

Jawaharlal Nehru
National Urban Renewal Mission
Government of India

DETAILED PROJECT REPORT:
Preparation Toolkit
(SUB-MISSION FOR URBAN INFRASTRUCTURE AND
GOVERNANCE)



Ministry Of Urban Development
GOVERNMENT OF INDIA

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Introduction

The Detailed Project Report (DPR) is an essential building block for the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) in creating infrastructure and enabling sustainable quality service delivery. The DPR is to be prepared carefully and with sufficient details to ensure appraisal, approval, and subsequent project implementation in a timely and efficient manner.

This document provides a reference format for preparing DPRs/Project Reports across sectors. The major sections covered are as follows:

1. Sector background context & broad project rationale
2. Project definition, concept and scope
3. Project cost
4. Project institution framework
5. Project financial structuring
6. Project phasing
7. Project O&M framework and planning
8. Project financial viability/sustainability
9. Project benefits assessments

The key issues needing to be addressed and other relevant details are outlined separately for each section

General notes for use of this toolkit

- i. This document provides a general reference framework for DPR preparation; additional relevant details are to be incorporated as per the requirements of the ULB city planners/ entity preparing the project report.
- ii. The headings (the numbered section headings and sub-headings) for the DPR are to be as per this document. Any additional headings may be incorporated as per requirement.
- iii. The Detailed Project Report is to be accompanied by a separate Executive Summary
- iv. Within 30 days of clearance by the CSMC, the ULB/parastatal may arrange to digitize (create a soft copy of) the entire project report including drawings and forward the same to the Ministry of Urban Development (MoUD)
- v. Further feedback and suggestions for improving the “DPR Preparation Toolkit” are welcome and may be suggested to the MoUD

1. Sector Background Context & Broad Project Rationale

Key issue for the section:

Have the relevant aspects of the sector (eg. Water supply sector, transportation sector etc) been adequately profiled and the context of the proposed project adequately explained?

The DPR needs to provide information covering the following areas:

- 1.1 Existing status of the physical infrastructure (brief description)
- 1.2 Base line information in terms of user coverage & access (by different user categories/segments including urban poor)
- 1.3 List of various projects proposed for the sector in the City Development Plan (CDP) and confirmation /explanation of how this project is aligned with stated CDP priorities
- 1.4 List of other capital expenditure projects supported by other schemes for the sector (sanctioned projects that have yet to commence as well as ongoing projects)
- 1.5 Existing tariff and cost recovery methods and extent of cost recovery
 - Past five year trends
 - Existing per unit cost; existing per unit service delivery price (in absolute terms and also on per capita basis)
(The basis, assumptions and method of calculations in regard to the above are also to be provided)
- 1.6 Existing areas of private sector/community participation in the sector for design, construction, project management, and/or O&M services (including billing & collection)
- 1.7 Any other qualitative information (eg list of key issues that are of importance to this sector and project; importance of the project to the sector, extent to which the project would address key issues/problems of the sector etc.)

2. Project Definition, Concept and Scope

Key issue:

Has the project concept been defined in a complete manner and its components/modules clearly delineated?

The proposed project needs to be clearly demarcated in terms of all its constituent sub-components.¹ (Several project DPRs specify only the “to-be-constructed” infrastructure component which does not represent the complete project) The project concept comprises several sub-components /elements including:

2.1 Land²

- Total quantum of land required and being provided for the project
- Confirmation that the required land is owned /already purchased by the ULB/parastatal; land title is to be clear and unencumbered.

2.2 Physical infrastructure components

(Please refer Annexure-1 for sector specific reference components)

The physical infrastructure of each project/DPR can be considered in terms of specific components. (component 1, component 2, component 3, ...etc) These would be unique for each project and would also vary across sectors. For reference purposes, a wide range of sector specific project components have been provided in Annexure.1. The design, detailed engineering and drawings as applicable for the components are to be included in this section These project components can also serve as a reference for “packaging of contracts” either individually, in parts, or through combinations.

2.3 Environmental compliance/protection measures/improvement measures

- Environment impact assessment
- Environment management plan

2.4 Rehabilitation and Resettlement³

2.5 Specialised procured services for design, independent supervision, and quality assurance

2.6 Other information

- Details of surveys and investigations required to be carried out (site, customer, etc)
- Assessment of requirements related to utilities shifting
- List of clearances and agencies from which these are to be obtained

¹ Such demarcation additionally serves to facilitate planning of (a) phasing and (b) costing

² Land cost is not funded by JNNURM ACA Grants (except for North-Eastern states & designated hilly states: Uttaranchal, J&K, HP)

³ Rehabilitation and resettlement are not funded by JNNURM Additional Central Assistance (ACA) grants; ULB/state governments have to make their own arrangements.

