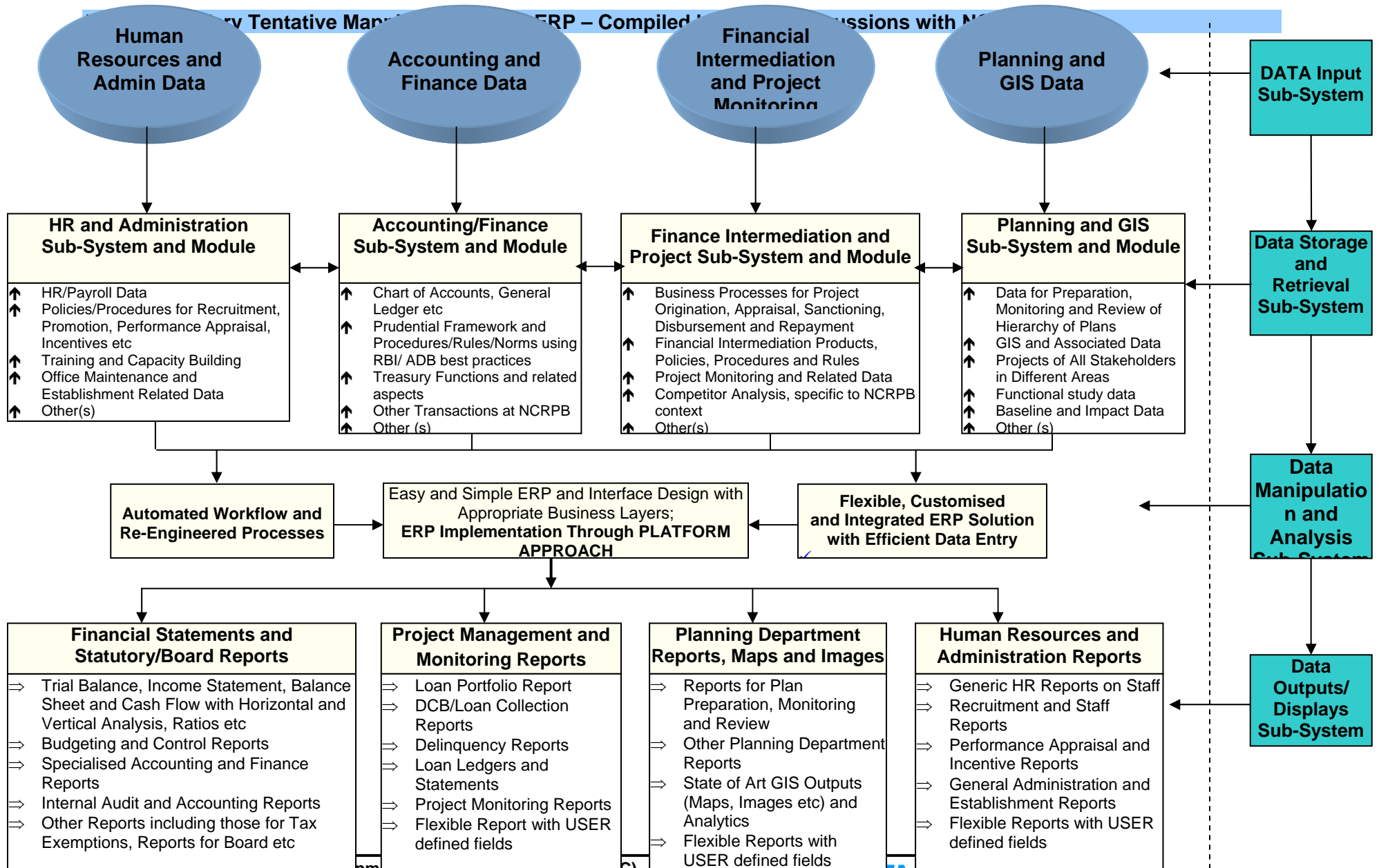
Box 4.7: The Document Management System, A Priority for NCRPB

In the broadest sense, document management systems can range from a shoebox all the way to an Enterprise Content Management system. There are several common issues that are involved in managing documents, whether the system is an informal, ad-hoc, paper-based method for one person or if it is a formal, structured, computer enhanced system for many people across multiple offices. Most methods for managing documents address the following areas:

