Designing E-Governance for Municipalities in India
Section 2: Service Modules

Final Report

Indo-USAID Financial Institutions Reform and Expansion Project—
Debt & Infrastructure Component (FIRE-D Project)

USAID-TCGI Contract No. 386-C-00-04-00119-00

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I Overview of the Report

I.1 Introduction

Section 2 of the Design Phase reports relates to the functionality for the nine e-Governance modules, selected by MoUD for phase-wise implementation at the 423 chosen municipalities across the country. It is envisaged that the results of the exercise shall facilitate the subsequent step of developing the software applications for the selected modules. The approach & methodology used by the consultants during the exercise is described below.

I.2 Approach & Methodology

The following provides an overview of the key steps undertaken in preparation of this section.

- Understand the structure and existing processes of the municipalities through desktop review of documents, web search, and discussions with process owners across two ULBs.
- Draft the key functionality for the application modules leveraging, as applicable, the best practices knowledge available.
- Desktop study of the existing implementations of the application modules in certain states.
- Review of national level guidelines, where available, for designing the functionalities. For example, the National Municipal Accounts Manual was made use of, coupled with the experience gained in the implementation of double entry system based on the guidelines from the manual.
- One of the key considerations for envisaging single Application vendor for State-wide implementation is for efficient and fast integration between the application modules. Standards for Application integration and migration are provided in section 3 of the Design phase, which will further help in designing of the integration requirements of the e-Governance modules.

The functionality of e-Governance modules covered in this section relates to the nine modules proposed under the NMMP:

- Property Tax
- Accounting
- Water Supply and Sewerage
- Birth and Death Registration
- Building Plan Approval
- Health Programmes
- Procurement and Monitoring of projects
- Personnel Management System
- Citizens' Grievances Monitoring.

The broad process description, key functions, functional requirements of each of these modules are detailed in the subsequent pages. It may be noted that the detailing of the functional requirements, presented in the report (inline with the approach indicated in the technical proposal) is based upon our experience of implementing e-Governance in municipalities in the

State of Andhra Pradesh (AP). Accordingly, some of the functional requirements may be AP specific. Having said that, as has been pointed out in the report at various places, processes and systems in ULBS vary from state to state and the functional requirements indicated in this report are designed to help in a comprehensive listing. However, the final specification sign off needs to be undertaken by the application vendor at the State level through the State implementation consultants – an aspect defined in the draft scope of work for the application vendor and state implementation consultant

II Property Tax Module

II.1 Introduction

Property tax (PT) is one of the main sources of revenue for the ULB. Residential and commercial properties, situated within the limits of ULB, are assessed for tax. PT is tax on immovable or tangible real property such as land, buildings and permanent improvements. Based on such assessments, all the assesses are expected to pay the PT. A municipal body can impose, suspend or abolish the tax or partly/wholly except person or class of persons. Of any such tax on any property or description of property by a resolution passed at a special meeting and confirmed by the state government. PT may comprise of basic house/building tax plus service taxes such as lighting tax, and conservancy/scavenging tax. There is no state where PT is not collected. It is rated as the single most important local tax. Frequency of PT collection varies from state to state; it is collected either half yearly or annually.

While, a detailed Functionality Requirement Specifications (FRS) has been presented based on the processes that are currently in place in across most ULBs, the following must be considered[1] while reviewing the FRS.

- PT, the processes described in this document is mainly based on "Rateable Value" method, which is the legacy method used across the country.
- Different states have adopted different methods of PT Assessment for e.g. Bangalore city follows "Rental Value" method, while rest of Karnataka has changed over to "Capital Value" method. These have implications at a process level and at data requirement level with respect to the PT Module.
- In terms of administration of the tax, Self Assessment System (SAS) brings its own dynamics in terms of building-up property related data, cross-verifying SAS declarations with ULB data, reconciling the same, examining variations in tax liability, generation of notices, etc.
- In the area of dispute resolution, the mechanism that exists to deal with disputes is different in different states. Very few states have appellate commissioners. In some cases, the appeal is before a committee of 3 councilors, etc.
- In some states, vacant land tax is levied differently from property tax, though it is a form of property tax. There are a lot of variations in application of property tax across states, in terms of basis of levy of PT, its administration mechanism, dispute resolution, etc. We need to recognize that these major variations indicate a need for a ratification of the FRS presented in this section to be validated by the states concerned, before attempting computerization in the municipalities.

[1] Recommendation on FRS (as has been indicated in our approach to this section) is based upon a generic process. Because of the nature of the governance structure for ULBs (highlighted in the Inception Report), there are large variations in processes from ULBs to ULBs and State to State. Hence, it is imperative that before a SRS can be finalized; the user requirement would have been finalized based upon the detailed FRS presented in this report. This is proposed to be undertaken through the state implementation consultants (Section 1 of the Design Phase report).

II.2 Process Overview

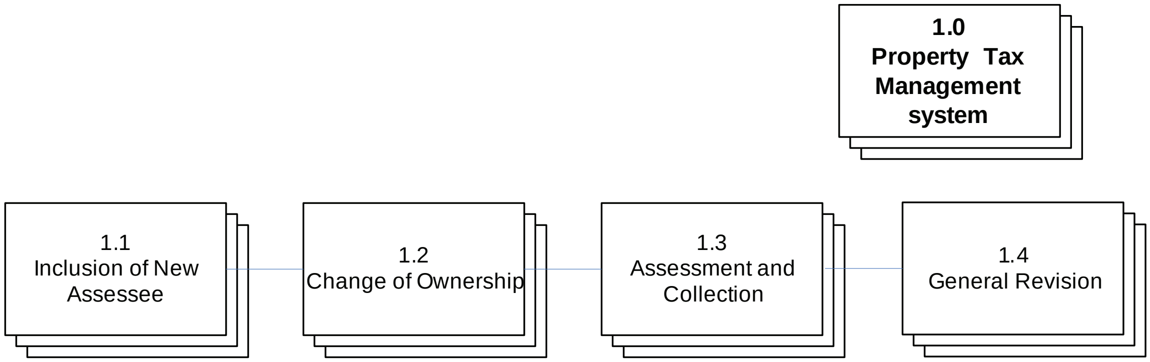
The process involves calculating property tax taking into account details like usage of the building, building type, plinth area, unit rate, building age, etc., preparation of assessment list of properties liable to tax, maintaining the year-wise arrears details of each individual assessee, issue of demand notice, recording of payment details and issue of receipts for the amounts paid towards property tax. Payments can be accepted either in full or part. It also involves maintaining of the details of survey for reassessing tax and details of various court cases.

The main activities as part of property tax module include:

- Assessment of the building for property tax based on the parameter like residential status, annual rental value, rates of taxes, depreciation and the age of the building
- Serving of the demand notices for assessments and collection of taxes
- Acceptance, disposal and monitoring of the appeals and revision petitions received
- Monitoring of the appeals and petitions filed
- Collection of the taxes and maintenance of appropriate records.

The property tax module has been divided into four sub-processes as depicted in Figure II.1 below

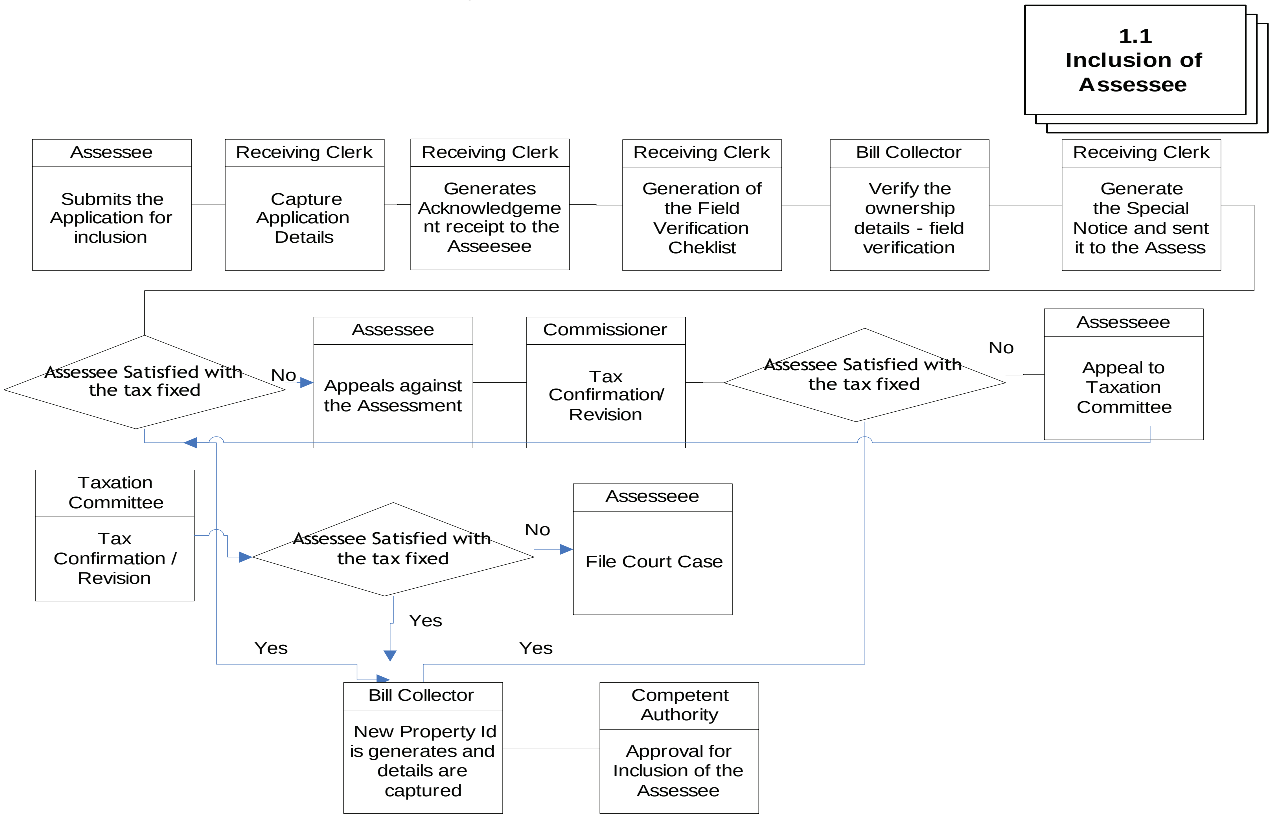
Figure II.1: Property Tax Process Overview



II.2.1 Inclusion of New Assessee

The process is depicted in Figure II.2 below

Figure II.2: Inclusion of New Assessee



The process is as described below:

1. Assessee submits the application form with title deed/title deed information either online(Portal) or through common service centers
2. An acknowledgement is issued to the Assessee
3. Field verification checklist is generated for the Bill Collector
4. The Bill Collector performs field inspection to obtain the particulars necessary for assessing the property
5. The bill collector asks the owners to produce the relevant ownership documents. The documents required to be produced by the owner are:
    a. Original deed of registration
    b. Relevant building sanctions
6. Bill collector gathers the relevant particulars required to do the assessment (such as plinth area, material used in construction etc.)
7. A special notice is generated based on the verification details and sent to the Assessee
8. Assessee can appeal to the Municipal Commissioner, if not satisfied with tax levied on him
9. The relevant authorities in the revenue section crosscheck the assessment made by the bill collector and update the assessment register
10. After updation of the Assessment Register, the Property Tax Identification number is generated and the Assessment Order/Confirmation is issued to the Assessee.

In the process flow we have considered that the property owner voluntarily declares his property. If the person does not intimate the authorities then the ULB should serve a notice to the prospective property tax payer based on Assessment/Register, which is updated based on records from others departments and survey. After the notice is served the process can continue from step 4.

Process Parameters

The Table II.1 details various Inputs, outputs and controls for the process II.2.1: Inclusion of New Assessee.

Table II.1: Inclusion of New Assessee

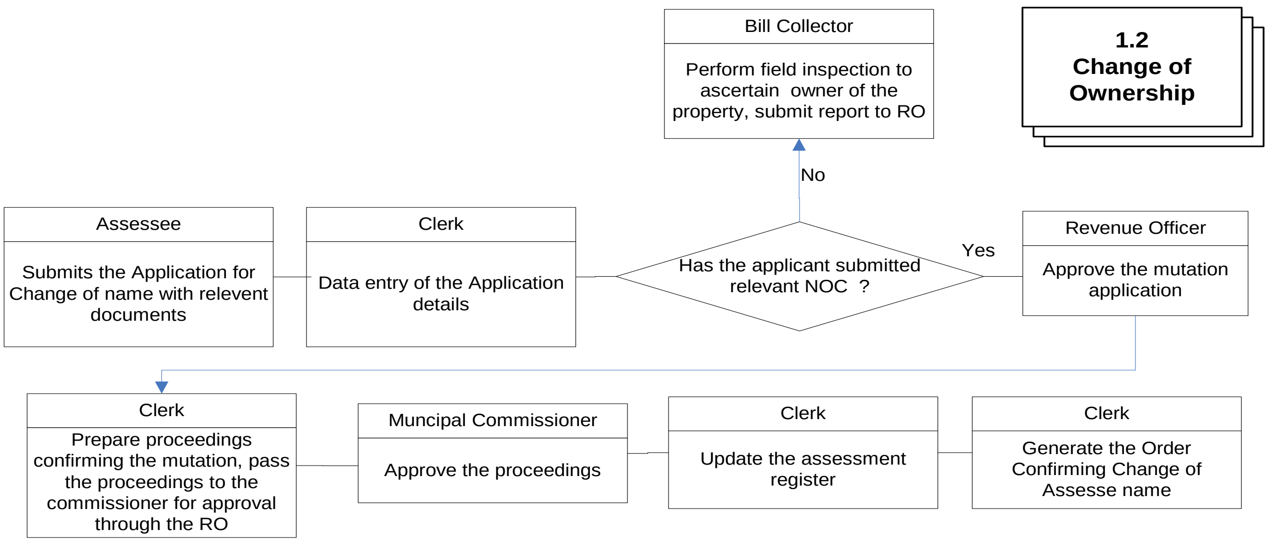
Inclusion of New Assessee		
Inputs	**Outputs**	**Controls**
Application details (Application Number, Application Date) Owner Details(Owner Name, Ownership Type, Address, Nature of Acquisition, Father/Husband Name, Revenue Zone, Location detail Building Plan details (Completed Date, Building Plan, and Building Permission No. Building Permission Date) Exemption Details(Exemption, Exemption Category) Nature of Ownership, and Building details (Flooring Type, Roof Type, Wood Type, Wall Type, Attached Bathrooms, Toilets, Drainage, Water Harvesting, Electricity, Water Tap, Classification of Building, Building Nature of Use, Occupier Type, Building Age, Floor No, Length, Width, Plinth Area., Total area /built area, Construction Type) Title deed information	Issue of Acknowledgement of Receipt of Application Field Verification Checklist Report Special Notice indicating the amount of tax to be paid Acknowledgement for Revision Petition Application Revision Petition hearing date report Appeal Petition endorsement report Assessment Status Report Confirmation on Assessment order Unique Property Tax ID.	The following documents are mandatory • Title Deed • Building Plan Approval Verification of the Building permissions to calculate the penalties If the assessee does not agree with the tax levied, he can apply for revision. Validation for max. number of days for appeal petition Validation of Owner and building details with the verification checklist details Validation of Preferred user id chosen by the user against the current user base to avoid duplicity Data from auto-populated fields are retrieved from retrieved from Master data base (Zones/wards, Location, wards etc.) Validations on the mandatory fields Validations to check the

Field verification details Revision Petition Details.		data type of the field.

II.2.2 Change of Ownership

The process is depicted in Figure II.3 below

Figure II.3: Change of Ownership



The process is as described below:

1. Applicant submits request for change in assessee details (Title Transfer), along with supporting documents and transaction fee receipt. The supporting documents required are:
   a. A copy of the sale deed
   b. PT/Vacant land tax bills of preceding assessments
   c. Transaction fee receipt
2. After receiving the application the details are entered by the receiving clerk
3. If a field inspection is required, the Bill Collector performs the same and submits his report
4. After verification of the application, supporting documents, the revenue officer forwards the application to the Commissioner for his approval
5. The Commissioner, after a thorough scrutiny approves the application
6. The Revenue Clerk prepares the proceedings, and after obtaining approval from the revenue officer, forwards the same to the commissioner for his approval
7. The Commissioner approves the proceedings authorizing the change of assessee details
8. The assessee details are updated in the assessment database by the clerk
9. Order generated and given to assessee.

Process Parameters

The Table II.2 details various Inputs, outputs and controls for the Process

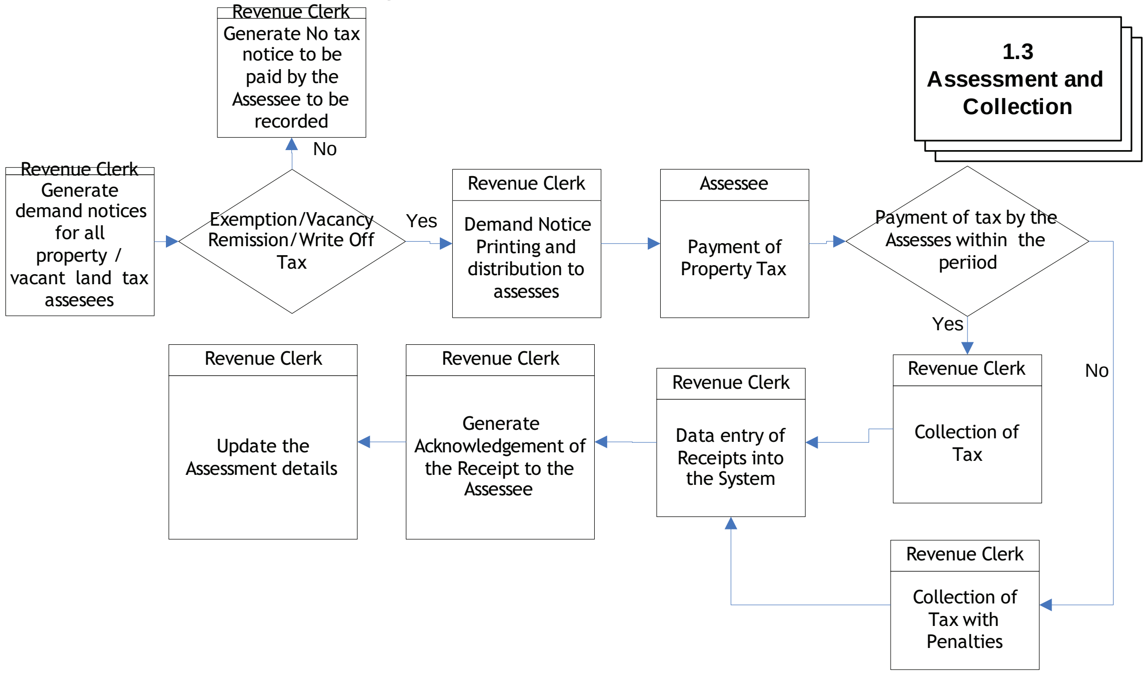
Table II.2: Change of Ownership

Change of Ownership		
Inputs	**Outputs**	**Controls**
Transaction data (date and number) Assessment Details (Property ID Registration Date) Transfer details (Name of Transferor, Name of Transferee, Property Tax, Sale Deed No, Sale Deed Date, Registrar/Sub Registrar Name, Court Decree No, Court Decree Date, Court Name, Will Deed No, Will Deed Date, Registrar/Sub Registrar Office Name, Other Document No, Other Document Name, Document Details, Transfer Details.) Field Verification Details Transfer Fee Payment details	Acknowledgement of the Application Checklist for Field Verification Transfer Fee Receipt Endorsement of the Title Transfer Order for Title Transfer Title Transfer Status	The following documents are mandatory. • A copy of the sale deed • Property Tax/Vacant Land Tax bills of preceding assessment Validation of Preferred user id chosen by the user against the current user base to avoid duplicity Validation of Transfer verification checklist details with the existing Assessment details The information which is auto-populated in the fields should be retrieved from the Master data base (Zones, Location, wards etc.) Validations on the mandatory fields Validations to check the data type of the field

II.2.3 Assessment and Collection

The process is depicted below in Figure II.4

Figure II.4: Assessment and Collection



The process is as described below.

1. The revenue section generates demand notices for all assesses. Demand notice consists of demand-year, demand date, property id, arrear property tax, current property tax and penalties etc., and it also consists of details of property, house no, owner name, zone, location etc. Penalties are also mentioned in the demand notice. In case of tax exemptions or advance payment demand notice will not be generated.
2. Assesses can apply to municipality for vacancy remission of Property Tax.
3. Citizen pays the amount specified in the demand notice, within the time period specified.
4. After payment an acknowledgement and payment receipt is generated and given to the applicant.
5. Updation of the demand register with payment information is done.

Process Parameters

The Table II.3 details various Inputs, outputs and controls for the Process II.2.3: Assessment and Collection

Table II.3: Assessment and Collection

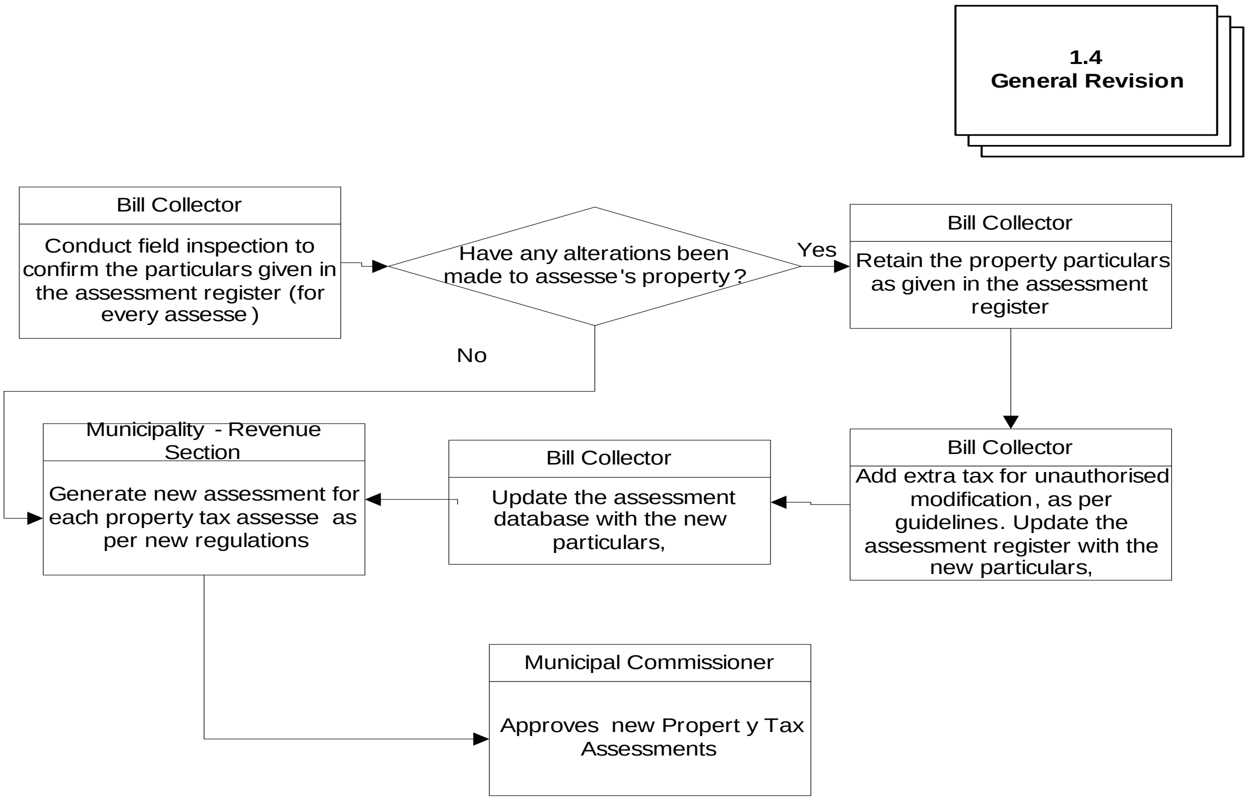
Assessment and Collection		
Inputs	**Outputs**	**Controls**
Exemption Details Vacancy Remission Details Write Off Details	Acknowledgement of Exemption details Application Verification Checklist for	Validation of the Property Tax calculation method with inbuilt application logic Process for Penalties

Assessment Details (Property ID , Classification of Building, Building Nature of Use, Occupier Type, Building Age, Floor No, Length, Width, Plinth Area, Rate/Unit, Monthly Rental Value, Gross Annual Rental Value, Depreciation, Building Value, Site Value, Total Annual Rental Value.) Arrear Details Payment details Master details such as (unit rate master, location details, type of building etc.).	exemption details Acknowledgement of Vacancy Remission details Application Verification Checklist for Remission details Acknowledgement of Write Off Application Verification Checklist for Write Off Application Generation of Demand Notice Property Tax Receipt.	Verification for delay in payment for penalties Verification of the exemption details. Information in the verification checklists should match the criteria's as defined in the master tables Verification of the vacancy remission details. Information in the verification checklist should match the criteria's as defined in the master tables Verification of the write off details. Information in the verification checklist should match the criteria's as defined in the master tables The information which is auto-populated in the fields should be retrieved from the Master data base (Zones, Location, wards etc.) Validations on the mandatory fields Validations to check the data type of the field.

II.2.4 General Revision

The process is depicted below in Figure II.5

Figure II.5: General Revision



The process is as explained below.

1. The Revision can be proposed by the Assessee or conducted by the ULB.
2. The bill collector conducts field inspection of all houses in his area, to cross check the property particulars as in the assessment register.
3. If any discrepancies exist between, particulars in the assessment register, and that on the ground, due to modifications made to the structure, the bill collector checks if relevant sanctions have been obtained for the modifications.
4. If the relevant building permissions have not been obtained, an extra fee is levied to the property tax.
5. The bill collector makes modifications to the assessment register to correspond to the data obtained from the field visit.
6. Based on the revised Forms and other government regulations, the new tax is computed and assessment database is updated.
7. The municipal commissioner approves the revised assessment.
8. Revised order is issued to the Assesee.

Process Parameters

The Table II.4 details various Inputs, outputs and controls for the Process I.3: General Revision

Table II.4: General Revision

Revision of Assessment		
Inputs	**Outputs**	**Controls**
Assessment Details (Property ID, Classification of Building, Nature of Use, Occupier Type, Building Age, Floor No, Length, Width, Plinth Area, Rate/Unit, Monthly Rental Value, Gross Annual Rental Value, Depreciation, Building Value, Site Value, Total Annual Rental Value.) Arrear Details Payment details Master details such as (unit rate master, location details, type of building etc.).	Order of Revised Assessment details and property tax details Demand Notices to the Assessee's on the new Assessment structure.	Verification of any alterations of the property made by the Assessee Check the existing property tax calculation logic with the any new revised legal guidelines or regulations for calculation of property tax. Verify the existing forms and fields with any changes in the manual forms. The information which is auto-populated in the fields should be retrieved from the Master data base (Zones/wards, Location, wards etc.) Validations on the mandatory fields Validations to check the data type of the fields.

II.3 Interfaces Required - Property Tax Module

The interfaces required for the Property Tax Module is given in Table II.5

Table II.5: Interfaces with other Modules

Interface with whom	**Information received**	**Information given**
Vacant Land Tax Module	Vacant land details	Property tax collected from vacant lands
Water Tax Module	Water tap connection details	Property Identification details and owner details
Building & Layout Approval Module	Building Plan Approval Details	Assessment details
Town Planning	Town Planning details	Property details
Public Grievance Redressal Module	Grievances/ Queries	Status of the Grievances/Queries, Redressal steps taken
Court Cases	Petition details regarding tax calculation	Assessment details, Notices

Accounting Module	Cash collected, cheques dishonored, details of party	List of b ills raised, details of assessments and re-assessment, assessee wise outstanding with ageing analysis, arrears and all outstanding,penalties

II.4 Functionality Requirement Specifications

This section describes an indicative FRS for the Property Tax Module in Table II.6

Table II.6: Functionality Requirement Specifications

No.	Requirement
User Authentication	
1	To query the database - user-id table and the password for the given user id is compared. If appropriate menu is displayed, other wise error message is displayed.
2	Usage of Biometric Authentication Methods such as Finger Print Technology for authentication or PKI Architecture.
Inclusion of New Assessee	
3	Ability for entering/adding the applicant details for new assessment and also facilitates in modifying an existing record and deleting an existing record.
4	Ability to generate a new assessment application acknowledgment receipt through the system either online /offline.
5	Ability to facilitate entering/adding of the field verification details for new assessment and also facilitating in modifying an existing record and deleting an existing record.
6	Ability to generate a new assessment application acknowledgment receipt through the system either online /offline.
7	Ability to generate field verification checklist report for the particular date, which is given as input.
8	Ability to facilitate entering/adding of the field verification details for new assessment and also facilitating in modifying an existing record and deleting an existing record.
9	Ability to facilitate in generating the special notice to the assessee indicating the amount of tax to be paid.
10	Ability to enter the revision petition application into the system. If the assesses does not agree with the tax levied, he can apply for revision within 15 days of service of special notice.
11	Ability to generate acknowledgement for the revision petition application received.
12	Ability to facilitate entering of the revision petition hearing date into the system.
13	Ability to facilitate entering of the revision petition hearing details into the system.
14	Ability to generate endorsement for the revision petition after the hearing is done and the tax is either confirmed or revised by the commissioner.
15	Ability to facilitate in entering the appeal petition application into the system. If the assesses does not agree with the tax levied in the revision petition hearing, he can apply for appeal of revision petition orders.
16	Ability to generate the acknowledgement for the appeal petition application received.

17	Ability to generate the acknowledgement for the appeal petition application received.
18	Ability to facilitate in entering the appeal petition hearing date into the system.
19	Ability to facilitate in generating the appeal petition hearing date information report. The assessee is intimated about the appeal petition hearing date on which the hearing is held.
20	Ability to facilitate in entering the appeal petition hearing details into the system.
21	Ability to generate the endorsement for the appeal petition after the hearing is done and the tax is either confirmed or revised by the commissioner.
22	Ability to facilitate in generating the court cases details for the Assessment.
Change of Ownership	
23	Ability to facilitate in entering/adding the application details for title transfer of property and also facilitates in modifying an existing record and deleting an existing record.
24	Ability to facilitate in issuing an acknowledgement for the application for title transfer property.
25	Ability to facilitate in generating the field verification checklist report for the bill collectors use.
26	Ability to facilitate in entering/adding the field verification details for title transfer property and also facilitates in modifying an existing record and deleting an existing record
27	Ability enter/add the approval details for title transfer property and also facilitates in modifying an existing record and deleting an existing record.
28	Ability to enter/add the fee payment details for title transfer property and also facilitates in modifying an existing record and deleting an existing record.
29	Ability to facilitate in generating the endorsement for the title transfer property after the property is transferred and the fees is paid.
Assessment & Collection of Property Tax	
30	Ability to calculate the PT to be levied based on the building type, area, usage details etc.
31	Ability to change property tax computations and determine arrears/refunds etc. with proper controls/Authorization.
32	Ability to enter/add the assessment details and property tax levied and also facilitates in modifying an existing record and deleting an existing record.
33	Ability to enter/add the Arrear details and property tax levied for assessment and also facilitates in modifying an existing record and deleting an existing record.
34	Ability to generate the demand registers for the specified period. This function facilitates printing of demand notices for the half year.
35	Ability to generate the PT paid for the assessment.
36	Ability to generate advance PT receipt for the assessment.
37	Ability to generate enter/add the application details for exemption from property tax and also facilitates in modifying an existing record and deleting an existing record.
38	Ability to generate the field verification checklist report for exemption for Bill Collectors use.
39	Ability to enter/add the field verification details for exemption and also facilitate in modifying an existing record and deleting an existing record.

40	Ability to enter/add the approval details for exemption and generating an exemption approval details report and also facilitates in modifying an existing record and deleting an existing record.
41	Ability to enter/add the application details for vacancy remission from property tax and also facilitates in modifying an existing record and deleting an existing record.
42	Ability to issue an acknowledgement for the application for vacancy remission.
43	Ability to generate the field verification checklist report for Vacancy Remission for Bill Collectors use.
44	Ability to facilitate in entering/adding the field verification details for vacancy Remission and also facilitates in modifying an existing record and deleting an existing record.
45	Ability to facilitate in entering/adding the approval details for vacancy remission and generating an vacancy remission approval details report and also facilitates in modifying an existing record and deleting an existing record.
46	Ability to facilitate in entering/adding the application details for write off from property tax and also facilitates in modifying an existing record and deleting an existing record.
47	Ability to facilitate in issuing an acknowledgement for the application for write off.
48	Ability to facilitate in generating the field verification checklist report for Write Off for Bill Collectors use
49	Ability to enter/add the field verification details for write off and also facilitates in modifying an existing record and deleting an existing record with proper controls/authorization.
50	Ability to facilitate in entering/adding the approval details for write off and generating a write off approval details report and also facilitates in modifying an existing record and deleting an existing record with proper controls/authorization.
51	Ability to facilitate in generating the court cases details for the Assessment.
General Revision of Assessment	
52	Ability to accept requests for Revision
53	Ability to accept the field verification details
54	Ability to update the Assessment database based on the field verification details
55	Ability to enter the property modification details
56	Ability to enter the penalties details
57	Ability to capture the approval details
Master Maintenance	
58	Ability to maintain details of Revenue Zones(Addition/Modification/Search)
59	Ability to maintain details of Revenue Wards(Addition/Modification/Search)
60	Ability to maintain details of Revenue Blocks (Addition/Modification/Search)
61	Ability to maintain details of Locations(Addition/Modification/Search)
62	Ability to maintain details of Locality(Addition/Modification/Search)
63	Ability to maintain details of Apartments/Complexes(Addition/Modification/Search)
64	Ability to maintain details of Nature of Use of the Buildings(Addition/Modification/Search)
65	Ability to maintain details of Building Classification Type(Addition/Modification/Search)

66	Ability to maintain details of Roof Type Master(Addition/Modification/Search)
67	Ability to maintain details of Wall Type Master(Addition/Modification/Search)
68	Ability to maintain details of Floor Types(Addition/Modification/Search)
69	Ability to maintain details of Unit Rates (Addition/Modification/Search)
70	Ability to maintain details of tax Rates(Addition/Modification/Search)
71	Ability to maintain details of Depreciation Rate(Addition/Modification/Search)
72	Ability to maintain details of Bill Collector Master(Addition/Modification/Search)
73	Ability to maintain details of Service Tax master(Addition/Modification/Search)
74	Ability to maintain details of Exemption details master(Addition/Modification/Search)
76	Ability to maintain occupier details(Addition/Modification/Search)
75	Ability to maintain details of Bank Master (Addition/Modification/Search)
MIS & Reports	
76	Field Verification Checklists
77	Special Notices
78	Demand Notices
79	Collections: • Bill Collectors Collection(Counter Collection, Direct bank remittance) • Election Ward wise Collection • Locality wise Collection • Penalty on Late Payment Collection • Penalty on Unauthorized Construction • Revenue Block wise Collection • Revenue Ward wise Collection • Revenue Zone wise Collection • Street wise Collection.
80	Registers • Arrears Register • Area Base Register • DCB Register • Exemption Details Register • PT Register • Register of Appeals for the Year • Register of Distraints • Register of Warrants • Remittance/Daily Col Register • Receipts/Payments Register of PT for the Year • True Extract of PT Demand Register • Vacancy Remission Register • Write Off Register.
81	Certificates • Ownership Certificate • Valuation Certificate.
82	Other Notices • Final Notice • Warrant Notice.

83	Apartment Details, Complex Details, Group Housing Details, Row Housing Detail
84	Building Age wise Assessment List
85	Monthly List of Buildings Requiring Levy of PT or Revision of PT
86	Occupiers Notice Details
87	Occupiers Other Than Owners
88	Tax Section Circle No. (Property details by the owner)

II.5 Indicative Data Standards – Property Tax Module – Key Fields

The indicative data standards for Property tax module are given in Table II.7

Table II.7: Indicative Data Standards

Field Name	Data Type	Mandatory (Yes/No)	Nature
Registration Number	Number	Yes	Text Box Entry
Registration Date	Date/Time	Yes	Masked Text Box Entry
Owner Name	Text	Yes	Text Box Entry
Fathers/Husband Check	Textbox	Yes	Check box Option
Father/Husband Name	Text	No	Text Box Entry
Revenue Zone Number	Number	Yes	Pick-up value
Ward Number	Number	Yes	Pick-up value
Block Number	Number	Yes	Pick-up value
Ward Number	Number	No	Pick-up value
Location Code	Number	No	Pick-up value
Door Number	Text	Yes	Text Box Entry
Construction Date	Date/Time	No	Masked Text Box Entry

Construction Approval Details	Text	No	Check box Option
Construction approval Number	Number	No	Pick-up value
Building Plan	Text	No	Check box Option
Building Plan Number	Number	No	Text Box Entry
Building Plan date	Date/Time	No	Masked Text Box Entry
Locality Code	Number	Yes	List Box
ownership type	Number	No	Pick-up value
Service Tax	Text	No	Check box Option
Service Tax Percentage	Number	No	Text Box Entry
Exemption Code	Number	No	Text Box Entry
Occupants Name	Text	No	Text Box Entry
Floor Type code	Number	No	Pick-up value
Roof Type code	Number	No	Pick-up value
Wood Type Code	Number	No	Pick-up value
Wall Type Code	Number	No	Pick-up value
current Property tax	Number	Yes	Text Box Entry
Cess tax	Number	No	Computed Value
Current education tax	Number	No	Text Box Entry
Sl No	Number	No	Automatic
Old Tax	Number	No	Text Box Entry
Current Tax	Number	No	Text Box Entry
Classification code	Number	Yes	Pick-up value
Building Nature of use	Text	Yes	Pick-up value
Occupant Type	Text	No	Pick-up value

Building Age	Number	Yes	Text Box Entry
Floor Number	Number	Yes	Text Box Entry
Length	Number	Yes	Text Box Entry
Width	Number	Yes	Text Box Entry
Plinth area	Number	Yes	Text Box Entry
Unit rate	Number	Yes	Text Box Entry
Property Address1	Text	Yes	Text Box Entry
Property Address 2	Text	Yes	Text Box Entry
Property Address 3	Text	Yes	Text Box Entry
Occupier	Text	Yes	Text Box Entry

III Building Plan Approval

III.1 Introduction

The building plan approval process relates to the issue of permission for the construction of buildings based on specific set of rules and regulations. As per the relevant provisions of the State Municipality Acts any person desirous of undertaking a construction activity (fresh construction as well as modifications to existing structures), is required to obtain prior sanction from the relevant local body before embarking on the same. In the local bodies, the town planning section is responsible for issuing the permissions to applicants. It also called building license in many states

The main functions of the town planning section, as relating to building plan approval process, are both regulatory and developmental oriented. They are as follows:

- On the regulatory front the functions include formulation of building rules, master plan rules and zonal regulations
- On the developmental side the functions include:
    - Implementation of master plans
    - Road widening programmes
    - Junction improvement
    - Issuance of permission for buildings and layouts
    - Regularization and demolition of unauthorized construction
    - Removal of encroachment
- Addressing matters relating to court cases and prosecutions

Similarly, as per the state municipality acts, any person intending to divide his land into layouts is required to have the same approved by the competent authority. The individual is required to lodge the application for the same with the local body. The Municipal Commissioner, after obtaining relevant technical advice from the Directorate of Town & Country Planning, provides sanction to the layout.

The building plan approval module is envisaged to facilitate quick processing and disposal of building plan permissions, standardization of building fee & other charges, automation of the technical scrutiny, effective monitoring of file processing. The module helps bringing in transparency, accountability and accessibility to the information and status of the building applications, and facilitates retrieval of data at any future date. The main functions of the building plan module are as follows:

- Approval of building proposals of various types and nature of buildings
- Approval of layout proposals
- Processing and disposal of government references, court cases, Chief Minister Cell references, Lok Ayukta references etc.