- Disaster related risk assessment and broad countermeasures (including earthquake/other natural disaster resistant design of structures)

3. Project Cost

Key issue

Have all the relevant project costs been accounted for *in addition to costs of physical infrastructure construction works?*

The project (construction) cost should cover distinct elements, including but not limited to the specific components listed below:

- 3.1 Land acquisition/site development (Land acquisition is not covered by JNNURM ACA Grant-- except for North-Eastern and designated hilly states. In all other cases, land acquisition is to be completed prior to application for JNNURM support).
- 3.2 Physical infrastructure component-wise cost (should correspond to section 2.2)
- 3.3 Environmental compliance cost
- 3.4 Rehabilitation & resettlement cost (to be borne by ULB/ parastatal/ state government)
- 3.5 Cost of surveys & investigations
- 3.6 Cost of shifting utilities
- 3.7 Cost of consultancy services: (a) Design (b) Supervision (c) Quality Assurance
- 3.8 Other statutory compliance costs if applicable
- 3.9 Finance/interest cost during construction
- 3.10 Contingency
- 3.11 Any other

For all cost elements, assumptions (rates, methods of calculations etc) are to be clearly given either in the main text or as an attached appendix of the DPR.

Note:

(1) All cost heads are to be provided for in the DPR; if an element is not applicable, "0" may be put against it when entering actual figures. O&M costs are covered in a separate section; this section covers only capital cost.

(2) if survey cost are included in design cost (ie 3.7), this may be clearly specified to avoid double counting

(3) The project, for implementation purposes, can be broken into contract packages for tendering. This perspective of cost is being covered separately in the section on Project Institutional framework

4. Project Institution Framework (for construction)

Key issue

Have the institutional arrangements for project construction implementation been clearly specified?

The DPR needs to clearly specify the institutional arrangement details, including the information requested below:

4.1 Roles of different institutions involved in the construction phase of the project

- (i) A Roles/responsibility matrix could be a convenient option to present this information.
- (ii) The relationship between ULB on the one hand and parastatal or state government agencies on the other are to be made explicit. Innovative approaches to provide for improved coordination and/or working arrangements can be highlighted.

4.2 Manner of undertaking construction works

...ie whether construction works are envisaged to be undertaken:

- (i) in-house through one of the Govt. agencies/parastatals' own staff OR
- (ii) by being tendered out under the supervision/management of the ULB/
parastatal OR
- (iii) through a separately established legal entity/project implementation company such as an SPV (Special Purpose Vehicle)

4.3 Involvement of the construction entity in the subsequent O&M activities

....ie whether the contracted entity undertaking construction works are also to be retained and involved in (any aspect of the subsequent) O&M phase

4.4 Areas of involvement of the private sector in the construction phase⁴ (tick mark as appropriate):

i	<i>Project Feasibility Study</i>	
ii	<i>Project Engineering Design</i>	
iii	<i>Specialized Surveys</i>	
iv	<i>Construction Works</i>	
v	<i>Supervision Consultants</i>	
vi	<i>Quality Assurance Consultants</i>	
vii	<i>Any Other Please Specify (Eg: Equipment Lease)</i>	

Additional information regarding the above can be provided. (in brief) if required.

⁴ In case any of these activities are provided by govt. agencies (including autonomous agencies) specify their names and include the results as a part of section 4.1.

4.5 Construction “Packages” for works construction

Brief description of strategy for the overall works programme including information on indicative packages for tendering as per the following format:

Project implementation planning: Package-wise contracting relationships		
List: tender packages		Cost
Package No,	Package Description	Estimate
1		
2		
3		
4		
...n		
		Total:

Within 30 days of DPR approval by CSMC, a more detailed format is required to be submitted covering break down by tender packages, contract type, and corresponding estimates for cost, tendering time frame, and package-wise completion schedules (Please refer Annexure-2 for the project implementation planning format)

If possible, the complete information as per Annexure-2. may be presented in the DPR itself prior CSMC approval; this approach would expedite time towards project implementation.

5. Project Financial Structuring

Key issue

Have the sources of financial contribution of the ULB and state's share been clearly identified?
To what extent is there a comfort level that these sources have been tied up and would be available for the project?

The project financial structuring examines the sources and composition of funding for the project. For this section, the DPR needs to provide:

5.1 Overall Financial Structuring of the project

In this regard, the DPR should include information as per the table given below:

(1) sn	(2) Govt	(3) Project contribution source	(4) Amount (Rs. Lakhs)	(5) % share by specific source	(6) % share by govt. entity	(7) Remarks on when and how state and ULB shares would be arranged
1	Central	ACA Grant				Not applicable
2	State	Grant towards its share in project				
3		Loan taken by state govt towards its share in project				
4	ULB/ Parastatal	Devolved funds				
5		Own surplus resource				
6		Debt/Term Loan taken from State govt.				
7		Debt/Term Loan taken from bank/FI				
8		Debt: from accessing capital market				
9		Private equity /community resource funding; others				
			Total amount	100%	100%	

Note:

(1) in case of SPV /separate project legal entity, equity share of each contributing entity including govt entities need to be specified

(3) Term loans and other private funding commitments: are required to be supported by sanction letter/agreement/in- principle letter of support containing the terms (for example: loan/debt should include details such as moratorium grace, interest rate, payment schedule of principal and interest etc).