Document Management System Aspects	
Particulars	Descriptions
Location	Where will documents be stored? Where will people need to go to access documents? Physical journeys to filing cabinets and file rooms are analogous to the onscreen navigation required to use a document management system.
Filing	How will documents be filed? What methods will be used to organize or index the documents to assist in later retrieval? Document management systems will typically use a database to store filing information.
Retrieval	How will documents be found? Typically, retrieval encompasses both browsing through documents and searching for specific information.
Security	How will documents be kept secure? How will unauthorized personnel be prevented from reading, modifying or destroying documents?
Disaster Recovery	How can documents be recovered in case of destruction from fires, floods or natural disasters?
Retention period	How long should documents be kept, i.e. retained? As organizations grow and regulations increase, informal guidelines for keeping various types of documents give way to more formal Records Management practices.
Archiving	How can documents be preserved for future readability?
Distribution	How can documents be available to the people that need them?
Workflow	If documents need to pass from one person to another, what are the rules for how their work should flow?
Creation	How are documents created? This question becomes important when multiple people need to collaborate, and the logistics of version control and authoring arise.
Authentication	Is there a way to vouch for the authenticity of a document?

A more elaborated scope of ERP system is given in the Figure below and this has been derived based on a series of discussions

Figure 5.3: Tentative Mapping of NCRPB ERP – Compiled based on Discussions with NCRPB Staff



177. While the above provide basic and elaborated scoping frameworks for ERP design, it is important to focus on the **four** main subsystems, across each module:

- *Data input subsystem;*
- *Data storage and retrieval subsystem;*
- *Data manipulation and analysis subsystem;* and
- *Data output and display subsystem.*

178. These are explained below in table and the TA will focus on these aspects while preparing the ERP implementation plan and suggest ways to deal with issues in these sub-systems.

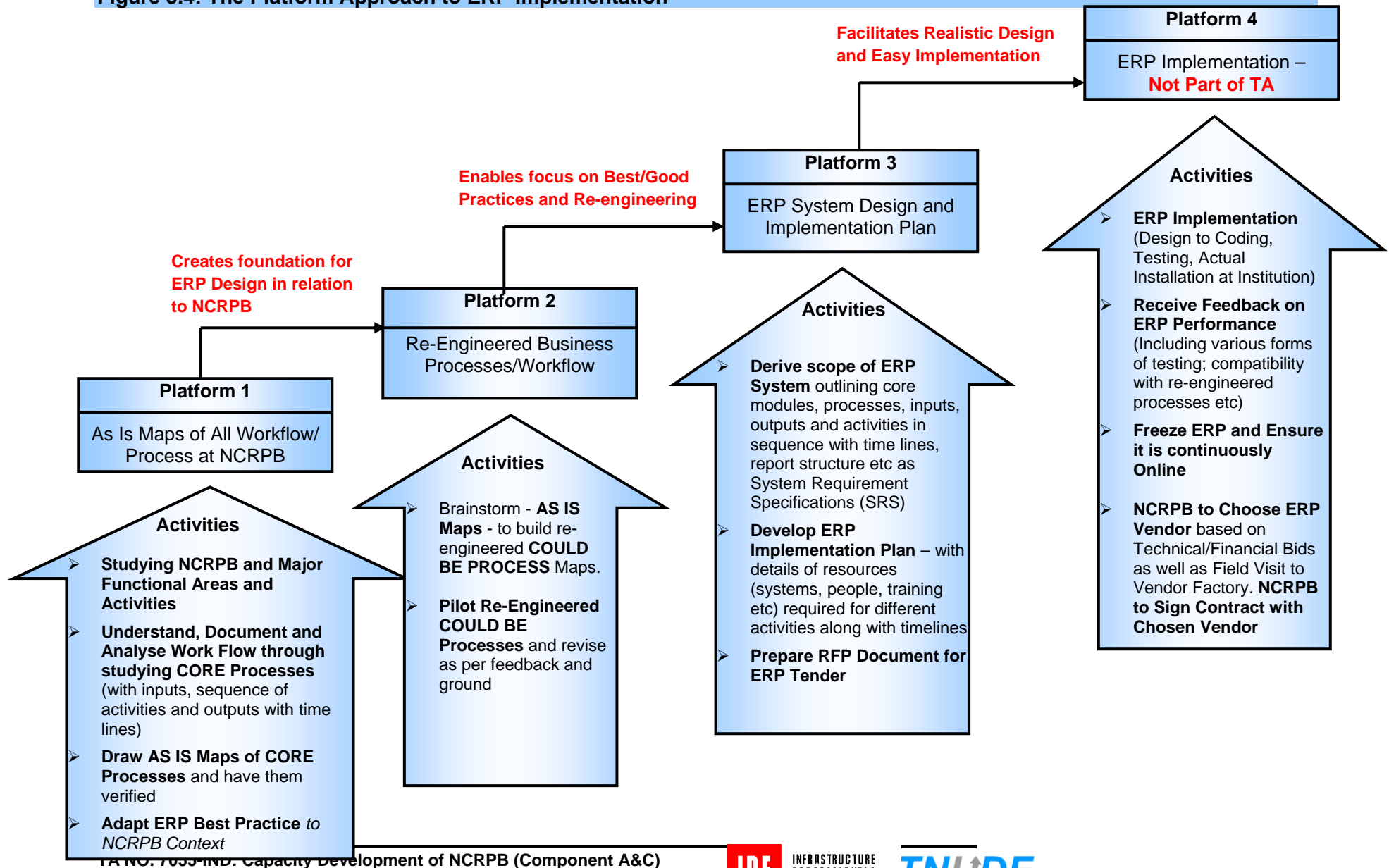
Table 5.7: Major Four Subsystems and Key Issues to be Dealt With in TA