- Planning and implementation of developmental activities such as road widening, junction improvement, development of parks, play grounds, subways, parking lots, bus bays, etc
- Calculation of various fees such as admission fee, developmental charges, regularization charges, building license fees, scrutiny fees, demolition charges etc.
- Collection of the fees and maintenance of appropriate records

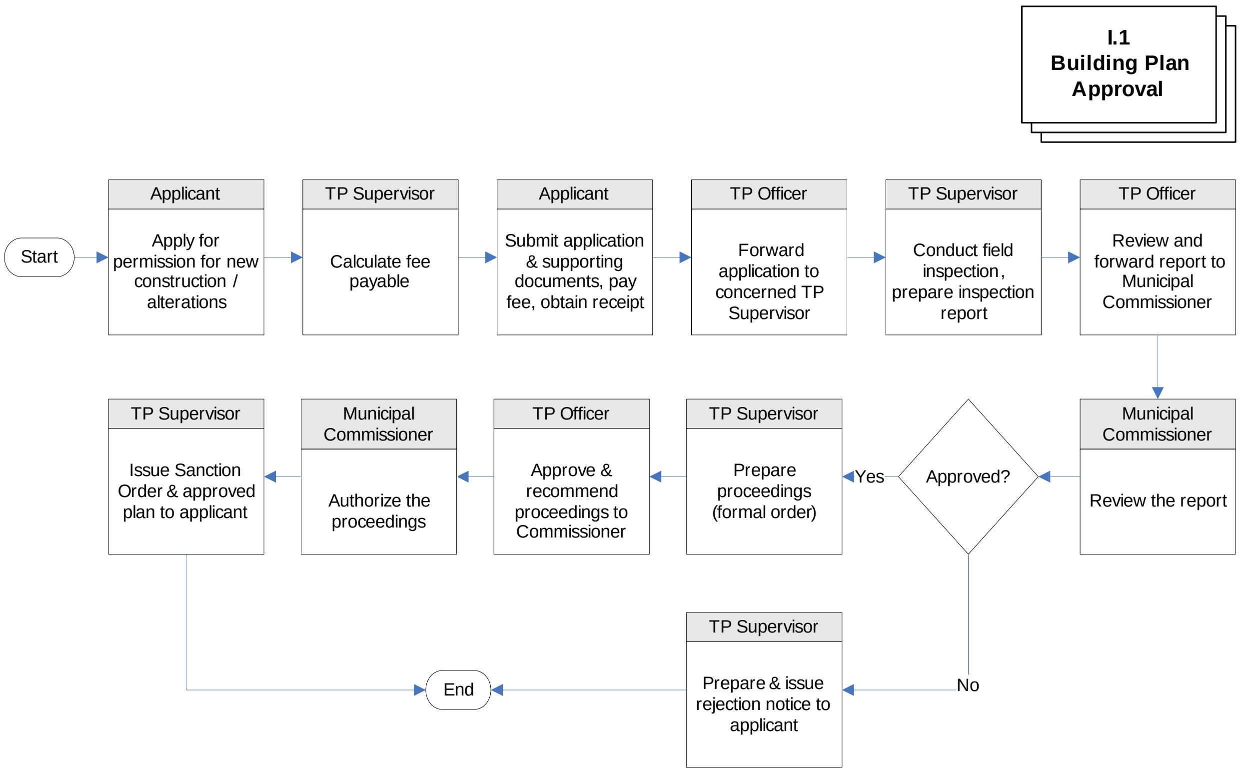
III.2 Process Overview

The two key sub processes under the building plan approval module, namely (i) building plan approval and (ii) layout approval are described in this section.

III.2.1 Building Plan Approval

The process map and steps required for obtaining the building plan approval are described in the Figure III.1 below:

Figure III.1: Building Plan Approval



1. Applicant fills in the application form for requesting approval to his/her building plan and submits the required supporting documents to the town planning section. The supporting documents required are:
    a. Registered title deed, duly attested by a gazette officer
    b. Building plan, prepared by a surveyor licensed by local Municipality
    c. Past property tax receipts (Property tax Id, Assessee Id)
    d. Water Tax ID
    e. Layout approval, in certain cases.

2. The staff from the Town Planning (TP) section calculates the fees payable by the applicant based on the building details provided by the applicant.
3. The applicant pays the requisite fees, submits the application form and supporting documents, and obtains receipt from the TP section. The building approval register is updated with the details of the application.
4. The application is passed to the Town Planning Officer (TPO), who in turn assigns it to the concerned Town Planning Supervisor (TPS) or Town Planning Building Supervisor (TPBS) for conducting the field visit.
5. The TPS/TPBS reviews the application, and conducts a field visit to verify and validate the particulars provided by the applicant. He then prepares a field visit report and sends it for the approval of the TP Officer.
6. The TPO provides his recommendations on the file and submits it to the municipal commissioner for his approval.
7. The municipal commissioner, after considering the recommendations made by the TPO and TPS approves the application. At this time the Municipal Commissioner can also reject the application on certain grounds. The rejection is then communicated to the applicant.
8. Once approved by the Commissioner, the TPS prepares the proceedings (the order authorizing the construction/modification) and sends it to the TPO for his approval.
9. The TPO approves and provides his recommendations on the order and submits it to the municipal commissioner for his approval.
10. The commissioner approves the proceedings.
11. The TPS issues the approval order and the sanctioned building plan to the applicant.

It is to be noted that that the building sanction obtained from the local body does not bestow upon the applicant any rights or ownership over the land or property concerned. The registered title deed is the only proof of ownership that the applicant is required to provide as part of the supporting documentation.

Process Parameters

The Table III.1 details various Inputs, outputs and controls for the Process I.1: Building Plan Approval

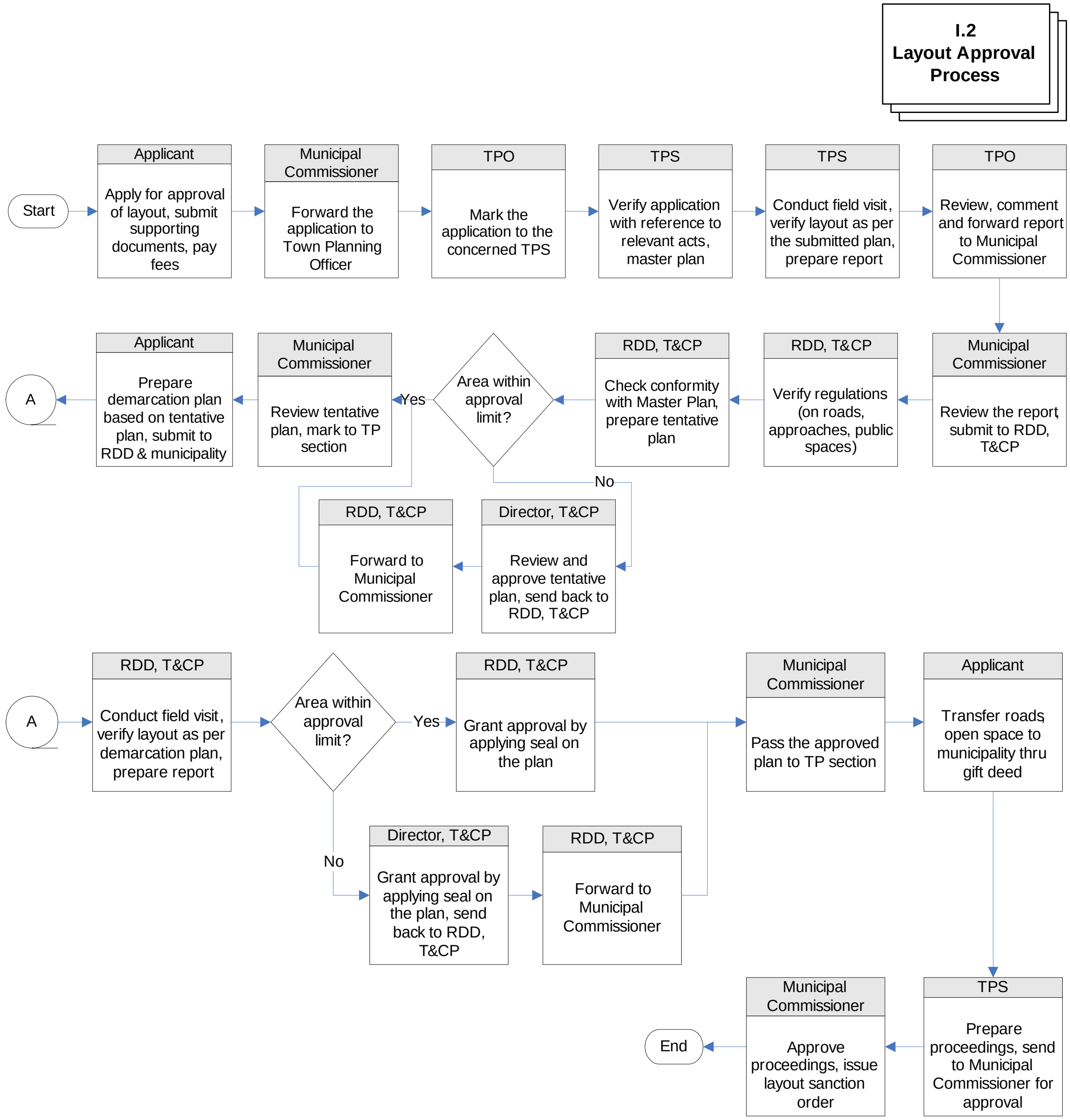
Table III.1: Process Parameters for Building Plan Approval

Inputs	Outputs	Controls
Application Supporting documents Building Plan Application fee.	Application number Approved Building Plan Fee Receipts Status of Building Plan application Intimation to Revenue department for future PT Collection.	Checklists in the system to ensure completeness of applications submitted Scrutiny of building plans with reference to regulations Workflow control to ensure the correct approver based on different categories & dimensions of the building (e.g. different approvers for buildings less than and more than 10 meters height).

III.2.2 Layout Approval

The process map and steps required for obtaining the layout plan approval are described in the Figure (Figure III.2) below:

Figure III.2: Layout Approval Process



1. The applicant prepares a written request, and submits the related documents to the town planning section of the municipality along with the fees. The documents required to be submitted by the applicant are:
    a. Registered title deed, duly attested by a gazette officer
    b. Site plan (in quadruplicate) drawn to a scale not less than 1:1000 on tracing paper, attested by a licensed surveyor
    c. Detailed plans (in quadruplicate) drawn on a scale not less than 1:500, attested by a licensed surveyor. The plan must indicate the following details:
        i. Boundaries of the land as per certified survey records with survey number indicated
        ii. Alignment of proposed streets
        iii. Proposed sizes and number of plots
        iv. Places set apart for public purposes (as mentioned in the relevant sections of the act)
        v. Electric and telegraph lines, water mains, sewers, alignment with major highways, roads passing through the layout, etc.
    d. Non-encumbrance certificate obtained from the registration department. True copies must be attested by a gazette officer.
2. The applicant obtains a receipt from the TP section. The TP section staff updates the layout register.
3. The municipal commissioner forwards the application to the TPO.
4. The TPO in turn marks it to the relevant TPS/TPBS for further scrutiny of the application form.
5. The TPS/TPBS checks the particulars of the application, the plan submitted, and the supporting documents to ensure those roads and other public spaces have been provided for as per the relevant rules. He further checks with the master plan for proposed land use patterns.
6. The TPS/ TPBS further conducts a field inspection to ensure compliance with stated plans. The TPS/TPBS prepares and submits his field report to the TPO.
7. The TPO provides his recommendations and forwards the file for the review of the municipal commissioner.
8. The municipal commissioner reviews and approves, and forwards the file to the Regional Deputy Director, Town & Country Planning (RDD, T&CP) for his technical advice.
9. The RDD, T&CP verifies the plan for compliance with regulations on roads, approaches, public spaces, etc. He further checks conformity with the master plan for the location and prepares a tentative site plan. If the area under consideration is less than the prescribed approval limit of the RDD, T&CP, the RDD, T&CP prepares a tentative site plan and forwards it to the municipality.
10. In the event the area under consideration is greater than the prescribed limit, RDD, T&CP, forwards the application to the Director, Town & Country Planning (D, T&CP) for his advice. The D, T&CP after reviewing the tentative plan, approves and forwards the same to the municipal commissioner through the RDD, T&CP.

11. The municipal commissioner reviews the tentative plan and forwards it to the TP section of the municipality, from where the applicant is informed of the approval.
12. The applicant obtains the tentative plan from the municipality, and reviews the same. The applicant then prepares a demarcation plan based on the tentative plan and submits it to the municipality. He also submits a copy of the same to the office of the RDD, T&CP.
13. The relevant personnel from the office of the RDD, T&CP performs the field inspection to ensure conformance with the demarcation plan. The RDD, T&CP then prepares a report on the findings of the field inspection.
14. If satisfied, and if the area of the land under consideration is within the approval limits of the RDD, T&CP, the RDD, T&CP approves the layout by applying his seal on the plan. In case the land under consideration is greater than the prescribed approval limit of the RDD, he forwards his field inspection report to the Director, T&CP who accords the approval.
15. The approved plan is submitted to the municipal commissioner's office, who in turn passes the same to the TP section.
16. On receiving the information from the TP section, the applicant transfers the open spaces, as indicated in the plan to the control of the Municipality, free of cost through a registered gift deed.
17. The TPS/TPBS prepares the proceedings based on the requisite approvals and forwards the same, through the TPO, to the commissioner for his approval.
18. The commissioner approves the proceedings and provides sanction to the layout. A layout number is allotted to the layout. Subsequently, the TP section updates the master plan to include the approved layout. The immovable property register is updated to include details of the lands transferred to municipal control.

The layout sanction obtained from the commissioner does not bestow upon the applicant, any rights or ownership over the land or property concerned.

Process Parameters

The Table III.2 details various Inputs, outputs and controls for the Process I.2: Layout Approval

Table III.2: Process Parameters for Layout Approval

Inputs	Outputs	Controls
Application Supporting documents Layout Plan Application fee Demarcation plan.	Application number Field Inspection Report Proceedings Fee Receipts Layout Approval status Intimation to Revenue department for future collections Approved Layout Plan.	Checklists in the system to ensure completeness of applications submitted Workflow control to ensure the correct approver based on different area of the layout.

III.3 Interface Requirements

The Following Table (Table III.3) highlights the Interface Requirements

Table III.3: Interface Requirements

Interface with module	Information received	Information given
Building Plan & Layout:		
Property Tax	NA	Details of new plans sanctioned for updating Property tax database
Vacant Land Tax	NA	Details of new plans sanctioned for updating Vacant Land tax database
Water Tax	NA	Details of new plans sanctioned for updating Water tax database
File Movement	NA	File numbers of applications submitted
Grievance Redressal	NA	Application Number for building/layout plan approval
Court Cases	NA	Application details
Financial Accounting	Cash collected, cheques dishonored, details of party	Cash collection
Assets & Inventory	NA	Changes in land assets upon approval of new layouts
Advertisement Tax, Dangerous & Offensive Trade Licenses	Advertisement sites (hoardings, etc.) in the layout under consideration	Details of new plans sanctioned for issue of trade licenses, if applicable
Projects and Works, Schemes	Ward works in progress in the layout under consideration	NA

III.4 Building Plan Approval - Functional Requirements Specifications

The Following Table (Table III.4) highlights the FRS for Building Plan Approval

Table III.4: FRS for Building Plan Approval

No.	Requirement
Building Plan Approval	
1	Enable the Data entry operator (Counter clerk) to add/update the following information in the system: • Application type name

	• Category name • License category name • Layout category name and category description • Surveyor/licensed architect • Revenue village name • Circle Division Master • Zone/Ward.
2	Enable applicants to fill and submit the building plan application online and to attach necessary drawings in the soft copy. Allow municipal officials to access/download the same for verification of particulars.
3	Enable staff to enter required documents for building permission based on the height of the proposed structure. Various categories based on the height should be allowed to be entered.
4	Facilitate entering of the building application details such as applicant information, building information, licensed architect information, and the technical and fee details.
5	Facilitate checking of the physical documents submitted by the applicant for building plan approval. Based on these an acknowledgement should be generated and given to the applicant.
6	Facilitate checking and assessing the balance fee charges for an applicant and calculate the total amount to be paid.
7	Facilitate entering of the inspection and scrutiny details for the building plan permission such as the Site Inspection Report (fields such as application no., applied for, application date, applicant details, usage, building category, inspector details, date of inspection, etc.), Fee & Charges Calculations, and Certificate and Document Verification Report. Further system should facilitate generation of an endorsement or building permission order to the applicant, based on the scrutiny.
8	Generate application reference for Building Plan Application/ Layout Application for the applicant and facilitate online tracking of the status of the application.
9	Online help should be available to the user for each system function. Topics covered in the user manual shall also be available through the online help.
10	Enable integration of the module with the following module to facilitate exchange of data: Property Tax, Vacant Land Tax, Water Tax, File Movement, Grievance Redressal, Court Cases, Financial Accounting, Assets & Inventory, Advertisement Tax, Trade Licenses, Project/ward works, and schemes.
11	Track delays in approval steps and maintain an audit log of the approval process steps.
12.	Ability to check for pending taxes if any – add as functionality – interface.
13.	Ability to track arrears due to the ULB and the robust ness of the system needs to be maintained

III.5 Layout Approval- Functional Requirement Specifications

The Following Table (Table III.5) highlights the FRS for Layout Approval

Table III.5: FRS for Layout Approval

No.	Requirement
1	Enable staff to enter the required documents for layout permission.
2	Facilitate adding/updating the required mapping documents for layout permission.
3	Facilitate entering of the layout application details such as applicant information, physical layout details, licensed architect, and the technical data and fee details.
4	Facilitate entering of the nature and details of unauthorized construction, if any, on the layout. Further, facilitate entry of the notice details in relation to the same.
5	Enable applicants to fill and submit the layout approval application online along with provision to attach necessary drawings in the soft copy. Facilitate online verification of the documents submitted for layout approval.
6	Facilitate checking and assessing the balance fee charges for an applicant and calculate the total amount to be paid.
7	Generate application number for the applicant to be used by him for online tracking of his application's status.
8	Facilitate entering of the inspection and scrutiny details for the layout permission.
9	Facilitate entry of and maintenance of following data, at a minimum, on Road Widening: • Name of Road • Length of Road • Existing Road Width • Proposed Road Width • Affected Road Width • Municipality • No. of Properties Affected • No. of Consents Taken • No. of Structural Compensation Paid • No. of Structural covered by Court Order
10	Facilitate entry and maintenance the following details by the system in relation to the approved layout: • Reserved Open Spaces • Bus Bays • Parking Lots • Play Grounds • Junction Improvements • Encroachments • Drains • Water Supply • Sewerage • Electricity Lines

III.6 Data Standards

The following table (Table III.6) presents the data standards

Table III.6: Indicative Data Standards

Field Name	Data Type	Mandatory (Yes/No)	Nature
Application number	Number	Yes	Automatic
Application type (Building/Layout)	Text	Yes	List Box
Application date	Date	Yes	Masked Text Box Entry
Applicant name	Text	Yes	Text Box Entry
Applicant address	Text	Yes	Text Box Entry
Applicant Phone/Fax	Number	No	Text Box Entry
Application fee	Number	Yes	Text Box Entry
Conversion fee	Number	Yes	Text Box Entry
Security deposit (in case of commercial buildings)	Number	Yes	Text Box Entry
Supporting documents	Text	Yes	Check Box Option
Municipality Name	Text	Yes	List Box
Revenue village/Block No./Name	Text	Yes	List Box
Locality No./Name	Text	Yes	List Box
Zone No./Name	Text	Yes	Text Box Entry
Circle/Division Name	Text	Yes	List Box
District No./Name	Text	Yes	List Box
Plot size	Double	Yes	Text Box Entry
Building category	Text	Yes	List Box
Building area	Double	Yes	Text Box Entry
Building height	Double	Yes	Text Box Entry
Building floors	Integer	Yes	List Box
Building Setback area	Double	Yes	Text Box Entry
Intended usage	Text	Yes	List Box
Surveyor/licensed architect Name	Text	Yes	Text Box Entry
Architect Membership No.	Text	Yes	Text Box Entry
Layout category name	Text	Yes	List Box
Layout category description	Text	Yes	Text Box Entry
Layout area	Double	Yes	Text Box Entry
Inspector Name	Text	Yes	Text Box Entry
Date of inspection	Date	Yes	Masked Text Box Entry
Master plan conformity details	Text	Yes	Text Box Entry
Inspector recommendations	Text	Yes	Text Box Entry

TP Section Head recommendations	Text	Yes	Text Box Entry
Date of communication of tentative plan	Date	Yes	Masked Text Box Entry
Date of receipt of consent and demarcation plan from applicant	Date	Yes	Masked Text Box Entry
Commissioner Order	Text	Yes	Text Box Entry
Ward No	Number	Yes	Text Box Entry
Ward Name	Text	No	Text Box Entry

IV Water Supply Module

IV.1 Introduction

Municipalities provide water tap connection to citizens and also collect the water charges from those who are having the connection. The water charges collections are different for different Municipalities. Few municipalities collect the charges using meter readings whereas other follow the fixed water charges.

Water charges are collected based on the usage of water, water source type, size of the pipe size, rate per month, per unit of volume etc. Water charges are applicable for all the citizens having water tap connection. Charges are determined based on, whether the connection is metered or non-metered. There are different kinds of water tap connections available such as domestic non-metered tap, domestic metered tap, commercial metered tap, and industrial water metered tap. Water tax rates collected may be also in some states part of the water tax.

IV.2 Process Overview

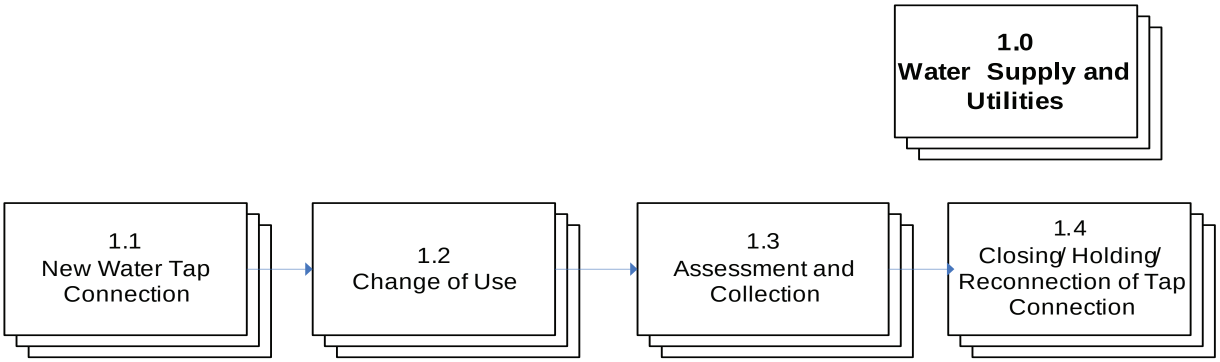
This process involves capturing details of water connections of all types, verification and feasibility details for sanctioning water tap connections, issue of consumer numbers, details of payments for new connections, generating of demand notices, maintenance of arrears details, details of disconnection and regularization of illegal connections, etc.

The main activities as part of water supply module includes:

- Receipt of application, inspection, processing and issue of water tap connection
- Levy of tax for the water used based on the type of connection
- Issue of demand notices
- Collection and monitoring of taxes and regularization charges
- Disconnection in cases of non-payment and illegal connections.

The water supply process has been divided into four sub-processes as depicted in Figure IV.1 below

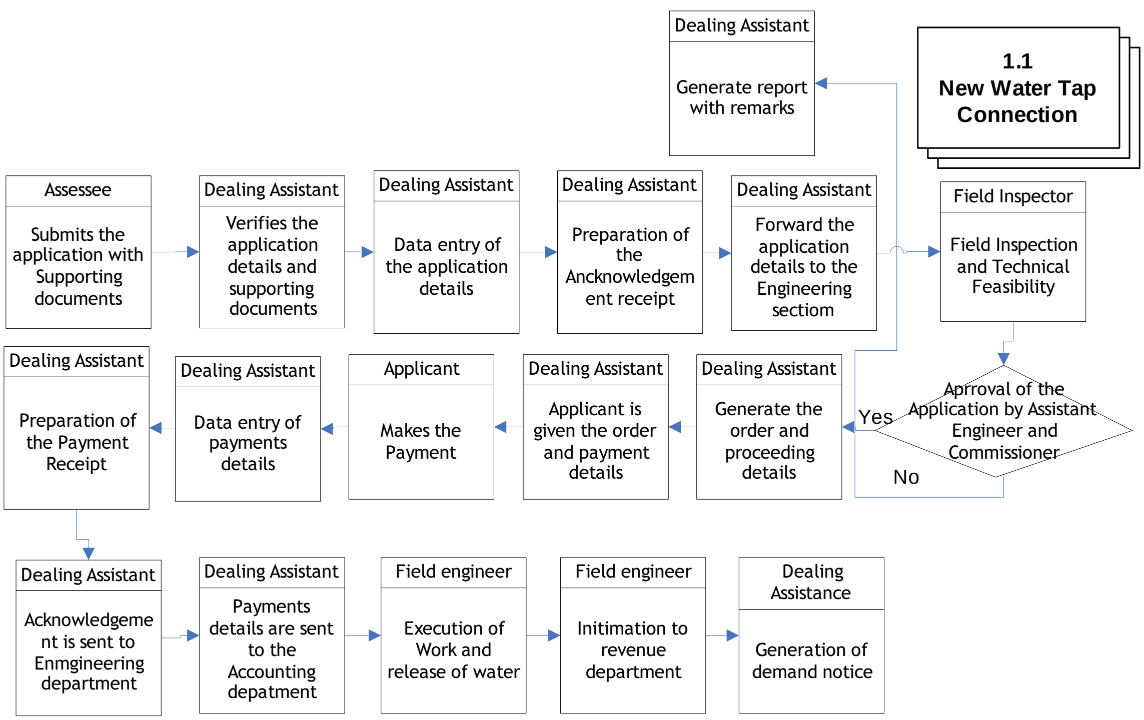
Figure IV.1: Water Supply Process Overview



IV.2.1 New Water Tap Connection

The process is depicted below in Figure IV.2

Figure IV.2: New Water Tap Connection



The process is as described below.

1. Assessee submits the application form to the ULB. The mandatory supporting documents include
    a. Registered sale deed
    b. Last paid Copy of property Tax Receipt
    c. Copy of Building Plan Approval /permissions.

2. An acknowledgement is issued to the applicants after verification and data capturing of the application details. The acknowledgement consists of a reference number for future reference.
3. After issue of acknowledgement of field verification checklist is prepared for the field inspectors.
4. After field verification, Assistant Engineer and Commissioner verify the application details and approve the application.
5. After approval, the order and the payment details are issued to the applicant.
6. The applicant pays the requisite fee and receives a Payment receipt acknowledgement.
7. If the connection is a metered connection then the cost of the meter is also paid by the applicant.
8. After the payment an order to release the connection is granted and the field work force executes the task of providing the connection.
9. After the connection is established and water is released and a unique water connection ID is generated.

Process Parameters

The Table IV.1 details various Inputs, outputs and controls for the Process

Table IV.1: New Water Connection

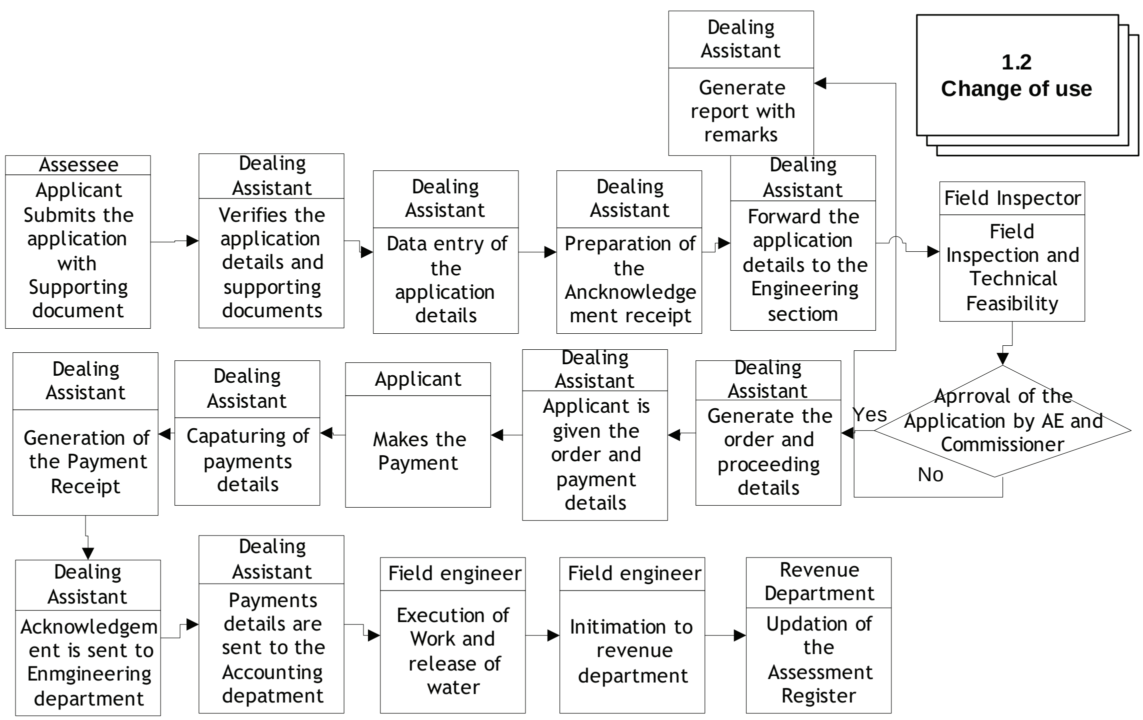
New Water Tap Connection		
Inputs	**Outputs**	**Controls**
Application details (Application No, Application Type, Name of Applicant, Door No Location, Address, Phone No,Zone,Revenue Ward No, Date of a application, Category ,Usage type ,Connection Type ,Pipe Sizes , Capacity, number of connections) Property Id Field verification details Property Assessment details Building permission details Payment details.	Issue of acknowledgement of Receipt of application Field verification checklist Report. Intimation letter or proceedings for Tap connection. Work order for new connection. Demand Notice after connection Acknowledgement of Payment Receipt. Approval details with unique Water Tax ID	The following documents are mandatory • Registered sale deed • Last paid Copy of property Tax Receipt • Copy of Building Plan Approval /permissions. • Validation of Owner details with the verification checklist details Validation of Preferred user id chosen by the user against the current user base to avoid duplicity The information which is auto-populated in the fields should be retrieved from the Master data base (Zones, Location, wards etc.)

		Validations on the mandatory fields Validations to check the data type of the field.

IV.2.2 Change of Use

The process is depicted below in Figure IV.3

Figure IV.3: Change of Use



The process is as described below.

1. Assessee submits the application form with supporting documents. The mandatory supporting document include:
    a. Latest water charges receipt of existing tap connection.
2. An acknowledgement is issued to the applicants after verification and data capture of the application details. The acknowledgement consists of a file no. for future reference.
3. After issue of acknowledgement field verification checklist is generated for the field inspectors.

4. After field verification, Assistant Engineer and Commissioner verify the application details and approve the application.
5. After approval, the Change of Use order and the payment details are issued to the Applicant.
6. The applicant pays the requisite fee and receives the payment receipt acknowledgement.
7. After the payment an order to release the connection is granted and the field work force executes the task of change of usage in connection.
8. After execution of the work the revenue department is intimidated for updation of the assessment register.

Process Parameters

The Table IV.2 details various Inputs, outputs and controls for the Process

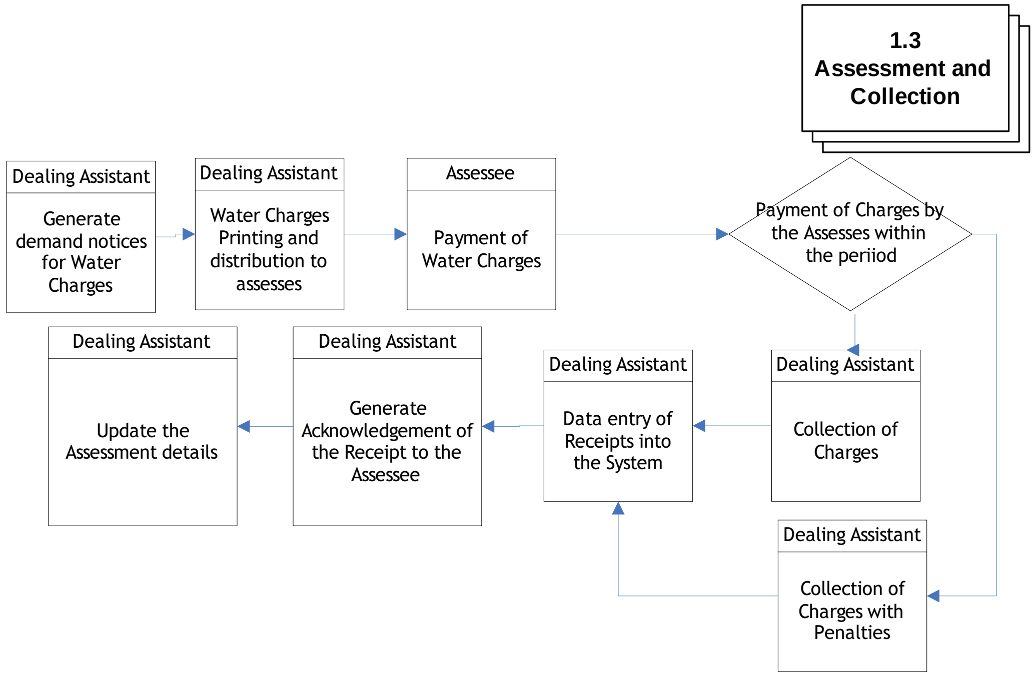
Table IV.2: Change of Use

Change of Use		
Inputs	**Outputs**	**Controls**
Application details (Water tax ID , Property ID, Application date, Reason for Change etc) Consumer Details Field Verification Details Change of use Fee details.	Acknowledgement of the Application Checklist for Field Verification Order for Change of Use Change of use Fee Receipt.	The following document is mandatory. • Latest Water Charges Receipt of Existing Tap Connection Validation of preferred user id chosen by the user against the current user base to avoid duplicity The information, which is auto-populated in the fields, should be retrieved from the Master data base (Zones, Location, wards etc.) Validations on the mandatory fields Validations to check the data type of the field.

IV.2.3 Assessment and Collection

The process is depicted below in Figure IV.4

Figure IV.4: Assessment and Collection



The process is as described below:

1. The revenue section generates demand notices for all assesses. Demand notice consists of details regarding demand-year, demand date, arrear, current water tax and penalties etc., citizen pays the amount specified in the demand notice, within the time period specified. There can be different channels through which this payment can be made (online (Department's portal), citizen service centers etc.)
2. After payment, an acknowledgement and payment receipt is generated and given to the applicant
3. After generating the payment receipt, updation of the demand register with payment information is updated by the Revenue section.

Process Parameters

The Table IV.2 details various Inputs, outputs and controls for the Process IV.2.3: Assessment and Collection

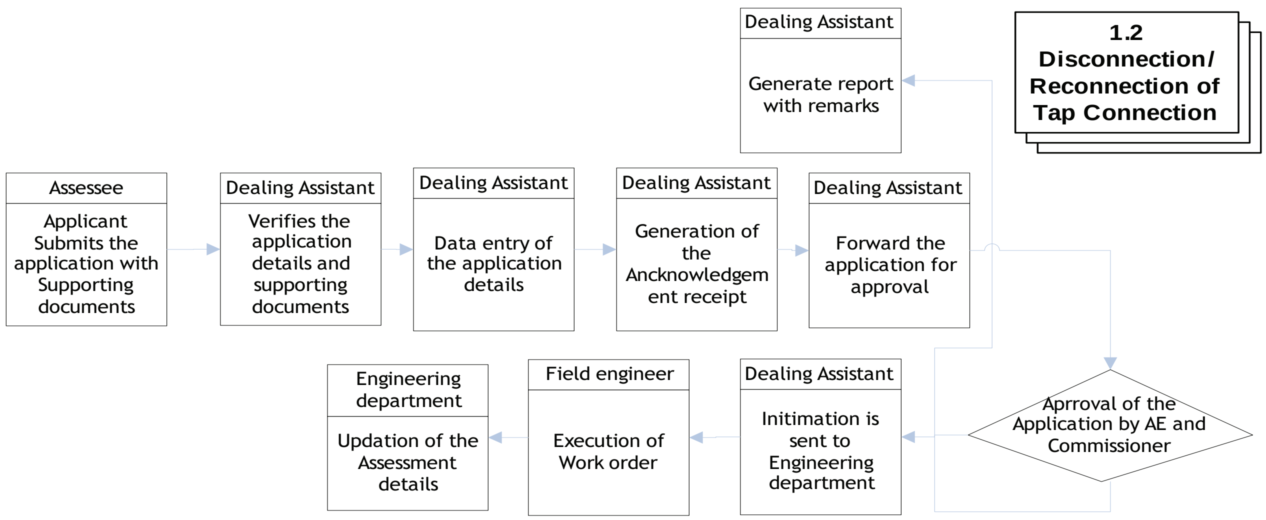
Table IV.2: Assessment and Collection

Assessment and Collection		
Inputs	**Outputs**	**Controls**
Assessment Details Arrear Details Payment details Master details such as (Slab master, Water tax rate, Usage etc.)	Generation of Demand Notice Water Tax Payment Receipt	Validation of the Water Charges calculation method Collection of Arrears should be done first The information which is auto-populated in the fields should be retrieved from the Master data base (Zones, Location, wards etc.) Validations on the mandatory fields Validations to check the data type of the field

IV.2.4 Disconnection/Reconnection of Tap Connection

The process is depicted in Figure IV.5 below:

Figure IV.5: Disconnection/Reconnection of Tap Connection



The process is described below.

1. Assessee submits the application form .The mandatory supporting document include:
    a. Latest water charges receipt of existing tap connection.
2. An acknowledgement is issued to the applicants after verification and data capturing of the Application details. The acknowledgement consists of a File No. for future reference.
3. After issue of acknowledgement, the application is forwarded to the AE for approval.
4. After the approval from AE the application details are forwarded to the Commissioner for further approval.
5. After the approval of the Commissioner, the order for Disconnection/Reconnection is generated.
6. The applicant pays the requisite fee and receives payment receipt acknowledgement.
7. After the payment an order to release the connection is granted and the field work force executes the task (Disconnection/Reconnection).
8. After execution of the work the Revenue section is intimated for updation of the Assessment details.

Process Parameters

The below mentioned table (Table IV.3) details various Inputs, outputs and controls for the Disconnection /Reconnection process

Table 1V.3: Disconnection /Reconnection

Disconnection /Reconnection		
Inputs	**Outputs**	**Controls**
Application for Disconnection /Reconnection order Unique Water Tax ID Consumer Details Water Charges details Fee Collection details	Acknowledgement of the Disconnection /Reconnection Application Disconnection /Reconnection order Payment receipt acknowledgement	The following document is mandatory. • Latest Water Charges Receipt of Existing Tap Connection The information which is auto-populated in the fields should be retrieved from the Master data base (Zones, Location, wards etc.) Earlier arrears should be cleared Validations on the mandatory fields Validations to check the data type of the fields

IV.3 Interfaces Required - Water Supply Module

The interfaces required for the water supply module are given in Table 1V.4

Table 1V.4: Interfaces with other Modules

Interface with whom	Information received	Information given
Vacant Land Tax Module	Vacant land details	Owner details with water Tap connection details
Property Tax Module	Property Identification and Assessment details	Owner details with water Tap connection details
Building & Layout Approval Module	Building Plan Approval Details	Owner Details, Water tap Connection details
Project & Works	Execution of field work details , establishment of Water tap Connection	New Connection, Disconnection, Reconnection, Change of use etc details
Public Grievance Redressed Module	Grievances/ Queries	Status of the Grievances/Queries, redressal steps taken
Court Cases	Petition details regarding Water tap Connection and tax calculation	Connection and tax details
Accounting Module	Cash collected, cheques dishonored, details of party	List of bills raised, assessee wise outstanding with ageing analysis

IV.4 Functionality Requirement Specifications

This section describes an indicative Functional Requirement Specifications for the Water Supply Module, in Table IV.5

Table IV.5: Functionality Requirement Specifications

No.	Requirement
User Authentication	
1	To query the database - user-id table and the password for the given user id is compared. If appropriate menu is displayed, other wise error message is displayed.
2	Usage of Biometric Authentication Methods such as Finger Print Technology for authentication or PKI Architecture.
New Water tap Connection	
3	Ability to accept and maintain the application details (Addition/ Modify/Search/Cancel) • Application No • Application Type

	• Name of Applicant
	• Water Tax ID
	• Property tax ID
	• Door No
	• Location
	• Address
	• Phone No
	• Zone
	• Revenue Ward No
	• Date of a application
	• Category
	• Usage type
	• Connection Type
	• Pipe Sizes
	• Sump Capacity
	• Property type
	• Assessment No
	• Building permission No
	• Block No
	• Check List
	• Fee particulars
	• Application Fee
	    o Mode of Payment
	    o Bank
	    o DD/Cheque No/Challan No
	    o Date of Payment.
	• Advance
	    o Mode of Payment
	    o Bank
	    o DD/Cheque/Challan No
	    o Date of Payment.