(4) Column no. 6 refers to percentage distribution as per JNNURM guidelines as applicable for the city

(5) State Government's contribution commitment: are required to be supported by approval for sanction in the annual plan/state cabinet approval/ in principle letter of support from the state finance ministry

(6) **Within 30 days of CSMC approval**, a quarterly forecast of when state and ULB contributions will be received in the project bank account is to be specified and forwarded to MoUD in the format as provided in **Annexure-3**.

Project financial structuring can involve a combination of equity, grant, debt and finance from private participation (and in some cases, contribution from user communities)

5.2 Review of options for

- **Institutional debt** and/or
- **Private sector participation.**

The ULB, should ideally review the scope and options for possible debt and/or private sector financing while preparing the DPR. To provide a perspective in this regard, a brief overview of debt and private sector finance is given below:

The Debt Component

Supporting the capital cost of the project entirely by Grant and ULB internal sources (surplus) might not necessarily reflect the best manner of financing urban infrastructure projects. A debt component would-

- (a) provide gearing and hence support a larger number/scale of infrastructure projects by the ULB and
- (b) provide (an additional) project appraisal by the funding agency and hence contributes to risk reduction and improved project structuring
- (c) contribute to project management discipline for the ULB, specially in the context of O&M management, user charge levy etc.

The Debt Component⁵ can be from:

- (a) general bank finance: however banks are unlikely to accord long tenure finance (these could typically be around eight years at a stretch)
- (b) specially issued municipal bonds
- (c) term loan from financial intermediary such as HUDCO, LIC, IL&FS, IDFC, SBI Caps ICICI bank; state level financial institutions (including those specific to development of urban infrastructure) etc

The ideal debt component is dependent upon a number of factors including the nature and sector of the project, project cash-flows as well as the financial condition of the municipality and financial management practices of the municipality. *However, several projects might be able to support at least a small debt component (such as 5-10% of the total project cost) and take advantage of the stated benefits.*

Private Participation in financing construction of infrastructure project

Private sector can be involved in financing (as well as managing the) construction of the infrastructure project and it can contribute towards the ULB or state share of finance This could be through -

- (a) a *separate legal entity* created specifically for this purpose (SPV)
- (b) a direct *BOT/BOOT arrangement* and its variant models with or without an SPV arrangement.

⁵ institutional debt—ie loans other than from the central or state government

- (c) a simple *management contract or lease based contract*

All variants involve payment to the private entity to enable them cost recovery of construction (and also for O&M). This could be in the form of:

- (a) Private party being allowed direct recovery of user charges for a specified long term duration (say, for illustrative purposes only, 15-25 years)
- (b) Private party being paid a fixed annuity (or on a fixed rate per unit quantity for service delivery undertaken) for its services over the specified term duration. The ULB can directly recover user charges or retain the option of contracting out billing and collection to a different private entity.

Linking construction with a long term O&M performance contract could provide the advantage of operational cost efficiency as well as accountability (including quality) for creating the original infrastructure asset.

All the models of private entity involvement envisages ULB/parastatal monitoring/supervision of outcomes. Hence the ULB/parastatal continues to be actively involved in these activities though its role is modified.

Private sector financing and /or debt financing helps the ULB to leverage the grant support funds provided by JNNURM. **The true spirit of JNNURM (in the project perspective) is to use funds to catalyse additional funds and ensure their efficient management. The ULB will need to examine various options for project structuring in this regard on a case to case basis .**Project proposals are hence no longer a simplistic case of detailing technical parameters supplemented by cost estimations based on an administratively defined schedule of rates.

In summary, for the section concerning project financial structuring, the DPR needs to provide:

5.1 Information as per the given tabular format

5.2 Confirmation that project planners have examined the scope and options for institutional debt (financing at the very least a small component of the total project cost) and/or private sector participation. Brief analysis and conclusions in this regard may be presented.

6. Project Phasing

Key issue

Has the project been adequately planned in terms of scheduling and phasing (including pre-construction commencement activities) and covering all relevant modules and components? Have all these activities been adequately thought through?