Particulars	Description	Key Issues
Data Input	A data input subsystem allows the user to capture, collect, and transform data. The data inputs are usually derived from a combination of hard/soft copies of data, maps, aerial photographs, remotely sensed images, reports, survey documents, etc.	<ol style="list-style-type: none"> 1. What data? 2. From where 3. Who will collect? 4. Who will update 5. How to ensure quality of data? 6. How to ensure integrity and integration of data?
Data Storage and Retrieval	The data storage and retrieval subsystem organizes the various data (including spatial and attribute), in a form which permits it to be quickly retrieved by the user for analysis, and permits rapid and accurate updates to be made to the database. This component usually involves use of a relational database management system (RDBMS) for maintaining regular and attribute type data. Spatial data is usually encoded and maintained in a proprietary file format.	<ol style="list-style-type: none"> 1. How will data be stored and retrieved? 2. What medium will be used? 3. What platform will be used? 4. How to ensure performance and quality control? 5. How to back up the data?
Data Manipulation and Analysis	The data manipulation and analysis subsystem allows the user to define and execute procedures to generate derived information. This subsystem is commonly thought of as the <i>heart of an ERP</i>	<ol style="list-style-type: none"> 1. What analysis and manipulation has to be done and for whom? 2. What level of analysis? 3. How to ensure performance and quality control?
Data Output	The data output subsystem allows the user to generate reports for decision making, graphic displays, maps, and tabular reports representing derived information products etc	<ol style="list-style-type: none"> 1. What reports are to be generated, at what frequency and for whom? 2. What are the formats of the key reports? 3. Are there statutory requirements to be fulfilled?

Further, a platform approach will be used to build the ERP system incrementally, as outlined hereafter and this has been modeled into the workplan. Lessons from TNUDF and other financial intermediaries indicate the need for a thorough PLATFORM approach, backed by domain knowledge of finance and IT, as very critical for successful implementation. As shown in figure in next page, the terms of this TA would focus on aspects upto Platform 3 and the basic outputs are as follows:

- Current and re-engineered process maps of key processes
- ERP SRS – detailed flows, hardware requirements, basic database design, system specifications, GIS and ERP compatibility document etc
- ERP implementation plan – detailed plan including training, resources required, suggested timelines etc.