4	Ability to generate an application acknowledgment receipt through the system either online /offline.
5	Ability to generate the field verification checklist
6	Ability to enter the details regarding the field verifications.
7	Ability to enter the approval and remarks of the AE/ME. AE/ME approval details are recorded for tracking the application/file status of the applicant.
8	Ability to enter the approval and remarks of the commissioner. Commissioner's approval details are recorded for tracking the application/file status of the applicant.
9	Ability to capture the proceedings and Order details for order generation. The Proceedings and Order against each application number is recorded and the corresponding proceeding and order umbers are stored.
10	Ability to enter Details of order payments. All the collections pertaining to the release or sanction connections are maintained.
11	Ability to capture the work execution details. After the order to New connection is

	granted and the payments made are acknowledged by the revenue department the field work force executes the task of providing the connection and on completion the details are entered into the system. The details of the work executed for the purpose of new connection to the consumer and the meter details are maintained.
12	Ability to capture the meter reading as on date for metered-connections.
13	Ability to maintain the details of the unauthorized/illegal connections as per the field inspection made by the inspectors.
Change of Use	
14	Ability to facilitate in entering/adding the application details for Change of use and also facilitates in modifying an existing record and deleting an existing record.
15	Ability to facilitate in issuing an acknowledgement for the application for Change of Use.
16	Ability to enter the details regarding the Field verifications.
17	Ability to enter the approval and remarks of the AE/ME. AE/ME approval details are recorded for tracking the application/file status of the applicant.
18	Ability to enter the approval and remarks of the commissioner. Commissioner's approval details are recorded for tracking the application/file status of the applicant.
19	Ability to capture the proceedings and Order details for order generation. The Proceedings and Order against each application number is recorded and the corresponding proceeding and order umbers are stored.
20	Ability to enter Details of order payments. All the collections pertaining to the release or sanction connections are maintained.
21	Ability to capture the work execution details. After the order to change of use is granted and the payments made are acknowledged by the revenue department the field work force executes the task of providing the connection and on completion the details are entered into the system. The details of the work executed for the purpose of change of use to the consumer and the meter details are maintained.
Assessment and Collection of Water Tax	
22	Ability to maintain the of the water tap consumer are entered. The water charges pertaining to each consumer is calculated and maintained. • Consumer No • Name of Consumer • Location • Address • Phone No • Zone • Revenue Ward No • Block No • Date of a application • Number per connection Type • Category Type • Usage type • Connection Type • Pipe Sizes • Property type

	• Assessment No • Building permission No • Security Deposit • Connection Charges • Name of the Meter • Meter Serial No • Meter owned By • Initial Meter Reading • Status (Active/Disconnected/Holding/Permanently Closed)
23	Ability to maintain the details of arrears as per the assessment and as on date.
24	Ability to generate demand notices.
25	Ability to maintain details of the payment collected from the consumer • Receipt No • Date • Demand year • Consumer No • Payment Mode • Bill Collector Code
26	Ability to maintain the advance charges paid by the consumer along with the adjustment period.
27	Ability to enter/add the Arrear details and Water tax levied for assessment and also facilitates in modifying an existing record and deleting an existing record.
28	Ability to generate the demand registers for the specified period. This function facilitates printing of demand notices.
29	Ability to generate the Water tax paid for the Assessment.
Closing/Holding and Reconnection	
30	Ability to captures the details for Closing/Holding/Reconnection Applications.
31	Ability to facilitate in issuing an acknowledgement for the application for Change of Use.
32	Ability to generate the field verification checklist
33	Ability to enter the details regarding the field verifications
34	Ability to enter the approval and remarks of the AE/ME. AE/ME approval details are recorded for tracking the application/file status of the applicant.
35	Ability to enter the approval and remarks of the commissioner. Commissioner's approval details are recorded for tracking the application/file status of the applicant.
36	Ability to capture the proceedings and Order details for closing/Holding/Reconnection.
37	Ability to capture the work execution details.
Master Maintenance	
38	Ability to maintain details of Revenue Zones(Addition/Modification/Search)
39	Ability to maintain details of Revenue Wards(Addition/Modification/Search)

40	Ability to maintain details of Revenue Blocks (Addition/Modification/Search)
41	Ability to maintain details of Locations (Addition/Modification/Search).
42	Ability to maintain details of Bill Collector (Addition/Modification/Search).
43	Ability to maintain details of Application Type (Addition/Modification/Search).
44	Ability to maintain details of Connection Types (Addition/Modification/Search).
45	Ability to maintain details of Water Sources Types (Addition/Modification/Search).
46	Ability to maintain details of Usage Type (Addition/Modification/Search).
47	Ability to maintain details of Pipe Size Master(Addition/Modification/Search)
48	Ability to maintain details of Security Deposit Master (Addition/Modification/Search).
49	Ability to maintain details of Meter Cost (Addition/Modification/Search).
50	Ability to maintain details of Charges (Addition/Modification/Search)
51	Ability to maintain details of regularization penalty (Addition/Modification/Search).
52	Ability to maintain details of Enclosure document(Addition/Modification/Search)
53	Ability to maintain details of Demand and penalty period (Addition/Modification/Search).
54	Ability to maintain details of penalty(Addition/Modification/Search)
55	Ability to maintain details of slab rates for metered connection Master (Addition/Modification/Search).
56	Ability to maintain details of slab rates for non-metered connection Master (Addition/Modification/Search).
57	Ability to maintain details of bank master (Addition/Modification/Search).
58	Ability to maintain details of bulk sanctions Master (Addition/Modification/Search)
59	Ability to maintain details of probable days of Application processing Master (Addition/Modification/Search)
60.	Ability to maintain IDs such as Water Tax ID and Property Tax ID (Addition/Modification/Search) and mapping of these IDs
MIS & Reports	
61	Acknowledgment for application
62	Intimation letter or proceedings for tap connection
63	Work order
64	Consumer register (All Water Tap Connections Details)
65	Disconnection Notice for unauthorized Connection
66	Disconnection Notice for existing Connection
67	List of Tap Connections Sanctioned in Specified Period
68	Demand Register
69	Arrear Demand Register (All Water Tap Connections Arrears list)
70	Preprinted Demand Notice
71	Bill collector wise collected Water charges
72	Location wise collected Water charges

73	Zone wise collected Water charges
74	Arrear Details individual list
75	Report for all Water Tap connections DCB
76	Block wise DCB report.
77.	Individual DCB report
78.	Modification /Reconnection Details report
79	Assessment Register details

IV.5 Indicative Data Standards – Water Supply Module – Key Fields

The indicative data standards guidelines for water supply module is given in Table IV.6

Table IV.6: Indicative Data Standards

Field Name	Data Type	Mandatory (Yes/No)	Nature
Consumer No	Number	Yes	Automatic
Date of Application	Date/Time	Yes	Masked Text Box Entry
Name of Consumer	Text	Yes	Text Box Entry
Father/Husband Name	Text	No	Text Box Entry
Revenue Zone Number	Number	Yes	Pick-up value
Ward Number	Number	Yes	Pick-up value
Block Number	Number	Yes	Pick-up value
Category	Text	Yes	Pick-up value
Usage Type	Text	Yes	Pick-up value
Connection Type	Text	Yes	Pick-up value
Pipe Sizes	Number	No	Text Box Entry
Mode of Payment	Text	Yes	Pick-up value

Application Fee	Number	Yes	Text Box Entry
Advance	Number	No	Text Box Entry
Connection Charges	Number	Yes	Text Box Entry
Meter Reading	Number	No	Text Box Entry
Status	Text	Yes	Pick-up value
Demand Year	Date/time	Yes	Masked Text Box Entry

V Birth and Death Module

V.1 Introduction

In India, the registration of births and deaths has been made compulsory under the Registration of Births & Deaths Act, 1969. The registration of birth and deaths is one of the major functions of Municipality. Registrar of the Municipality is the authorized person for issue of birth and death certificates. Municipal Commissioner is the registrar for births & deaths registration in the municipality. Hospitals are responsible for the registration of births & deaths within the municipality. The births and deaths, which take place in the hospital are recorded and reported to the municipalities. For non-hospital events, the concerned parties can make necessary applications to the Municipalities.

V.2 Process Overview

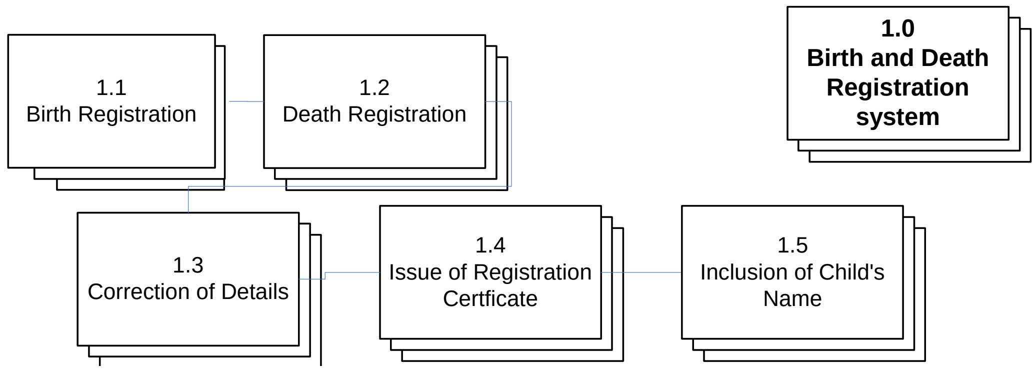
Birth and death process primarily deals with recording of birth and death details taking place within the respective municipalities. Recording/registration of the primary data in relation to birth/death, information on the fee collected including the penalties, issue of the certificates are part of the process.

The main activities of birth and death process include:

- Birth & death registration
- Issue of birth and death certificates
- Corrections in the registration details
- Updation of registration details (Inclusion of child's name).

The Birth and Death process has been divided into five sub-processes as depicted in Figure V.1 below

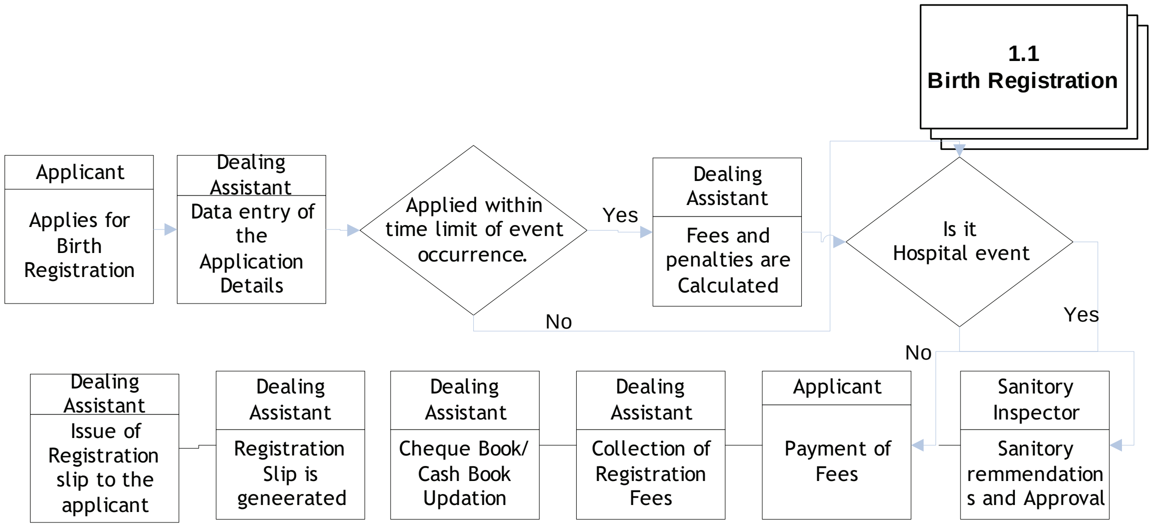
Figure V.1: Birth and Death Process Overview



V.2.1 Birth Registration

The process is depicted in Figure V.2 below

Figure V.2: Birth Registration



The process is as described below.

1. Applicant submits the application form to the ULB.
2. The application details are captured verification checks are conducted for data validity.
3. Time limits for application of birth registration include:
   a. Registration of births can be done in the office of sub-registrar of births of the concerned ward or municipal office within 21 days
   b. Births can be got registered, within a month by paying the requisite fee into municipal treasury, if the previous step has not been performed
   c. Registration of births after one month and below one year can be done with permission of Registrar of Births (Municipal Commissioner) by payment of requisite penalty duly enclosing an affidavit attested by Notary
   d. Registration of births after one year can be got done after obtaining orders from Revenue Divisional Officer or First Class Executive magistrate duly remitting the requisite fees through challan.
4. The applicant pays the requisite fee for birth registration (with penalty fees).
5. Registration slip is generated by dealing assistant or the facilitation counter operator and given to the applicant.

Process Parameters

The Table V.1 details various Inputs, outputs and controls for the Process V.2.1: Birth Registration

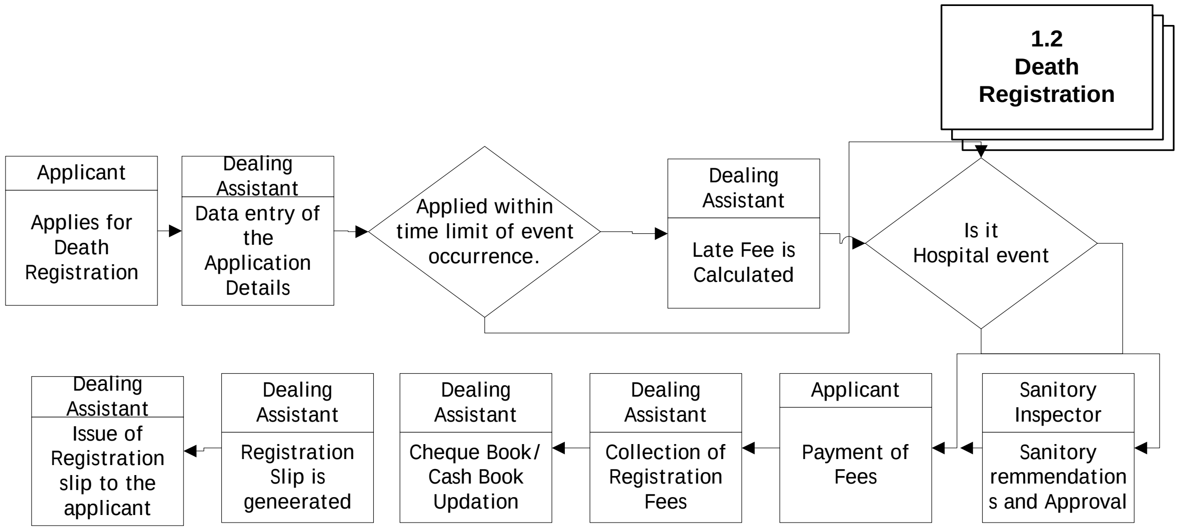
Table V.1: Birth Registration

Birth Registration		
Inputs	**Outputs**	**Controls**
Application details(Application No, Application date , Fees to be paid etc) Hospital Details **Birth Details (**Registration No Registration Date ,Sex of the Child (Male/Female) Date of Birth , Name of the Child Place of Birth Permanent Address, Residential Address Medical Attention Hospital/Institution Name ,Order of Birth Father's Name , Father's Social Security ID Father's Literacy, Father's Occupation ,Father's Nationality Father's Religion Mother's Name, Mother's Literacy, Mother's Occupation, Mother's Nationality ,Mother's Religion Informant Name Informant Address) Type of Delivery/ Birth : Normal /caesarian ,ULB ward Office Sanitary Inspector Recommendations	Payment Receipt Registration Slip Payment receipt MIS	Calculation of the fee based on date of Application and Birth date Validation of Preferred user id chosen by the user against the current user base to avoid duplicity Authenticity of the Birth details should be validated The information which is auto-populated in the fields should be retrieved from the Master data base (Hospital, Registrar, Fee Details etc.) Validations on the mandatory fields Validations to check the data type of the field

V.2.2 Death Registration

The process is depicted below in Figure V.3

Figure V.3: Death Registration



The process is as described below.

1. Applicant submits the application to the ULB.
2. The application details are captured and verification checks are conducted for data validity.
3. Time limits for application of death registration:
    a. Registration of death can be done in the office of Sub-Registrar of Death of the concerned ward or municipal office within 21 days
    b. Death can be got registered, within a month by paying the requisite fee into municipal Treasury, if the previous step has not been performed
    c. Registration of Death after one month and below one year can be done with permission of Registrar of Death (Municipal Commissioner) by payment of requisite penalty duly enclosing an affidavit attested by Notary
    d. Registration of Deaths after one year can be got done after obtaining orders from Revenue Divisional Officer or First Class Executive magistrate duly remitting the requisite.
4. The applicant pays the requisite fee for death registration depending on the time lag.
5. Registration slip is generated by dealing assistant and given to the applicant.

Process parameters

The Table V.2 details various Inputs, outputs and controls for the Process V.2.2: Death Registration

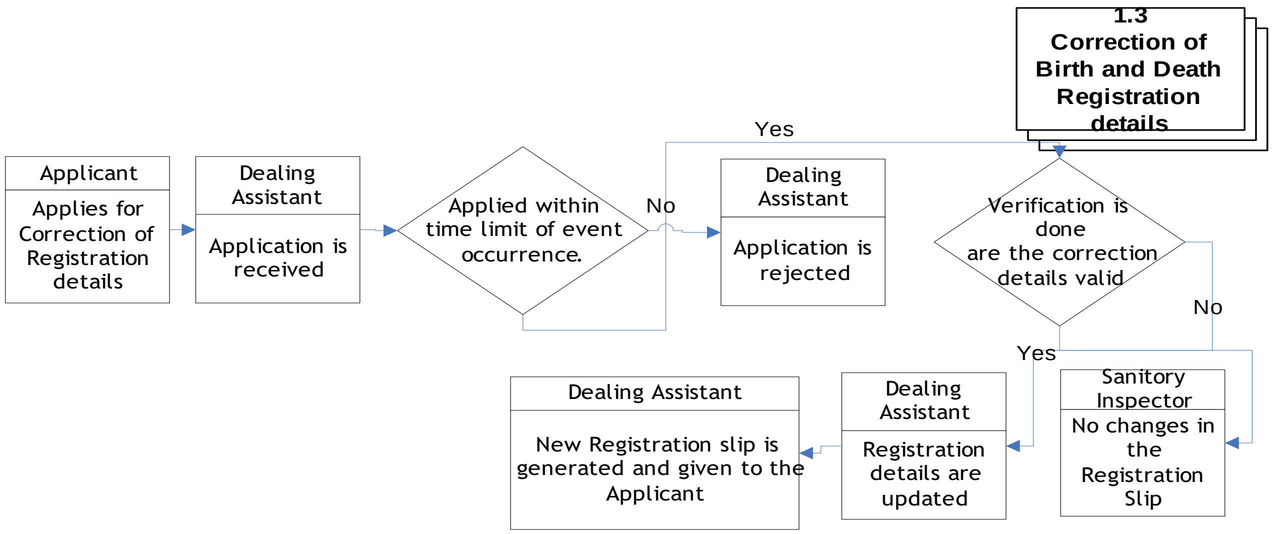
Table V.2: Death Registration

Death Registration		
Inputs	**Outputs**	**Controls**
Hospital Details Cause of Death Details **Death Details (**Registration No Registration Date Sex (Male/Female , Date of Death, Name Place of Death, Permanent Address Medical Attention, Age Father/Mother/Husband Name Occupation Nationality ,Religion Informant Name, Informant Address Cause of Death, Martial Status Medical Certificate) Birth Certificate details Fees details Sanitary Inspector Recommendations	Payment Receipt details Registration Slip Revenue generation MIS	Calculation of the fee based on date of Application and Death date Validation of Preferred user id chosen by the user against the current user base to avoid duplicity Authenticity of genuine death The information, which is auto-populated in the fields, should be retrieved from the Master data base (Hospital, Registrar, Fee Details etc.) Validations on the mandatory fields Validations to check the data type of the field

V.2.3 Correction of Birth and Death Registration Details

The process is depicted below in Figure V.4

Figure V.4: Correction of Birth and Death Registration Details



The process is as described below:

1. Applicant submits the application to the ULB
2. Time limits for application of death registration are verified. If it is not within the specified time limit then the application is rejected
3. The application is verified by the Sanitary Inspector. Based on his recommendations the changes are made in the Registration details
4. After the necessary modifications the registration slip is issued to the Applicant.

Process Parameters

The Table V.3 details various Inputs, outputs and controls for the Process V.2.3: Correction of Birth and Death Registration details

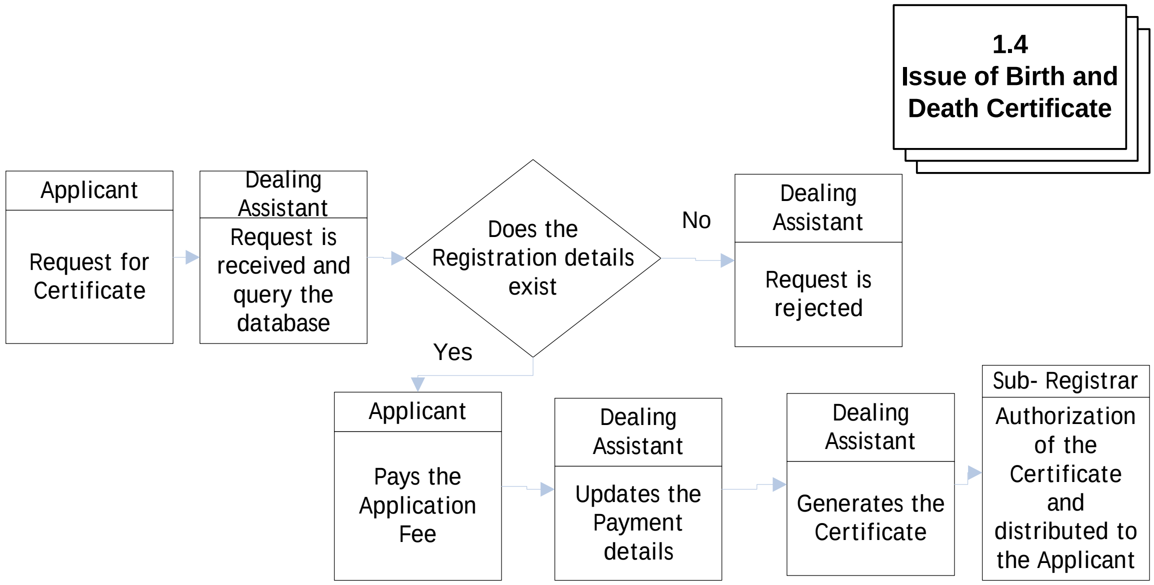
Table V.3: Correction of Birth and Death Registration Details

Correction of Birth and death registration details		
Inputs	**Outputs**	**Controls**
Birth or Death & Fees payment details Hospital details Verification details	Payment receipt Registration Slip	The difference in time of the Application and the Registration date should not exceed the specified limit Validation of Preferred user id chosen by the user against the current user base to avoid duplicity Verification of the Supporting documents The information which is auto-populated in the fields should be retrieved from the Master data base (Hospital, Registrar, Fee Details etc.) Validations on the mandatory fields Validations to check the data type of the field

V.2.4 Issue of Birth and Death Certificate

The process is depicted in Figure V.5 below

Figure V.5: Issue of Birth and Death Certificate



The process is as described below:

1. Application form and challan are obtained by the applicant
2. The application and challan details are submitted at the ULB
3. Acknowledge receipt of the Payment details is given to the applicant
4. After payment receipt verification of the Applications details are carried out.
5. After verification, Registration Certificate is generated and authorized by the sub-registrar
6. Registration certificate is issued to the applicant.

Process Parameters

The Table V.4 details various Inputs, outputs and controls for the Process V.2.4: Issue of Birth and Death Registration Certificate

Table V.4: Issue of Birth and Death Certificate

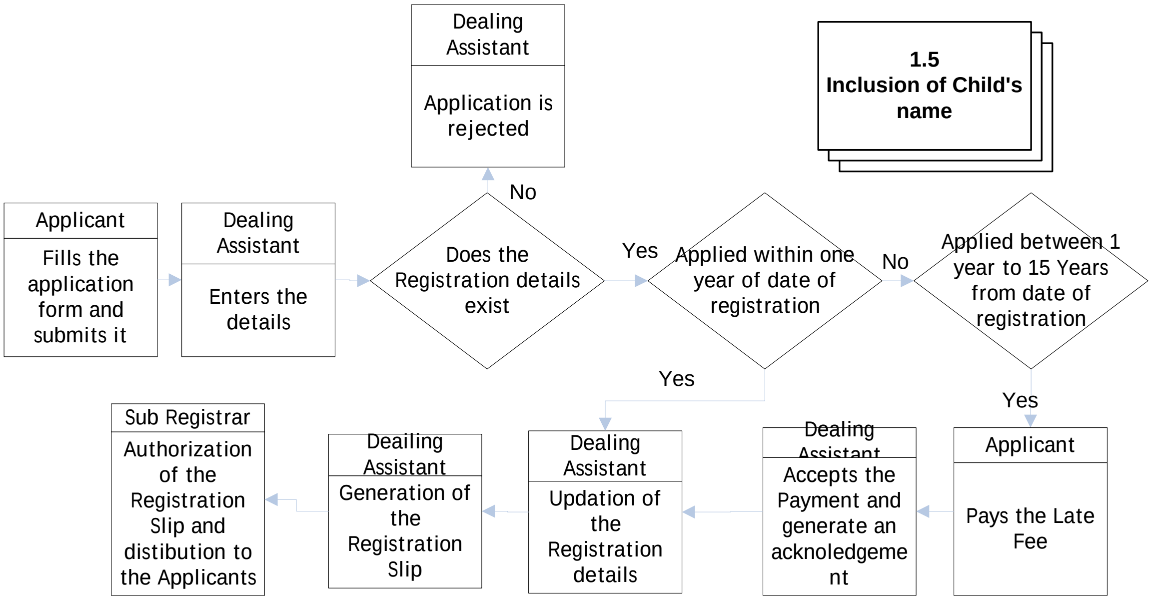
Issue of Birth and Death Certificate		
Inputs	**Outputs**	**Controls**
Application form Payment details (Challan)	Payment Receipt Registration Certificate	The registration details should exist in the database Fee collection details are generated by the system Validation of preferred user id chosen by the user against the current user base to avoid duplicity

		The information which is auto-populated in the fields should be retrieved from the Master data base (Registration details, Hospital details etc.) Validations on the mandatory fields Validations to check the data type of the field

V.2.5 Inclusion of Child's Name

The process is depicted in Figure V.6 below

Figure V.6: Inclusion of Child's Name



The process is as described below:

1. Applicant submits the application to the ULB
2. Verification of the registration details and late fees payment is conducted by the department
3. After verification the registration details are updated and the registration slip is generated
4. After generation of the registration slip, it is authorized and given to the applicant.

Process Parameters

The Table V.5 details various Inputs, outputs and controls for the Process V.2.5: Inclusion of Child's Name

Table V.5

Inclusion of Child's Name

Inputs	Outputs	Controls
Registration details Payment details	Payment Details Registration Slip	The Registration details should exist in the database Late Fee details are generated by the system Validation of Preferred user id chosen by the user against the current user base to avoid duplicity The information, which is auto-populated in the fields, should be retrieved from the Master data base (Registration details, Hospital details etc.) Validations on the mandatory fields Validations to check the data type of the field

V.3 Interfaces Required – Birth and Death Module

The interfaces required for Birth & Death Module is given in Table V.6

Table V.6: Interfaces Required for Birth and Death Module

Interface with whom	Information received	Information given
Public Grievance Redressal Module	Grievances/ Queries	Status of the Grievances/Queries, Redressal steps taken
Court Cases	Petition details regarding Birth and Death Registration	Birth and Death Registration details
Accounting Module	Cash collected, cheques dishonored, details of party	Cash collection

V.4 Functionality Requirement Specifications

This section describes an indicative Functional requirement specification for the Birth and Death Module, in the Table V.7

Table V.7: Functional requirement specifications

No.	Requirement
User Authentication	
1	To query the database - user-id table and the password for the given user id is compared. If appropriate menu is displayed, other wise error message is displayed.
2	Usage of Biometric Authentication Methods such as Finger Print Technology for authentication or PKI Technology.
Master Maintenance-Birth	
3	Ability to maintain Hospital details (Addition/Modification/Deletion/ Search).
4	Ability to maintain Registrar details (Addition/Modification/Deletion/ Search).
5	Ability to maintain Birth Delivery details (Addition/Modification/Deletion/ Search).
6	Ability to maintain Birth Attention details (Addition/Modification/Deletion/ Search).
7	Ability to maintain details of Fees (Addition/Modification/Deletion/ Search).
Birth Registration	
8	Ability to add/modify delete/Search the Birth details. The following details needs to be captured and stored in the system. The following key fields needs to be captured: • Registration No • Registration Date • Sex of the Child (Male/Female) • Date of Birth • Name of the Child • Place of Birth • Permanent Address • Residential Address • Medical Attention • Issues • Hospital/Institution Name • Hospital/Institution Details • Order of Birth • Father’s Name • Father’s Occupation • Father’s Nationality • Mother’s Name • Mother’s Occupation • Mother’s Nationality • Birth Marks.
9	Ability to capture the Sanitary Inspectors recommendations/ approval details
10	Ability to generate the Birth Registration Slip. It may contain the following fields: • Registration No. • Registration Date

	• Name • Date of Birth • Sex • Father Name • Mother Name • Address • Hospital/Non-hospital • Birth Marks.
11	Ability to facilitate the correction of the Birth Details
12	Ability to facilitate the inclusion of the Child's Name, if not provided during registration. The details of the applicant are populated when Registration Number is entered
13	Ability to cancel the Registration details. Remarks can be added with the cancelled record
14	Ability to facilitate the capture the request for Registration certificate and retrieve details of the applicant based on the Registration Number
15	Ability to query Birth Registration database based on the data provided by the applicants and generate Birth Certificate. The certificate may have the following fields • Name • Sex (Male/Female) • Name of the Father • Name of the Mother • Registration Number • Registration Date • Address • Place of Birth • Date of birth • Birth Certificate No. • Cause of Death
Master Maintenance-Death Details	
16	Ability to maintain Hospital details (Addition/Modification/Deletion/Search).
17	Ability to maintain Cause of Death details (Addition/Modification/Deletion/Search).
18	Ability to maintain Attention Details (Addition/Modification/Deletion/Search).
19	Ability to maintain Registrar Details (Addition/Modification/Deletion/Search).
20	Ability to maintain details of Fees (Addition/Modification/Deletion/Search).
Death Registration	
21	Ability to add/modify delete/Search the Death details. The following details needs to be captured and stored in the system. The following key fields needs to be captured • Registration No • Registration Date • Sex (Male/Female) • Date of Death • Name • Place of Death • Permanent Address

	• Medical Attention • Age • Father/Mother/Husband Name • Occupation • Nationality • Religion • Informant Name • Informant Address • Cause of Death • Martial Status • Medical Certificate • Birth Certification details
22	Ability to capture the Sanitary Inspectors recommendations/ approval details
23	Ability to generate the Death Registration Slip. It may contain the following fields • Registration No. • Registration Date • Name • Date of Death • Sex • Father Name • Mother Name • Address • Hospital/Non-hospital
24	Ability to facilitate the correction of the Death Details
25	Ability to facilitate the modification of the Death Details
26	Ability to cancel the Registration details. Remarks can be added with the cancelled record
27	Ability to facilitate the capture the request for Death certificate and retrieve details of the applicant based on the Registration Number
28	Ability to query Death Registration database based on the data provided by the applicants and generate Death Certificate. The certificate may have the following fields • Name • Sex (Male/Female) • Name of the Father • Name of the Mother • Registration Number • Registration Date • Cause of death
MIS & Reports	
29	Various reports information of Birth registrations based on Registration No, Registration Date, Date of Birth, Issues , Non-Issues Month & Year –Wise
30	Reports births Sex Wise in a particular year
31	Reports on Father's Literacy wise in a particular year
32	Reports on Father's Occupation wise in a particular year

33	Reports on Mother's Literacy wise in a particular year
34	Reports on Mother's Occupation wise in a particular year
35	Reports on Year-Wise Issues
36	Various reports can be generated Year of Death-wise based on Date and Cause of death
37	Reports of Deaths based on Occupation-wise in particular year
38	Reports of Deaths based on Sex-wise in particular year
39	Reports of Deaths based on Cause of death-wise in particular year
40	Reports of Deaths based on Issued and not issued between two specified applied dates

V.5 Indicative Data Standards - Birth and Death Module - Key Fields

The Indicative Data Standards for Birth & Death Registration Module is given in Table V.8

Table V.8: Indicative Data Standards

Field Name	Data Type	Mandatory (Yes/No)	Nature
Hospital code	Number	No	Automatic
Hospital Name	Text	Yes	Textbox entry
Hospital Type	Text	Yes	List box
Address	Text	Yes	Textbox
Pin code	Number	No	Textbox
Phone No	Number	No	Textbox
Contact Person	Text	No	Textbox
MailId	Text	No	Textbox
Application Registration Number	Number	Yes	Automatic
Application Registration Date	Date/Time	Yes	Masked Text Box
Name of the Person	Text	Yes	Text Box
Religion	Text	Yes	List box
Nationality	Text	Yes	List box
Place of Death/Birth	Text	Yes	Text box entry
Address of the Person	Text	No	Text Box
Phone No of the Person	Number	No	Text Box
Pin code of the Person	Number	No	Text Box

Email of the Person	Text	No	Text Box
Sex	Text	Yes	Check box
Father /Mother Name	Text	Yes	Text Box
Medical Attention Type	Text	No	List box
Remarks	Text	No	Text Box
Enclosures	Text	Yes	Check box
Age	Number	Yes	Text Box
Cause of Death	Text	Yes	List box
Marital status	Text	Yes	Check box

VI ProcurementS and Monitoring of Projects

VI.1 Important Note

E-Procurement is one of the core thrust areas for the State Governments to implement in order to bring in standardized procurement practices across the various departments of the State including the municipal departments.

The procurement function is common to the Government departments although the types of procurement may vary from department to department. Further, for similar type of procurement also, the processes & practices followed vary between the departments. The discrepancies in the following of procurement practices have also resulted in widespread corruption at the time of procurement of goods, and selection/award of various works contracts. It is realized, therefore, that in order to bring in transparency and standardization in the procurement processes across departments, the implementation of a centralized web-based procurement system to be used by all departments of the state, will be a crucial step. The States further believe that e-Procurement holds immense potential in terms of effectively and efficiently leveraging information technology to centralize and standardize the procurement function. Further, there are imminent benefits from a centralized procurement system such as a larger pool of suppliers and contractors selected (and registered) through a common registration process across departments. A global and larger pool of suppliers and contractors would result in competition and thereby, in better quality of goods and services to the Government departments.

In view of the discussion above, it is recommended that the implementation of the e-Procurement be taken up centrally as a State-wide initiative and not in isolation at the department level depending on the purchase value.

The threshold value can be decided between the State and ULBs, so as to procure goods of low purchase value at the ULB level. The threshold value will depend on the size of the ULBs.

The procedure for procurement needs to be standardized over the state. Items may be defined, which can be procured at the State level and others at the ULB level.

VI.2 Introduction-e-Procurement

The vision for e-Procurement is to build and to deliver a fully integrated purchasing solution providing on-line, real-time ordering and tracking capability to the desktops of the procurement officers at the various State departments. The streamlined procurement process is intended to be system driven to eliminate unnecessary manual work and replace paper flow with on-line workflow.

E-Procurement combines the use of Internet technology with procurement best practices to streamline the purchasing process and reduce costs. E-Procurement enables the electronic tender, award, order purchase, and payment of goods from suppliers to ULBs via the Internet. Implementation of an e-Procurement system aims to achieve the following objectives:

- Economies of scale through consolidating purchases across various units of a department, and across departments
- Reduced cost of doing business for both the departments and industry
- Level playing field and "fair competition" platform for suppliers/contractors of all sizes & capabilities
- Increased transparency, monitoring and control in procurement process
- Increased efficiency and shorter procurement cycles leading to lower levels of inventory
- Availability of complete procurement history for generation of useful MIS, spend analysis, etc.
- Effective management of the order fulfillment and payment process by making available the necessary data
- Sustainable vendor development through enabling pre-qualified vendors to access other government departments for selling opportunities
- Access to a wider customer base when disposing of redundant assets.

The procurement activities could be broadly classified into:

- Procurement of goods and services
- Procurement of works (Projects).

Special departments have been formed in certain states for e.g. the CSIDC (Chhattisgarh State Industrial Development Corporation) in Chhattisgarh, the APTS (Andhra Pradesh Technology Services) and COT (Commissionerate of Tender) in AP, for carrying out the procurement function centrally on behalf of other departments. Procurement of low value items is usually done locally by the departments. The delivery of goods is done at the premises of individual departments/units. The payments are made by the respective PAOs (Pay and Accounts Officers). The procurement workflow is predefined and is carried out (manually) on paper.

The process guidelines for procurement are set forth by the Government except for projects funded by external agencies such as the World Bank.

VI.3 Current Procurement mechanisms

In the existing scenario, the State Governments employ the following mechanisms for carrying out their procurement activities.

Open tendering

As laid down in the State's Procurement Regulations, government procurement exceeding certain amount in value is normally done by the use of open and competitive tendering procedures so as to obtain the best value for money. Tender invitations are published in the leading newspapers and selected overseas journals. All interested suppliers/ contractors who meet the eligibility criteria are free to submit their bids.

Selective Tendering

Tender invitations are sent to all suppliers/contractors from the relevant approved lists of qualified suppliers/contractors established and approved in advance for the purpose of selective tendering.

Various departments have certain registered (empanelled) suppliers/contractors' lists. Suppliers/ contractors who wish to apply for admission may approach the department and are required to meet certain pre-qualification criteria or technical assessment to ensure eligibility.

Single or restricted Tendering

Tender invitations are sent to only one or limited number of suppliers/contractors approved by the department. This procedure is only used when circumstances do not permit open tendering, for example, on grounds of urgency, security, proprietary products, compatibility, technical complexity, etc.

Rate Contracts

Rate Contracts are used for common user items where demand is repetitive, item values are less, generally required by more than one department and specifications are standardized. It is an agreement between the respective department and the supplier for supply of goods at mutually agreed prices & specifications, valid for a specific time period. Firms/registered with Government departments can go for the rate contracts. DGSD at GOI level and stores purchase department at state level normally have these purchase agreements.

Direct Purchase Orders

This route is followed if only one manufacturer exists. This is mainly for the proprietary items. The purchase is done as per the price list and additional discounts provided by the manufacturers.

The periodicity of use of these procurement mechanisms varies. For instance, where the Rate Contracts are mostly quarterly, the tenders are predominantly project driven.

Reforms

It is imperative that the States review their existing policies relating to procurement and, if necessary, take steps to introduce legislation with a view to improving transparency in the bid process, standardizing tender documents, streamlining decision making, strengthening mechanisms for handling complaints and publishing large tenders on the internet, etc.

The streamlined tendering process in the light of the above mentioned reforms should include, but not limited to, the following features:

- Publication of Notice Inviting Tenders (NIT)/Invitation for bids (IFB)
- Issue of tender documents to prospective bidders
- Submission of bid documents
- Receipt of bids by the departments
- Opening of technical bids
- Evaluation of bidder compliance to the established pre-qualification criteria
- Opening of price bids of qualified bidders, and
- Approval of tender
- Issue of Purchasing Order/Work Order.

VI.4 Proposed solution framework

Under the e-procurement framework, it is envisaged to set up an e-Procurement Meta Marketplace, where the buyers (government departments and local bodies) can perform procurement transactions with their vendors. The e-procurement Meta marketplace needs to enable government departments to procure a wide variety of goods and services. The Marketplace should include the following core capabilities:

- Catalogue based procurement
- Content management
- Electronic Request for Quotation (eRFX)
- Electronic tendering (Tender processing and management)
- Dynamic pricing engine (Auction, Reverse Auctions, Negotiations, etc)
- Self service zones for vendors
- Search Engines, Yellow pages, Advertisements, Announcements and Business News.

The marketplace should have the capability to be accessed through multiple delivery channels like internet, intranet, kiosks, hand held devices, etc for its internal and external stakeholders. The users should have the capability to perform analysis of the procurement data. The solution should also interface with the legacy systems of the buying departments, wherever procurement applications exist or are envisaged.

The marketplace should also have the capabilities to interact with external third party service providers such as logistics service providers, electronic payment gateways, etc. The marketplace also should be scalable enough to provide interface with other national and global marketplaces.