Planned schedules (as a part of the DPR) need to be prepared for the following types of activities (other activity heads can be included as per requirement of the city planners/project preparation team)

6.1 Schedule for tendering/selection for procurement of services:

(i) Construction contractors

Can be given in indicative terms in the DPR. This has to be firmed up and given in more specific detail within 30 days of CSMC approval--as per the package-wise contract implementation template⁶ (Refer Annexure 2)

(ii) Consultants / firms for supervision and quality assurance

(iii) Consultants/firms for any other specialized activities that has to be carried out to fine-tune DPR/ undertake CSMC directed inclusions based on in-principle project approvals (eg: additional surveys, design activities etc. as applicable)

6.2 Schedule for bringing in State level and ULB level contributions to the project

Can be given in indicative terms in the DPR. This has to be firmed up and given in more specific detail within 30 days of CSMC approval as per template provided in **Annexure 3**

6.3. Schedule for obtaining all clearances (along with list of major clearances)

6.4. Schedule for shifting utilities

6.5 Project infrastructure component-wise implementation

For each of the component given in section 2.2 (Component1, Component2, Component 3.....Component n)

The implementation schedules/work plan can be presented in a simple bar chart⁷ on a quarterly basis, as shown below:

Bar Chart for Key Activities

S. No	Item	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10* ...
1											
2											

*Additional Quarters to be introduced as per requirement

⁶ Already referred to in section 4.5

⁷ Also referred to GANTT chart

Note:

(1) In case the project is to be commissioned (in parts) even before the complete project is constructed, then this can be made explicit in the phasing plan along with clarifying explanations.

(2) Contractor phasing as per Annexure-2: As already stated, this is to be provided within 30 days of CSMC approval of DPR. If possible, the complete information as per Annexure-3 may be presented in the DPR itself prior CSMC approval; this approach would expedite time towards project implementation.

(3) State and ULB fund contribution (reference Annexure- 3): same as the above ; The "in-principle" and other such documentary support provided at DPR stage would have to be converted into **confirmed arrangements** within 30 days.

6.6 For projects having a capital cost value of Rs. 25 crores plus, presentation of a PERT and CPM diagrams are required in addition to the Gantt charts.

The PERT chart provides a further detailed break down of activity tasks and milestones and the inter-relationship between tasks⁸. The PERT and CPM would be useful for the ULBs/parastatal both for project planning and subsequently for project management.

⁸ These interlinkages could be defined in several ways such as:
SS: Start to Start; SF: Start to Finish; FS: Finish to Start; & FF: Finish to Finish

7. Project O&M planning

Key issue

Has the Project Report assessed the requirements and planned for long term O&M sustainability?

Long term project sustainability requires that long term O& M is planned in terms of

- (a) Institution framework including billing & collection (organization & operations) strategy and
- (b) Tariff and user-cost recovery (financial) strategy

7.1 Institution framework (organization & operations) strategy

The DPR is to incorporate/include information relating to the following five areas:

- (i) The institution to be engaged in the O&M of the created infrastructure asset/enhanced infrastructure assets⁹.
- (ii) Brief outline of the existing method of billing & collection (including user/customer-segment wise differentiated strategy, if any)
- (iii) Select performance metrics in regard to billing & collections (for the most recent completed financial year, and if possible, for the current quarter of the ongoing financial year)
 - the billing/billable ratio (in terms of physical and financial units separately)
 - cost of billing & collection (in absolute terms; as percent of total cost; and details of the cost break up)
 - any other, if possible

(The basis, assumptions and method of calculations in regard to the above are also to be provided)
- (iv) Brief description/analysis of the key issues and obstacles in regard to O&M (including billing/collection issues) and proposed countermeasures to overcome them for the sector in general and for the project in particular
- (v) The scope for private entity/community /NGO to be involved in defined aspects of O&M for any specific/all components of the infrastructure asset.
 - Private entity/ community entity/NGO can participate through a variety of models for performance based O&M (even without participating in the infrastructure construction; in this context, contract periods can be of shorter duration¹⁰ since capital cost has not been borne by the private entities and to prevent service delivery complacency on the part of the contracted entities)

⁹ In case project is of augmenting/partial revamping nature.

¹⁰ Smaller period than the case when the private entity also finances capital asset construction

- The ULB can aim to promote competitiveness among an empanelled group of such entities and distribute geographical regions (eg identified ward areas) among a limited number of selected private/community based/NGO entities. This would enable comparisons of performance¹¹.

(vi) The DPR should explicitly define the requirements of manpower, energy, spares and consumables etc. for O&M on an annual basis giving details of existing usage, norms and proposed additional requirements..¹²

7.2 Tariff and user cost recovery

In regard to tariff and user cost recovery, the DPR is to provide:

- (i) The tariff (revenue) model for each customer/user group for the sector (including underlying assumptions) and forecast growth of customer/ user groups over the next 20 years.
- (ii) Unit cost of service and unit price (existing year and forecast for next 20 years)
- (iii) Outline plan to restructure tariff system to any or all categories of user groups to comply with MoA requirement (institution of full cost recovery user charges)
In this regard, cross-subsidization requirements/ strategy if applicable are to be explicitly specified and addressed.
(The basis, assumptions and method of calculations in regard to the above are also to be provided)

¹¹ Citizens'/user segment feedback could be an important source of feedback for O&M activity specially service delivery.