Figure 5.4: The Platform Approach to ERP Implementation



F. Approach and Methodology for MIS Interventions

179. The TA to help NCRPB design and implement the formalized ERP will use the detailed methodology outlined below. The proposed technical assistance for the ERP will focus on three main components:

1. **Integrated Work Flow and Business Process Re-Engineering:** Use process mapping to study, analyse, document and map processes, which should carry a map, description of activities, inputs and outputs as well as potential risks and mitigation mechanisms. Build the larger environment for an effective and efficient ERP, including re-engineered processes for business improvement; efficient work flow; good oversight and minimized risk, clearly defined roles and responsibilities and re-engineered institutional arrangements etc.
2. Here, RBI Norms for Infrastructure Financing and the Recommendations of the Parekh and Patil Committees on infrastructure financing would be modelled in designing the MIS as RBI suggests that in the interest of financial stability, infrastructure financing (even if not regulated by RBI) must follow certain prudential norms and rules and have certain minimum systems. Please refer to Annex 1 for more details and see box below

Box 5.8: Recommendations³⁶ for MIS and other Systems for Financial Intermediaries in Urban Infrastructure Finance: What RBI, BASEL and other Best/Good Practices Recommend?

The following areas are critical for institutions engaged in finance of urban infrastructure and regulation encourages institutions to: (1) Establish an appropriate credit risk environment; (2) operate under a sound credit granting process; (3) maintain an appropriate credit administration, measurement and monitoring process; and (4) ensure adequate controls over credit risk.

In addition, information from MIS, of financial intermediaries engaged in urban infrastructure finance, should be:

- *Relevant and timely.* Information should be provided with sufficient frequency and timeliness to give a meaningful picture of the institution's financial position and prospects;
- *Accurate.* Information should reflect reality on the ground and also be reliable;
- *Comparable.* Information needs to be compared across institutions and over time. Hence, standardized procedures must be used to develop the MIS and standard definitions of indicators and standard methods for calculating the same must be rigorously followed. This does not imply loss of flexibility but rather suggests standard use of good and best practices oriented indicators and methods for portfolio quality measurement; and,
- *Comprehensive.* To enable users of information to make meaningful evaluations, information should be comprehensive. This often implies the aggregation, consolidation and assessment of information across a number of activities and legal entities.

Financial intermediaries in urban infrastructure finance should also provide more detailed disclosures with regard to the following areas:

- Accounting policies and practices;
- Risk management including controls;
- Exposures across regions/sectors;
- Asset quality including methods for determining it and indicators; and,
- Earnings in relation to effective interest rates.

³⁶ Discussions were held with TNUDF, RBI, IFMR and other experts like Dr Rajivan and Dr Thorat and these are summarized above

While specific disclosures will vary in scope and content according to level and type of activities, all financial intermediaries should provide sufficient, timely and detailed information so as to allow stakeholders/regulators to develop a full and accurate picture of the true financial condition. Further, the disclosures should be consistent with the information that the financial intermediary generates and uses internally to measure, manage and monitor its portfolio and other risks. As management information systems and management reporting continue to evolve and improve, the timeliness and extent of such disclosures should also correspondingly improve. Finally, any financial intermediary in urban infrastructure finance should also discuss the techniques it uses to monitor and manage past due or impaired assets/credit relationships, including its procedures for credit quality classifications and its practices and procedures for evaluating the adequacy of credit loss provisions and credit loss allowances³⁷.

3. **Information Management:** Ensure the quality (accuracy, correctness, currency, completeness, and relevance) and timeliness of information across NCRPB through proper workflow and appropriate ERP design and implementation plan. The availability of information will also enable that timely and effective decision making
4. **Application Management and Infrastructure:** Build safeguards to prevent vulnerabilities in the day-to-day operations of the ERP – through appropriate interfaces and control/monitoring of user/system access information as well as by ensuring appropriate infrastructure, in the ERP implementation plan.

180. All of the above are summarized below:

Table 5.8: Tentative Work Plan for MIS Component

Steps	Descriptions	Objectives	Remarks
Step 1	Studying NCRPB and major functions in organisation – Planning, Finance and Accounts Administration, Human Resources etc	<ul style="list-style-type: none"> • Become Familiar with working of NCRPB and its CORE Functions and Activities • Understand the information and automation needs of the major functions across the organizational hierarchy. 	<ul style="list-style-type: none"> • This would be done through study of documents, discussions with KEY STAFF, meetings, observation, visits as also utilizing input from the reports of other colleagues and key organizational (NCRPB) staff • This would entail understanding what each of the functions do in terms of major activities and related sub-activities. • The focus would be broad and not attempt detailing at the outset, although this would be necessary subsequently • The key focus would be on understanding functions, activities and tasks across decision makers and isolating their information/automation needs – first focussing on what existing systems can/cannot do and what the future would require for efficient and effective operations?
Step 2	Study and document work flow through	<ul style="list-style-type: none"> • Become Familiar with CORE Processes and Sub- 	<ul style="list-style-type: none"> • This would be done through study of documents, discussions, meetings,