As part of the overall e-Procurement framework, there will be different access mechanisms such as: Central registration of supplier, delegated administration, department specific views and a self-service zone for suppliers.

Procurement at municipalities
The procurement of works and goods is carried out by the various components of the ULBs, mainly the Engineering Wing, Public Heath/Sanitation Wing, etc. The municipalities undertake various developmental or maintenance work where the procurement of works i.e. award of the contract to a suitable contractor, is involved.

Some of the related activities where procurement is required are as follows:
- Preparation of plans and estimates for civil works
- Construction and maintenance of roads
- Construction of buildings
- Execution of civil works
- Construction and maintenance of drains
- Purchase of computers and other peripherals
- Maintenance of water supply
- Maintenance of street lights.

Similarly, activities of the public health/sanitation wherein procurement of goods or services may be required are as follows:
- Cleaning of the streets and supervision of sanitation
- Purchase of medicines
- Lifting of garbage and dumping of the same in dumping yard
- Spraying disinfecting materials under urban malaria schemes
- Maintenance of vehicles, diesel bunks, vehicle sheds, and work shops
- Maintenance and management of slaughter houses and
- Prevention of epidemics
- Prevention of food adulteration
- Purchase of Medicines
- Management of dispensaries of Indian Medicine System and allopathic system
- Maintenance of Maternity and Child Health Centres.

The following sections present the generic procurement processes at the municipalities. The procurement at the municipalities can be divided into two sub processes namely (i) procurement of works, and (ii) procurement of goods & services. An overview of the procurement processes is given first followed by the functional requirements specifications.

VI.5 Process Overview

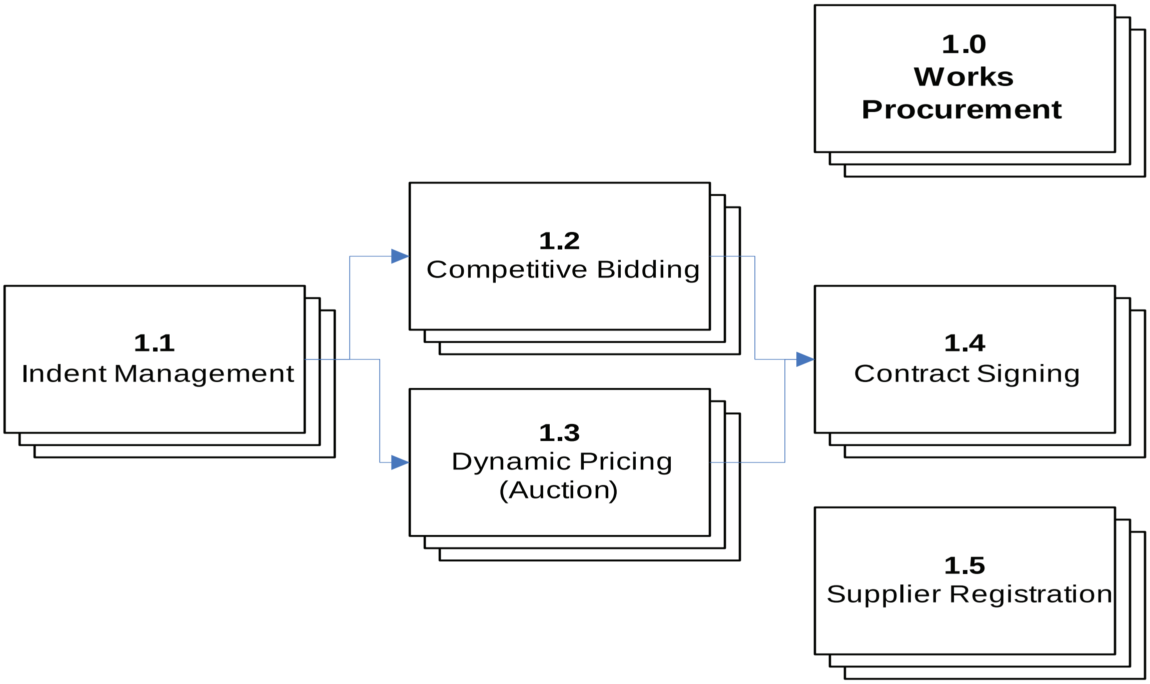
The ULBs procure both works (from works contractors) and goods (from suppliers). The proposed e-Procurement solution shall allow the workflows for both the types of procurement to be executed online. This section (figure 26) describes the processes for both the works and goods procurement, respectively. Further, the Supplier/Contractor Management module described under the Works Procurement section below is common to the overall e-Procurement solution.

VI.6 E-Procurement- Works

The works procurement process of the municipalities begins after their decision to carry out a new work/project in the wards, proceeds through the competitive bidding process for awarding the contract to a contractor, and ends with the payment to the contractor for the completed work. The works procurement process could be considered as comprising of the following sub processes:

- Indent Management
- Competitive Bidding
- Dynamic Pricing (Auction)
- Contract Signing
- Supplier Management

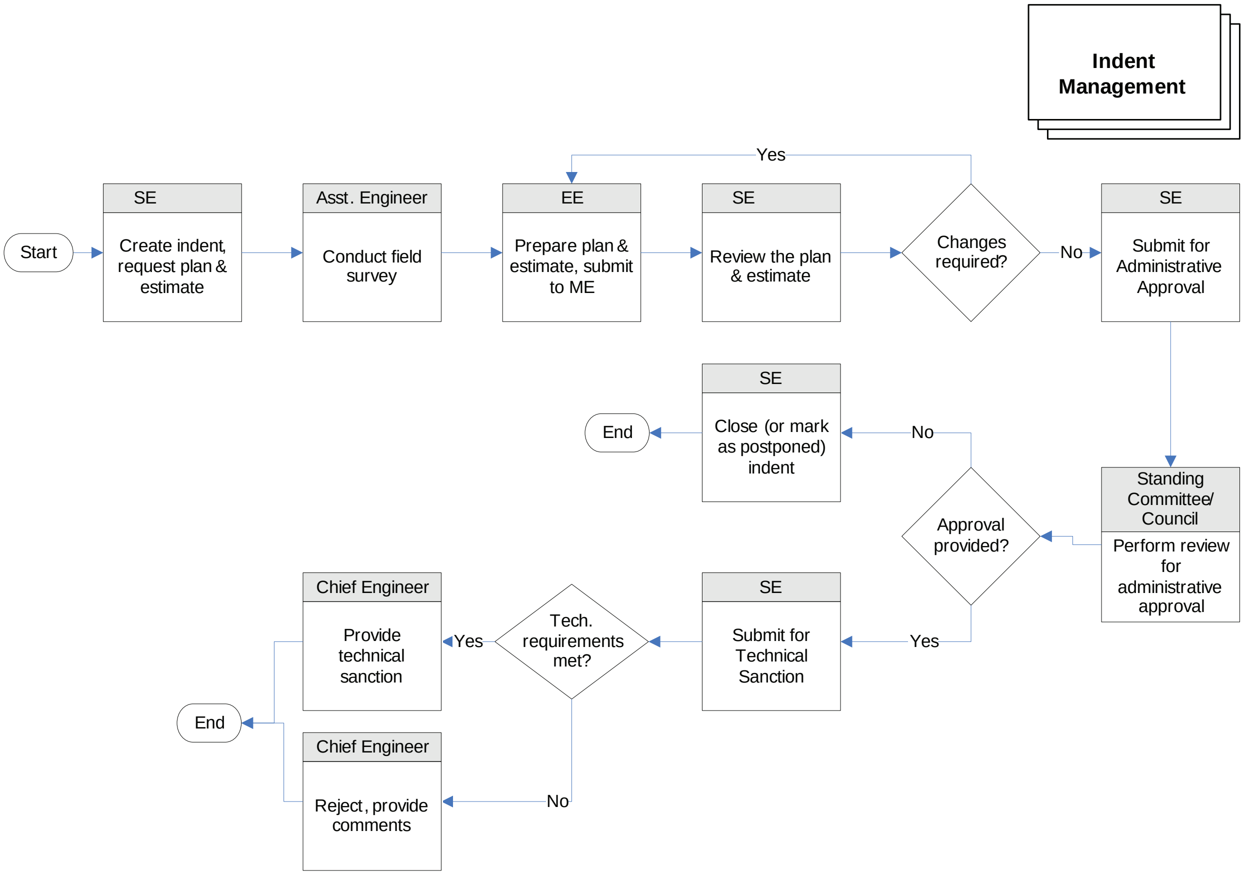
Figure VI.1- High level process map of e-Procurement



VI.6.1 Indent Management

The indent management sub process (Shown in Figure VI.2) involves the creation and approval of the indent for a new construction work to be taken up by the ULB. The step is required to be taken up before initiating the competitive bidding exercise, in order to obtain the necessary approvals on the plan and estimate of the new work from the competent authorities.

Figure VI.2: Indent Management



1. The Superintended Engineer (SE) creates an indent for the works project providing the details of the proposed work.
2. The Assistant Engineer (AE) carries out the survey work on the field.
3. The EE prepares the plan and estimate. The schedule of rates (SOR) is used for the preparation of the estimate.
4. The ME reviews the plan and estimate. In case of any comments or rework, the document is sent back to the EE for incorporating the changes. He then submits the same to the Finance Department for obtaining the Administrative Approval.
5. The finance department reviews the plan and estimate and provides the necessary administrative approval to the same if the work finds a place in the departmental budget.
6. The Chief Engineer reviews the plan and estimate and provides the technical sanction.

   In case of technical sanction not provided, the Chief Engineer provides his comments/reason for rejection in the system for the ME to take further action.

Process Parameters

The following table VI.1, highlights the process parameters of e-Procurement

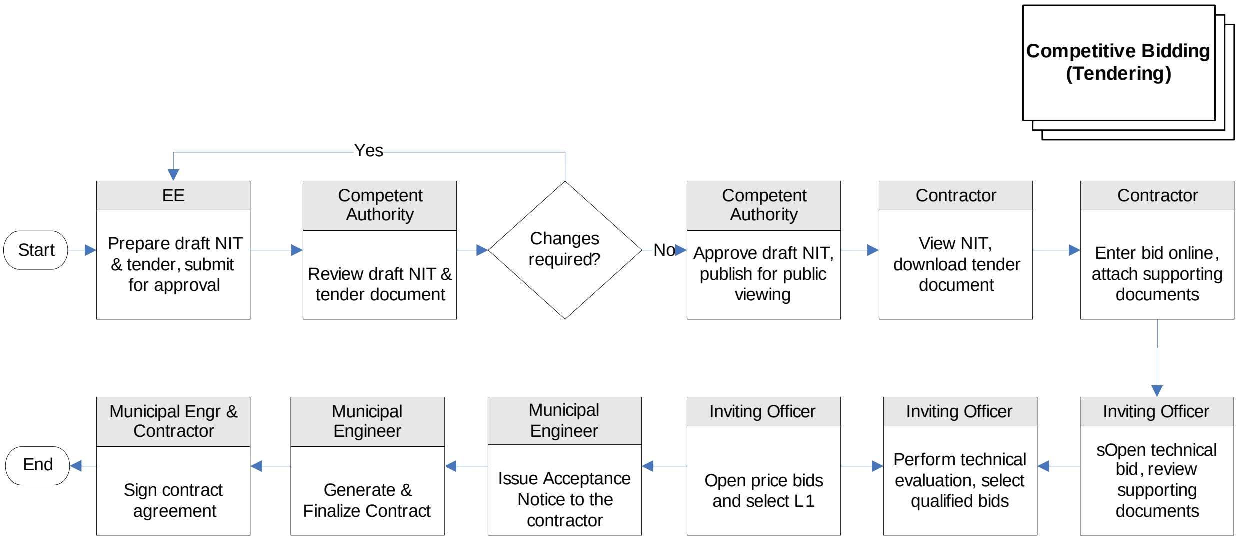
Table VI.1: Process Parameters

Inputs	Outputs	Controls
Confirmation letter to initiate survey work for new work Project header information by ME Approval Works Code Survey report Estimate	Administrative Approval Technical sanction Sanction Status Report	System checks for Administrative Approval before allowing uploading of plan & estimate for technical sanction. Workflow in the system to follow the Manual or the pre-defined approval process only. Estimate preparation as per the schedule of rates (SOR) only

VI.6.2 Competitive Bidding

The indent management process is followed by the competitive bidding process (As shown in Figure VI.3) for the selection and award of the works contract to the contractor. The competitive bidding process involves the preparation of the bid invitation notice and tender documents, receipt of bids from contractors, evaluation of the received bids, selection of the contractor, and award of the contract to the contractor. The selection of contractor by way of evaluation of technical and commercial bids submitted together by the bidders is also referred to as tendering. The next section presents the auction process, which is an alternative to the tendering process.

Figure VI.3: Competitive bidding (Tendering)



1. The EE prepares the draft Notice Inviting Tender (NIT) by entering the works details, tendering schedule, etc. The NIT forms the communication to the intending contractors on the details of the intended works and the schedule for the competitive bidding exercise. The EE submits the draft NIT & tender document for approval of the competent authority.
2. The competent authority reviews the draft NIT and enters his comments on the NIT, if any, for the EE to take appropriate action.
3. In the event that the competent authority has no changes to recommend, he approves the draft NIT. The short version of the NIT is then publishing in the newspapers, while the detailed NIT is published on the website or notice boards of the municipal offices
4. The interested bidder then views the NIT and downloads the tender document from the e-Procurement website.
5. The eligible contractor then enters the technical bid, price bid and any pre-qualification requirements specified in the NIT into the e-Procurement website. The contractor attaches the supporting documents scanned earlier in connection to the relevant forms.
6. The Inviting officer (or appointed technical committee) access the bids received and reviews the supporting documents attached with the bids for completeness.
7. Technical evaluation is conducted and list of technically qualified contractors is released.
8. On the stipulated date and time of price bid opening, the competent authority (or appointed committee) accesses the price bids of the technically qualified bidders conducts the price bid evaluation. Once the final bidder is selected for the award of the contract, the results of the competitive bidding exercise are posted on the e-Procurement website.
9. The ME issues the Tender Acceptance Notice to the successful contractor. The successful contractor, in response to the notice sends the signed undertaking to the ME.
10. Upon receiving the signed undertaking from the contractor, the ME creates the contract agreement using the standard templates available. The contract details selected at the time of creation of the tender document are transferred to the contract agreement template. These may include the terms and conditions, delivery schedule, payment terms, penalty clauses, etc.
11. The ME verifies the contract agreement and signs the same along with the selected contractor.

Process Parameters

The following Table (table VI.2) highlights the Process Parameters for Competitive Bidding

Table VI.2: Process Parameters for Competitive Bidding

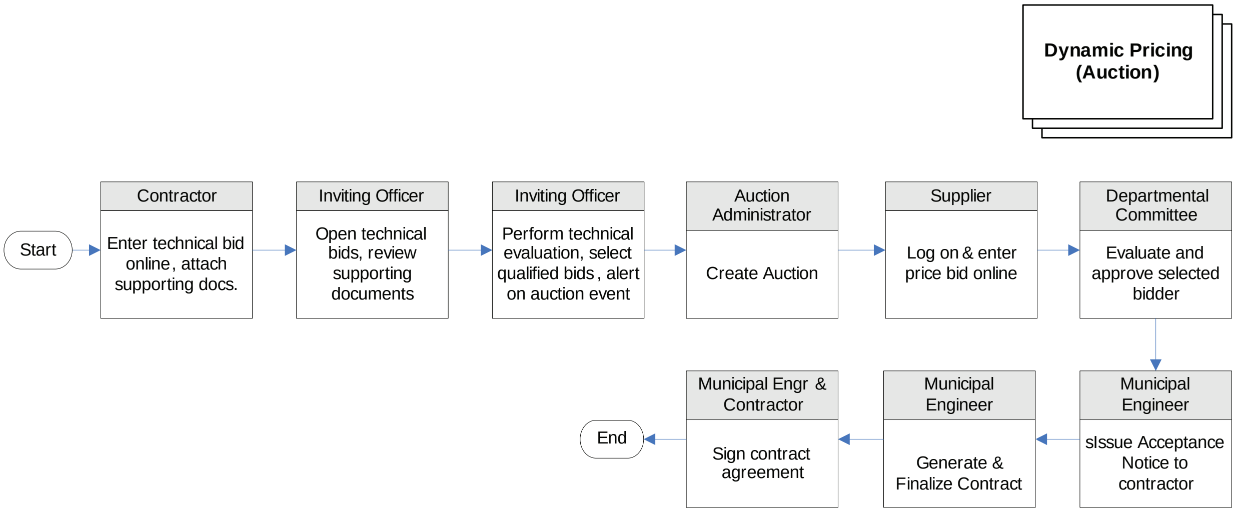
Inputs	Outputs	Controls
Confirmation of Technical Sanction of the plan & estimate Approved Works code Information for tender schedule (Date, time, description of work, competent authority, tender price, EMD, eligibility, type of tender, etc.) Bids submitted by the contractor along with the required certificates, statements and EMD amount.	Approved NIT Tender Document Tender Acceptance Notice to the selected contractor Signed Contract Agreement Status reports on various tenders Bid Comparison Statement Evaluation of Bids	Approval process in the system to be same as prescribed by the State Manual Only authorized individuals within the department allowed to perform the tendering activities. This could be ensured through biometric authentication. Once submitted by the bidder the bid will be on the records of the department. It cannot be removed (deleted) from the system unless a proper reason is specified (such as missing or fake document, etc) System shall not allow the downloading or opening of the bids before the tender opening date, even by the System Admin. Comparative price statement prepared by the system to be accessible only after the price bid opening date and time. System will not allow the selection of a non L1 bidder, unless an alternative arrangement is made through intervention by the E-in-C. Even under this situation, the proper reason and the action taking authority shall be recorded by the system as audit trail)

VI.6.3 Dynamic Pricing (Auction)

The dynamic pricing or the auction process (as Shown in Figure VI.4) provides an effective alternative to the tendering process described above. The auction process has been found to be effective in procurement of goods, as well as works contract of low technical complexity, where the technical offers from bidders are not expected to vary considerably. In certain situations, the Auction mode could also be employed for turnkey or lump sum type of projects.

The initial steps required in the tendering and auctioning processes remain the same i.e. both processes involve the creation and publishing of the NIT and tender documents, and the preparation of responses by the bidders. The difference arises at the stages of bid submission and evaluation. In order to avoid repetition, this sub section describes only the steps different from the competitive bidding (tendering) process described in the previous section.

Figure VI.4: Dynamic Pricing (Auction)



1. On or before the last date of bid submission, the bidders submit (upload) only the technical bid on the e-Procurement website along with the supporting documents.
2. At the scheduled date and time of technical bid opening, the Inviting Officer accesses the technical bids submitted and reviews the technical bids and the scanned supporting documents attached with the bids.
3. The Inviting Officer (or appointed technical committee) then performs the technical evaluation and prepares the list of technically qualified contractors. The Inviting Officer then invites bidders fulfilling all the technical criteria to participate in the online auction event on the specified date and time.
4. The Inviting officer provides the auction parameters to the Auction Administrator who creates the auction event on the e-Procurement system. The following parameters are to be defined at a minimum by the Inviting Officer – List of items, quantity of each item, start price, reserve price and decrement (price reduction), auction date & time window.
   The technically qualified bidders log on the auction website and enter the live auction session at the specified time. The auction session begins with the start price displayed on the auction window for each item. The bidder can directly enter his price for each item online on the e-Procurement website. The bidders are automatically assigned a rank for their bids submitted. The bidder can view his rank and also the next valid bid, as per the specified decrement value. The auction ends at the stipulated time, after which no more price bids are allowed from the bidders.
5. The Inviting officer (or such competent authority) can review the final bids and accept or reject them (in case the specified 'reserved price' is not reached

during the auction session). The final recommendation is then sent to the competent authority for approval and final decision.

6. The ME then issues the Tender Acceptance Notice to the successful contractor. The successful contractor, in response to the notice sends the signed undertaking.

The generation and signing of the contract agreement steps are the same as described in the competitive bidding section earlier.

Process Parameters

The following Table VI.3, highlights the Process Parameters for Dynamic Pricing

Table VI.3: Process Parameters for Dynamic Pricing

Inputs	Outputs	Controls
Confirmation of Technical Sanction of the plan & estimate Information for tender schedule (Date, time, description of work, competent authority, tender price, EMD, eligibility, type of tender, etc.) Bids submitted by the contractor along with the required certificates, statements and EMD amount.	Approved NIT Tender Document Tender Acceptance Notice to the selected contractor Signed Contract Agreement Status reports on various auctions.	Approval process in the system to be same as prescribed by the State Manual Only authorized individuals within the department allowed to perform the tendering activities. This could be ensured through biometric authentication. Once submitted by the bidder the bid will be on the records of the department. It cannot be removed (deleted) from the system unless a proper reason is specified (such as missing or fake document, etc) System shall not allow the downloading or opening of the bids before the tender opening date, even by the System Admin. Comparative price statement prepared by the system to be accessible only after the price bid opening date and time. Auction time control for end time, extension time Increment and decrement amounts as per the pre-specified data (at the time of creating auction).

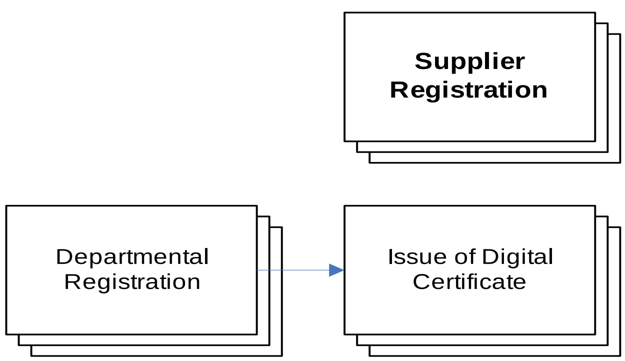
VI.6.4 Supplier Registration

In order to establish eligibility to participate in the competitive bidding exercise, the intending contractor has to initially register with the ULB as per the contractor's financial status and professional capability. The departmental registration is valid for a specified number of years and will be renewed after reviewing the performance of the contractor.

In the internet enabled environment, a Central Registering Authority is envisaged for all State ULBs in order to make the registration process streamlined, standardized and convenient for the intending contractor/supplier.

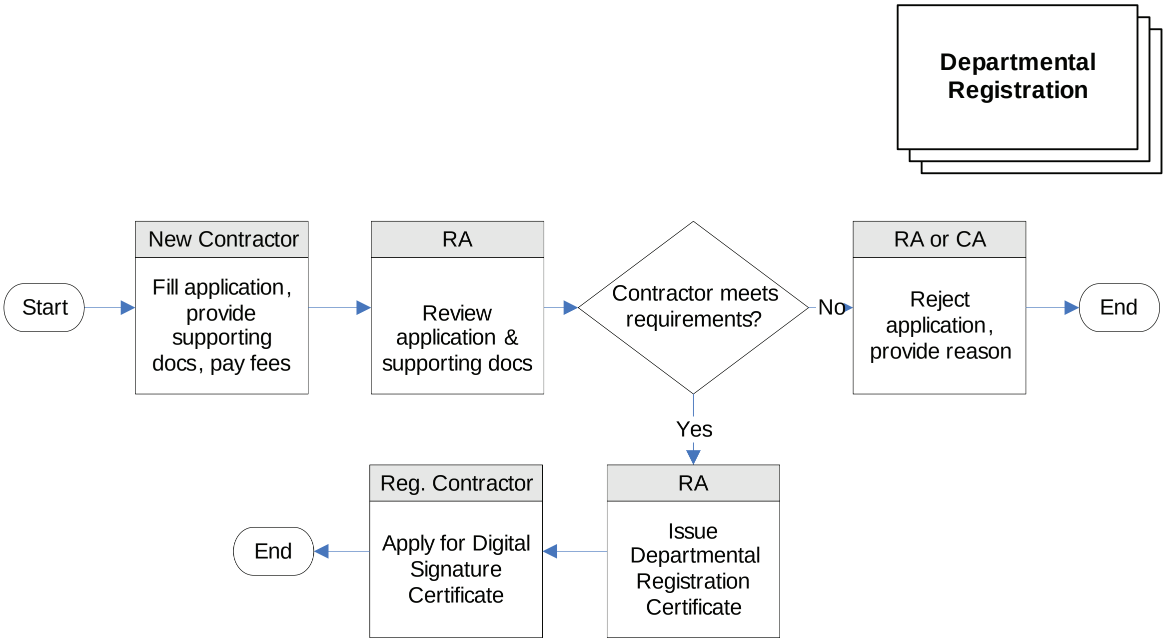
Further, in order to participate in the online e-Procurement system, the contractor should obtain a Digital Signature Certificate (DSC). The DSC is necessary to provide a digital identity (for non-repudiation) to the contractor for performing online transactions on the e-Procurement system. A licensed Certification Authority (CA) shall provide the necessary Class II DSC which is recognized under the Indian IT Act 2000. The departmental registration shall be a mandatory requirement to apply for a DSC. The contractor can apply for the departmental registration as well as the DSC on the same central registration website (Shown in Figure VI.5.

Figure VI.5- High level process map of Supplier Registration



Departmental Registration
The departmental registration (As depicted in Figure VI.6) is required to be eligible to participate in competitive bidding, and is mandatory for applying for a DSC.

Figure VI.6- Departmental Registration

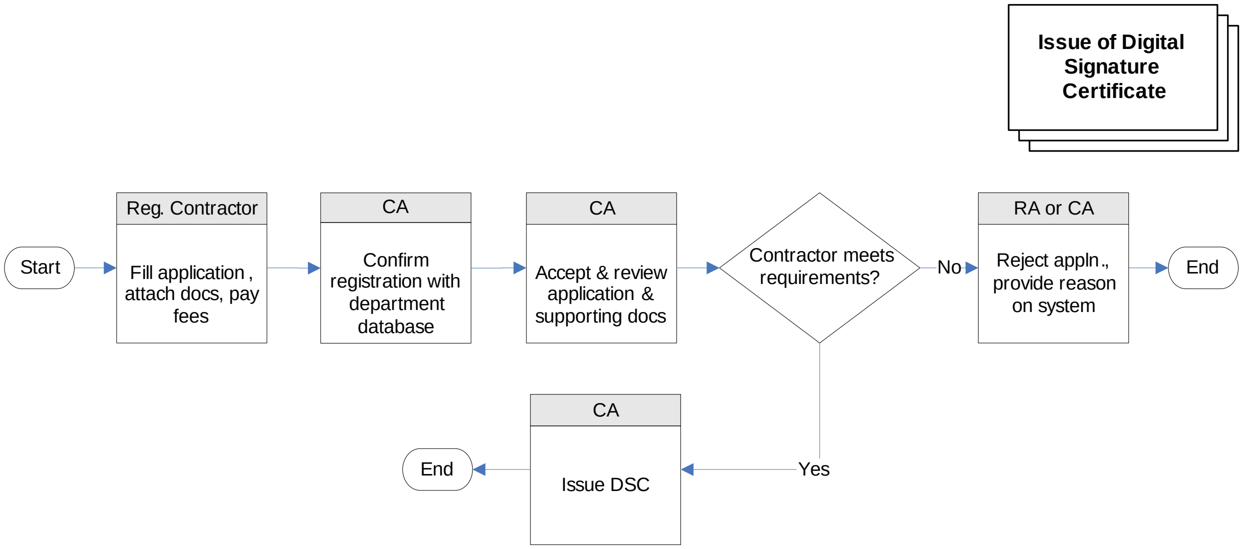


1. The intending contractor (applicant) fills out the application form and attaches the necessary certificates/statements with it before submitting it to the Centralized Registration Authority (RA). The contractor is required to pay an application fee for the processing of the application.
2. The RA reviews the application form and the supporting documents. If the minimum criteria for the registration are not fulfilled by the applicant, the RA has the right to reject the application by providing reasons for the decision. The RA can also provide registration to the contractor in a class below the class applied for by the applicant, provided the contractor qualifies for the lower class.
3. If the applicant fulfils the minimum acceptance criteria for departmental registration in the appropriate class, the RA issues the departmental registration certificate to the contractor.
4. The departmental database is updated to reflect the newly registered contractor and enables the contractor to apply for the DSC.

Issue of DSC

Once the departmental registration has been obtained the contractor can then apply for a DSC to the Certification Authority. Following is the list of activities under this sub process, as shown in Figure VI.7:

Figure VI.7- Issue of Digital Signature Certificate



1. The applicant fills out the application form and attaches the necessary certificates/statements with it before submitting it to the CA. The contractor is required to pay an application fee for the acquiring the DSC.
2. The contractor further provides the departmental registration number which is verified by the CA before accepting the application from the contractor.
3. The CA accepts the application from the contractor and reviews the same along with the supporting documents. The application procedure for the DSC requires the contractor to enrol with the CA in order to open an account for managing the certificates. In this regard, the system issues a unique DSC application number to the applicant for future tracking of his application.
4. If the contractor is found eligible, the CA approves the issue of the DSC to the contractor. Thereafter, the contractor becomes eligible to participate in the online tendering process by submitting his bids online.

Process Parameters

The following Table VI.4 highlights the process parameters for issue of digital certificates

Table VI.4: Process Parameters for Issue of Digital Certificates

Inputs	Outputs	Controls
Contractor information required by the ULB for registration Registration fee	Registration Certificate Payment Receipt Digital Certificate Status report on various Auctions	Supporting documents (certificates, financial statements, etc.) to be verified thoroughly to ensure authenticity Ensure through the system database, that departmentally registered contractors only could apply for a digital certificate.

VI.7 e-Procurement- Goods

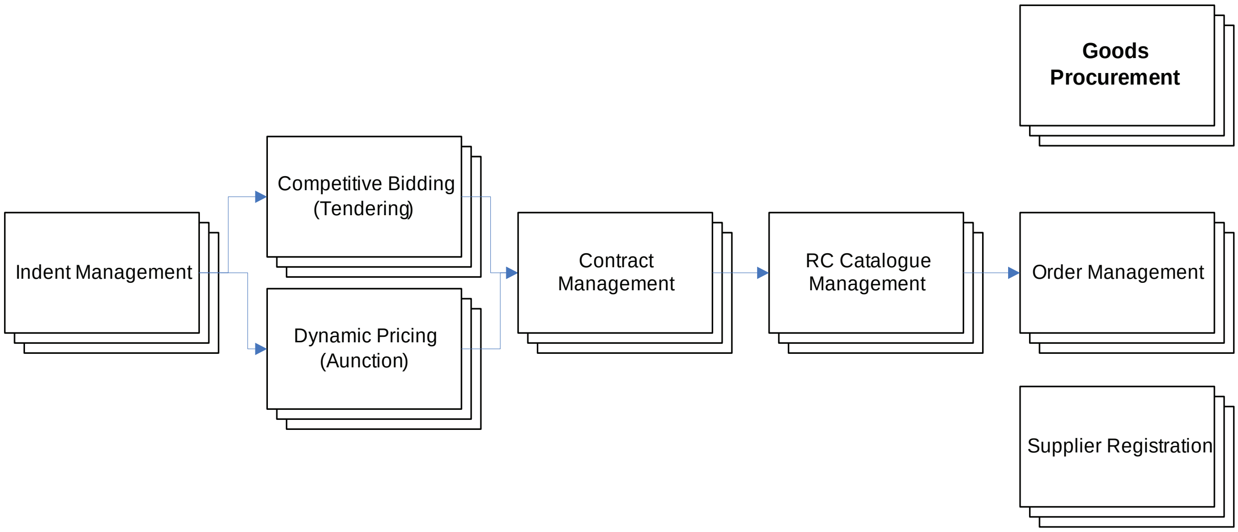
The goods procurement process of the municipalities begins after the communication of material requirements for a project or ward work (new or maintenance) by the respective engineers to the central procurement unit. The material requirements could be generated in divisions other than the engineering division as well, such as the Health division. The mode of material procurement followed is through a rate contracting exercise where in, a supply rate contract (RC) is signed with the supplier selected through a competitive bidding process. The selected supplier is then bound to supply the goods as per the contract agreement terms. The rate contracting mode results in availing competitive prices from the suppliers as they are selected to supply the goods for the entire duration of the rate contract (usually 1 or 2 years).

The goods procurement process could be considered as comprising of the following sub processes:

- Indent Management
- Competitive Bidding
- Dynamic Pricing (Auction)
- Contract Management
- RC Catalogue Management
- Order Management
- Supplier Management.

The sub processes of Indent Management, Competitive Bidding, and Dynamic Pricing are common to the works procurement and goods procurement processes (Shown in Figure VI.8), except for the difference that the work/project details are replaced by the material requirements. Hence, this section presents only the points of differences with the works procurement for the common sub processes mentioned, while it details out the remaining sub processes of Contract Management, Rate Contract (RC) Catalogue Management, and Order Management, which are unique to the goods procurement process. The Supplier Management process is a central registration process for the intending contractors and suppliers of the department irrespective of the type of procurement, hence it is not repeated in the e-Procurement- Goods sub section. However, the functional specifications for all modules (common as well as unique to either procurement processes) are listed in the FRS section of this report.

Figure VI.8- High level process map for goods procurement



VI.7.1 Indent Management

The indent management process covers the steps required for the creation of a new indent when the RC for an item is due for renewal, and approval of the same. This step precedes the Competitive Bidding process and subsequent conclusion of the RC with the qualified supplier. The following are the steps involved in indent management:

1. **Creation of indent**: The relevant authority in charge of carrying out the rate contracting exercise creates the indent by specifying the item code(s) from the Catalogue Master. The description of the item is entered and an indent number is provided.
2. **Generation of drawl report**: The demand is estimated or the drawl report for the item(s) is generated. The report presents the estimated demand for an item and is prepared using the information on purchase orders released in past months by the various ULBs. The demand information is required to be mentioned in the tender document later to avail competitive price bids from the suppliers.
3. **Upgrading of item technical specifications**: The Technical Committee (technical team at the State department) upgrades the technical specification of the item, as necessary.
4. **Compilation of information to generate indent**: The demand information and technical specifications are compiled together to create the draft indent. The draft indent is then approved by the competent authority before the competitive bidding exercise could be taken up.

VI.7.2 Competitive Bidding

The competitive bidding process is common to the works procurement process, except that instead of the work details, now the material requirements and specifications are indicated in the NIT and tender documents. Several items may be clubbed under the same NIT and the competitive bidding process could be concluded simultaneously. Rate contracts for several items may be concluded with different vendors as a result of the competitive bidding exercise.

VII.7.3 Dynamic Pricing (Auction)
The dynamic pricing (Auction) module provides the functionality to conduct 'live' online auctions for several items simultaneously. The technically qualified bidders participate in the auction process and enter competitive price bids for the items listed on the auction. The auction is conducted as per the auction parameters specified at the time of creation of the auction. Rate Contracts with several suppliers may be concluded at the end of the auction process.

VI.7.4 Contract Management
Once the supplier is selected for the award of the contract, the contract is signed between the department and the selected supplier. Thereafter the contract management activities involve tracking the RC throughout its validity period. The steps under the contract management sub process are as follows:

1. **Publish RC catalogue online**: The System Administrator for the department (or such designated authority) publishes the information contained in the RC in the form of online catalogues on the system. The item catalogues at a minimum contain the item name, description of the item, unit of measurement, supplier name, part number, and unit price.
2. **Alert on renewal**: The RC signing date & time, and the validity period of the RC is tracked. At a specified period of time before the completion of the RC validity period, the system alerts the concerned authority to initiate the indent creation process for competitive bidding.

VI.7.5 RC Catalogue Management
The Contract Management process results in the conclusion (signing) of the rate contract agreement by the competent authority at the ULB. Thereafter, the RC Catalogue Management process begins and lasts for the duration of the RC.

In the internet enabled scenario, it is envisaged that the RC information shall be posted on the e-Procurement website in the form of online catalogues. The intending purchasers (designated authority of the various divisions at the ULBs) then browse through the online catalogues to search for items and procure items based on their profile. The process involves the management of the online catalogue content, and maintenance of the Catalogue Master on the system. The RC Catalogue Management process may be considered to comprise the following sub processes:

- Manage RC Catalogue Content
- Manage Catalogue Master.

Manage RC catalogue content

The RC catalogue content displayed online may need to be updated during the validity period due to upgrade in item (equipment) technical specifications, introduction of a new model (or added features) by the manufacturer, price structure changes due to change in external conditions such as local taxes, etc. The changes are reflected on the catalogue management site so that the subscribing users (stores) get the updated information. The below mentioned process is followed in the updating of the online catalogue:

1. **Update item catalogue content**: The catalogue administrator assigned responsibility of maintaining catalogues, updates the item catalogue content on the system after obtaining the necessary approvals from the competent authority. The updating and the necessary approvals are done offline. Since in the rate contracting scenario, the item prices (selected through competitive bidding) remains constant throughout the validity period of the RC, the catalogue changes may require relevant Government Orders (GOs) of departmental instructions to be issued before the changes could be updated online on the system.

2. **Publish updated catalogue online**: The catalogue administrator then publishes the updated catalogue online to the e-Procurement website.

Manage Catalogue Master

The Catalogue Master is the system database of items that are identified to be rate contracted by the ULBs. The Catalogue Master contains the list of items along with their unique codes and specifications. Managing the Catalogue Master involves activities related to the addition of new items, and deletion of obsolete items from the list.

1. **Add new item**: The request for the addition of a new item to the Master could be generated in the following ways:
    a. Purchasing entity requests the item, which is currently not rate contracted (catalogued)
    b. Vendor introduces a new product, for which there is a documented need
    c. Change in the technical specifications of an existing item causing the item code to change or a new item code to be created.

    In any of the above cases, once the request information reaches the competent authority, he requests the Technical Committee to review the request. Upon review, the Technical Committee assigns a new item code to the item (equipment or medicine) based on the specifications, and provides the information to the catalogue administrator for entering the same in the system.

2. **Remove obsolete item**: An item may be required to be removed from the Catalogue Master under the following conditions:
    a. No Purchase Orders (POs) have been raised by any of the purchasing entities (departments) in the last 3 years (or such a period as decided by the department)
    b. New model of the item introduced (hence the earlier model has become obsolete)
    c. Item banned by a government/industry regulation.

    In any of the above cases, the competent authority submits request for the removal of the item, citing the relevant drawl report, and/or supporting documents. After obtaining the requisite approvals, the catalogue administrator deletes the item code of the item from the system.

Process Parameters

Table VI.5: Process Parameters for Manage Catalogue Master

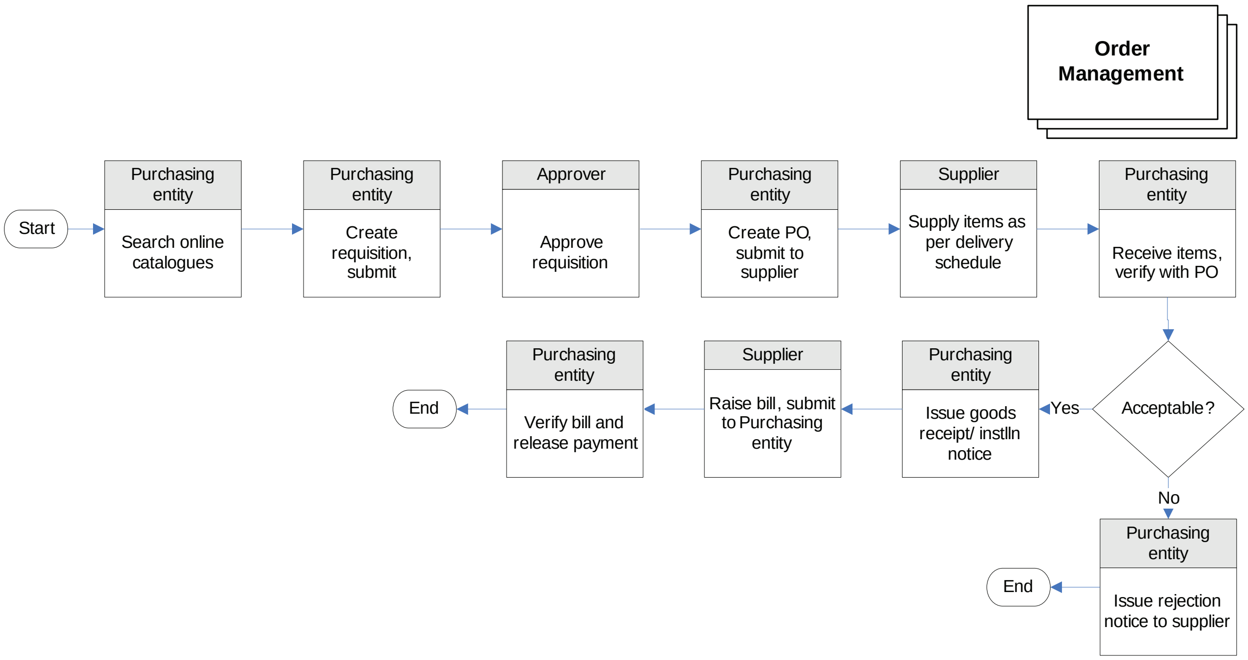
Inputs	Outputs	Controls
Concluded Rate Contract Item Code Specifications	Updated online Catalogue Content Updated Catalogue Master Payment Receipt	System to record online approvals before allowing update to the online catalogue.