¹² Codes, guidelines of respective nodal technical appraising agencies shall be referred for the respective sectors

8. Project Financial Viability & Sustainability

Key issue

Has the financial viability assessment taken into consideration both capital cost & O&M sustainability?
Has it additionally taken into consideration the ULB financial situation?

The project viability assessment will be based on a combination of multiple perspectives as given below:

8.1 Overall project perspectives:

The DPR is to provide financial analysis for (Net Present Value) NPV and (Internal Rate of Return) IRR defined in the following two ways:

- (i) *NPV & IRR (overall)*: examines overall project viability, including finance cost and asset replacement cost
- (ii) *NPV & IRR (O&M)*: examines only O&M viability

The complete supporting project cash flow projections along with underlying assumptions have to be presented. (A reference project cash flow template is provided in **Annexure-4**).

The Project financial assessment should explicitly state the cost of capital considered and calculation method to arrive at the same

8.2 ULB level perspectives and financial situation assessment

The DPR is to provide the following information:

- (i) ULB cash flow:

This includes a complete cash flow covering the last 5 years on an actual basis and projections for the next 20 years. The underlying assumptions for the projections also need to be mentioned (a reference format for ULB Cashflow is given in **Annexure 5**)¹³.

An assessment of the annual impact of the project on the ULB's finances (i.e. revenue receipts, revenue expenditure, capital receipts and capital expenditure) for the Mission Period is to be provided showing the impact being high/medium/low (more than 20 %; between 20% and 5%; less than 5% respectively). The base year to be considered for this exercise is the last completed financial year. A format for providing the impact is given below:

¹³ The ULB cash flow format has also been separately circulated to all cities as a part of updating/ standardizing their Financial Operating Plans (FoP). The FoP can be taken as the reference document and duly updated, if required

Sl. No.	Head	Impact Low/ Medium/ High (more than 20 %; between 20% and 5%; less than 5% respectively)						
		2005-06	2006-07	2007-08	2008-09	2009-20	2010-11	2011-12
1	2	3	4	5	6	7	8	9
1	Revenue Receipt							
2	Revenue Expenditure							
3	Capital Receipt							
4	Capital Expenditure							

Base Year: _____ (last completed financial year)

(ii) Debt situation assessment

This includes

- Debt schedules and terms for all debt taken (to be provided in Appendices to the DPR. **(Refer Annexure 6** of this document)
- Debt service coverage ratio (DSCR)
- Debt-equity ratio for the project and the ULB

(iii) Other financial information:

- Has the ULB been credit rated? If yes: provide the name of the rating agency, type of rating and existing rating details.
- In case of Special Purpose Vehicle (SPV) or Joint Venture (JV) as a separate legal project implementation entity, the Profit & Loss (P&L) Statement and Balance Sheet forecasts for the next 20 years shall be provided. In this context, the given project cash-flow template (as per Annexure 4) may be used as the initial reference format on which appropriate modifications can be made.

Note:

(1) The requirements for financial information under section 8.2 and elsewhere are applicable to parastatals (as well as to ULBs). The given formats may be appropriately modified for the organization entity context.

9. Project Benefits Assessment (Social Cost-Benefit Assessment)

The DPR is to provide the following:

- 9.1 A list of benefits from societal perspective** (both social and economic) supported by:
- (i) Explanation or description in qualitative terms
 - (ii) Quantification of these benefits to the extent possible (or wherever possible) along with underlying assumptions

Benefits are to be focused on project outcomes (in the context of the project outlays made) and specially on their impact on citizens/user segments covering elements such as:

- access	- supply continuity	-time savings
- coverage	- safety	-environment improvement
- service quality	- cost savings	-employment
- income for poorer sections	- improved efficiency	- improved quality of life, etc.

The above are illustrative only with type of benefits being specific to a project/sector/region etc.