³⁷ Some accountants consider the use of the terms “provision” and “reserve” inappropriate when referring to accumulated value adjustments of loan assets and prefer other descriptions, e.g., “allowance”. For instance, the International Accounting Standards Committee defines a provision as a type of liability, while a reserve is defined as a component of equity (*IASC Framework for the Preparation and Presentation of Financial Statements*).

Steps	Descriptions	Objectives	Remarks
	<p>CORE Processes with inputs (people, documents and resources), sequence of activities, outputs and timelines - All inputs and outputs would have to be traceable</p>	<p>Processes including inputs, activities in sequence and outputs and with specific timelines</p> <ul style="list-style-type: none"> • List interrelationships and interdependencies between processes/sub-processes • Identify potential bottleneck issues in processes/sub-processes and possible areas for process improvement 	<p>observation, visits as also utilizing input from the reports of other colleagues and periodically repeating the same to get clarifications</p> <ul style="list-style-type: none"> • Discussion with other team members and getting their input on various aspects concerning their processes/activities is very critical • This would entail understanding what each of the functions do in terms of major activities and related sub-activities. • The key focus would be on studying and documenting flow of CORE Processes with inputs, sequence of activities and outputs with timelines – all inputs and documents would have to be traceable • Scope and possibility of any process re-engineering - because of possible changes in practices being suggested (from other team members and otherwise) as also intended vision of enhanced scale of operations, new business plan etc – would also be highlighted and understood
<p>Step 3a</p>	<p>Prepare and Draw AS IS Maps of CORE Processes/Sub-Processes and have them verified for authenticity and accuracy</p>	<ul style="list-style-type: none"> • Prepare Standard Process MAPs of CORE/Key Sub-Processes with a process map, description of activities in sequence with timelines, inputs and outputs, key bottleneck issues and potential process improvement solutions • Identification of potential bottleneck issues in processes/sub-processes and possible areas for process improvement is very critical • Verification of processes and sub-processes and changes to the same based on feedback 	<ul style="list-style-type: none"> • Using the material and discussions above, will use appropriate software to draw the AS IS process maps with inputs, activities and outputs with timelines as they are as now • The focus would be on mapping process flows as they exist – among other things, it would entail description of activities in sequence and with timelines and specifying what documents and resources are inputs in each and how they get transformed to outputs • The key would be to ensure that all steps for all activities are accurately described with timelines and also all inputs and outputs are traceable • The process maps would use a tiered hierarchy to describe the following below the process maps <ol style="list-style-type: none"> 1. Description of Activities in Steps and with Time Frames 2. Identification of Key Issues and Bottlenecks 3. Suggestion of Possible Solutions and Mitigation Mechanisms • Shared with key staff and team members

Steps	Descriptions	Objectives	Remarks
			<p>and determine whether or not the processes captured are accurate or not; get feedback and re-draw and/or change them as required</p> <ul style="list-style-type: none"> This will have significant interaction with other colleagues who are all working across other functions in the organization and they would also help in verification of process and identification of bottlenecks and possible mitigation mechanisms
Step 3b	Prepare Generic Guidelines based on Good Practices for Design and Implementation of an ERP for an organization like NCRPB	<ul style="list-style-type: none"> Prepare a list of key good practices features and attributes of ERP systems – which are recommended by RBI, SEBI and others like BASEL, ADB – for financial intermediation and organizations like NCRPB Discuss with key staff, team members and others on appropriateness and utility of these to their context Finalise minimum standards for the ERP system design and implementation, through a consultative process, keeping in mind global and national standards and benchmarks for the same 	<ul style="list-style-type: none"> This would be done through study of documents, discussions, meetings, observation, visits as also utilizing input from the reports of other colleagues and key organizational (NCRPB) staff <i>RBI Norms for Infrastructure Financing and the Recommendations of the Parekh and Patil Committees on infrastructure financing need to be addressed in the ERP and re-engineered processes as in the interest of financial stability, RBI suggests that infrastructure financing must follow certain basic functions and norms</i> The focus would be on structure of ERP system in terms of rules and norms for financial intermediation as also process of codifying the same Specific attention would be given to accounting issues and prudential norms that have been suggested by RBI for infrastructure financing
Step 4a	Brainstorm - AS IS Process Maps and overcome inherent weaknesses while building on the strengths - To build re-engineered COULD BE Process Maps in relation to the business plan	<ul style="list-style-type: none"> Prepare Re-Engineered COULD BE Process MAPs of CORE/Key Sub-Processes with a suggested process map, description of activities in sequence with timelines, inputs and outputs Thorough Analysis of potential bottleneck issues in processes/sub-processes and possible areas for process improvement is very critical Understanding of whether NCRPB would be comfortable in implementing recommended processes (in 	<ul style="list-style-type: none"> Using the material and discussions above, will use appropriate software to draw the Re-engineered COULD BE process maps with inputs, activities and outputs with timelines as per suggestions and recommendations The focus would be on mapping process flows with incorporation of process improvements, risk mitigation etc – among other things, it would entail focus on reducing hand-offs and other inefficiencies as also incorporating risk mitigation mechanisms in the existing AS IS processes This will have significant interaction with other colleagues in the team and key NCRPB staff and they would also help in