VI.7.6 Order Management

The order management sub process (Highlighted in Figure VI.9) involves the steps taken by the purchasing entity in procuring a rate contracted item as per their requirement, and releasing the payment for the same. The overall order management process can be divided into the following functions:

- Create and approve requisition
- Purchase order (PO) to payment.

Figure VI.9- Order Management



1. The purchasing entity (head of division responsible for procurement) logs on to the e-Procurement system and searches for the item to be purchased.
2. Once the item catalogue is located and the price ascertained, the purchasing entity creates a requisition for the item(s), and forwards the same to the approver for approval.
3. The approver for the purchasing department reviews the requisition and approves the same, if acceptable.
4. The purchasing entity creates a PO for the requisitioned items. The purchasing store details such information as user name, store ID, shipping address, etc is populated in the PO. The approving authority and the original purchasing entity can review the PO before releasing it to the supplier.
5. The supplier receives the PO and acknowledges the same. The supplier subsequently supplies the items to the purchaser identified location as per the schedule in the PO.
6. The purchasing entity at the store receives the items and verifies it with the PO details.
7. The purchasing entity issues a goods receipt notice (GRN) or installation note in case of satisfactory receipt and/or installation of the items on site. In case of short supplies, or supplies of inferior quality, the purchaser rejects the lot partly or in whole providing appropriate reason for the same.
8. The supplier prepares then bill for the delivered items.
9. The purchasing entity verifies the bill details for correctness. Upon successful verification, the payment authority releases the payment to the supplier.

Process Parameters

Table VI.6: Process Parameters for Order Management

Inputs	Outputs	Controls
Concluded RC for the item to be procured.	Approved requisition Approved purchase order Track goods receipt Track payment release for the goods delivered.	Allow payment release only after GRN, and approvals are provided on the system.

Way Forward

Implementation of a centralized e-Procurement system is a national priority under the National e-Governance Plan (NeGP) consisting of several proposed path-breaking initiatives, the resultant benefits of which are similar in nature. Initiatives such as a centralized system of registration of suppliers/contractors at the State level, online conduct of the competitive bidding process, standardization of vendor selection procedures are some of the key initiatives envisaged to be implemented under the project. The resultant building of the valuable knowledgebase on the spend patterns, supplier performance, etc. by various departments of the State will greatly facilitate the executive decision making process. The knowledge of these and other benefits accruable from the implementation of the e-Procurement system should act as a stimulant for the States to embrace e-procurement and ensure participation by all its constituent departments.

VI.8 Interface Requirements

The following Table 54 highlights the Interface requirements

Table VI.7: Interface requirements

Interface with module	Information received	Information given
Indent Management:		
Assets and Inventory	Requirements (Reorder level)	Record and account for all acquisitions, and enhancements to the assets of the municipality
Financial Accounting	Budget Availability Payment Details	Payable Bills , Payment details , EMD/SD details
Competitive Bidding & Auction		Indent Number Work Details (for NIT development)
Project and Works	New project codes, Material requirements, if any	
Competitive Bidding & Auction:		
Indent Management	Indent number Work Details	

Supplier Management	Registered Contractors Contractor Business details (contractor can use this at the time of bidding)	
Project/Ward Works		Contractor details Contract Details- Payment terms, project timeline, etc.
Supplier Management:		
Competitive Bidding		Supplier Business details Blacklisted contractors (Registration numbers)
Project/Ward Works:		
Budgeting and Accounting	Budgetary allocation on projects	Project Payments made Payments outstanding
Competitive Bidding/Auction (Contract Management)	Contract Agreement details Payment schedule (% payment to be made with % work completion)	
Citizen Portal (Grievance Redressal)		Project status Planned timeline Contractor Name
Court Cases		Project status Planned timeline Contractor Name Payment terms

VI.9 Functional Requirement Specifications

The functional requirement specifications in the following tables enumerate business needs for the proposed e-Procurement system. The section has been arranged according to the stages in the procurement process as described in the earlier sections. The statements should be read as preceded by "The system should "

Indent Management
The following table (Table VI.8) highlights the FRS for Indent Management

Table VI.8: FRS for Indent Management

No.	Requirement
Create Indent	
1	Facilitate online creation of the works indent. The system should auto generate a unique indent number.
2	Facilitate hierarchy based workflow in the system for creation and approval of the indent in the form of Stage 1 & 2 plans and estimates. The system should have inbuilt workflows depending on the type & value of work selected at the time of creating the code (e.g. major or minor work, original or repair, etc.).

3	Allow linking of the indent with the overall project code if the procurement is part of a bigger project with multiple procurements. The project code needs to be linked to Accounting module. The expenditure, progress of resultant contract, etc. shall then be linked to the overall project expenditure and progress.
4	Provide online templates to facilitate Stage 1, 2 plans & estimate preparation. Facilitate upload of documents (CAD drawing files, scanned images, technical specifications, etc.) with the plans.
5	Support cost estimation using the Schedule Of Rates (SOR). Facilitate storing of the SOR in the system for use during the preparation of the estimate. Uploading facility for the SOR through excel file, etc. should be available.
6	Support consolidation of several indents into a single indent.
7	Integration with existing budgeting/project management module or back-office application to facilitate validation of project cost with available departmental budget, to avoid project cost overruns.
Approve Indent	
1	Facilitate online review of submitted indent by the relevant approver, and facilitate providing comments, etc. with the indent. Capture comments of the approvers at each stage. System should further capture references of all indent actions (creation, approvals, rejections, etc).
2	Support use of Digital Certificates for providing administrative approval and technical sanction online. Allow attaching of supporting documents with the online approval order. System should update/cancel the indent number based on the results of the review.
3	Allow tracking of the indent throughout the creation and approval cycle using the unique indent number. The status should provide the indent history in terms of date and time of creation, submission to the last approver, current stage in workflow, etc.
4	Support workflow for a nodal procurement agency to receive indents from multiple departments, prepare cost estimates and send them to the respective departments for their approvals. Further, receive approval from the departments, and start the tendering process (if decided).
5	**MIS**: Support generation of reports on: Indents created, by type of work, value, region, etc. Indents approved, rejected, and reasons for the same

Competitive Bidding

The following table (Table VI.9) highlights the FRS for Competitive Bidding

Table VI.9: FRS for Competitive Bidding

No.	Requirement
Prepare and publish NIT	
1	Facilitate online creation of the NIT. The online template (form) should provide relevant fields to facilitate easy entry of information by the creator.
2	Provide library of forms/templates for NIT, and tender forms. The library should also have templates for certificates, and statements required from the bidders. The system should allow the NIT creator to select any of the available forms to be used at the different stages of evaluation (pre-qualification, technical, commercial, etc.).

3	Facilitate copying of data from previous tender and from excel spreadsheet (standard format) at the time of preparation of the NIT. The NIT creator should also be able to upload a tender document to the system.
4	Facilitate upload of drawings, technical specifications, and other data on the project along with the tender document.
5	The NIT/Tender creation module should seamlessly integrate with the indenting module. It should copy the contents of the indent to the tender.
6	Facility to select the type of tender (single, open, restricted) at the time of NIT creation. The system should then be able to send out emails to enlisted contractors accordingly. System should have the list of enlisted contractors (for restricted and single tenders) readily accessible through integration with the Supplier Management module. In case of open tenders, the email alerts should be sent out to all registered contractors.
7	Allow the NIT/Tender creator to specify the minimum requirements to be fulfilled by a bidder against each evaluation parameter. At the time of submission of bids by the bidder, the system should not allow the bidder to bid against a parameter, if the bidder does not fulfil the minimum requirement specified against that parameter.
8	Allow selection of multiple bid evaluation stages (Pre-qualification, 2-stage, 3-stage, etc) based on the type, nature, and value of tender entered by the user. The user should be able to select any combinations of these, or the system suggested evaluation procedure.
9	Facility to enter the tender schedule in the system. System should validate the dates for various evaluation stages and also recommend a schedule based on the standard time durations. However, system should allow the user (Tender owner) to overrule the system tender schedule.
10	Based on the tender schedule firmed up, the system should automatically disallow the corresponding action. For e.g. disallow downloading of tender form beyond the last date of procurement of tender document, disallow viewing of a bid by the department staff before the bid opening date, etc.
11	Allow online submission of the draft NIT to the competent authority for approval.
12	Facilitate time-tracking based escalation in case of delays at any stage of approval. System should also be able to escalate to the next approver, if the original approver is not available for some reason.
13	Automatic event based emailing system with read receipt confirmations for users within the department and also for registered contractors. The system should support fax, and SMS based alerts, if required at a later stage. System should support dashboard functionality for each role showing the role's pending tasks.
14	Support online review and approval of the draft NIT. The approver should be able to approve, attach comments with, or reject the draft NIT on the system. The system should allow online approval of the draft NIT using the approver's digital certificate.
15	System should be able to suggest different times for publishing the notice on the net based on the type of work for which tender is released. E.g. Less time for goods, more time for work contracts, still more time for research and development related services.
16	Allow upcoming, open, and awarded tenders to be posted on the e-Procurement website. User should be able to specify if the viewing of certain NITs should be restricted to the enlisted contractors, in which case, the viewing of the NIT would require the login information of the enlisted contractors.

17	Facility to upload multiple corrigendum and addendum linked to the original NIT. System should send email alerts to interested (respondents) parties regarding the corrigendum. Based on the corrigendum/addendum, the earlier system controls for different tendering activities to be superseded by the latest ones.
18	Allow tenders to be tracked throughout their lifecycle in terms of stage of processing, comments at various stages of evaluation, and the decisions made.
19	Online generation of reports regarding sale/download of tender docs and receipt of fees/EMD, list of bidders, etc. Login information of contractors can be used to generate contractor wise reports. The reports should be printable on MS Excel, Word, etc.
Receive Bids	
1	Allow intending bidders to locate tenders quickly through on-line search facilities in a variety of ways including tender no., generic description, nature and type of work, estimated value, etc. In case of works tenders, the tenders should be searchable zone, circle, and division wise.
2	Allow intending bidders to download the tender document from the e-Procurement website without paying the tender document fee (or on payment as decided by the State).
3	Integration with payment gateways for online payment of EMD, tender document fee, etc., as decided by the State. The system should also support offline payment mechanism. Further, support multiple instruments for the payment of the EMD (DD, Bonds, NSC, etc).
4	Allow registered contractors (provide space) to upload and store the frequently required certificates, statements, so that they don't have to upload the same every time a new bids comes out.
5	Allow registered contractors to log-on to the e-Procurement website for submission of bids. System should check for blacklisting or permanent disablement of login information of the contractor at this time (through integration with the Supplier Management module).
6	Allow registered users to update their earlier business profile (entered at the time of applying for registration) before submitting their bids online.
7	Allow registered bidders to enter the technical and commercial bids online on the system in the specified forms, and attach the relevant documents as required. The system should limit the size of upload by bidders (say 1MB), and only to the specified formats.
8	Allow contractors to save their bids mid way and come back later to complete and submit their bids.
9	Provide templates and support multiple contractors bidding as a consortium. Bidding in consortium may become a requirement in case of large and complex works where one contractor may not have the capability to bid for the entire work.
10	Facilitate upload of drawings, technical specifications, contractor's terms & conditions (where requested in NIT), and other data on the project along with the bids.
11	Display clearly, on appropriate screens, the system (Server) time and the time left (number of hours and minutes) before the closing of the tender.
12	Facilitate double authentication of the bidder using Digital Certificates: first at the time of login on system, then again at the time of submitting the price bid (so that session expiry is validated before final submission).

13	Capture tender response information include contractor reference, response date, and time. Provide this information to the bidder on a printable screen as well as via email alert for reference purpose.
14	System should not allow a bidder to submit a bid or to edit an earlier submitted bid beyond the last date of bid submission.
15	The system should protect the bid document from being viewed/edited (even by the system administrator) before the respective bid opening dates for technical and commercial bids.
16	Functionality for holding pre-bid meeting online. All questions from respondents could be replied and the replies posted online without divulging the identity of the respondent. Bidder can ask multiple questions.
17	Facilitate the departmental user to receive the hard copies of the supporting documents (scanned EMD, certificates, statements, etc) from the bidders and update the same on the system. The system should send out alerts to the bidder acknowledging the receipt of the same by the department.
18	Allow contractors to track the status of their bids online using the bid submission number
19	Audit trails for entire tender lifecycle, from NIT creation to bids received and selected. If any bids are rejected, system should record for what reasons and by whom. Actions of the bidder should also be tracked (necessary to avoid litigations later).
Evaluate Bids & Award Contract	
1	Support online access and viewing of bids by the Inviting Officer on the scheduled date & time of bid opening.
2	Support workflow for evaluation, and approvals (from competent authorities, tender committees, etc.). Support dynamic assignment of officers for evaluation of bids, depending on the stage of evaluation and the policies of the department.
3	Support separate workflows for bid evaluation based on number and type of stages employed (Pre-Qualification, Technical, Commercial and Techno-commercial evaluation stages).
4	Facilitate system tracking of the evaluation process. Send system alerts, escalate in case of delays at any stage of the process. Maintain time logs for generation of MIS.
5	Generate compliance matrices and comparative charts of received bids to aid in evaluation by the Inviting Officer, and tender committee. These should be available to registered bidders for viewing and downloading from the website after the evaluation process is complete. The matrices available to the bidders should not disclose any confidential information on the bidding firm.
6	In case where contractor's terms & conditions were invited in the NIT, system should allow evaluation & compilation of the common set of terms & conditions. Further, system should allow resubmission of updated bids by contractors after finalizing of common terms and conditions.
7	Record comments from all approvers at different stages of evaluation. System should further facilitate attaching evaluation results with the bids.
8	Support automatic evaluation of technical and price bids by the system using pre-specified criteria. System should then rank bidders (L1, L2, etc) at the commercial bid evaluation stage.
9	Support online viewing of tender opening event simultaneously by remote bidders (e.g. in the form of chat).

10	Facilitate viewing/downloading of bid evaluation results and bids of other qualified bidders, depending on the evaluation stage.
11	Support automatic/manual revision of the list of eligible bidders for sending out alerts for online tender opening event, based on the result of the initial stages of evaluation.
12	The system must allow the Inviting Officer/committee to select no bidder, or one, or many successful bidders from those submitted. Further, the system should facilitate specifying the percentage of contract awarded to each bidder, if required.
13	Facilitate the EE to issue the Tender Acceptance Notice online to the successful contractor using his DSC. Further, facilitate the successful contractor to respond using undertaking signed using the contractor's DSC.
14	Allow online signing of the contract by the concerned EE using his DSC, and countersigning of the same by the selected contractor using the contractor's DSC. System should 'lock' and maintain auditable record of this exchange for future reference. Contract to be in printable format.
15	System should only recommend L1 for selection. However, the competitive authority should be able to bypass the recommendation by providing valid reason for the decision.
16	On rejection of a bid at any stage, system should make it mandatory for the competent authority to provide valid reason for the same. System shall record (maintain an audit log) the same using the DSC of the competent authority.
17	Archiving of the entire tender proceedings as per the IT Act, 2000.
18	Facility for incorporating World Bank recommended workflow for tendering process.
19	Section for uploading Government Orders (GOs) relating to e-Procurement; automatic alerts for the same to be sent to registered contractors through emails/dashboard.
20	**MIS**: Support generation of reports on: Tenders floated by value, type of work, & region-wise, etc. Contractor participation by type, value, region of work Contractor-wise reports on bids participated, won, lost, etc. Defaulting contractors (non payment of EMD, fake documents, etc.) Statistics on evaluation process- cycle time, bottlenecks, etc. Work wise tender report The MIS facility should have separate interfaces for different users (Govt. level, department level, etc.).

Dynamic Pricing (Auction)

The following table (Table VI.10) highlights the FRS for Dynamic Pricing

Table VI.10: FRS for Dynamic Pricing

No.	Requirement
1	Provide simplified menu based workflow to create online auction by the Auction Administrator.
2	Allow users to be created and assigned different roles like that of Auction Administrator, Departmental Originator, Super-Originator, etc.
3	Facilitate specification of the following auction parameters at a minimum: Item name and quantity Start Price- auction begins with this price

	Reserve Price- this price should be met for the auction to have any result Bid Decrement/Increment- minimum amount by which each succeeding bid of a bidder should be lower or higher Auction period or end time Automatic extension time window- auction time extends automatically if last submitted bid falls within this time window
4	Facilitate proxy bidding for contractors, if decided by the department.
5	Provide a tabular view of auction items allowing fast and easy bidding by contractors in case of multiple line items.
6	Support the following options: Both Reverse and Forward auctions Auction types- English, Dynamic Sealed bid, etc. Auction rules- lowest/highest bid wins, highest/lowest quantity wins etc.
7	Support multi variable bidding, assigning weights to different variables and use of formulae in an auction.
8	Support dependent auctions i.e. it should open an auction only on the successful completion of the previous auction
9	Allow department to assign weights to different contractors based on their past performance and quality in an auction. The system should automatically assign the weights
10	Allow viewing of the lowest going price in real time, by the bidders.
11	Allow Inviting Officer to view history of items and price bids during the live auction and after with date and time stamp.
12	Disallow divulging the identity of the participating bidders on the system.
13	Support display of images or multi-media content, URL, documents, and spreadsheets attachment with each auction item.
14	Provide option to the departmental administrator to auto-approve or manually approve the winner in the auction.
15	Support for parcel auctions – bidders can either place one bid for the whole lot or individual bids for each component that makes up a lot.
16	Facilitate departmental administrator to copy data from a previous auction for creation of an auction again. The administrator should not be required to fill in the data again.
17	Support importing of auction data from data in Excel spreadsheets instead of data-entry or copying from existing auctions.
18	Support export capabilities for extraction of data from the auction system into a flat file or Excel spreadsheet.
19	The system should be flexible to allow: • Defining several categories, sub-categories and attributes for an item • Customizing auction rules to fit departmental need • Permitting both auto-approval or manual approval of auction results • Changing of auction data by the Auction Administrator or departmental administrator at any time
20	Allow generation of MIS on types of auctions and results, contractor participation, % savings in price, etc.
21	Allow department to send notifications and pop-up messages to participating bidders during the auction.

22	Show in real-time the time remaining for close of the auction up to the last second to both department administrator and participating bidders.
23	Provide a contractor administration module to add, delete, enable or disable the contractors or contractor group.
24	Template library for contracts with common set of terms and conditions. Further, user should be able to define the contract on the selected vendor.

Supplier Management
The following table (Table VI.11) highlights the FRS for Supplier Management

Table VI.11: FRS for Supplier Management

No.	Requirement
1	Single site for Dept/ULBs registration as well as for applying for a DSC.
2	Based on the type of registration selected by the user (as contractor, supplier, goods, services, etc.), facilitate different workflow and suggest related information requirement to the applicant during registration application.
3	Allow contractors/suppliers to apply online for departmental registration as well as for procuring the necessary DSC. Allow applicants to upload the necessary supporting documents, and pay registration fees (support online and offline payment mechanisms).
4	Allow system to issue a unique application number to each applicant for departmental registration as well as for DSC.
5	Allow applicants to track the status of his application online using the application numbers provided to them.
6	Maintain database of enlisted contractors, architects, suppliers with proper contact information to send out alerts on new tenders, corrigendum, GOs, etc.
7	Track the validity period of departmental registration (and blacklisting period) and DSCs of contractors. Send out automated emails for renewal of registration, etc. System should enable/disable the login appropriately allowing/disallowing the contractor to bid.
8	Facility to the contractor to upload required documents (certificates, statements, etc) in his personal space available to him after registering online. The contractor can then create tender specific folders and transfer required files, as necessary, to those folders.
9	Facilitate applicants to save incomplete (partly filled) registration application online for a specific period of time (e.g. 90 days) before submitting for review. A temporary registration number should be provided by the system in this case. A permanent unique contractor registration number (CRN) would replace the temporary number after final submission, verification and approval of registration.
10	Single point login for submitting response to tenders of any department. However, requirement for departmental registration as required by the individual departments may vary and will apply at the time of bid submission.
11	Facilitate registered contractors to update information on their business, address, etc. from time to time on the system.
12	Capability to provide value added functionality such as emailing of NIT information upon matching of interest area (as specified by the contractor at the time of registration).

Contract Management-- as applicable to goods procurement

The following table (Table VI.12) highlights the FRS for Contract Management

Table VI.12: FRS for Contract Management

No.	Requirement
1	Template library for contracts with common set of terms and conditions. Further, user should be able to define the contract on the selected vendor.
2	System should track a contract through various stages- Active, close, terminated. Pre contract stages such as under construction (contract document under construction) and under negotiation (negotiations underway between department and supplier) should also be supported.
3	Facilitate digital signing of rate contract by the competent authority on the system, and issue of the same to the selected supplier
4	Allow selected supplier to receive and acknowledge the electronic copy of RC on the system using his digital signature certificate. System should maintain a secured log of this exchange for future references.
5	Allow integration of the Competitive Bidding and RC Catalogue Management modules to facilitate instant availability of information on contract terms and conditions, payment conditions, delay clauses, etc. to the RC Catalogue Management module.
6	System must alert the Stores in-charge and the contracted suppliers when the contract is approaching its renewal date.
7	Allow extension of contract allowed under special conditions. System should request specification of appropriate reasons for the extension.

RC Catalogue Management- as applicable to goods procurement

The following table (Table VI.13) highlights the FRS for Indent Management

Table VI.13: FRS for Indent Management

No.	**Requirement**
1	The rate contract catalog should contain the item name, item code (system generated or manual, as decided), a description of the item, unit of measurement, supplier name, supplier part number (if any), rate contract unit price, etc. The rate contract catalogue should allow for differential pricing by further specifying the freight charges (zone-wise), local taxes, discounts for specific users, etc. for delivery in various permitted locations.
2	Allow products to be identified (searched) by more than one specific identifier such as description, item code, etc. The system must have the ability to add additional specific identifiers, such as manufacturers' part number, alternative catalogue codes, etc.
3	Allow the maintenance and hosting of individual catalogues to be controlled according to the terms of an individual agreement between the department and its particular suppliers.
4	Allow catalogues in a compliant format, to be transacted through the system for the following options: • Supplier maintains and hosts the catalogues • Department maintains and hosts the catalogues • Suppliers' and/or department maintain catalogues that are hosted by the vendor

	• Vendor maintains and hosts catalogues on behalf of the department and/or the suppliers; and Third parties maintain and host catalogues externally on behalf of departments and/or suppliers (e.g. external marketplaces).
5	In case the department maintains a catalogue, it should be allowed to merge and change available products and services, specifications, and item prices.
6	Support steps for updating catalogues such as editing, reviewing, and releasing catalogues for publishing. Any supplier updated catalogue must be approved by the department before publishing. System should allow for configuring workflow for review and approval of the updated catalogues.
7	Allow for the replication of catalogues from within the system to departments or suppliers' Operational Systems. System must also allow for the replication of catalogues from within a departments' or suppliers' Operational Systems to the system.
8	Allow the department to construct and maintain menus (directory) for the catalogues/items on the system.
9	Allow flexible pricing on the system for an item based on the department, characteristics of the items, location/shipping address of the user, any special schemes, etc.
10	Facilitate assignment of unique code to items and sub items. Coding to be automatically generated by system. Facilitate maintenance of the reserved items list of the department. System should facilitate the workflow for addition and deletion of items from the reserved items list.
11	Facility to control viewing of selected item catalogues based on the permission level of the user. System should have facility to configure these permissions based on the organizational structure.
12	Support multiple currency and language for catalogues.

Order Management- as applicable to goods procurement
The following Table (Table VI.14) highlights the FRS for Order Management

Table VI.14: FRS for Order Management

No.	Requirement
Inventory Management (Health Services)	
1	Facilitate tracking of inventory position of items using unique item identifier.
2	Facilitate update of items receipts by departmental users. System should further alert users to update inventory on the system on a weekly/fortnightly basis.
3	Facilitate specification of reorder points in the system. Further, facilitate creation of supply request when reorder point reached.
4	Allow configuration of order size based on the consumption of the user. System should suggest reorder quantity; however, the user should be allowed to override system recommendation.
5	Track inventory levels and consumption information at the consumer entities and stores to generate inventory reports, track stock outs, etc.
Create and Approve Requisition	
1	Facility for raising an online requisition by different users (purchasers) and aggregation of the same, with facility for different levels of online approval based on pre-configured workflow.

2	Automatically generate a unique requisition number to each new requisition allowing it to be tracked on the system.
3	Allow linking of the requisition number with the overall project code if the procurement is part of a bigger project with multiple procurements. The expenditure, progress of resultant contract, etc. shall then be linked to the overall project expenditure and progress.
5	Allow each participating purchasing department to define workflow, privileges, and set parameters that govern the approval processes required for requisitions. The parameters could be, but not limited to: User: For any requisition entered by this User Amount: For any requisition over this amount Supplier: For any requisition destined for a specified supplier Description: Nature of expense, G/L account and Cost Centre Location: Geographical location of the user Item: For any requisition for this item
5	Provide the following requisition related features: Allow attaching of files along with the requisitions. Create part requisition that can be completed at a later time Save requisitions for multiple use Cancel/modify requisition Support multiple delivery addresses
6	Support requisitions for listed goods and services in various categories such as hardware, software, office equipment, drugs and pharmaceuticals, motor vehicles, maintenance services, etc. Further, allow addition of new categories for goods and services to the database.
7	Support electronic shopping basket functionality when procuring using online catalogues. Shopping basket must provide at a minimum the list of items selected, and the running total for the same.
8	Further, user should be able to add items from different suppliers to the shopping basket. System should be able to segregate items by different suppliers, and also accumulate similar requirements from different baskets into one at the time of releasing the purchase order.
9	Allow setting of requisition consolidation period. This time period shall decide how often purchase orders are released to suppliers.
10	In case of editing/rejection of requisition by the approver, the approver should be able to provide reasons for the same in the system.
11	Integration with existing budgeting module (of purchasing departments) or back-office application to facilitate validation of order cost with available departmental budget, to avoid cost overruns.
Purchase Order to Payment	
1	Automatic creation of PO, once the requisition has been approved by the appropriate authority. System should link the PO number with the requisition number to allow tracking. System should auto-populate the PO with department and shipping details, etc. However, the user should be able to override the system information (different shipping address, etc.).
2	System should consolidate POs based on the parameters specified by a department.
3	In relation to POs, the following should be supported:

	Create & release of PO to the selected single supplier. Create & release of split PO to the selected suppliers. Create & release of POs in one lot or multiple need based orders. Creation of balance between easy and difficult delivery destinations or policy as defined by the department. Provision for single PO containing multiple items from multiple RCs.
4	Allow editing/cancellation by the purchaser/purchasing department of the system generated PO before release. System should provide for entering comments/reasons.
5	The purchaser/purchasing department should be able to selectively release POs. Automatic release of PO to the supplier only when such configuration is provided by the purchasing department.
6	Allow the following modes of release of PO to the suppliers: Directly update the suppliers' operational systems, if available Email with attachments Fax Printed output Save it in the designated 'Inbox' provided for the supplier in the e-Procurement website.
7	Support electronic confirmation from the supplier upon receipt of the online PO, using his DSC.
8	Automated email alerts to facilitate the creation and approval workflow in the organization. The email should have facility to be auto-populated with the requisition/PO reference information, or URL of the requisition/PO (on the e-Procurement website). Further, Allow automatic escalation of requisitions if a particular approver is not available to avoid delays.
9	Allow suppliers to maintain user accounts on the portal. All alerts, documents etc. are posted and/or mailed to these accounts. The system must allow the suppliers to track orders placed on them as well as update the buyers of the order status.
10	Maintain record of all POs released supplier wise for the generation of the drawl reports to be used for demand estimation for future procurement.
11	Allow entering of QA request for the third part QA agency. System should allow the PO owner to provide details of the PO-supplier details, delivery schedule, etc. to the QA agency online.
12	Allow the QA agency to post the QA inspection results on the system. System should alert the supplier, PO owner of the posting. System should track the QA results for future reference (required at the time of payment).
13	Support updating of receipt information on the system as follows: Receipt of quantities more or less than the PO quantity, but within specified tolerances Return part orders by line items, providing reason for return Cancel if supplier short delivers, or of unacceptable quality
14	Allow purchaser to issue and update the GRN on the system.
15	Allow supplier to raise a bill request on the system for the delivered goods, for the subsequent release of the payment. System should automatically generate bill on the basis of PO, GRN, and QA report entered into the system. Further system should apply to the bill any service tax, sales tax, etc. as applicable locally.
16	Allow settlement of payment after three way matching (Bill, PO, goods receipt note) either on the system or on the department's internal financial system. However, facilitate updating of the transaction information on the system for MIS purpose, future demand estimation, etc.

17	Allow delegation of settlement of payment responsibility to a centralized department, if so decided by the State.
18	Allow integration with payment gateways
19	Support Purchasing Card (P-Card) functionality.
20	Allow maintenance of QA inspection records, and GRNs (or rejection notices) issued by the purchaser against each PO, for existing suppliers. These should be available for the generation of MIS reports on supplier performance, and as reference during future competitive bidding exercises for evaluation of bids from existing suppliers.
21	Allow configuration of the workflow for bill verification and release by the purchasing department. The system should escalate accordingly if an approver is not available, in order to avoid delays in the release of payment to the supplier.
23	Maintain auditable record of all requisitions, POs, approvals, rejections, deliveries, and cycle times for these processes. Reports to be generated to facilitate cycle time and bottleneck analysis, measurement of supplier performance, etc.

General

The Following Table (VI.15) highlights the FRS for General Module

Table VI.15: FRS for General Module

No.	Requirement
Management Information System (MIS) & Miscellaneous	
1	Facilitate **Department** to configure/develop reports on different parameters for trend analysis, reports on contractor participation etc. Reports to be available based on department level and global level privileges provided to the user.
2	Provide the option for reports to be saved and printed in different formats e.g. excel, word etc.
3	Reports to be available in graphical as well as tabular formats.
3	Common instrument numbering system for the State (Unique procurement instrument identifier), if decided. Thereby, each contract, PO, or any other agreement would be uniquely numbered. This would facilitate MIS on spend analysis, contractor performance, etc.
4	Facility to conduct opinion polls from contractors/suppliers, departmental users, in order to improve the functionality/services of the e-Procurement solution.
5	Help section for the contractors/suppliers and departmental users. FAQ section to be built and continually updated with recent learning's.
6	Sections providing policy documents of department, terms of use, rules of tendering, feedback, queries, etc. should be provided on the site.
7	System validations at the time of data entry, and issue of system generated numbers (e.g. tender submission, contractor registration numbers, etc.) so that incorrect entries and duplications are avoided.
8	Auto population of form fields with previously entered data, as applicable. Facilitate users to modify the auto-populated fields, as applicable.
Localization	
1	In respect of local settings: The base currency of the System must be Indian Rupees. However, system should support

	other currencies, such as required in case of global tenders. The System must be compliant with Indian tax regulations and other relevant legislation The System should be compliant with Indian IT act 2000 and other relevant legislation
Workflow and Configurability	
1	Application workflow and privileges should be capable of being configured based on the organization structure of the department. Further, the system should allow re-configuration at a later date by the authorized user. For example, currently, as per the Works Manual, the SE is the approving authority for the NIT on forms A & B for tenders up to Rs.10 lakhs. However, if the department wishes to increase the limit up to Rs.15 lakhs, the system should allow the designated system administrator to configure the same in the system. Thereafter, all tenders up to Rs.15 lakhs shall be routed to the concerned EE instead of the SE.
2	Each department level configuration should be able to support multiple sub-departments to take care of the multiple locations and divisions with in the department.
3	The work flows should be flexible and configurable based on: The product category Spending limits Approval limits Intra department relationships Inter department relationships
4	Support transaction level assignment of responsibilities. The authorized user should be able to assign different users for: Accepting tender fee Tender opening at all the stages Issuing corrigendum's
5	Dynamic workflows should be facilitated where the creator/approver can select the next approver/reviewer. Provision for special approvals (different from the configured hierarchy/workflow) should be available.
6	Support event based alerts to the authorities during the creation and approval process. Time tracking based escalation in case of delays at any stage of approval.
7	Support configuration of roles such as the system administrator, super user for the departments. System should further support configuration of users from contractor/supplier agency, and from other allied agencies such as the payment gateway provider.
8	Support the diverse requirements of multiple departments. The system should support multiple and dynamic forms library concept: The department administrator should be able to select and associate multiple forms, from the forms library, with his department. The tender creator should be able to select the relevant forms from the department specific forms library during tender creation. The tender creator should be able to dynamically configure the selected form to meet the requirements of the specific tender.
9	Support time stamping of all workflow steps such as creation, submission, approval, rejections, etc. Maintain auditable logs of such activities for future referral, dispute resolution, MIS generation, etc.
10	Support integration of the e-Procurement solution with existing legacy systems or enterprise resource planning (ERP) modules to facilitate seamless data flow between the applications.

Personalization	
1	Support user specific portals (entry points). The user portals can be differentiated based on the type and level of the user, such as different views for departmental users, contractors, the Governmental users (Secretary, Minister, CM, etc.). The views will contain content that is relevant to the type of user.
2	Simple graphical user interface (GUI) providing ease in navigation and use. Provision of clear display of server date and time, user details, etc. on all pages.

VI.10 Introduction- Project/Ward Works

The section presents the process flows and functional requirements specifications for the project/ ward works module. An introduction to the module is presented first followed by the process flows and the functional requirements specifications.

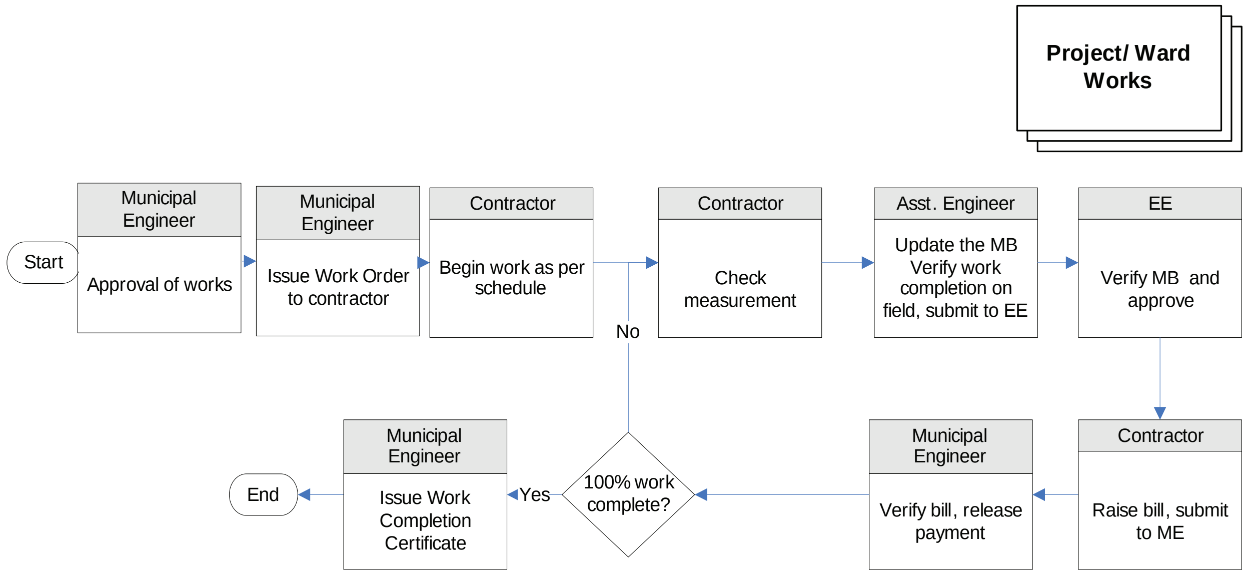
The municipalities execute various maintenance and developmental work through the engineering department. All civil engineering works such as building of roads, bridges, culvert, storm water drains, buildings, parks and playgrounds etc. are carried out with proper planning, authorizations and allocation of the funds. Project/Ward Works module primarily tracks and monitors the projects from commencement to completion. The module has the following functionality:

- Classify works as per approved work list
- Administrative Approval
- Technical Approval
- Monitoring of works
- Monitor the physical progress of work in term of measurements, material issues, against the original timeline of the project
- Assist in preparation of the bills
- Control and track the bill payments vis-à-vis the planned expenditure on the project
- Generate insightful MIS and reports on contractor performance, project completions, budget allocation and utilization, etc.
- Make available status of the various projects to the public in an online mode (over the internet)
- Release of funds from Finance/Engineering
- Payables management
- Emergency works
- Scheme works
- Ward level control of works

VI.11 Process Overview - Project/Ward Works

Once the competitive bidding exercise is concluded with the selection of the contractor, and the contract is signed, the Project/Ward Work monitoring and tracking activities are initiated. The monitoring activities begin with the issuance of the work order to the contractor, subsequent to which the contractor initiates the work. The process, as shown in Figure VI.10 further involves measurement and tracking of ongoing work, and payment(s) to the contractor for the completed work.

Figure VI.10- Project/Ward Works



1. The ME issues the work order to the selected contractor.
2. The contractor begins work on the site as per the schedule provided in the contract agreement. The work details are initiated in the Measurement Book (MB) for subsequent recording of progress.
3. As per the specified schedule in the contract agreement, the contractor provides information on the units of work completed for updating the MB. The contractor then submits the same for verification (and subsequent payment) to the designated authority in the ULB.
4. The Assistant Engineer verifies the entries in the MB after conducting a field survey of the work. After verification, the Assistant Engineer submits the measurements with his approval to the concerned EE.
5. The EE reviews the MB and the Assistant Engineer's comments, if any. The EE verifies 100% of the MB entries, and provides his approval if the entries are found correct.

6. The contractor then initiates the generation of a bill based on the approved MB entries and the unit rate information in the contract agreement and submits it for the approval of the ME.
7. The ME verifies the bill and accordingly, instructs the Accounts Division to release the payment to the contractor. Upon successful verification, the payment authority releases the payment to the contractor.
8. Upon 100% completion of work, as entered and verified by the concerned authorities, the concerned ME generates the Work Completion Certificate and issues the same to the contractor.

Process Parameters

The following Table (Table VI.16) highlights the Inputs, Outputs and Controls of Process parameters

Table VI.16: Process Parameters for Project /Wards Works

Inputs	Outputs	Controls
Contract Agreement signed between EE and Contractor Measured units of completed work Approved works Sanctions	Bill Payment (DD, Cheque, Bank Transfer) Work Completion Certificate	Bill verification and approval process in the system to be the same as prescribed in Works Manual Only authorized individuals to perform the activities. This can be ensured through biometric authentication. Payment released to the contractor after the system has checked the terms and conditions specified in the contract, and previous payments made to the contractor. Completion Certificate to be printed only after online approval from competent authority. Certificate to be printed only once.