- 9.2 A list of “negative externalities”** (ie adverse impacts) from a societal perspective (both social and economic) supported by:
- (i) Explanation or description in qualitative terms
 - (ii) Quantification of these negative/adverse impacts to the extent possible (or wherever possible) along with underlying assumptions
- Examples of negative/adverse impacts include:

- pollution; environmental distortions
- reduced green cover
- reduced access to any specific user segments
- supply interruptions (especially during project construction phases) etc
- displacement of inhabitants
- disruption in livelihood /reduced employment/ labour redundancy
- possible haphazard development around/adjacent project site areas (eg resulting in slums)

The listing or identification of adverse impacts facilitates planning for possible countermeasures and also recognizes possible trade-offs in taking up the project

Note for (9.1) and (9.2)

(1) The Project Benefit/“dis-benefit” assessments should be carried out for the project life or at least consider a 20 year time frame

(2) For convenience, the following format may be considered (this is optional and is given for reference)

S.No	Benefits Description	Comments	Quantitative Impacts & Underlying Assumptions
Societal Benefits			
1			
2			
3..etc			
Societal adverse impacts			
1			
2			
3..etc			

*The societal benefits and “disbenefits”(adverse impacts) streams should be projected for the time period specified (entire project life cycle or for a minimum of 20 years; it should **not** be restricted to the construction period or for the Mission period only).*

*(3) Benefits and adverse impacts identified **must be specific and not generic/general statements.** Examples:*

- *if certain specific wards are benefiting from increased access, they should be identified*
- *if some specific sections of slum area or some specific slums are benefiting, these should be specifically identified.*

(4) Both direct and indirect societal impacts and assessments are to be considered (for benefits/ adverse impacts). This constitutes the “with project scenario” which has to be compared to the prior status or “without project scenario”.

(4) Impact on the poor (including poor households & settlements) may be specifically highlighted/documentated

9.3 Economic Internal Rate of Return (EIRR) (for projects above Rs. 100 crores or otherwise designated as considerably complex by the State Level Nodal Agency)

For projects above Rs 100 crores (or otherwise designated as considerably complex by the State Level Nodal Agency), structured estimation of the *Economic Internal Rate of Return (EIRR)* would be prescribed as a part of the Social Cost-Benefit Assessment. The EIRR would incorporate monetization of the identified (quantifiable) social benefits and adverse impacts and additionally provide for social perspective corrections to the costs and benefits considered for financial viability assessments. For projects where the EIRR is found to be less attractive or is a borderline case, and at the same time the project planners deem that there are substantial benefits which are intangible, then the project EIRR analysis is to be supported by detailed descriptive statements and assessments on such benefits.

For projects of less than Rs. 100 crore costs, the Benefits Assessment are to be as per 9.1 and 9.2 given above; with EIRR being optional.

Annexures

1. Sector specific infrastructure components (illustrative)

- 1.1 Water supply
- 1.2 Sewerage
- 1.3 Solid waste management
- 1.4 Preservation of water bodies
- 1.5 Drainage
- 1.6 Roads and Transport
- 1.7 Urban public transport
- 1.8 Urban renewal and heritage conservation

Scheduling related information to be provided either within DPR or at latest within 30days of DPR approval by CSMC

2. Project implementation planning: package-wise contracting
3. Project financial contribution planning

4. Project cashflow template

ULB/Parastatal Financial information

5. ULB cashflow template
6. Debt and Loan schedules

Annexure 1: Sector specific infrastructure components

Indicative components and subcomponents for infrastructure sectors are mentioned below, which will serve as guidelines for preparation of detailed project report and for tendering/packageing of projects as an individual component or in combination. Each component shall include all associated works for completion of the Component works.

1.1 Water Supply

S.No.	Major components	Sub-components
1	Source Development	
(i)		Type of source
(ii)		Diversion Structure
(iii)		Intake Structure
(iv)		Plant and Machinery (raw water pumps, motors, electrical, instrumentation, piping)
(v)		Other Structures (offices, housing, roads, etc)
2	Raw Water Transmission System	
(i)		Raw Water Transmission main (Pumping/Gravity)
3	Water Treatment (Civil works, Plant and Machinery)	
(i)		Inlet Works
(ii)		Primary Treatment (Aeration, Clarification)
(iii)		Chemical House and Dosing systems
(iv)		Rapid Mixing
(v)		Filter House, and associated plant and equipments
(vi)		Clear Water Reservoir and Pumping Station
(vii)		Chlorine House and chlorination systems
(viii)		Control Room and Laboratory
4	Clear Water Transmission System	
(i)		Transmission Main (Pumping/Gravity)
(ii)		Booster stations and Control rooms
5	Service Reservoirs	
(i)		Master balancing reservoir
(ii)		Ground Level Service Reservoirs
(iii)		Overhead Service Reservoirs
(iv)		Booster Stations / Control Rooms (Civil, Plant, Equipment)
6	Distribution System	
		Distribution pipeline

Note: The following details are also required in DPR

1. Raw Water Analysis Report
2. Source reliability study and report
3. DPRs for water supply projects are to be prepared as per guidelines given in the Manual on Water Supply and Treatment 1999, Ministry of Urban Development