Steps	Descriptions	Objectives	Remarks
		terms of Practicability, Realism etc) would require feedback and changes	suggesting process improvements and identification of bottlenecks and possible mitigation mechanisms – all of which would be modeled into the existing AS IS Process MAPs to give the Re-engineered COULD BE Process Maps
Step 4b	Pilot Re-Engineered COULD BE Processes and revise as per feedback and ground reality	<ul style="list-style-type: none"> • Piloting of Re-Engineered COULD BE Processes • Analysis of Piloted Processes • Incorporation of Feedback into COULD BE MAPS 	<ul style="list-style-type: none"> • Piloting would be done in an organized manner • The existing processes will continue and • Processes are reviewed and frozen at that point in time with scope for some flexibility – mainly for ERP Implementation
Step 5	Derive scope of ERP System from Steps Above, outlining core processes, inputs, outputs and activities in sequence, report structure etc	<ul style="list-style-type: none"> • Outline these as System Requirement Specifications for ERP 	<ul style="list-style-type: none"> • With all modules, process flows, inputs and outputs and also specified interface design so that ERP is easily usable and efficient, especially using imaging technology for data capture and entry where possible and feasible
Step 6	Prepare an ERP Implementation Plan - With details of resources (systems, people, training etc) required for different activities along with timelines	<ul style="list-style-type: none"> • Develop an ERP Implementation plan with various activities, sequence, timelines and resources • Identify resources required in application development management in right quantity at right places and at right time • Also prepare sub-plans for ERP related training and capacity building of staff, among other things 	<p>The ERP Implementation plan would clearly spell out the various activities in terms of:</p> <ul style="list-style-type: none"> • Resources (staff, people, finance and other inputs) required with associated timelines; • Training and capacity building support; • Key deliverables and timelines; etc
Step 7	Prepare RFP Document for ERP Tender	<ul style="list-style-type: none"> • To have a concise and clear RFP document • To define RFP requirement in practical terms. 	<ul style="list-style-type: none"> • Using above SRS and scope of ERP system, a comprehensive, transparent and effective RFP document is prepared for use by NCRPB and RFP is issued by NCRPB

G. Results/Outcomes

181. Post implementation, MIS at NCRPB will have:

- **Integrated and Efficient Workflow:** Workflow is organized according to plans and it is well integrated across the organization including functions, units and NCR Planning Cells. Staff participate actively in workflow planning, according to their expertise;
- **Re-Engineered Business Processes:** Well designed and efficient processes in place, especially from an ERP perspective and precisely documented systems and policies, much of it re-engineered and improving upon past processes, are also in use. Business Process Re-engineering would have afforded efficiency gains, mitigated risks and also solved specific bottlenecks and problems identified in the AS IS Maps;
- **Updated and Used Administrative Manuals:** There are written-down administrative procedures in form of manuals and they provide a complete listing of processes that are used within NCRPB. The handbook of procedures and with process maps and related documentation are also available in the local language (i.e., Hindi). Administrative procedures are adhered to by the staff and manuals are used always. Procedures and operating manuals are updated regularly as per the needs and continuous organizational learning; and,
- **Well Functioning ERP:** Formalized (best practices) and integrated ERP with clear chart of accounts, product (loan) tracking and appropriate internal controls, using double entry/accrual accounting and provisioning and other prudential norms exists. The ERP enables collection, analysis, and reporting of data and information in an efficient and effective manner. All staff can access information pertaining to their job and can therefore make appropriate decisions. Trained personnel are in place to manage ERP and using this ERP, NCRPB disseminates information on its operations, to all stakeholders regularly. The ERP reporting formats are comprehensive, flexible and respond to various stakeholder information requirements. They are not just oriented to the requirements of one specific stakeholder. The ERP ensures smooth flow of information across levels of organization, geographic areas of operation and various stakeholders.