VI.12 Interface Requirements

The following Table (Table VI.17) highlights the Interface requirements

Table VI.17: Interface Requirements

Interface with module	Information received	Information given
Project/Ward Works:		
Financial Accounting	Value of CWIP Maintenance work Progressive Billing details EMD Payments	Project wise details for CWIP Allocation of salary between projects and Interest during construction Classification of works
Indent Management	NA	New project codes, Material requirements, if any
Budgeting and Accounting	Budgetary allocation on projects	Project Payments made Payments outstanding

Competitive Bidding/Auction (Contract Management)	Contract Agreement details Payment schedule (% payment to be made with % work completion)	
Citizen Portal (Grievance Redressal)		Project status Planned timeline Contractor Name
Court Cases		Project status Planned timeline Contractor Name Payment terms

VI.13 Functional Requirements Specifications

The functional requirement specifications in the following table (Table VI.18) enumerate business needs for the proposed Project/Ward Works module. The statements should be read as preceded by "The system should "

Table VI.18: Functional Requirement Specifications

No.	Requirement
1	Allow issue of Work Order to the selected contractor online. The system should verify receipt of digitally signed undertaking (in response to the Tender Acceptance Notice) from the contractor before allowing issue of Work Order.
2	Allow integration of the Tendering and Project/Ward Works modules. Integration should facilitate instant availability of information on contract terms and conditions, payment conditions, delay clauses, etc. to the Project/Ward Works module. The module should process payments to the contractors based on this information.
3	Allow integration with the Project Accounting module in order to facilitate tracking previous payments/advances released to a contractor, cost overruns, etc.
4	Allow initiation of online measurement book. Enable contractor's login to access and update completed work information in the online measurement book. Support uploading of measurements in the form of pre-specified excel spreadsheet, text, etc. formats. Further, contractor should be able to file deviation requests. The practicability will of this functionality will depend on the state's financial code and legislative changes required.
5	Send alerts to contractors and departmental staff on critical dates for updating the online measurement book, verification of measurement book, generation of bill, bill approval, and release of payment, etc. The dates to be available from the contract agreement details transferred from the tendering module.
6	System should track a contract through various stages- Active, close, terminated. Pre contract stages such as under construction (contract document under construction) and under negotiation (negotiations underway between department and contractor) should also be supported.
7	Facilitate login of concerned departmental officials for the purpose of entering project related information and for providing approvals at various stages.
8	Sub Engineer/SDO should be able to upload inspection reports, photographs, etc. on the

	system for review of higher up authorities. Further, system should allow documents, as necessary, to be attached with the contract, such as the material consumption, notices issued to the contractor, etc.
9	Capture information on project analytics, such as percent of work completed against time elapsed, corresponding payments made, work extensions, delays, etc.
10	Track system entries and approvals on the system against the specified time durations. In case of delays, the system should escalate the matter to the next higher authority. The delaying authority shall be required to provide reasons for the delay in the system.
11	Support automatic generation of the bill based on verified MB entries, and other contract agreement terms and conditions. Further system should apply to the bill any service tax, sales tax, etc. as applicable locally.
12	Track project delays on the part of the contractor. Apply penalty clauses at the time of preparation of the bill. Further track delays in payment to the contractor, and apply interest payment clauses as per the terms and conditions of the contract agreement.
13	Maintain all reports/audit trails as required for the AG's audit purpose. Compliance with relevant provisions of the Works Manual, Account Code, Finance Code, and appropriate statute, etc.
14	Allow entry of third party verification information on project progress, quality control in the system.
15	Maintain central repository of all contract information- Contract status, contracted parties, contract period, goods or services covered, and contact point(s). System should provide alerts on renewal date of a contract.
16	**MIS**: Support generation of reports on: • Contractor performance by class, value, type of projects • Projects on track, delayed, completed, abandoned • Defaulting contractors (non completion of projects, delayed projects, etc.) • Project accounting- % payments made vis-à-vis the % completion of project • The MIS facility should have separate interfaces for different users (dept level/ULB, etc.) • Work wise Status • Ward wise Status • Contractor wise pending bills • Ward wise pending details.

VI.14 Data Standards – E-Procurement & Project/Ward Works

The table (Table VI.19) presents the Indicative data fields as required in the e-Procurement and Project/Ward works modules.

Table VI.19: Data Standards

Field Name	Data Type	Mandatory (Yes/No)	Nature
Project Name	Text	Yes	Text Box Entry
Brief Project Description	Text	No	Text Box Entry
Project proposed start date	Date	Yes	Masked Text Box Entry

Project proposed end date	Date	No	Masked Text Box Entry
Location – Zone	Text	Yes	List Box
Location – Circle	Text	Yes	List Box
Location – Division	Text	Yes	List Box
Requested Submission Date for Stage 1 plan & estimate	Date	Yes	Masked Text Box Entry
Requested Submission Date – Stage 2 plan & estimate	Date	Yes	Masked Text Box Entry
Indent number	Number	Yes	Automatic
Class of contractor	Text	Yes	List Box
Tender Due date & Time	Date/Time	Yes	Masked Text Box Entry
Bid Opening date & Time	Date/Time	Yes	Masked Text Box Entry
Contract Award date	Date	Yes	Masked Text Box Entry
EMD amount	Number	Yes	Text Box Entry
Cost of tender document (if decided)	Number	Yes	Text Box Entry
Type of tender (restricted, open, etc.)	Text	Yes	List Box
Nature of work (road, building, etc.)	Text	Yes	List Box
Percentage or item rate cap, if applicable	Double	No	Text Box Entry
Eligibility criteria	Text	Yes	Text Box Entry
Special tender conditions	Text	No	Text Box Entry
Pre-qualification & technical criteria	Text	No	Text Box Entry
URL for detailed NIT/pre-bid meeting	Text	Yes	Text Box Entry
Contractor registration number	Number	Yes	Text Box Entry
EMD - DD/BG no.	Number	Yes	Text Box Entry
EMD Bank Name	Text	Yes	Text Box Entry
EMD Bank Location	Text	Yes	Text Box Entry
Relevant past project name & description	Number	No	Text Box Entry
Value of past & current orders	Number	Yes	Text Box Entry
Maximum value of works performed (in last 5 years)	Number	Yes	Text Box Entry
Details of litigations	Text	Yes	Text Box Entry
Subcontractors Name, if any	Text	Yes	Text Box Entry
Subcontractor’s Qualifications	Text	Yes	List Box
Contractors Terms and Conditions	Text	No	Text Box Entry
Bid Percentage Change	Double	Yes	Text Box Entry
Item Rate	Double	Yes	Text Box Entry
Lump sum Amount	Number	Yes	Text Box Entry
Evaluators’ Comments	Text	Yes	Text Box Entry
Tender number	Number	Yes	Automatic
Contract number	Number	Yes	Automatic

Work Start Date	Date	Yes	Masked Text Box Entry
Work order number	Number	Yes	Automatic
Date of actual completion of work	Date	Yes	Masked Text Box Entry
Date of field measurement of work	Date	Yes	Masked Text Box Entry
Vendor's legal status (proprietorship, partnership, Limited, Non profit org., Trust, Government company, Others)	Text	Yes	List Box
Registered office address	Text	Yes	Text Box Entry
Corporate office address	Text	Yes	Text Box Entry
Communication address	Text	No	Text Box Entry
Type of business (manufacturing, trading, services, others)	Text	No	List Box
Certifications held, if any	Text	No	Text Box Entry
IT PAN	Number	Yes	Text Box Entry
Name of managing director, partners	Text	Yes	Text Box Entry
Description of goods manufactured/services offered (in case of goods and services vendor)	Text	Yes	Text Box Entry
Existing Registration No. (with state), if any	Number	No	Text Box Entry
Annual turnover	Number	Yes	Text Box Entry
Profitability for last 3 years	Number	No	Text Box Entry
Total number of employees	Number	Yes	Text Box Entry
Number of employees in the state	Number	Yes	Text Box Entry
Contractor /Supplier Code	Number	Yes	Text Box Entry
Work/Project Code	Number	Yes	Text Box Entry
Item Code	Number	Yes	Text Box Entry
Work Type Classification	Text	Yes	Text Box Entry
Contractor/Supplier Code	Number	Yes	Text Box Entry
Project/Work Code	Number	Yes	Text Box Entry
Item Code	Number	Yes	Text Box Entry
Work Type classification	Text	Yes	Text Box Entry
MB Details	Text	Yes	Text Box Entry

VII Health Programs

VII.1 Introduction

The Health Section plays a key role in the functioning of the ULBs. The section is headed by the Health Officer. The key functions of the health section include the following:

- Cleaning of the streets and supervision of sanitation
- Lifting of garbage and dumping of the same in dumping yard
- Spraying disinfectants under the urban malaria schemes
- Maintenance of vehicles, diesel bunks, vehicle sheds, and work shops
- Regulation of dangerous and offensive trades
- Maintenance and management of slaughter houses and certification of animals for slaughter
- Prevention of epidemics
- Prevention of food adulteration
- Management of dispensaries of Indian Medicine System and allopathic system
- Maintenance of Maternity and Child Health Centers.

Issue of trade licenses and solid waste management are the two key areas of operations for the health section. These two functions are described below:

Licenses
Establishments carrying out business in dangerous and offensive items are required to obtain a trade license from their respective Municipalities. It is important to regulate trading within the city to ensure that the citizens are not adversely affected by the improper carrying on of a trade. The issue of trade license is a means to ensure that the manner in which a business is being carried on is in accordance with the relevant rules, standards and safety guidelines.

The various categories of establishments where a trade license is required to be issued by the Municipalities are as follows:

- All eating establishments such as Hotels, Restaurants, Refreshments, those selling Coffee and Tea, Lodging Houses, Bakeries, Sweet meat stalls, those selling Mutton, Beef, Fish, Pork and Chicken, and Provision Stores.
- All trades which use motive power to run and to manufacture goods such as industries, Factories, Workshops, Powerlooms, Flour mills, etc.
- Offensive and dangerous trades such as camphor depot, firewood depots, those selling timber wood, dry clean shops, dhobi shops, beauty parlors, barber shop, those selling edible oil, ammunitions storage, and those manufacturing camphor and candles.

The Trade License module facilitates the issue of new licenses, installation permission/NOC, renewal of trade license, Upgrading of trade, closure and cancellation of trades, DCB generation, and collection of fee for the services.

Solid Waste Management

The Solid Waste Management process involves allocation of employees for sweeping and garbage removal and cleaning of drains, allocation of the vehicles for garbage transportation and disposal at the dumping ground, maintenance of the vehicles and maintenance of the public toilets. Along with the Health Officer, the Sanitary Supervisor, Sanitary Inspector, and Sanitary Maistry/Sanitary Jawan are responsible for supervising the activities of the solid waste management.

The Solid Waste Management process deals with the following:

- Allocation of manpower for sweeping and garbage removal, monitoring and recording of the work executed
- Allocation of the vehicles for garbage removal, monitoring and recording of the movement of vehicles.
- Planning of the resource for effective utilization of manpower and vehicles
- Monitoring and recording of the garbage collection and dumping at the dumping grounds.

The transport division of the Municipalities plays a major role in solid waste management apart from providing service to department/administration. The activity of transport department includes maintenance of the vehicles, allocation of the vehicles, monitoring of the performance of vehicles, procurement of spares, etc. The main functions of the module are:

- Maintenance of vehicle history
- Maintenance of vehicle repair history including third party repairs
- Maintenance of supply of fuel, oils and spares
- Monitoring of procurement of vehicles, spares and auction of the vehicles.

The Municipalities monitor various public conveniences such as sulabh complex and public toilets for cleanliness. The maintenance of some of these is sub-contracted. The main function of the module is to monitor the maintenance of these public conveniences.

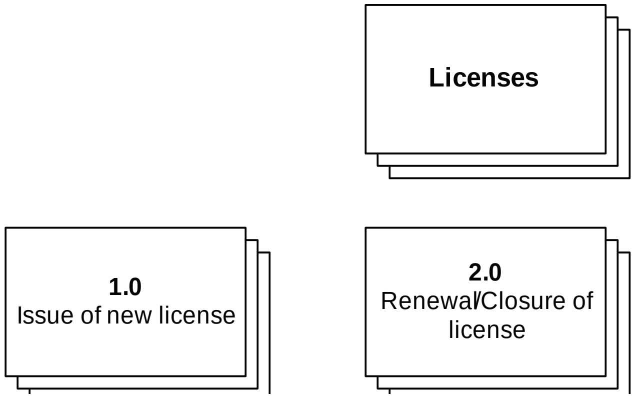
VII.2 Process Overview

Licenses
The Licenses module covers the following two sub processes:

- Issue of new license
- Renewal/Closure of license.

These two sub processes are described in the Figure VII.1 and VII.2 Presented Overleaf.

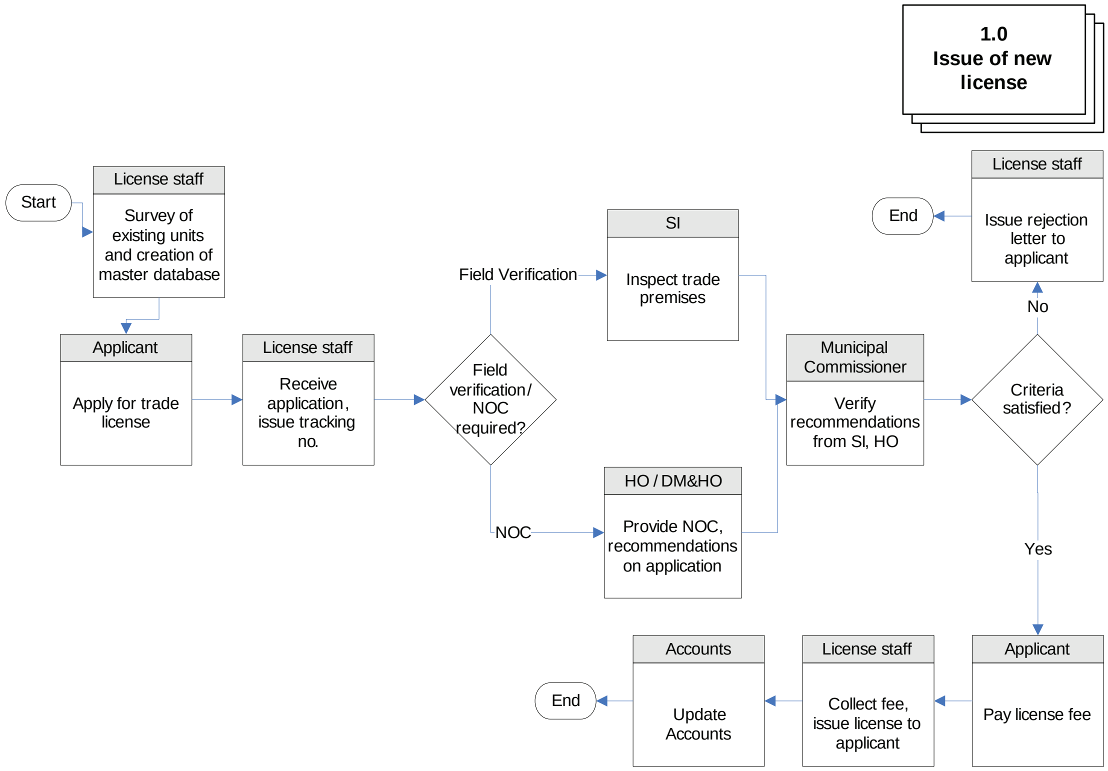
Figure VII.1: High level view of Licenses



VII.2.1 Issue of new license

The sub process involves the trade owner applying to the municipality for the issue of a new trade license, the verification of the application by the municipality staff, and the subsequent license issue or rejection of the application by the municipality staff.

Figure VII.2: Issue of new license



The process flow is as described below.

1. The process of issue of trade license begins with the applicant applying for the trade license at the identified citizen center or at the counter in a ULB. Generic documents required to be submitted at the time of applying for licenses:
    a. Application forms
    b. Challan of fee deposited
    c. Declaration form
    d. Key plan (Blue print)
    e. Site plan (Blue print)
    f. Basis of possession of the premises
    g. Proof of ownership of the premises, if rented
    h. Proof of constitution of the firm (Certified copy)
    i. Affidavit of non-conviction of Proprietor/Partners/Directors under the relevant government acts
    j. Certifications from relevant government bodies as per the type of trade
    k. Bio-data form.
2. The license staff receives the application and issues a receipt number to the applicant, which can be used for tracking the status of the application.
3. The requirements for the processing of the application vary depending on the type of the trade the applicant has applied for. In case of application for an Industry or Workshop or Machinery or Factory, the applicant must obtain the NOC for installing the equipment before commencing of the trade. The application is

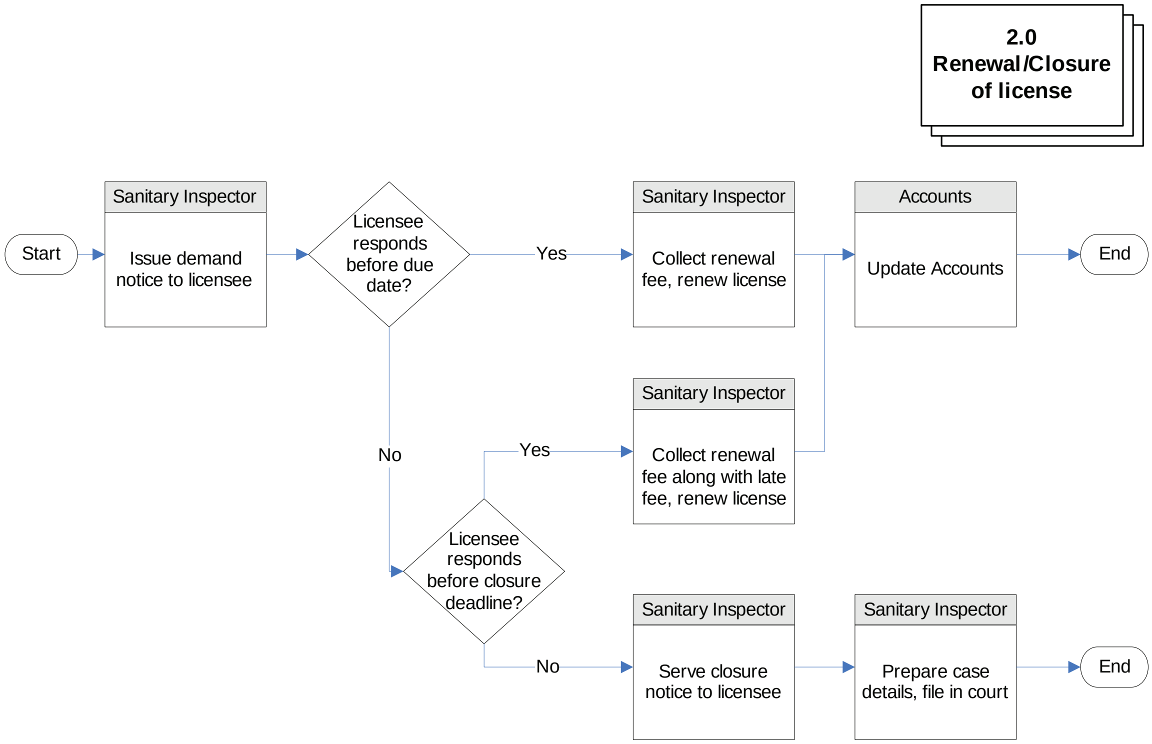
scrutinized by the Health Officer (HO). In case the health officer is not available in the ULB, the DM & HO verifies the application. Upon verification, the Health Officer issues the NOC to the application.

4. Further, the Sanitary Inspector (SI) inspects the premises of the applicant where the trade is intended to be set up. The recommendations of the SI and HO are submitted to the Municipal Commissioner for his review.
5. The municipal commissioner reviews the recommendations, and grants his approval on a merit basis. The applicant is informed of the approval.
6. The applicant then pays the requisite license fee at the center.
7. The license staff collects the fee and issues the license to the applicant.
8. The accounts section credits the fee amount to their account and updates the account books.
9. The process for the issue of temporary licenses for trades such as cracker shops (during Diwali season), etc., is the same as regular license except validity of period and license fee. In case an existing license holder wishes to upgrade his business he can apply for upgrade of the license. The process for issuing the upgraded trade license is same as that of issuing a new trade license.

VII.2.2 Renewal/Closure of license

The process of renewal/closure of license (shown in figure VII.3) involves the municipality staff issuing the demand notice to the license holder for renewal of his trade license, and the license holder responding to the demand notice by paying the requisite license renewal fee. Depending upon the timeliness of the payment of the license renewal fee, the license is either renewed or a closure notice is issued to the licensee.

Figure VII.3: Renewal/Closure of license



The existing license holders have to get their trade licenses renewed every year to maintain validity. The process for renewal of licenses is as follows.

1. The concerned staff at the ULB keeps track of the list of existing license holders. At the time of renewal of the license, the staff generates the demand notices which are then served on the license holders.
2. If the license holder responds to the notice within the stipulated last date of response (renewal fee to be paid by March 31st), a standard license renewal fee is charged from him, and the license is renewed.
3. However, if the license holder responds after the last date of renewal but before the stipulated date of renewal with late fees, he is required to pay an additional late fee with the standard license renewal fee.
4. In both the above cases, the concerned staff collects the standard fee along with the late fee, as applicable, from the applicant. The Accounts Section updates the accounts accordingly.
5. In the event that the license holder does not respond to the notice for the specified period of time (by Dec 31st of the renewal year), then the license staff at the ULB issues the closure notice to the license holder.
6. A case is filed with the court, and the necessary details are supplied to the legal section. Subsequently, based on the judgment delivered by the court, the trade is closed. The ULB authorities cancel the trade license and conduct a *panchanama* (field inspection), the details of which are stored in the records.

In case a license holder applies for the cancellation of his license, the ULB verifies the trade registers for any dues against the license. The dues have to be cleared by the license holder, before the trade can be closed.

Process Parameters

The following Table (Table VII.1) highlights the process parameters

Table VII.1: Process Parameters for Licenses

Inputs	Outputs	Controls
License renewal fee License No Trade code/Sub code Trade license No. Trade Assessee No.	License renewal date Fee's Receipts License Status DCB Demand Notice Closure notice	System to tracks the relevant dates for license renewal fee payment Late fee to be applied after due dates Trade should be selectable from master

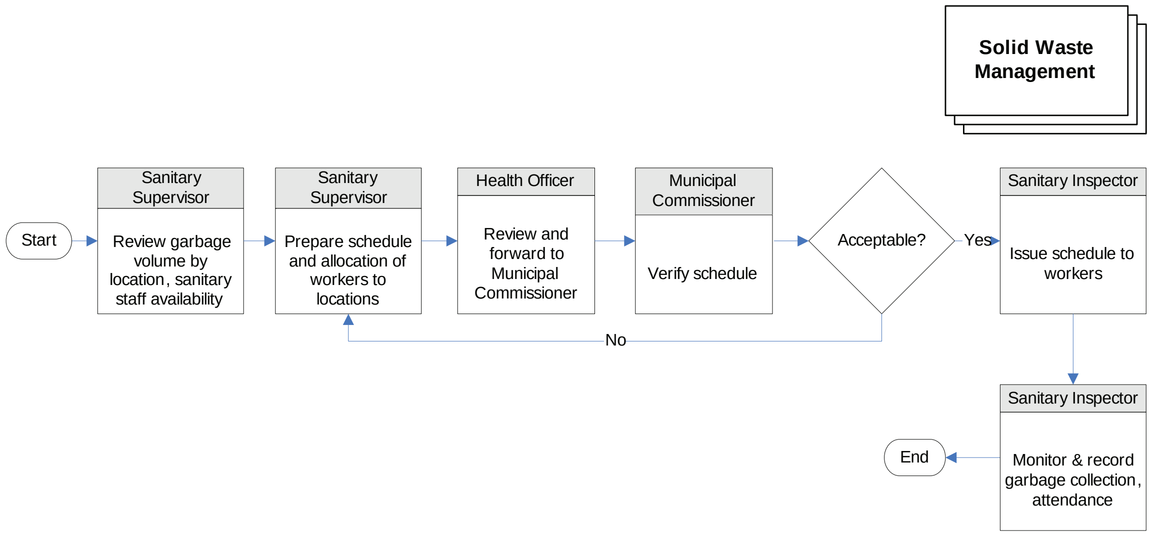
VII.3 Solid Waste Management

The solid waste management process involves the monitoring and management of the activities of garbage lifting, transporting and disposal, and maintenance of vehicles and public toilets/complexes etc. The process also involves keeping track of the amount of garbage disposed at the dumping ground, and utilizes the data to assist in the scheduling of workers and vehicles for the garbage collection exercise. Currently solid waste management and vehicle movements are contracted out in many ULBs.

VII.3.1 Solid Waste Management

The sub process of solid waste management (as shown in figure VII.4) involves the tracking of garbage collection from various locations and effectively allocating the workers to various localities for collection of the garbage.

Figure VII.4: Solid Waste Management



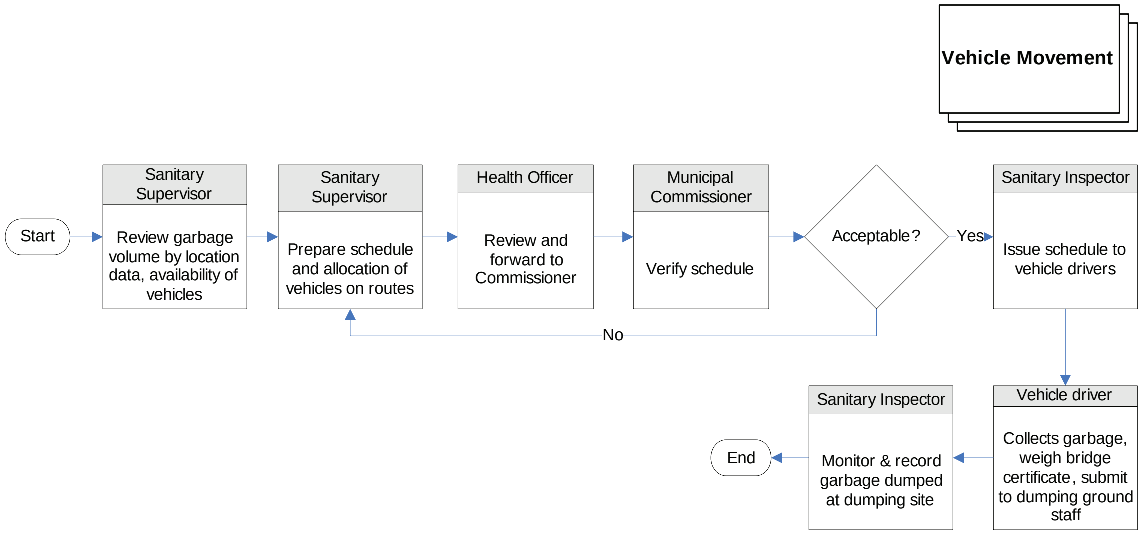
The process of allocation of workers for solid waste management is as follows:

1. The Sanitary Supervisor reviews the garbage volume for different locations, and the availability of the sanitary workers for the period of scheduling. The staff availability position is available from the records maintained by the Health Department.
2. The Sanitary Supervisor then generates the allocation schedule for the workers allocating them to different locations for garbage collection. The Supervisor then forwards the same to the Health Officer for review and approval.
3. The Health Officer reviews and forwards the schedule to the Municipal Commissioner for review and approval.
4. The Municipal Commissioner verifies the schedule.
5. If acceptable, the Municipal Commissioner approves and sends the schedule to the Sanitary Inspector for distribution amongst the sanitary workers. Subsequently, the Sanitary Inspector releases the garbage collection schedule to the sanitary workers.
6. Upon collection of the garbage and dumping of the same at the dumping ground, the Sanitary Inspector monitors the garbage volumes, and the attendance of the sanitary workers. The information is recorded in the system for further processing.

VII.3.2 Vehicle Movement

The sub process of Vehicle Movement (shown in Figure VII.5), as a part of the solid waste management function involves the tracking of garbage collection from various locations and effectively allocating the available vehicles to various localities for collection of the garbage. The process of allocation of vehicles for solid waste management is as follows:

Figure VII.5: Vehicle Movement



1. The Sanitary Supervisor reviews the garbage volume for different locations, and the availability of the sanitary vehicles for the period of scheduling. The vehicle availability position is available from Assets and Inventory records maintained at the municipalities.
2. The Sanitary Supervisor then generates the allocation schedule for the vehicles allocating them to different routes and locations for garbage collection. The Supervisor then forwards the same to the Health Officer for review and approval.
3. The Health Officer reviews and forwards the schedule to the Municipal Commissioner for review and approval.
4. The Municipal Commissioner verifies the schedule.
5. If acceptable, the Municipal Commissioner approves and sends it to the Sanitary Inspector for distribution amongst the vehicle drivers. Subsequently, the Sanitary Inspector releases the garbage collection schedule (trip sheet) to the vehicle drivers.
6. The vehicle driver collects the garbage from the specified location, collects the weighbridge certificate, and dumps the garbage at the dumping ground as per his schedule. The weighbridge certificate is submitted to the dumping ground staff, to be later collected for tracking the garbage volumes.
7. The Sanitary Inspector monitors the garbage volumes dumped at the dumping ground, and the attendance of the sanitary workers. The information is recorded in the books for further processing at the time of preparing schedules, payroll processing, etc.

Process Parameters

The following Table (Table VII.2) highlights the process parameters

Table VII.2: Process Parameters for Solid Waste Management

Inputs	Outputs	Controls
Location details Location-wise past garbage volumes Staff availability Vehicle availability Dumping ground ID Vehicle ID Contractor ID Weighbridge Certificate Trip sheet Diseases Master	Sanitary Staff schedule Vehicle schedule Status report	System validates schedule with resource (Staff, vehicles, etc.) availability.

VII.4 Interface Requirements

The following table (Table VII.3) highlights the Interface Requirements

Table VII.3: Interface Requirements

Interface with module	Information received	Information given
Licenses		
Grievance Redressal	Application number License number	Status of application Status of license (active, closed, etc.)
Court Cases	NA	License default notice Case details Site verification report
Financial Accounting	Trade license fee accrual Cash Collected, cheques dishonored, details of party	License fee collected, cash collection
Property Tax	Ownership data for the land under consideration	NA
File Movement	NA	Application number
Solid Waste Management		
Financial Accounting	Payment made	Fee/charges collected
Assets and Inventory	Vehicle availability Spares availability Equipment availability	Auction items
Personnel management	Staff availability	NA
File Movement	NA	File number for approval of the schedules

VII.5 Functional Requirements Specifications

The functional requirement specifications in the following tables enumerate business needs for the proposed Health module. The section has been arranged according to the sub processes under the module. The statements should be read as preceded by "The system should "

The following Table (Table VII.4) presents the FRS for Licenses

Table VII.4: FRS for Licenses

No.	Requirement
1	Allow addition and updating of the ULBs information in the ULB Master.
2	Allow addition and updating the sanitary zone/division information in the Sanitary Zones/wards/Division Master.
3	Allow addition and updating of the following in the Revenue Wards Master: • Various revenue wards information under sanitary zones/wards/divisions • Various revenue blocks under revenue wards information.
4	Allow addition and updating the Election Wards Information.
5	Allow addition and updating the Locality categories.
6	Allow addition and updating the sanitary zones/ward/division allocation to Sanitary Inspectors
7	Allow addition and updating: • Trade categories • Sub-trade categories.

8	Allow configuration of the following: • Late fee details for the corresponding time periods in the penalty fee master • Trade rates • Revenue Block Categorizations.
9	Facilitate the recording of the details of an applicant for a new trade license.
10	Facilitate the preparation of the inspection report for recording the findings of the field inspection of the applicant's premises. Allow the SI/HO to provide his comments.
11	Facilitate recording the NOC/Installation Permission Details, which will be later used for checking while issuing the License to Industry/Factory.
12	Allow the Municipal Commissioner to view the recommendations of the SI/HO on a new license application. Facilitate the Commissioner to also enter his remarks in the system.
13	Facilitate the capturing of the license fee/late fee details (Cheque/DD details, etc.)
14	Facilitate the generation of a new license after the information on supporting documents, fee details, and the necessary approvals are recorded in the system. Allow printing of the license document from the system.
15	Facilitate recording the application details from the application form submitted by the applicant.
16	Facilitate recording of the trade License renewal details. The required data is collected from the application, challan submitted.
17	Facilitate recording of the Panchanama details collected from the sanitary inspectors report.
18	Facilitate generation of the list of defaulters who haven't paid their renewal fee. Further facilitate generation of the list of license holders who wish to close their trades on their own.
19	Update the status of a trade license as 'active' or 'closed', and the reasons for closure are entered.
20	Facilitate recording of the details from the application submitted by the applicant for change of Title.
21	Facilitate generation of license with changed title, after the necessary supporting documents, fee, and approvals are entered in the system. Allow printing of the same.
22	Facilitate capturing of details of the un-assessed trades, i.e., individuals performing trade without a proper trade license.
23	Track the renewal notices sent to the license holders to renew their License. Further, track response dates, late fee applicability, etc.
24	Facilitate capturing of grievances against a license, or in general.
25	Facilitate generation of demand collection and balances revenue ward-wise for the ULB

Solid Waste Management

The following Table (Table VII.5) presents the FRS for Solid Waste Management

Table VII.5: FRS for Solid waste Management

No.	Requirement
1	Allow addition of the new division details to the Division Master whenever a new division is established in the Municipality. The division data is later used for preparing the schedules for garbage collection.
2	Allow location details under particular division of the Municipality to be entered.
3	Allow various data on public toilets of the Municipality to be entered into the Public Toilets Master.

4	Allow integration with the Personnel Management System to obtain information on the following types of staff under the sanitary wing of the Municipality: • Route employees • Sanitary inspectors responsible for checking the sanitation activities, and the divisions allotted to them • Sanitary maistry/jawan responsible for checking the sanitation activities, and the divisions allotted to them
5	Allow details of the garbage-collection place such as the garbage collection place type, name, and fees collection location to be entered.
6	Allow coordinates of dustbins located at various locations within the Municipality to be entered.
7	Allow different types of vehicles available to be entered into Vehicle Type Master. Further, allow the vehicles details to be entered into the Vehicle Details Master. The Vehicle Details Master is to be a part of the Assets and Inventory module.
8	Allow details of the Hospitals/Hotels/Lodges located in the Municipality to be entered. The hospitals in the Birth/Death module should have same codes for integration with this module.
9	Allow the details of the transmission station to be entered.
10	Allow the details of the dumping ground to be entered in the system. The garbage collected at various points is finally disposed at these dumping grounds.
11	Allow the Sanitary Inspector to enter the attendance of the employees in the system. The attendance information is to be maintained in the Personnel Management module of the system.
12	Allow the details of the trip sheet, which includes the information about the vehicle used for transporting the garbage, and the number of trips it makes, to be entered into the Trip Sheet Table.
13	Generate tentative allocation of workers to locations based on historical garbage collection patterns. The user should be able to modify the allocation before firming up the same for distribution to workers.
14	Allow for recording of the garbage volumes from different locations dumped at the dumping grounds. The system is to use this data to generate a worker allocation schedule.
15	Generate tentative allocation of vehicles to locations and routes based on historical garbage collection patterns and the optimal routing. The user should be able to modify the allocation before firming up the same for distribution to drivers.
16	Allow the details regarding the areas allotted for fogging such as the area covered and the oil consumed to be recorded in the system.
17	Allow results of inspections of hotels and roadside food centers by the sanitary inspectors to check the quality of water supply and the food, to be recorded in the system. Action to be taken against the hotels and food centers, where contamination is found is also to be recorded in the system.
18	Allow any GE (Gastro Enteritis), JE (Japanese Enteritis) cases found in the Municipality to be recorded into the GE Table of the module.
19	Allow recording of any diseases other than GE that are found in the Municipality into the Other Diseases table.
20	Allow recording of: • Possible types of roads like BT, Gravel etc. • Possible types of drains like Open, Closed etc.
21	Allow recording of: • Possible types of disease causes like air, water etc. • Possible types of diseases like pneumonia, malaria, typhoid etc.

22	Allow recoding of the details of anti larval treatment like treatment date, method adopted, last attended date, etc to be recorded.
23	Facilitate preparation of a schedule for the health staff to conduct quality checks on food establishments as well as to conduct routine health checks in households.
24	Facilitate tracking of cases of identified diseases on a regular basis and recording the results. Facilitate creation of a schedule for action plan for the treatment of the cases, and monitoring of the same.

VII.6 Indicative Data Standards

The following Table (Table VII.6) presents the data standards

Table VII.6: Indicative Data Standards

Field Name	Data Type	Mandatory (Yes/No)	Nature
Trade License			
Application number	Number	Yes	Automatic
Application type (new/renewal)	Text	Yes	List Box
Application date	Date	Yes	Masked Text Box Entry
Applicant name	Text	Yes	Text Box Entry
Applicant address	Text	Yes	Text Box Entry
Applicant Phone/Fax	Number	No	Text Box Entry
Supporting documents	Text	Yes	Check Box Option
Trade title	Text	Yes	Text Box Entry
Trade Type (exclusive/combination)	Text	Yes	List Box
Trade Nature (Temporary/Permanent)	Text	Yes	List Box
Trade Category/Sub Category	Text	Yes	List Box
Trade Description	Text	No	Text Box Entry
Trade Address	Text	Yes	Text Box Entry
Trade Phone/Fax	Number	No	Text Box Entry
Sanitary Zones/ward/Division	Text	Yes	Text Box Entry
Revenue Ward/Revenue Ward	Text	Yes	List Box
Locality No./Name	Text	Yes	List Box
Municipality Name	Text	Yes	List Box
Application fee/renewal fee/late fee	Number	Yes	Text Box Entry
Trade License Number	Text	Yes	Text Box Entry
License validity (Start & End dates)	Date	Yes	Masked Text Box Entry
Council Resolution No.	Text	Yes	Text Box Entry
Council Resolution Date	Date	Yes	Masked Text Box Entry
Capacity (in HP)	Number	Yes	List Box
No. of workers	Number	Yes	Text Box Entry
Plinth area	Number	Yes	Text Box Entry
Building Permission No.	Number	Yes	Text Box Entry

NOC issue date	Date	Yes	Masked Text Box Entry
Health Officer Name	Text	Yes	Text Box Entry
Sanitary Inspector (SI) Name	Text	Yes	Text Box Entry
Sanitary Worker Name	Text	Yes	Text Box Entry
Revenue Block No. (for inspector)	Number	Yes	List Box
SI verification remarks	Text	Yes	Text Box Entry
Panchnama date	Date	Yes	Masked Text Box Entry
Panchnama details	Text	Yes	Text Box Entry
Commissioner verification remarks	Text	Yes	Text Box Entry
Trade Assessee No	Number	Yes	Text Box Entry
Solid Waste Management			
No. of workers allotted	Number	Yes	Text Box Entry
No. of Vehicles allotted	Number	Yes	Text Box Entry
Location Name	Text	Yes	Text Box Entry
Street Name	Text	Yes	List Box
Drain Type	Text	Yes	List Box
Road Type	Text	Yes	List Box
Toilet Type	Text	Yes	List Box
Dumping Ground Name	Text	Yes	List Box
Dumping Ground Location	Text	Yes	List Box
Transmission Station Name	Text	Yes	List Box
Transmission Station Location	Text	Yes	List Box
Vehicle Type	Text	Yes	List Box
Vehicle Capacity (in MT)	Number	Yes	List Box
Contract period (from/to dates)	Date	Yes	Masked Text Box Entry
Contract amount	Double	Yes	Text Box Entry
Garbage amount by division (in MT)	Double	Yes	Text Box Entry
Disease Name	Text	Yes	List Box
Disease Causes	Text	Yes	Text Box Entry
No. of cases reported (for disease)	Number	Yes	Text Box Entry
Trade Code/Sub Code	Number	Yes	Text Box Entry
Trade License No.	Number	Yes	Text Box Entry
Dumping Ground ID	Number	Yes	Text Box Entry
Vehicle Id	Number	Yes	Text Box Entry
Contractor ID	Number	Yes	Text Box Entry
Disease Master	Text	Yes	Text Box Entry

VIII Accounting Module

VIII.1 Introduction

The modern accounting system based on double entry accrual accounting principles will need to be developed as a module connected to the other municipal modules e.g. property tax, personnel management, etc. The accounting system will have to be complaint with the National Municipal Accounts Manual released by the Ministry of Urban Development at the start of this year. Relevant sections of the National Municipal Accounts Manual (NMAM) that will have to be adopted for development of the software are the Chart of Accounts and the Formats of various registers and reports including that of financial statements. Functional design of this module has been developed in light of the mandatory and flexible requirements of NMAM. The Accounting System, which would be on an accrual basis, will contain modules of receipts and payments (both through cash and bank transactions), adjustment entries through journals, fixed asset, budgeting, ledgers and trial balance and reports in the prescribed formats. The requirement has been broadly categorized under the following two heads:

Functional requirements: The functional requirements are basically the financial accounting requirements of the systems. They have been grouped under the following heads:

- Accounting System
- Payments
- Receipts (including cash collection)
- Fixed Assets
- Budget

Reporting requirements: A sample list of reports has been given in the document. This list is not exhaustive but provides an idea of nature and complexities of the reports.