1.2 Sewerage

S.No.	Major components	Sub-components
1	Collection and Conveyance system	
(i)		Sewer Network
(ii)		Manholes
2	Sewage Pumping Stations	
(i)		Civil Works-wet well and dry well
(ii)		Plant and Machinery
3	Sewage Pumping Mains	
(i)		Trunk Mains
4	Sewage Treatment and Disposal (Civil works, Plant and machinery)	
(i)		Primary Treatment
(ii)		Secondary Treatment
(iii)		Tertiary Treatment
(iv)		Sludge Treatment
(v)		Chlorination
(vi)		Gas collection system
(vii)		Recycle and reuse
(viii)		Disposal System
(ix)		Control room and laboratory

Note:

- The following details are also to be included in the in DPR : Sewage Analysis Report
- The DPRs for sewerage systems shall be prepared as per the guidelines given in the Manual of Sewerage and Sewage Treatment – 1993., Ministry of Urban Development

1.3 Solid Waste Management

S.No.	Major components	Sub-components
1	Primary Collection	
(i)		System of Collection (door-to-door collection, segregation of waste)
(ii)		Waste storage and collection bins (Household bins, Community bins)
(iii)		Primary collection vehicles (for collection and transfer to transfer stations)
2	Transfer Stations	
(i)		Development of Transfer Stations
(ii)		Equipment
3	Transportation	
(i)		Vehicles (for transfer from transfer stations to disposal site)
(i)		Vehicle Depot
4	Disposal of Waste	
(i)		Development of disposal site (land-fill site, compost plant, vehicle depot)
(ii)		Equipment at disposal site
(iii)		Recycling plant (briquette, waste-to-energy, etc)

1.4 Preservation of Water Bodies

S.No.	Components
1	Embankment works and other civil works
2	Desilting/cleaning of water bodies
3	Desilting/cleaning of primary channels
4	Provision of facilities (public facilities/refreshments/entertainments)

1.5 Drainage

S.No.	Components
1	Roadside Drains (cleaning, rehabilitation, new works)
2	Major Drainage Channels (desilting, cleaning, rehabilitation works, new works)
3	Disposal (desilting, cleaning, rehabilitation works at receiving water body)

Note: The DPR for drainage systems shall be prepared as per the guidelines given in the Manual of Sewerage and Sewage Treatment – 1993., Ministry of Urban Development

1.6 Roads and Transport

S.No.	Components	Sub-components
1	Road works with drainage	
(i)		ROW availability and utility shifting
(ii)		Road work
(iii)		Drainage work
(iv)		Street lights/signals
(v)		Street furniture
(vi)		Painting/Markings/Signages
2	Bridges	
(i)		Bridge work
(ii)		Lighting
(iii)		Painting/markings/signages
3	Flyovers/ROBs/RUBs	
(i)		Flyover/ROBs/RUBs work
(ii)		Lighting
(iii)		Painting/markings/signages
4	Terminals	
(i)		Area demarcation
(ii)		Civil work
(iii)		Access
(iv)		Provision of basic urban services (Water Supply, Drainage Network, Sewerage Network, Solid Waste Collection, other Service lines and Ducts)
5	Other Infrastructure development	
(i)		Street lighting
(ii)		Signalization
(iii)		Junction improvement
(iv)		TSM
(v)		Parking

Note:

- The DPR for Roads and Transport project shall in general be in line with the National Urban Transport Policy and shall refer to the MORTH guidelines and IRC codes as applicable.
- Detailed engineering design of project component shall include but not be limited to:
 - General drainage conditions, HFL, water level
 - Traffic analysis, traffic growth, desire line based on O-D survey, traffic flow diagrams.
 - Evaluation of alternative proposals/structural solutions

- Characteristics of existing facility and integration with new facility supported with maps
- Design life
- Planning and design criteria considering overall scenario
- Layout plan, GAD and detail drawings.
- Cost estimate-assumptions, basis of adoption of rates supported with rate analysis
- Source of construction material

1.7 Urban Public Transport

S.No.	Components
1	Corridor development (BRTS, MRTS, multi-modal etc.)
2	Ridership estimate
3	System requirement
4	Fleet Requirement
5	Stations/Terminals/depots (Civil works, Tools and Plant for maintenance)
6	Other associated infrastructure for operation and maintenance

1.8 Urban renewal and heritage conservation

S.No.	Major components	Sub-components
1	Public space/Area improvement and conservation scheme	
(i)		Provision of basic urban services (Water Supply, Drainage Network, Sewerage Network, Solid Waste Collection, other Service lines and Ducts)
(ii)		Provision of Amenities
(iii)		Street Furniture and Lighting
(iv)		Landscaping
(v)		Access Pathways, Pavements, and Roads
(vi)		Parking Areas
(vii)		Information System
2	Restoration Works	
(i)		Public Space
(ii)		Street façade
(iii)		Building, Monument, and Structure
(iv)		Street Furniture
(v)		Pavements and Landscape Elements
(vi)		Water Bodies
(vii)		Waterfront or Ghats
(viii)		Hillocks, Forests, Sacred Groves, and other natural features.