Annexes

Annex I: Maintenance of Loan Register – Activities, Inputs, Processes and Outputs

Activity	Input				Processes	Output
Activity1: Issue of Loan Sanction Letter	Description	Source	Periodicity	Remarks	<ul style="list-style-type: none"> On receipt of PSMG Minutes and copies of Loan Application from the Borrower, Finance and Accounts Wing prepares detailed terms and conditions for the sanction and submits the draft sanction letter with terms and conditions for approval of the competent authority. On receipt of approval from the competent authority, loan sanction is issued to the Borrower 	<ul style="list-style-type: none"> Loan Sanction Letter with terms and conditions of the sanction Appendices-Project Phasing, Estimated Expenditure, Loan Schedule, Repayment Schedules. Other Standard Appendices regarding Security, Escrow Agreement etc.
	Loan Application	Borrowers	After approval of the Project by the PSMG	As received from the Borrowing Agencies		
	Minutes of PSMG	PMC	Not fixed. Half yearly generally	Minutes duly approved after the Meeting of PSMG.		
Activity-2: Signing of Loan Agreement & other Loan Documents	Description	Source	Periodicity	Remarks	<ul style="list-style-type: none"> The acceptance letter and security furnished by the Borrower is scrutinized to see if it is proper and acceptable. The Agreement papers and other documents are finalized and signed by the competent authority. The loan installment release request is made to DDO for issue of Cheque. The cheque handed over or amount electronically credited to loanee's account. 	<ul style="list-style-type: none"> Loan agreement with Appendices duly Signed Security Documents Loan release request Cheque/DD/Electronic Advice.
	Acceptance letter from the Borrower	Borrower	As required	As received from the Borrowing Agencies		
	Security	Borrower	--do--			
	Draft Loan Agreement	--do--	--do--			
	Appendices	--do--	--do--			
Activity-3: Creation of Loan Account/Folio	Description	Source	Periodicity	Remarks	<ul style="list-style-type: none"> On receipt of above inputs, a loan folio is opened and posted with following details; Loan Amount paid, DD/Cheque No/Electronic Advice No, Period of Loan/ Moratorium period, Rate of Interest / Annual Repayment installment (principal), 	<ul style="list-style-type: none"> Loan Register/Folio for the supported projects
	Loan Release letter with cheque No. etc	Internal	As required	As received from the Borrowing Agencies		
	Terms & Conditions	--do--	--do--			
Activity-4: Generation of Annual Repayment of Principal and interest Payment Schedule	<ul style="list-style-type: none"> Loan Register/Folio 				<ul style="list-style-type: none"> Generate Annual Principal Repayment schedule taking into account moratorium period. Generate Interest Payment schedule 	<ul style="list-style-type: none"> Letter to the Implementing Agency/Borrower along with with Schedules indicating amounts due and due date of payment.
Activity-5: Posting of details of receipt of loan repayments and interest in the Loan Register	<ul style="list-style-type: none"> Loan Register/Folio 				<ul style="list-style-type: none"> Post Loan Repayments as and when they come Post Interest Payment schedule 	<ul style="list-style-type: none"> Posted Loan Accounts in Loan Register Folios

Activity	Input	Processes	Output
Activity-6: Calculation of Penal Interest, if any	<ul style="list-style-type: none">Loan Register/Folio	<ul style="list-style-type: none">Calculate and Post Penal Interests as and when applicable	<ul style="list-style-type: none">Posted Penal Interest for Loan Accounts in Loan Register Folios