VIII.2 Functional Requirement Specifications

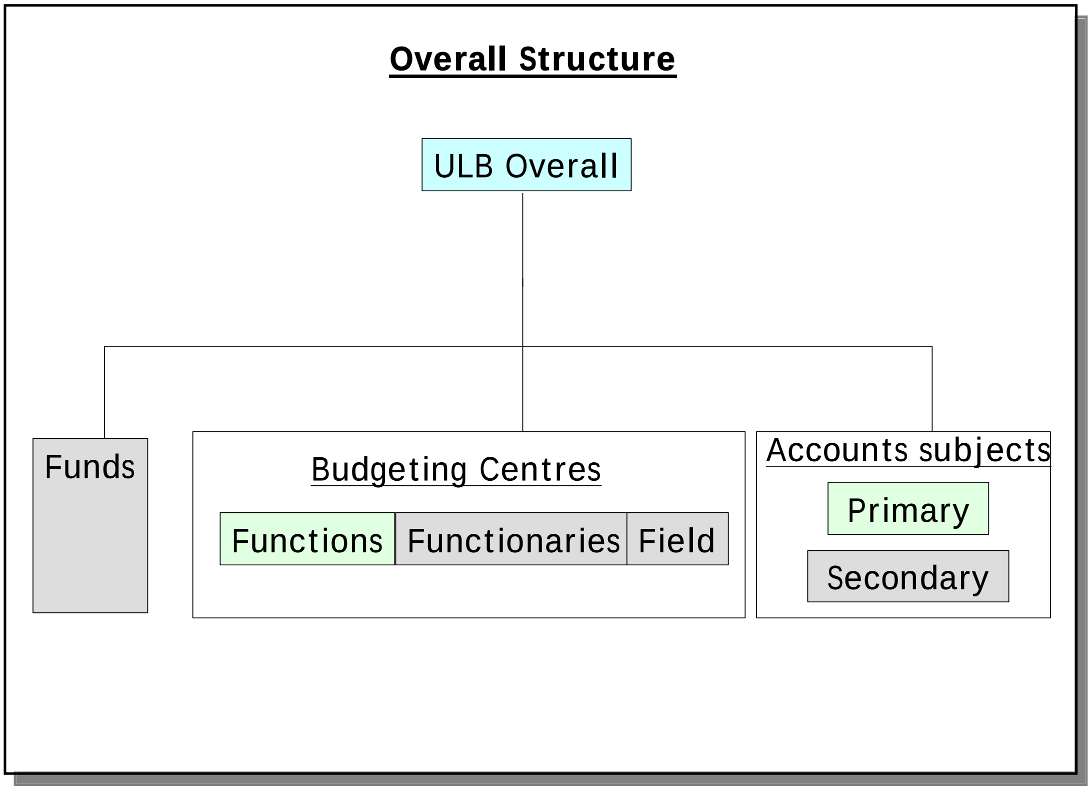
VIII.2.1 Accounting system

Chart of Accounts:

The Accounting System should be able to support the following structure of chart of accounts. In all, the Chart of Accounts shall have five groups i.e. Funds, Function, Functionaries, Field and Accounting Code. Each group will have a number of levels that will help in capturing data at a granular level. The Figure 8, given below depicts the overall structure of the Chart of Accounts.

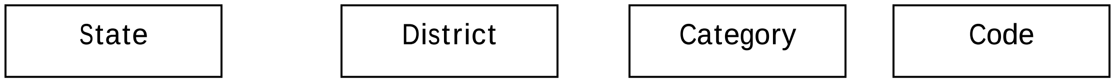
Figure VIII.1: Structure of Chart of Accounts

Note: Green boxes denotes mandatory groups, Grey boxes denotes optional groups

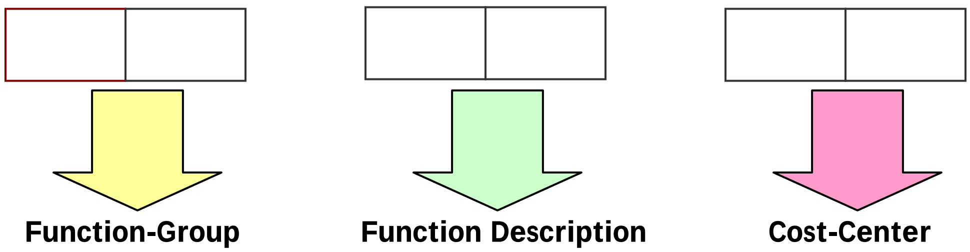


Explanation: The figure above explains the structure of the Chart of Accounts (CoA). The CoA has been divided in four basic categories namely ULB Overall, Funds, Budgeting Centres and Accounts subjects. The Budgeting centres are further divided in three Groups i.e. functions, functionaries and field. Thus, the entire CoA is divided into the ULB identification code and five groups i.e. Funds, Functions, Functionaries, Field and Accounting codes. These groups are further divided into levels. Details of each of the groups are as follows:

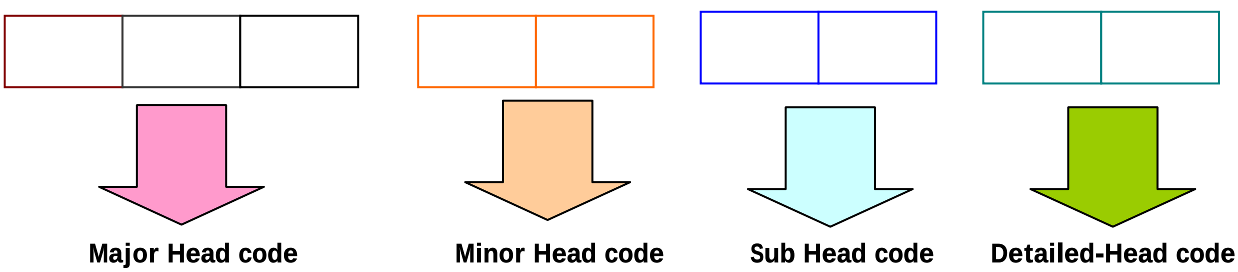
ULB Overall - The chart of account will be same for every ULB, except that each ULB will have a unique identification code, which shall be in the following format. Each level in this accounting code will be a three digit code.

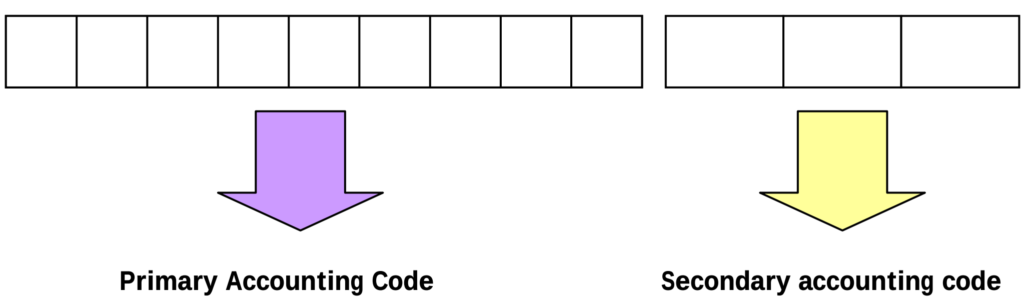


Group 1 - Function Code: This will be six digit code having three levels, Function group, function description and cost center of two digits each. Examples of Function-Groups are General Administration, Planning and Regulations, Public Works, Revenue, etc. There are 10 Function-Groups as per national Municipal Accounts Manual that will be used.



Group 2 - Primary Accounting Code: This will be a nine digit code, consisting of Major head code, Minor head code, Sub-head code and the detailed head code. The Chart of Accounts shall also have provision for a Secondary Accounting Code: The secondary account code will reflect the party wise/ sub-ledger accounting. The software should have portability to connect the secondary accounting code to the primary accounting code. The Secondary Accounting Code shall be a three digit code.

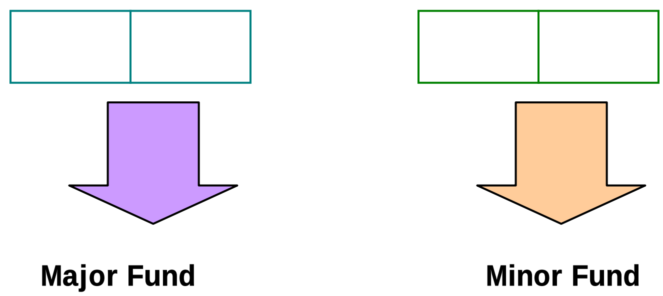




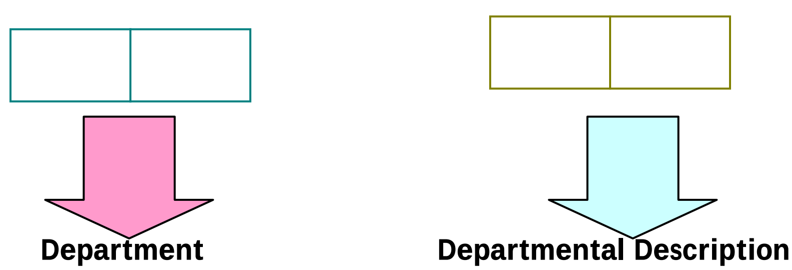
Example:

Major Head Code	110				Revenue - Tax Revenue
Minor Head Code	110	01			Property Tax
Sub Head	110	01	01		Property Tax-Revised
Detailed Head Code	110	01	01	01	Property Tax from Residential Buildings
Secondary Accounting Code		110010101		001	Concrete structure

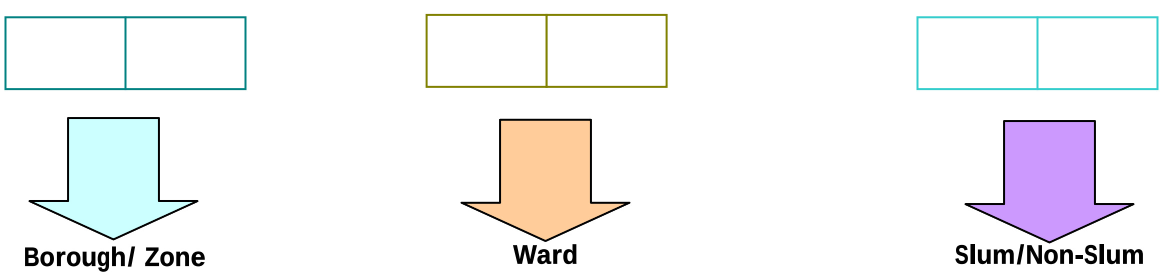
Group 3 - Fund Code: This will be a four digit code, having two levels major and minor fund of two digits each.



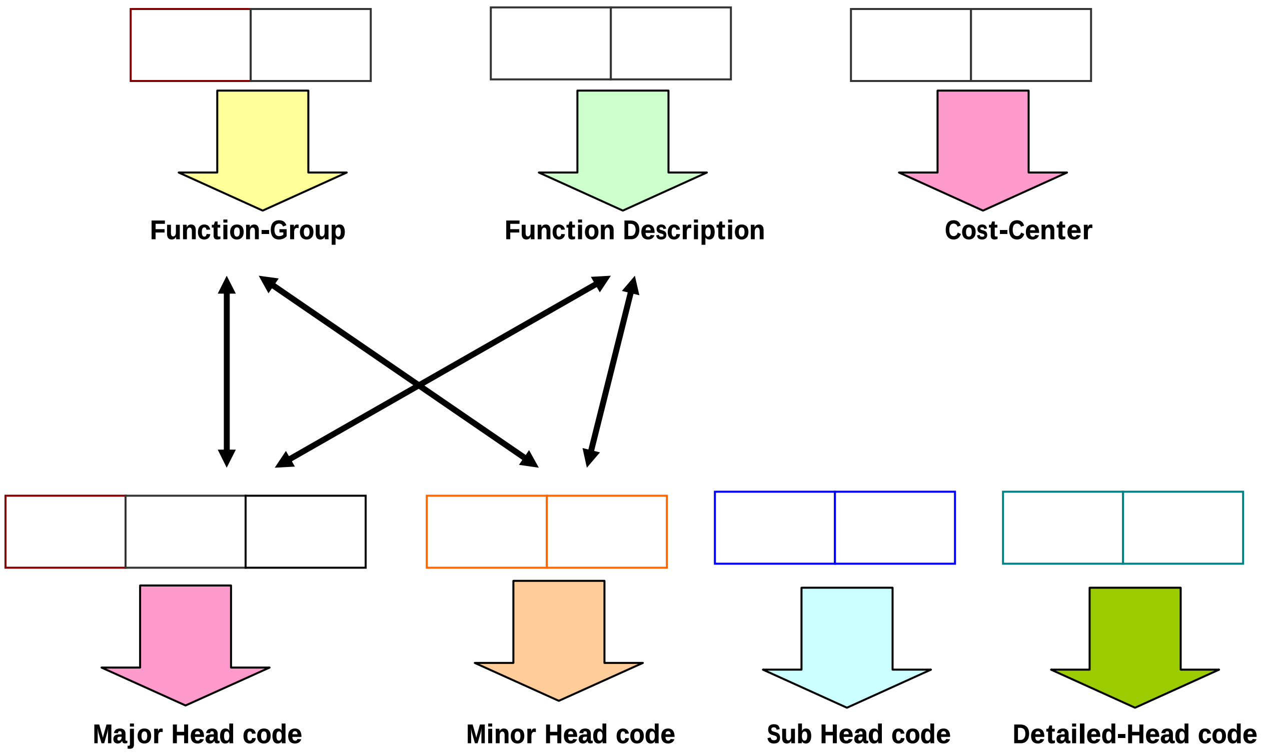
Group 4 - Functionary Code: This will be four digit accounting code having two levels, department and the departmental description/organization structure of two digits each.



Group 5 - Field: This will be six digit accounting code having three levels, namely borough/ zone (in case of Corporations), ward and slum/non-slum, of two digits each.



There should be a "many to many" relationship among the heads of the Chart of Account which will enable the ULBs to generate desired MIS reports at various levels of Chart of Accounts. A many-to-many relationship is illustrated as follows:



Relationship between chart of accounts would involve the following:

- The detailed heads of the Accounting code, should add up to sub-head of account, sub-head of account should add up to minor head of account, and minor head of account should add up to the Major head of account.
- The software should be flexible enough to draw reports for each of the accounting codes and levels within the same accounting code.
- Facility to define account and account groups, change descriptive information on existing account and account groups and defunct account and accounts group which are no longer required

Cash Collections:

The cash collection module should be able to collect cash, cheques and drafts on a daily basis and prepare a Daily Collection Register at the end of the day. Cash collection should be able to do multi-point collection and prepare point-wise Collection Register, which shall feed into the Cash Book. The point-wise Collection Register should be able to be consolidated at the ULB level and a consolidated Daily

Collection Register prepared. The Daily Collection Register once verified by the Accountant should then get consolidated as the Cash Book and post itself in the General Ledger. The cash collection module should also be able to track the deposit and dishonor of cheques. The module should also be able to connect with the revenue modules and collect the amount against bills issued. Cash collection should also be able for other municipal functions e.g. sale of forms, tender feed, etc. and on-account from debtors.

Journal Entry:

The Financial Accounting System should support journalizing functionality, which is the standard requirement of an accounting application. The journals need to be validated (verification of the account codes and checking the debit and credit amounts) on-line during journal entry; thus, account combinations, and arithmetical accuracy of transaction is immediately verified. On-line validation will enable accountants to quickly correct data without running a separate batch process. This benefit increases productivity and staff efficiency because it prevents repeated data correction cycles common to systems that validate data during batch processing. Accounting entries for recording payables and receivables shall be accounted for by using the Journal Entry.

Consolidation and Finalization:

The system should have the facility to consolidate and finalize the accounts on a periodical basis e.g. monthly, and take out various reports like Receipts and Payments Account, Income and Expenditure Account, Trial Balance and Balance Sheet. The system should also have the facility to give reports such as Income and Expenditure Account and Balance Sheet for Field, Fund and Function codes. The system should automatically carry forward the opening balances in the next period.

Bank Reconciliation statement:

The system should have an inbuilt bank reconciliation module.

Vouchers:

The system should have separate vouchers for receipts, payments, contra (cash to bank and vice-versa), debit note, credit note and journal entry. The system should support narration in vouchers through user defined editable LOV (List of Values).

Control features:

The system should be equipped with all security features like no backdating (except in case of finalization of accounts), approval process, access control and password protected. In case of backdating of vouchers, this should be allowed only to specific people who should use the same only during finalization of accounts on a periodical basis.

Approval features:

The System should have Maker and Checker relationship, that is the entry made by a person, should not affect the general ledger, until and unless, approving authority has approved it.

VIII.2.2 Payments

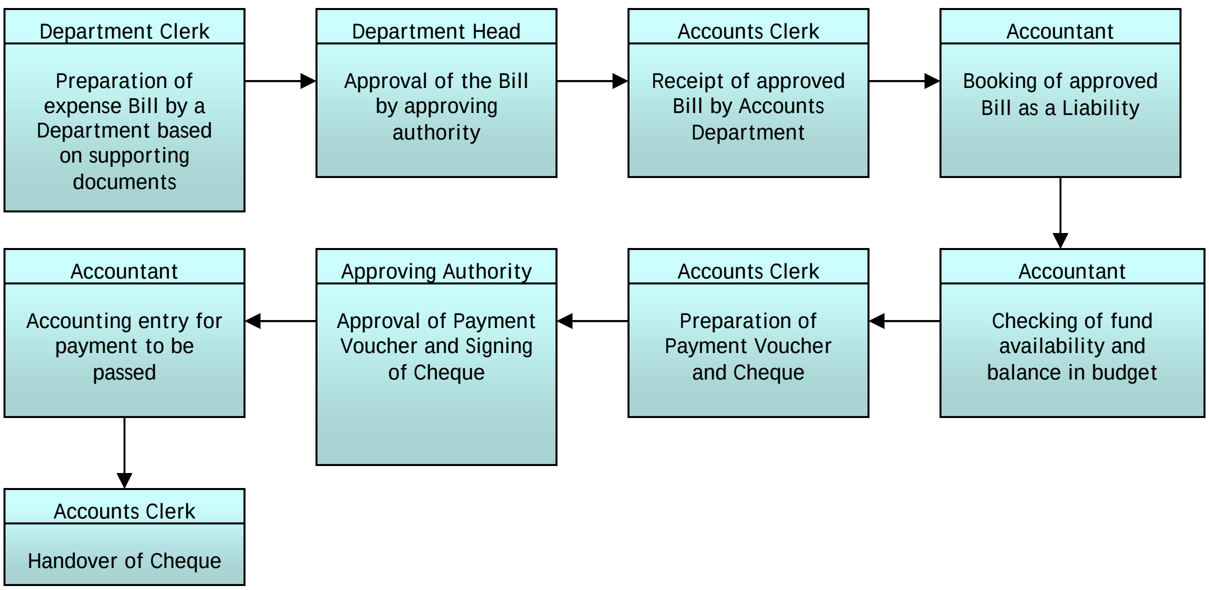
Major payment processes for the ULBs could be broadly classified under the following heads

- Salary and Conservancy
- Contractors and Suppliers
- Administrative expenses e.g. Telephone and Electricity
- Statutory Payments like Provident fund, Profession tax out of salary and deposit of statutory obligations such as Tax Deducted at Source and Sales tax

Description of the payment process has been elaborated first and subsequently the entry in Accounting System has been described.

The following flow Figure VIII.2 captures a typical payment process in an ULB:

Figure VIII.2 Payment Process in an ULB



Payment Process in Accounting System for all the entries:

- Payment voucher is prepared in Accounting System and is sent to Approving Authority/or designated authority for approval through Accounting System. The Approving Authority/ or designated authority should be notified through Accounting System for approval.
- Approving Authority should be able to approve the voucher through Accounting System. Notification after approval should be sent to the accountant, through Accounting System.
- The accountant should be able to change the status to 'Paid' in the system once he prepares the cherub. The system should adjust liability booked earlier and an

appropriate entry should be made based on double entry accrual based accounting principles.

- The payments should be linked to the various individual bills/invoices.

This payment process is followed for all the entry processes discussed below.

Entry process in Accounting System for Salary and Conservancy Payment:

Salary:

- Employee database and calculation of salary and statutory (PF, PT etc.) payments for each employee and department is outside the scope of Accounting System and should be maintained as a part of the Personnel Management System.
- The accountant will enter the consolidated salary and statutory (PF, PT etc.) payment amounts for each department in the Accounting System. Accounting System should record the liability on entry of these amounts and an appropriate entry should be made based on double entry accrual based accounting principles. The intimation should be through an on-line basis from the Personnel System.

Conservancy:

The conservancy payments are those that are given to contractual staffs or staffs that are not in the permanent employees list. The procedures adopted are the same as in the case of salary payment.

- Contract staff database and calculation for conservancy payments for each contractual staffs and department is outside the scope of the system.
- The accountant will enter the consolidated payment amounts for each department in the Accounting System. Accounting System should book the liability on entry of these amounts and an appropriate entry should be made based on double entry accrual based accounting principles.

Entry process in Accounting System for payment to Contractors and Suppliers

- The details of each party i.e. suppliers, contractors and vendors should be maintained in Accounting System through unique party wise codes.
- The accounts department will enter the payments in Accounting System for each party (supplier, contractor, vendor etc.). Accounting System should calculate the Sales Tax and TDS. Accounting System should record the liability on entry of the Bills and an appropriate entry should be passed based on double entry accrual based accounting principles.
- A master database of all suppliers, contractors, and vendors should also be maintained.

Entry process in Accounting System for Administrative expenses e.g. Electricity and Telephone Payment:

- The accounts department will enter the administrative expenditure in the Accounting System. Accounting System should book the liability on entry of these amounts and an appropriate entry should be made based on double entry accrual based accounting principles.

Entry process in Accounting System for Statutory Payment:

- The Provident Fund, Income Tax, Professional Tax etc. calculation for employee-wise is outside the scope of Accounting System. Accounting System should book the liability on entry of these calculated amounts by the accountant and an appropriate entry should be made based on double entry accrual based accounting principles.
- Accounting System should do calculation for Sales Tax, Tax Deducted at Source etc. for payments to contractors, vendor and other service providers to ULBs, when bill for such payments are entered in Accounting System. Accounting System should book the liability on entry of these amounts and an appropriate entry should be made based on double entry accrual based accounting principles.

Process Parameters

Table VIII.1: Process Parameters for Payment Process

Payments		
Inputs	Outputs	Controls
Recording of Approved bill as a liability	Booking of liability through a Journal Voucher	Approval of Bills should be done only by Department Heads
Recording of party name, ledger account, details of bills and supporting, amount, date	Recording of payments to respective bills	Recording of bills to be done by the Accounts department only once it is approved by the respective departments
Payment details i.e. cheque number, date of payment		Payments to be made only if budget is available
		Voucher to be posted once cheque has been issued

VIII.2.3 Receipts

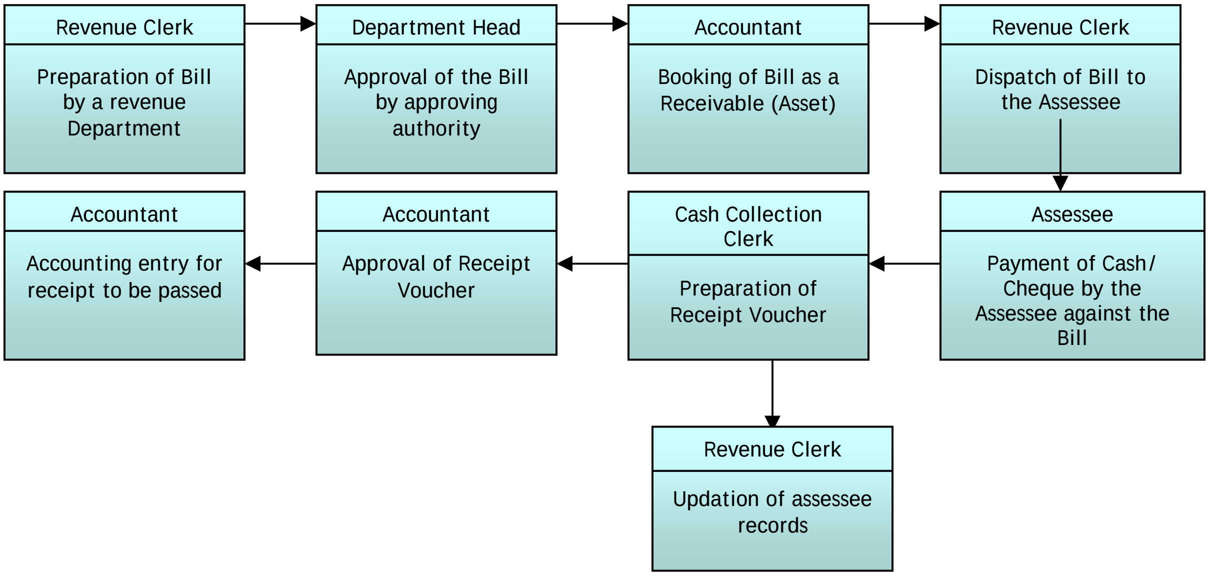
Major receipt processes for the ULBs could be broadly classified under the following categories on the basis of similarity in nature of collection:

- Property Tax, Water Tax and Rent
- Grants
- Security Money and Earnest Money

- Other collections

The following flow Figure VIII.3 captures a typical receipt process in an ULB:

Figure VIII.3 Payment Process in an ULB



In the following paragraphs the actual receipt process through Accounting System has been described initially and then the receivable entry in Accounting System has been described.

Receipt process in Accounting System of Cash or Cheque for receivables:

- On receipt of cheque the cashier will make an entry in his cashbook in the Accounting System through Cash Collection Module. In the narration of the entry he will note down the party details from which he has received the amount. The entry will be done on the basis of double entry accrual basis accounting principle and will adjust the receivable created as discussed above.
- At the end of the day the accountant will approve all the entries made by the cashier (of the collected amounts). After he approves, the consolidated entry (of all the amounts collected throughout the day) will hit the General ledger.
- In case of any cheque bounces a reverse entry the basis of double entry accrual basis accounting principle will be entered.

This receipt process is followed for all the receivable entry processes discussed below.

Receivable entry for Property Tax, Water Tax and Rent:

- The property tax, water tax and rent for commercial properties receivable is raised at the time of demand creation through a consolidated journal entry in Accounting System. The entry will be done on the basis of double entry accrual basis accounting principle.
- Accounting System will not maintain assessee-wise details. This is outside the scope of Accounting System. In case of property tax, the details will be maintained in the Property Tax module.

Receipt of all types of Grants:

- The collection under these categories is done on receipt. Intimation is sent to the accountant when the money is deposited to the bank account.
- On receipt of intimation the accountant makes an entry in Accounting System on the basis of double entry accrual basis accounting principles. In case net Grant has been released after adjustments, the gross entry shall be recorded to take into account all deductions.
- Need for Grant monitoring mechanism is met through ledgers.

Receipt of Security Money and Earnest Money:

- The collection under these categories is done without raising of a bill. As and when the money is collected the entry recognizing the receipt as a liability is made in the Accounting System. The receipt process for cash and cheque has been described above.
- Receipt of Security Money and Earnest Money needs to be maintained party wise and linked to main individual accounts, as it has to be adjusted in case of payments.

Other Collections such as Slaughter House, Toll, Hall Rent, License, Sewerage Connection, Fee from Parks & Garden, Water Connection, Hospital Collection, etc.:

- The collection under these categories might be done without creation of receivable. As and when the money is collected the entry is made in Accounting System. The receipt process for cash and cheque has been described above.
- Accounting System will not maintain assessee-wise details. This is outside the scope of Accounting System.

Waiver/Discount on Collection:

- In case a discount is given by the appropriate authority which has the necessary powers, an entry will be made in Accounting System through a Journal.
- In case a discount is given to a particular party only, then the party details will be entered in the narration of the entry.

- The entries of discount will be based on double entry accrual basis accounting principle.

Reassessment:

- In case a reassessment is done which results in an increase/ decrease of demand, an entry will be made in Accounting System through a Journal.
- In case a reassessment is done only for a particular party, then the party details will be entered in the narration of the entry.
- The entries of reassessment will be based on double entry accrual basis accounting principle.

Table VIII.2: Process Parameters for Receipt Process

Receipts		
Inputs	**Outputs**	**Controls**
Recording of Bill raised as an asset	Booking of asset through a Journal Voucher	Approval of Bills should be done only by Department Heads
Recording of cash collection	Recording of receipts of respective bills	Recording of bills to be done by the Accounts department only once it is approved by the respective departments
Recording of party name, ledger account, details of bills and supportings, amount, date		Voucher to be posted once Daily collection register has been verified
Receipt details i.e. cheque number, date of payment		
Recording of cheques dishonored		

VIII.2.4 Fixed Assets

- Accounting System should be able to maintain the Fixed Asset register. Details like asset number, location and person responsible pertaining to the asset should be captured in the register. It should be ensured that all Fixed Assets are correctly entered in the Fixed Assets Register.
- During purchase of any fixed asset, the account code selected will hit the General Ledger. Other details entered in the voucher will only be reflected in the Fixed Asset Register of Accounting System.
- During sale of any fixed asset, the account code selected for the specific asset along with profit/ loss on sale of the asset shall be posted in the General Ledger. Other details entered in the voucher will only be reflected in the Fixed Asset Register of Accounting System.
- Accounting System should be able to calculate the Depreciation of Assets, based on useful life calculation and straight line method.

- Accounting System should have the provision of revaluation, scrap, write-off and sale of assets.

Table VIII.3: Process Parameters for Fixed Assets

Fixed Assets		
Inputs	Outputs	Controls
Details of all details of the Fixed asset Details of purchases, sales, scraps, write-offs to be recorded Asset wise depreciation to be calculated	Fixed Assets Register with gross block, net block figures	Recording of assets to be done only by Accountant Vouchers to record all details w.r.t. a fixed asset

VIII.2.5 Budgeting

- Accounting System should have a provision for budgeting.
- The budgets shall be prepared as per the Chart of Accounts in the Accounting System.
- Accounting System should be able to display warning messages in case the budgetary limits are exceeded.
- Accounting System should have the provision for variance analysis between budget and actual with percentage.
- Accounting System should have the provision to capture ward-wise budgets.
- Accounting System should also have provision to monitor the budget on a timely basis.
- Accounting System , should allow for multiple budget periods and provide for monthly/quarterly/half-yearly break up of the actual/ budget forecasts

Table VIII.4: Process Parameters for Budgeting

Budgeting		
Inputs	Outputs	Controls
Figures for department wise budget Budget should be able to compare with the previous year's figures	Budget for the Year Revised budget for the Year Variance Report of Budget Vs Actuals of last years	Budget should be till the ledger level Budget should be as per the Chart of Accounts used in the accounting system

VIII.3 Reporting Requirement Specifications

Accounting System should have the capability to generate various reports (statutory as well as MIS) as and when required. The system should also provide facility to the users to take out various flexible and user-friendly reports, MIS reports as and when required. The system should have the flexibility to undertake the following:

- Incorporating all formats for reporting and books of accounts as prescribed in the National Municipal Accounts Manual
- Incorporation of existing formats of registers in specific ULBs.

Some of the reports are as follows:

Financial Statements:

- Balance Sheet
- Income and Expenditure Account
- Receipts and Payment Account – Showing the receipts and payments of cash major head wise alongwith schedules
- Cash Flow – Showing the receipts and payments of cash bifurcated into operating, investing and financing activities

Books of Accounts:

- Vouchers
- Cash Book
- Ledger Book
- Journal Book
- Day Book
- Trial Balance

Regular Registers:

- Abstract Register of Receipts and Payments
- Register of Adjustment
- Register of Investments
- Advance Ledger
- Deposit Ledger
- Loan Register
- Fixed Assets Register
- Appropriation Register
- Register of unpaid bills

Register of dishonored cheques

- Budget

MIS Reports:

- Borough/ Zone/ Ward wise Accounts
- Ageing Reports for both debtor and creditor, (Ageing report should be user defined)
- Variance Analysis of Budget Vs Actuals
- Party wise Statement
- Ratio analysis reports

- Revenue trend analysis statement
- Bank Reconciliation Statement

VIII.4 Interfaces Required – Accounting Module

The interfaces required for the Accounting Module is given the Table VIII.5 below:

Table VIII.5: Interface Requirements

Interface with whom	Information received	Information given
Property Tax	List of bills raised, details of assessments and re-assessments, assessee wise outstanding with ageing analysis, arrears and all outstanding, penalties,	Cash collected, cheques dishonored, details of party
Water Supply and Sewerage	List of bills raised, assessee wise outstanding with ageing analysis	Cash collected, cheques dishonored, details of party
Birth and Death	Cash collection	Cash collected, cheques dishonored, details of party
Personnel Management System	Monthly employee salary, pension details, details of loan and interest	Payment of salary
Procurement and Monitoring of projects	Project wise details for CWIP, allocation of salary between projects and interest during construction	Value of CWIP
Building Plan Approval	Cash collection	Cash collected, cheques dishonored, details of party
Health Programmes	Cash collection	Cash collected, cheques dishonored, details of party

VIII.5 Data Standards – Accounting Module

The Data Standards for the Accounting Module is given in Table VIII.6

Table VIII.6: Data Standards – Accounting Module

Field Name	Data Type	Mandatory (Yes/No)	Nature
Type of voucher	Text	Yes	List Box
Date	Date time	Yes	Masked Textbox entry
Voucher Number	Number	Yes	(System generated)
Type of receipt/ payment	Text	Yes	Check Box

Name of Bank	Text	Yes	List Box
Name of Fund	Text	Yes	List Box
Supporting Reference Details	Text	No	Text Box entry
Budget – Function	Text	Yes	List Box
Budget – Functionary	Text	Yes	List Box
Code of Account – Debit	Number	Yes	List Box
Code of Account – Credit	Number	Yes	List Box
Account Description - Debit	Text	Yes	List Box
Account Description – Credit	Text	Yes	List Box
Bill/ Challan Reference	Text	No	Text Box entry
Amount – Debit	Number	Yes	Text Box entry
Amount – Credit	Number	Yes	Text Box entry
Amount in Words	Text	Yes	Text Box entry
Narration	Text	Yes	Text Box entry
Purchase Order/ Work Order Reference No.	Number	No	Text Box entry
Name of Payer/ Payee	Text	Yes	Text Box Entry
Payment Order No.	Number	Yes	List Box
Cheque No.	Number	Yes	Text Box Entry
Cheque drawn on	Text	Yes	Text Box Entry
Ageing details of provision	Number	Yes	List Box
Receipt Number	Number	Yes	Text Box entry
Date of deposit of cheque	Date time	Yes	Masked Textbox entry
Date of realization of cheques deposited	Date time	Yes	Masked Textbox entry
Date of clearance	Date time	Yes	Masked Textbox entry
Payment/ Deposit status	Text	Yes	(System generated)
Remarks	Text	No	Text Box entry

Data Standards – Accounting Module (Budgeting)

Field Name	Data Type	Mandatory (Yes/No)	Nature
Name of Field	Text	Yes	List Box
Name of Function	Text	Yes	List Box
Name of Functionary	Text	Yes	List Box
Name of Fund	Text	Yes	List Box
Code of Account	Number	Yes	List Box
Particulars of Account	Text	Yes	List Box
Actual for previous year	Number	Yes	Text Box entry
Actual for current year	Number	Yes	Text Box entry

Budget estimates for current year	Number	Yes	Text Box entry
Revised estimates for current year	Number	Yes	Text Box entry
Budget estimates for next year	Number	Yes	Text Box entry
Opening Balance of cash and bank	Number	Yes	Text Box entry
Actual expenditure for each quarter	Number	Yes	Text Box entry

IX Citizen Grievance Monitoring Module

IX.1 Introduction

Municipalities provide various public utility services due to which, it receive a large number of complaints/suggestions pertaining to its services. To address all these complaints it is necessary to have an efficient and effective grievance redressal mechanism. It helps in making the administration more accountable, responsive and user friendly. The objective of public grievance monitoring system is to provide multiple channels of grievance recording, in order to make it more citizens friendly and to provide linkages to different sections for increased transparency, citizen participation and performance accountability

IX.2 Process Overview

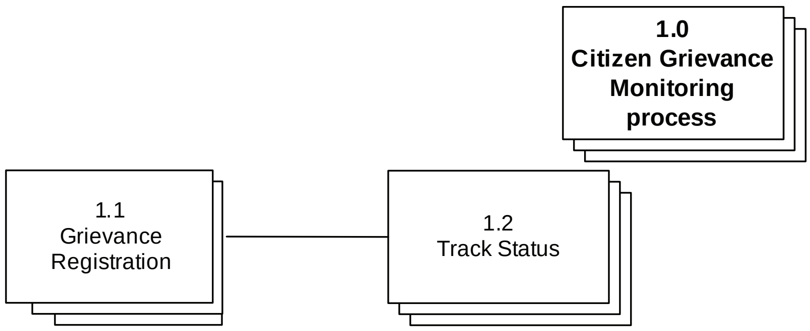
Citizens can submit complaint/suggestion/application/grievances to the ULB. Each complaint is recorded with a unique number which is given to the citizen. These complaints are then forwarded to different sections depending on the type and nature of the complaint. The concerned section staff attends the complaints within the given time period. The reply is sent back from the corresponding department/section to Grievance Handling section and status is updated for the user.

The main activities as part of Public Grievance Monitoring Management process include

- Registration of the complaint/suggestion
- Issuance of acknowledgement
- Capturing of status of the complaint till it is resolved
- Generation of necessary reports for proper monitoring

The Citizen Grievance redressal process has been divided into two sub-processes as depicted in Figure IX.1 below

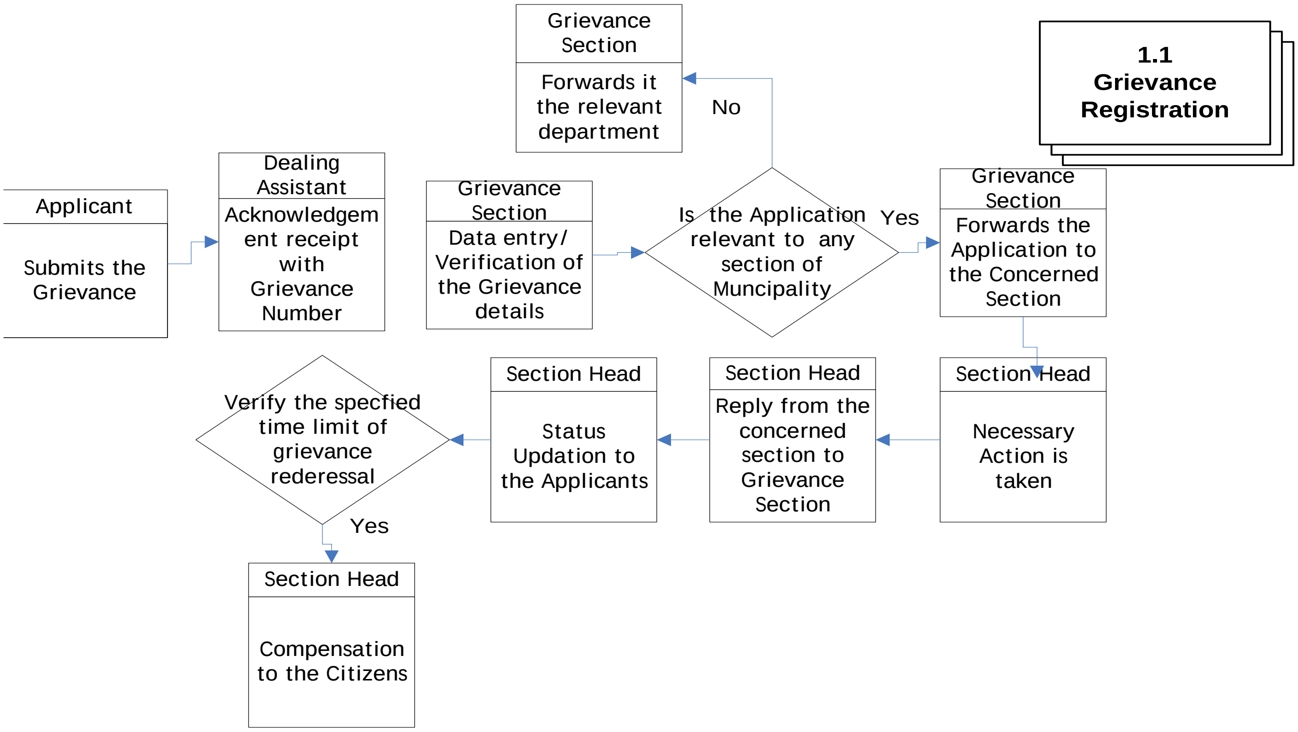
Figure IX.1: Citizen Grievance Monitoring Process Overview



V1.2.1 Grievance Registration

The process is depicted below in Figure IX.2 below

Figure IX.2.1: Grievance Registration



The process is as described below:

1. The citizen registers the complaint to the concerned department of the ULB
2. the source of the complaint can be
    - Call Center
    - Written(Hand Over)
    - Portal
    - Written(Postal)
    - Oral
3. The details such as description of the grievance, name of the complaint, complainant address, section with Grievance ID, Property tax Id (if exists) etc., forms are entered by the dealing assistant at the ULB
4. An acknowledgement with grievance number is given to the citizen
5. Dealing assistant in the grievance section verifies the application details and forwards the grievance to the concerned section with a copy to the Commissioner and head of the concerned section
6. The concerned section takes action as per the Grievance and sends information back to the Grievance section.