Annexure 2: Project implementation planning: package wise contracting relationship

list: tender packages		Project implementation planning: Package-wise contracting relationships			tendering			Completion
package no,	package description	contract type	Cost	release date (month & year)	award date (month & year)	estimate	scheduled date (date & month)	
1		unit rate/turnkey/percentage/others						
2								
3								
4								
5								
6								
7								
...n								
			Total:					

Annexure 3: Schedule for financial contribution and sources

Proposed project schedule – to be provided within DPR or at latest within 30 days of DPR approval by CSMC

S. No	Sources	Financial contribution and sources table (in Rs. Lakhs)																									
		FY 06-07			FY 07-08			FY 08-09			FY 09-10			FY 10-11			FY 11-12			Total							
Scheduled month and amount		Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total	
1	GoI																										
2	State																										
3	ULB																										
4	Others																										
Total																											

Note (for filling table):

(1) For year of sanction of project and following year, provide quarterly schedule (month- year and amount),.. For subsequent years provide annual schedule month-year and amount

Annexure 4 Project cashflow template (including optional templates)

Annexure 4A

Particulars	PROJECT CASH FLOW FOR JNNURM										
	Block 1 - JNNURM Duration					Block 2 - Beyond JNNURM Duration					
	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-152024-25
1	2	3	4	5	6	7	8	9	10	11	12-21
Cash Flow during Construction phase											
Inflows											
Central Government Grant – JNNURM											
State Government Grant											
ULB's own contribution											
Loans from banks/ FIs											
Debentures/ Bonds											
Beneficiary contribution											
Others (Please specify)											
Sub Total (A)											
Outflows											
Capital expenditure (Note 1)											
Interest during construction											
Project related Establishment charges											
Others (Please specify)											
Sub Total (B)											
Net cash flow during Construction phase (A-B)(C)											
Cash Flow during O & M phase											
Inflows											
User charges											
Revenue grant from State Government											
Other income (Please specify)											
Income earmarked for the project (Note 2)											
Others (Please specify)											
Sub Total (D)											
Outflows											
Establishment charges											
O & M charges (Note 3)											
Loan repayments (Principal)											
Interest											
Others (Please specify)											
Sub Total (E)											
Net cash flow during O & M phase (D-E) (F) (Note 4)											
NPV and IRR (O&M)											
Net cash flow during Construction and O & M phase (C+F) (G)											
NPV and Project IRR (overall)											

Note:

1. Provide details in Annexure 4B (optional)
2. Income earmarked for the project includes those own sources of income for the organisation which is earmarked for O&M or loan repayment of the project
3. Provide details in Annexure 4C (optional)
4. NPV and IRR (O&M) should be calculated after adding back the amount of Loan repayments (Principal)

JNNURM

Annexure 4B

Details of Capital Expenditure												
Particulars	2005-06				2006-07			 (entire construction phase)			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1	2	3	4	5	6	7	8	9				
Land acquisition												
Rehabilitation and Resettlement												
Civil works												
Administrative buildings												
Plant and Machinery												
Technical/ Supervision/ Other consultancies												
.....												
.....												
Total												

Annexure 4C

Details of Operation & Maintenance Charges											
Particulars	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-152024-25
1	2	3	4	5	6	7	8	9	10	11	12-21
Electricity charges											
Petrol, Oil and Lubricants											
Rent, Rates and Taxes											
Consultancy/ Professional charges											
Office-Maintenance											
Communication Expenses											
Billing and Collection											
Printing and Stationery											
Insurance											
Consumption of Stores											
Repairs and Maintenance											
Annual maintenance charges											
Patents and Royalties											
Bank charges											
.....											
.....											
Total											

Annexure 6 : Loan Schedules and Loan Ageing

Annexure 6 A

Long Term Debt Situation of ULB/Parastatal																
Rs. Lakhs																
Details of loans & borrowings					Overall Status		Repayment Schedule									
Loan	Source	Year taken	Original loan amount	Terms in brief	Total Loan outstanding	Total arrears	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
loan1																
loan2																
loan3																
loan4																
loan5																
....n																

Notes

- 1 Loan refers to long term loans ie having tenure of greater than 1 year
- 2 Repayment schedule of the 10 year time frame is being requested
- 3 Terms cover: tenure, interest rate, moratorium period, total repayment period
- 4 Original loan amount to cover only principal
- 5 Total loan outstanding includes principal and interest

Annexure 6 B

Long Debt Situation of ULB/Parastatal: Ageing Analysis of Total Arrears								
Details of loans & borrowings			Ageing Analysis (in years)					
sLoan	Source	Year taken	Total Loan outstanding	Total arrears	< 3 Years	3-5 Years	5-10 Years	>10 Years
loan1								
loan2								
loan3								
loan4								
loan5								
....n								