Process Parameters

The Table IX.1 details various Inputs, outputs and controls for the Process IX.2.1: Grievance Registration

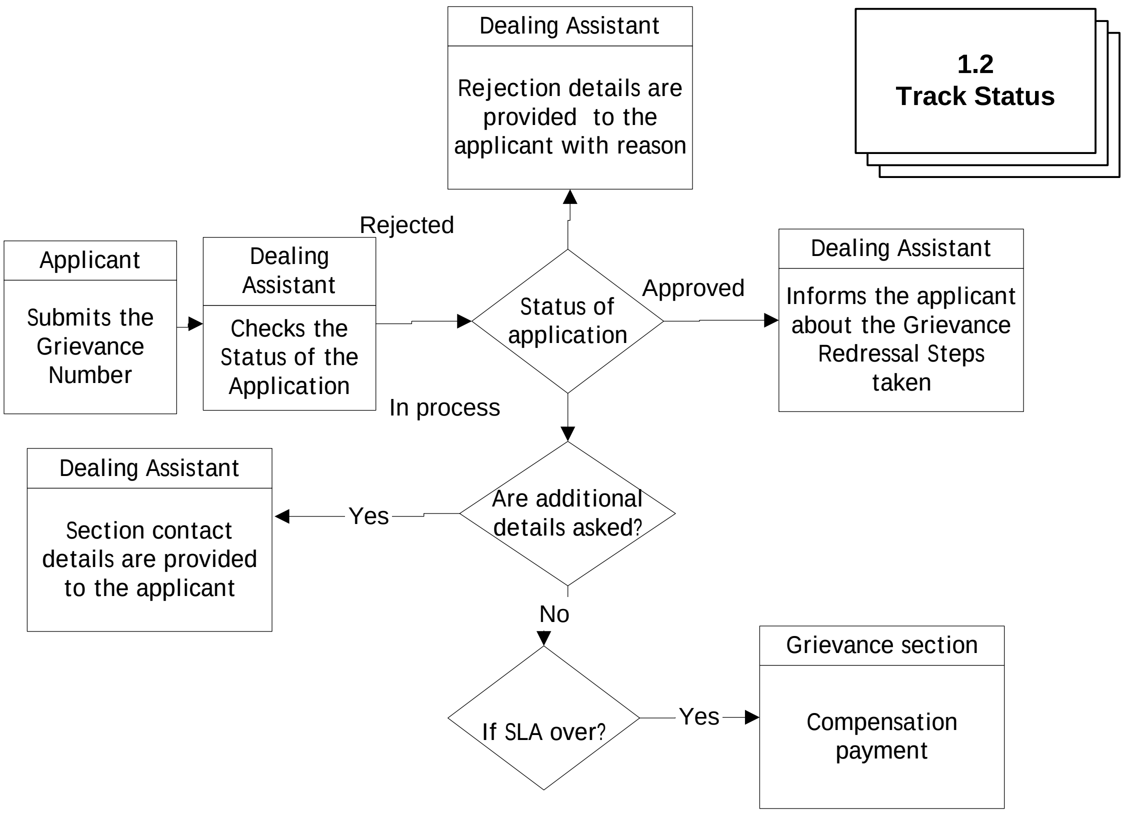
Table IX.1: Process Parameters for Grievance Registration

Grievance Registration		
Inputs	**Outputs**	**Controls**
Grievance Master details (Grievance Type , cause of delay Department/Section, Number of days, Financial or non-financial) Grievance Application details (Application number Application date, Department/Section, Grievance type, Maximum number of days within which the grievance would be registered,· Type of grievance, Application type (in case of applications not processed), Application number, Mode of receiving Surname of the aggrieved person, Name of the aggrieved person, Door number, Address City, Pin code ,Phone number E-mail ID, ward) Compensation details for delay in Grievance redressal Employee Actual date of redressal Compensation Probable date of redressal Compensation paid Date of payment Cause of delay)	Acknowledgement Receipt with Grievance Number to the applicant Status reporting (feedback from concerned department) Compensation details(Details of work/application that has not been addressed within the prescribed time, number of days of delay and compensation paid per day in case of delay Status Reports	Automatic Escalation of complaints from concerned officers to Higher Officers based on defined criteria such as some time limits for taking action , inability for taking action , inability of the lower office to resolve the complaint, involvement of legal issues. Recording the action taken by the responsible officers and the ultimate resolution of the problem The information which is auto-populated in the fields should be retrieved from the Master data base (Grievance Type, Department, section etc.) Grievance Number of days for a department should be retrieved from the master database Validations on the mandatory fields Validations to check the data type of the field

IX.2.2 Track Status

The process is depicted below in Figure IX.3 below

Figure IX.3: Track Status



The process is as given below:

- User provides the grievance number to the dealing assistant at the ULB
  The status of the grievance is provided to the user
  a. Action taken details
  b. Rejected – The details for rejection is displayed to the user for further enquiry
  c. In Process.
- If the application is in process, the dealing assistant checks for the SLA breach of the respective department and escalates the issue to Commissioner and Head of the section.

Process Parameters

The below mentioned table (IX.3) details various Inputs, outputs and controls for the Track Status Process

Table IX.3: Track Status

Track Status		
Inputs	**Outputs**	**Controls**
Grievance number.	Grievance Application Status.	The status of the Grievance application should be updated. The SLA for Section and the department for its functions.

IX.3 Interfaces Required - Citizen Grievance Redressal Module

The Interfaces required for the Public Grievance Redressal System is given the Table IX.4

Table IX.4: Interfaces Required

Interface with whom	Information received	Information given
Births & Deaths Registration	Redressal Steps taken, Number of days to redress the grievances, Cause of delay, Compensation Amount,	Grievances/Queries/Suggestions
Property Tax	Redressal Steps taken, Number of days to redress the grievances, Cause of delay, Compensation Amount,	Grievances/Queries/Suggestions
Vacant Land Tax	Redressal Steps taken, Number of days to redress the grievances, Cause of delay, Compensation Amount,	Grievances/Queries/Suggestions
Water Tax	Redressal Steps taken, Number of days to redress the grievances, Cause of delay, Compensation Amount,	Grievances/Queries/Suggestions
Advertisement Tax	Redressal Steps taken, Number of days to redress the grievances, Cause of delay, Compensation Amount,	Grievances/Queries/Suggestions
Dangerous & Offensive Trade Licenses	Redressal Steps taken, Number of days to redress the grievances, Cause of delay, Compensation Amount,	Grievances/Queries/Suggestions

Building and Layout Permission	Redressal Steps taken, Number of days to redress the grievances, Cause of delay, Compensation Amount,	Grievances/Queries/Suggestions
Projects and Works	Redressal Steps taken, Number of days to redress the grievances, Cause of delay, Compensation Amount,	Grievances/Queries/Suggestions
Town Planning (Encroachments)	Redressal Steps taken, Number of days to redress the grievances, Cause of delay, Compensation Amount,	Grievances/Queries/Suggestions
Schemes	Redressal Steps taken, Number of days to redress the grievances, Cause of delay, Compensation Amount,	Grievances/Queries/Suggestions

IX.4 Functionality Requirement Specifications

This section describes an indicative Functional requirement specification for the Citizen Grievance Module, in the following Table IX.5

Table IX.5: Functional Requirement Specifications

No.	Requirement
User Authentication	
1	To query the database – user-id table and the password for the given user id is compared. If appropriate menu is displayed, other wise error message is displayed.
2	Usage of Biometric Authentication Methods such as Finger Print Technology for authentication or PKI Technology.
Master maintenance	
3	Ability to maintain the possible modes of intimation of the grievance by the citizen to the municipality (Add/Modify/Search).
4	Ability to maintain the possible modes of intimation of the grievance by the citizen to the municipality (Add/Modify/Search).
5	Ability to maintain the statuses of the grievances registered in the Municipality (Add/Modify/ Search).
6	Ability to maintain Attention Details (Addition/Modification/Deletion/ Search)
7	Ability to maintain the details of work/application that has not been addressed within the prescribed time, number of days of delay and compensation paid per day in case of delay in SLA of the grievances registered in the Municipality (Add/Modify/ Search) • Description of the work/application • No of days of delay • Compensation per day.

8	Ability to maintain different types of grievances caused to the citizens, department or section that needs to address the grievance, number of days within which the grievance needs to be addressed and nature of grievance-whether it is financial or non-financial .
9	Ability to maintain the details of officers designated to redress grievances mapped to the department-section.
10	Ability to map each application is related to a particular department-section.
11.	Ability to maintain the Citizen Charter/Policies.
12	Ability to maintain the compensation details from the Officer Responsible and payment details to the citizens if the applications are not processed within the prescribed time. (breach of SLA).
13.	Ability to maintain ULB wards details
Grievance Registration	
14	Ability to accept applications regarding grievances caused to the citizens. The application details are recorded in the system and acknowledgement for the same is generated and issued to the applicant.
15	Ability to allow section heads to allot the grievance to the concerned officer responsible and update the status of the registered grievance.
16.	Ability to allow the officer in-charge to allot the grievance to the gross root employee, to update the status of the application, and to record the actual date of redressal.
17	Ability to integrate with other modules such as Property Tax , Water Tax using the unique Grievance ID.
18.	Ability to provide the User status of the grievance redressal application by supplying the complaint number.
19.	Ability to link to the PTID/Assessee ID with the Grievance ID
MIS & Reports	
20	A section wise grievance register is printed for a given period with its status.
21	Report on section-wise number of grievances pending.
22	List of grievances attended by staff and pending reports.
23	Grievance Disposal Register department wise.
24	Grievance Status Summary (Type wise/Zone wise/ward wise)
25	Action Take reports.
26	Statistics on Grievances handled (received/disposed/types/zones etc.).
27	Analytical reports for Performance evaluation.
28	Reports regarding Internal performance of the sections.
29	Department wise SLA Parameters.
30	Status by source of complaint.
31	Department-wise compensation paid.

IX.5 Indicative Data Standards - Citizen Grievance Redressal Module - Key Fields

The indicative data standards for citizen grievance module is given in Table IX.6

Table IX.6: Indicative Data Standards

Field Name	Data Type	Mandatory (Yes/No)	Nature
Grievance number	Number	Yes	Automatic
Department	Text	Yes	List box
Section	Text	Yes	List box
Maximum number of days within which the grievance should be redressed	Number	Yes	Textbox
Type of grievance	Text	Yes	List box
Application type	Text	No	Textbox
Name of the aggrieved person	Text	Yes	Textbox
Door number	Text	No	Textbox
Address of the Person	Text	Yes	Text Box
Phone No of the Person	Number	Yes	Text Box
Pin code of the Person	Text	No	Text Box
Email of the Person	Text	No	Text Box
Election Ward	Text	No	Text Box
Registration Date	Date/Time	Yes	System generated
Redressal Date	Date/Time	Yes	Masked Test Box
Action Taken	Text	Yes	Text box
Compensation date	Date/Time	Yes	Masked Text Box entry
Compensation Amount	Number	No	Text Box
Cause of Delay	Text	No	Text Box
Remarks	Text	No	Text Box

X Personnel Management System Module

X.1 Approach

The strategic importance of a comprehensive personnel management or Human Resource Management System (HRMS), as explained in the following sections, cannot be over emphasized. HRMS being the most common function in and across the Government departments has been identified as one of the core initiatives of the States.

The States further believe that HRMS holds immense potential in terms of effectively and efficiently leveraging information technology to centralize, standardize, and govern its human resource functions including payroll. Further, the processes and stakeholders covered by the module transcend departmental boundaries and are addressed more aptly at the State level.

Hence, it is strongly recommended that the implementation of the HRMS be taken up centrally as a statewide initiative and not in isolation at the department level.

As one of the core initiatives of the States, the HRMS module is expected to integrate with other core and future initiatives of the States as necessary. For example, the HRMS may integrate with the centralized e-procurement solution of the State. Hence, it is further suggested that the proposed solution should be based on open standards and structure, which would facilitate integration with other initiatives/applications at a later stage.

X.2 Introduction

The employees form a major asset base of all State departments including the municipalities. Efficient and effective utilization of this asset viz. the available human resources, is important to ensure effective administration of these departments. The State Governments, being the single largest employers in most states, recognize the need for an integrated information technology solution to address the needs and streamline its complex and dispersed payroll and human resource management system. The proposed HRMS including payroll and employee self service modules shall culminate into a Government to Employee (G2E) portal greatly improving the efficiency of the HR and related processes.

Overall, the key objectives of the HRMS initiative are:

- Develop a single and integrated view of employee information across all departments of the ULBs
- Higher utilization of existing infrastructure and technology investments
- Provide timely & reliable management of information relating to human resources for effective decision making

- Integration with other related applications such as Treasury, Payroll, etc.
- Provide 'single window' services to employees
- Provides user-friendly environment accessible over browser.

The development of an integrated HRMS including Payroll and Self-service applications is envisaged to culminate into a G2E (Government to Employee) portal that will increase the value proposition of the services provided to the employees. The key dimensions and value proposition under each are summarized in the Figure X.1, Overleaf

Figure X.1: Key Dimensions and Value Proposition

Operational Efficiency Ease of administration Ready access to operational information Improved communications Cross-functional integration	**Innovation** Increased acceptability of e-Governance Better access to knowledge
Employee Satisfaction Ease in carrying out their responsibilities Ready access to personal information	**Cost Savings** Material savings Effective infrastructure utilization

Privacy, security, access control and permissions shall also be regulated through appropriate administration modes.

As discussed earlier, Human Resources and Payroll are the common threads across all the entities of the Government. There are broadly three primary categories of employees in Government services namely (i) Gazetted, (ii) Non-Gazetted, and (iii) Class IV employees. The gazetted employees are further classified as All India Services Officers (this includes the IAS & IPS officers) and non-All India Services cadre. The current structure of payroll and HR rules are applicable to employees of the State Government/DMA/ULBs who work across the following three domains:

- Secretariat
- Departments of the Government
- Corporations (Corporate Bodies/Societies owned wholly or in part by the State Government).

The Payroll and Human Resource requirements of the State Governments are rule based and their structure and governance is predominated by the enactments of various legislations such as the following:

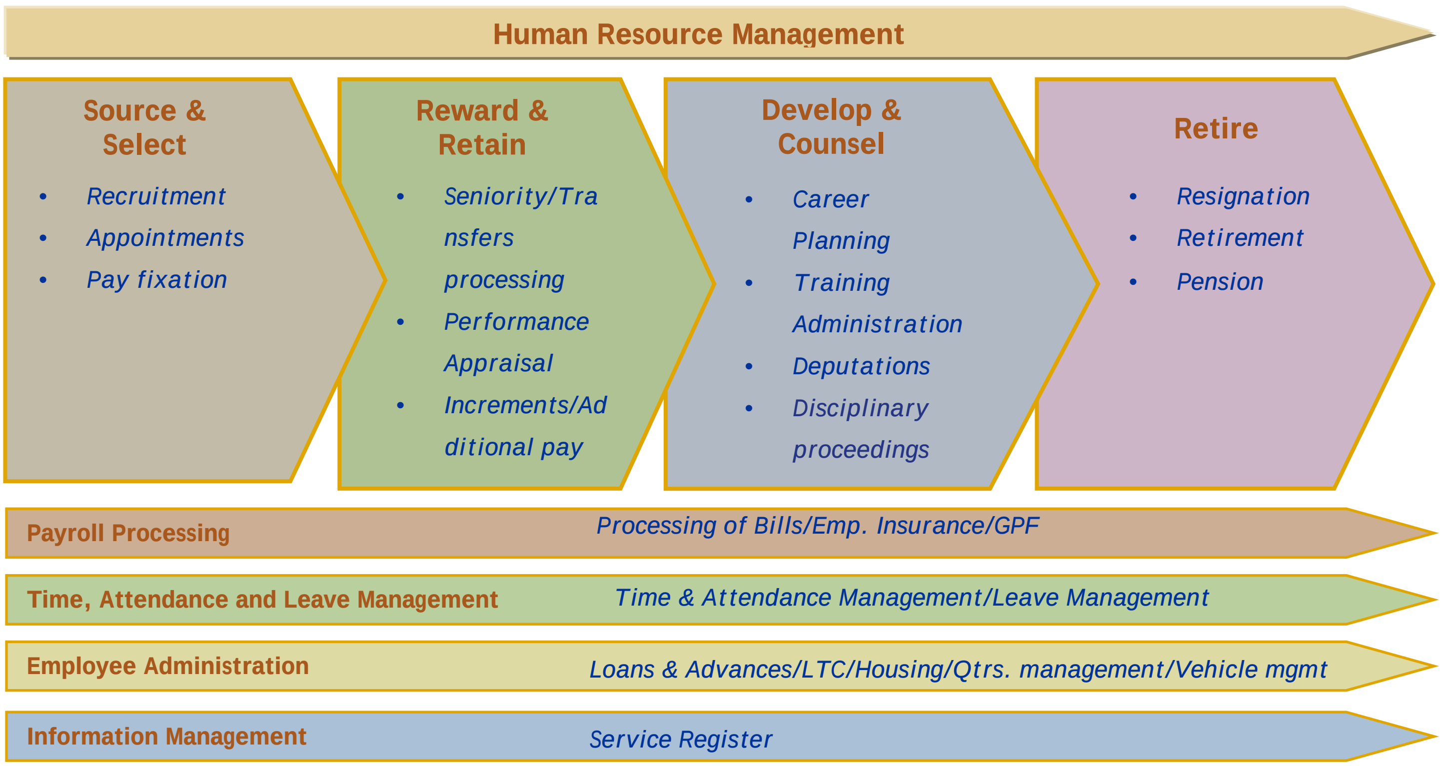
- State fundamental rules & subsidiary rules
- All India services acts & rules (apply to all the IAS & IPS cadre)
- State subordinate service rules
- State ministerial service rules
- State last grade service rules
- State general service rules
- State manual of special pay & allowances
- State pension code
- State public employment act & rules
- State classification control appeal & conduct rules.

In addition to the above, various department specific rules and Government Orders (GOs) issued from time to time impact Payroll and Human Resource related aspects. The above legislations and the GOs need to be incorporated in the design of the HRMS modules described in the next section.

X.3 HRMS Solution Framework

The section presents the overall solution framework for the HRMS along with the constituent modules and their indicative functions. The following Figure (Figure X.2) provides an overview of the HR requirements framework along the HR value chain areas:

Figure X.2: Solution Framework

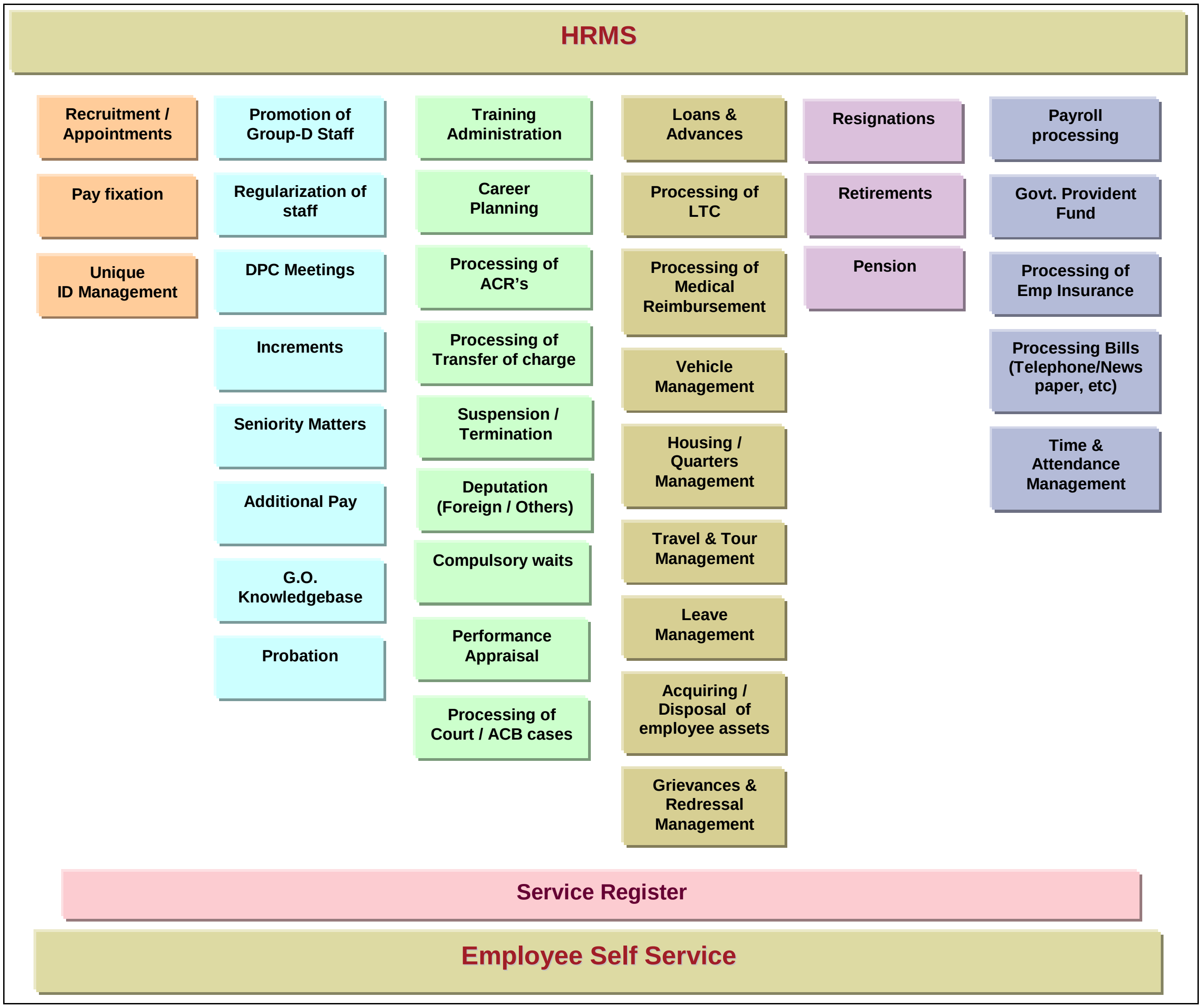


Drawn from the above value chain framework, a suite of modules to conduct the various activities and having the requisite functionalities are envisaged to be developed. The modules should be developed incorporating the requirements as laid by the legislations/enactments/statutes/Rules, etc. mentioned in the previous section. Besides these, department/organization specific rules and policies, as applicable to HR and Payroll functions, also need to be incorporated.

X.4 Indicative HRMS modules

The figure overleaf (Figure X.3) represents the common illustrative framework of modules relevant to an integrated HRMS which includes Payroll and Employee Self Service solutions for the State/ULBs Government employees.

Figure X.3: Indicative Modules



Abbreviations used:
DPC – Departmental Promotions Committee
ACR – Annual Confidential Report
ACB – Anti-Corruption Bureau
LTC – Leave travel Concession
GAD – General Administration Department

The proposed HR framework broadly covers the spectrum of Governmental employee related functions including the payroll activities. While this represents the common framework, there are certain department-specific functions, for example, uniform/kit maintenance at the Police department that needs to be considered and developed as a separate module applicable only to the Police department.

The broad functions for some of the key modules are provided in the following table (Table X.1):

Table X.1: Functions of Key Modules

Module	Functions
Recruitments/Appointments	The module covers the recruitment and appointments workflows as per the relevant acts of the State and Central Governments. The recruitments/appointments could be broadly classified into the following five categories: Direct Recruitment Appointments by transfer Promotion Contract/Agreement/Re-employment Compassionate Appointment Deputation employees The module shall cover the workflows and capture details for all the above categories.
Promotions of Non-Gazetted staff	Depending upon the vacancies constituted during the panel year (September 1st to August 31st) the Promotions file is initiated. Seniority list and relevant employee details available with the section are considered for processing the promotions.
Regularization of staff	The module deals with regularization of staff who are appointed on a daily wage basis/ NMRs, or consolidated pay and who have put in a specified number of years of service and continuing in service on the date of the commencement.
DPC Meetings	The module facilitates in conducting DPC meetings for promotions of gazetted employees. Various data relevant to the DPC meetings such as the department name, names & designations of the DPC members, GO number in which DPC is to be constituted, post considered for promotion, existing vacancy, anticipated vacancy, etc. is required to be captured. Details such as seniority, approved panel, ACR's, disciplinary case details of the employees are also to be captured in the system. The proceedings of the DPC are communicated to the concerned administrative departments, and also to the Heads of Departments (HOD) for issuing a GO regarding the decisions taken on the post, and for taking necessary steps to obtain Government approval.
Increments	The module deals, among other requirements, with the maintenance of the Increments Register. The process involves the recalculation of the allowances affected due to the increment and further making the necessary entries into the Service Register.
Seniority matters	The departments receive the proposals for seniority matters from DMA/ULBs departments. Various details such as department name, section details, name of the person, designation, qualification, date of birth, date of joining, period of service, whether probationer or approved (status), etc. are required to be recorded.

Processing of ACRs	The module covers the processing of the ACRs of employees in the Secretariat. ACRs need to be submitted every year for employees. It is the responsibility of the Office Personnel (OP) section of the departments to send the blank ACR forms to the concerned officer for filling. After filling the form, the officer sends the form for obtaining a counter signature. The counter signing authority sends the signed form to the recording authority, who in turn forwards the same to the GAD. Separate ACR formats are available for gazetted officers & non-gazetted officers.
Processing of Transfer of Charge	The module relates to the processing of transfer requests from HODs for whom the Government is the appointing authority. The department receives the proposal from the DMA/ULBs. If any interpretation /relaxation of service rules are required, the file is sent to GAD/Finance. In the remaining cases the Secretary of the concerned department and Minister in charge of the department (certain cases as provided in DMA instructions
Probation	The module facilitates keeping track of probation details of the employees such as: Commencement of probation Period of probation Period which counts towards probation Passing of test during probation Change in the date of commencement of probation Extension, Suspension, termination Declaration of probation Leave period other than casual leave
Deputations (Foreign/Others)	Deputations of Government officials are broadly divided into two categories namely Foreign and Others. The GAD is the nodal point for processing deputations of employees. Based on a request from a seeking department (provided along with details such as required qualification & experience for the post, post name, etc.), the GAD conveys the same to all departments in the form of a UO note. Interested departments send the lists of eligible candidates to the GAD. The GAD then consolidates the list and sends the same to the department seeking the candidate. The seeking department shortlists the candidates and informs GAD. The GAD in turn requests the respective departments to relieve the concerned persons for the deputation.
Compulsory waits	Compulsory waits can arise due to the following two reasons: When there is no vacancy available for the given postings Due to administrative reasons (delay in issuing the posting orders, etc.) The module provides for capturing of the relevant data from the HODs. Various details such as name of the person, designation, date of issue of posting, date of joining, etc. can be entered in the system.

Processing of Leave Travel Concession (LTC) requests	The module facilitates the processing of LTC applications for employees, and their availing the benefit of drawing advance for the tour. The system checks whether the employee has already availed this benefit for the block period, and facilitates according permission/sanction of the leave. The OP section on receiving the request for the LTC advance forwards it to the higher authorities for approval. The module further deals with processing of the detailed bills submitted by the employees.
Medical Reimbursements	The module facilitates the processing of applications for medical reimbursements submitted by employees who have undergone medical treatment. An employee can also apply for reimbursement of the expenses incurred for the treatment of his dependents.
Travel & Tour management	The module facilitates an employee intending to go on an official tour to apply for travel advance. On receipt of the application of travel/tour advance, the OP section sends it for obtaining approval from the relevant authorities. If the employee on returning from the tour does not submit the travel expense bills on time, a reminder should be sent by the system to the employee.
Leave Management	The module covers the various types of leaves applicable, the delegation of powers for sanction of leave, maintenance of leave records, etc.
Retirements	The module covers the retirement age of employees, and provisions and rules which cover superannuating retirement, voluntary retirement, retirement on medical grounds, invalid retirement and compulsory retirement.
Resignations	The module facilitates processing of employee resignations. The steps include the receipt of the proposal from DMA/State departments, preparation of a draft note for the proposal, and seeking advice from the referral departments if necessary, before taking a decision on the case. Normally all resignation related matters are handled by the HODs, however, certain cases that don't fall under the HOD's jurisdiction are sent to the Government for approval. Relevant details such as letter number, name of the employee, designation, subject, date of resignation, remarks, etc. are captured during the process.
Government Provident Fund	The module facilitates the user to apply for admission to the GPF plan. It captures the relevant details of the employee. Once the approval is obtained from the Accountant General (AG)/ Pay and Accounts Officers (PAO), the employee is admitted to the General Provident Fund.
Processing of Bills	The module facilitates the processing of newspaper bills. All officers (DS and above) are entitled for newspaper bill reimbursement as per the norms. Concerned officer submits the bill to the OP section, which in turn obtains approval from the competent authority and issues a sanction order.

Service Register	The maintenance of records of service is governed by Annexure II, Part III of the Fundamental Rules. It is to be maintained for each gazetted and non-gazetted employee. It is to be maintained by the HOD in case of gazetted officers and by the Head of the office in case of non-gazetted employees. The Service Register contains every event in a Government employee life, including temporary and officiating promotions of all kinds, the date of completion of probation, increments, transfers, leave of absence taken, etc.

Some of the key functional areas envisaged for the Employee Self-Service Sub Module are as follows (Table X.2):

Table X.2: Key functions of Employee Service Sub Module

For Employees	For Managerial & Supervisory functions
Submission & changes to TDS	Recruitment
Enrolment & Changes to voluntary deductions	Transfers
Address changes	Promotions
Phone number changes	Job changes
Emergency contact information	Terminations
Marital status upgrade	Increments
Policy & procedures	Employee profile information
Forms printing & distribution	Performance rating profiles
Fulfillment for information requests (eg. Employee handbooks)	Leave of absence (Employee approval for leave)
Leave of absence (Employee request for leave)	Compensation planning
Maintaining/Reporting Training information (employee enrolment)	Workflow for approvals etc.
Skills inventory maintenance (skills update)	Local language preferences
Asset/Vehicle requisition	Leave management
Application for Loans & Advances	
Online view of salary pay-slips	
Status view of Bills for processing including LTC requests, Medical, Travel etc.	
Employee surveys	
Travel & Tour bookings	
Local language preferences	
Leave tracking	
Loans/Advances	Sanctioning of Loans/Advances

Way Forward

A centralized Personnel Management System would form a fundamental unit of a statewide strategy to manage the information on its human resources and bring in efficiency in the human resource management functions. A centralized system consisting of the various modules described in the earlier sections shall facilitate the standardization of HR practices across departments and result in better integration with the other core modules of the state, thereby facilitating exchange of critical HR related data. Further, the Implementation of the employee self service module shall bring in a paradigm shift in the processing of HR related functions.

X.5 Interface Requirements

The following table highlights the Interface requirements for the Personnel Management System (Table X.3)

Table X.3: Interface Requirements

Interface with module	Information received	Information given
Employee Information System:		
Financial Accounting	Payment of salary	Monthly employee salary Pension details Details of loan and interest
Project/ward works		Employee/skills availability for projects
Sub modules: Payroll Leave Management Benefits Management		Salary commitments Employee personal information Employee profile Leave Eligibility
Payroll and Bill Processing		
Financial Accounting	Payment of Salary	Monthly employee salary, pension details, details of loans and interest
Benefits Management	Eligibility for bill reimbursements	Bills reimbursed to employee (for updating the benefit plan account)
Leave Management		
Payroll Management		Number of days leave taken No. of days leave surrendered
Benefits Management	Eligibility for LTC, etc.	
Benefits Management		
Financial Accounting		Benefits related payment commitments

X.6 Functionality Requirement Specifications

Manpower Planning
The following Table (Table X.4) highlights the FRS for Manpower Planning

Table X.4: FRS for Manpower Planning

No.	Requirements
Manpower Planning & Budgeting	
1	The system shall enable users to maintain a head-count budget of the ideal workforce, which will be used to look at the variances based on the actual staff strength. These variances should be used as a guide for determining the vacancy requisitions.
2	The system shall be able to identify employee strengths and weaknesses based on required competencies and available competencies.
3	Define budgets against Departments, jobs, grades, positions or any combination of these.
4	Ability to review budgets over a period of time. This review should be able to be made by Department, division etc. Also by job/position or combination.
5	Ability to view the status of budgets and actual and also variances of budgets over time.
6	Ability to view flag deviations in budgeted headcount.
7	Provision of look ahead facility to forecast the Manpower and costing indicators
8	Enable salary estimates to be included in the non-monetary budgets to facilitate better planning.
Position Management	
1	Ability to “encumber” (reserve) a position that is not currently filled, but that does not have available budget (e.g., budget being used for another position or employee is on authorized leave).
2	Ability to track the history of the position (e.g., former employee(s) in position) and also maintain position and pay history of current employees in the fields of: • Recruitment date • Termination date • Salary change • Promotion • Demotion • Change in seniority • History of failed probationary period • Eligible for re-appointment (Y/N) • Leave without pay • Job classification code, • Essential job functions, • Salary Scale, • Salary, • Department • Division/Section • Multiple allowances – percentage and flat rate, • Deductions, • Other user defined fields/categories, • Remarks/Comments.
3	Ability to update salary amounts for each classification and scale/bracket.
4	Ability to automatically calculate and transfer salary when an employee transfers to a different Department/division, as authorized, even mid-pay period.
5	Ability to assign multiple employees to a single position (job sharing).
6	Ability to assign a single employee to multiple positions.
7	Ability to track filled and vacant positions by position number.
8	**Shift Planning & Scheduling**
9	Ability to administer multiple shift schedules.

10	Ability to use delivered models to define simple or complex planned work schedules for employees.
11	Ability to identify shift plans for Departments and work crews based on actual or forecasted workload.
12	Ability to identify requirements by type of job or specific qualifications.
13	Ability to administer shift plans considering defined requirements along with employee preferences, qualifications, and availability.
14	Ability to process day-to-day changes in the shift schedule based on transactions that affect requirements or availability of staff.
15	Ability to identify and utilize on-call staff.
16	Ability to administer various workweeks and part-time arrangements.
17	Ability to copy the shifts of an employee, and swap the shifts of two employees.
18	Ability to use drag and drop capabilities for assigning employees to shifts.
19	Ability to use synchronous scrolling of employees and requirements records feature
	Promotions
1	Ability to capture data regarding proposals for promotions for both gazetted and non gazetted employees from different Departments/ULBs
2	Ability to link promotions to a variety of employee related issues. For example: • Seniority, • Quotas, • Disciplinary proceedings.
	Resignations
1	Ability to capture data regarding proposals for resignations for all employees from different Departments
2	Ability to reject resignation proposal of employees placed under suspension for disciplinary reasons
3	Employee should be able to withdraw his resignation before it takes effect.
Relevance & Timeliness of Accessing Information	
1	Ability to maintain employee records and data tables on an effective date basis, allowing inquiry and reporting for effective manpower planning and budgeting.
2	Ability to/raveling/flexible security to provide access to information on a "need to know" basis.
3	Provision of a search feature to assist users in finding employees based on various criteria (for example, employee number, Department or supervisor)
Reporting	
1	Reporting can be for a particular date or date range, in different fields like Department, section, name and designation of the employee etc. The system should be able to generate, but should not be limited to, the following reports: • Staff turnover • Staff movement • Vacancy requisitions • Promotions • Resignations.
Integration and Interface	
1	The system shall be able to export information to spreadsheets (e.g. Microsoft Excel) for year-end review.
2	Ability to interface with knowledge database to access information relating to Government Orders and checklists for the processing of promotions and resignations for employees.

Salary Planning

The following Table (Table X.5) highlights the FRS for Salary Planning

Table X.5: FRS for Salary Planning

No.	Requirements
Set Up and Administer Salaries	
1	The system shall enable users to set up and administer salaries for employees based on established pay scales and salary structures, including: • Salary administration plans (grades, steps, salary points, scale) • Assigning default compensation packages to employees at the location, job code or employee level • Recording hourly, monthly and yearly rates for employees • Maintaining salary structures.
2	Ability to modify compensation that falls outside of guidelines.
3	Ability to store and analyze employees' salary histories and other relevant compensation data.
4	Ability to define salary scales that can be established for multiple Departments and other user-defined criteria.
5	Ability to administer long-term incentive programs, including granting, tracking expiration and forfeiture, cancellation and changes based on life events.
6	Ability to award several compensation adjustments to a group of employees using an Excel spreadsheet.
7	Ability to directly link Appraisal System to Compensation Management prompting the system to give a choice to recommend for changes in employees' compensation.
Planning and Budgeting Salaries	
1	The system shall assist in managing an overall salary increase budget for the organization by: • Enabling a workflow to create and approve a group salary increase budget (by Department/section/team/unit) • Enabling to calculate the variance between budgeted salaries and actual salaries.
2	The system shall facilitate approval salary increase by group and by individual employee.
3	The system shall be able to mass update employee records with approved increases.
4	Ability to build salary budgets from bottom to top, with roll-up over the Departmental structure.
5	Ability to distribute salary budgets from the top down to manage salary administration.
6	Ability to provide for automatic system checks ensuring that salary adjustments are within the allocated budget amount of the Department.
Compensation Budgeting, Planning, and Modeling	
1	The system shall allow for the performance of the following: • Salary reporting • Budget simulation • What-if analysis.
2	Ability to perform total compensation reporting and analysis
Reporting	
1	The system shall be able to generate, but is not limited to, the following reports: • Min/Max Salary scale • Employee compensation history.
Integration and Interface	
1	The system shall be able to export information to spreadsheets (e.g. Microsoft Excel) for year-end review.

Workforce Recruitment
The following Table (Table X.6) highlights the FRS for Workforce Recruitment sub-module

Table X.6: FRS for Workforce Recruitment Sub-Module

No.	Requirements
Job Requisitions	
1	Ability to maintain application information in the fields of (indicative): • Name, • Gender, • Address, • Telephone number, • Business number, • Preferred method of contact (e.g. phone, mail, etc.) • Date of application, • E-mail address, • Source of application, • Date of Birth, • Ethnicity, • Status (e.g. applied, declined, recruited etc.) • Type of application (e.g., temporary, permanent etc.) • Salary history, • Employment history, • Language proficiency • Education, • Disability (Y/N) • Position(s) applied for (multiple) • Exams (e.g., psychical/medical) • Work Restrictions, • Licenses/certifications/registrations, • Caste category • Passport number • Martial status • PAN number.
2	The system shall be able to maintain job information in the fields of but is not limited to: • Number of job openings • Employee number of person requesting, authorizing, and initiating requisition • Job descriptions • Position number/job code • Salary Plan • Scale of salary grades • Job location • Working hours • Start date • Full-time/part-time • Necessary educational level, work experience.
3	The system shall be able to provide a summary of the applicants that have been hired against the job requisition.
4	System to automatically suggest a shortlist of candidates for each vacant position. Matching education, experience, skills, competencies etc could do this. System to identify nearest matches in areas of best fit and top 10 and provide gap analysis. It

	should also verify against the career plan on candidate.
5	Ability to provide information if positions can be filled by internal or external recruitment or both.
6	Ability to post new positions on the Internet or the Departments intranet via web-based technology.
7	System to accept electronic applications (e-mail, Intranet, Internet, electronic forms) including optical scanning to enter resumes and convert into data for further references.
8	Ability to enable applicants to learn about and apply for multiple jobs.
9	Ability to track the number and types of positions for which an applicant applies.
10	Ability to manage unsolicited applications
11	Ability to compare requirements of a vacant position with an applicant's existing skills to determine necessary training and overall fit.
12	System should be able to maintain different types of tests and associated questionnaire. It must link tests with jobs. This will help in administering tests to candidates.
13	The system should be able to generate questionnaire based on competencies defined for a job.
14	Ability to record and maintain proper information for cases of applications on compassionate grounds.
15	Ability to maintain complete employee information, historical and current. Especially in the area of maintaining images (photos, CV's, appraisals, etc.).
16	Provide the ability to conduct web-based review, screening, and dispositioning of candidate pools, the criteria used (e.g., keywords), and those individuals referred to the next step in each stage of the down select process (e.g., keyword screening, initial screening by staffing focal, selection for interview by hiring manager, extension of offer).
17	Ability to resurrect an expired employment list if required.
18	Ability to notify applicant that additional documentation is needed or put an eligible applicant on hold till the Department gets all needed information for hiring.
19	Ability to system to track progress of a candidate in any step of the recruitment process.
20	Ability to maintain history of interviewed but not selected candidates. This history should be with interview results, test results and reason of rejection.
21	Ability to maintain information about job provisions as per reservations and quotas allocated by the Government.
22	Ability to automatically populate the new hire record with applicant information for an employee passes a test during probationary period, eliminating duplicate data entry and errors.
Interviewing	
1	The system shall be able to specify dates and times when State employees are available to interview applicants.
2	The system shall be able to set up interviews for a given requisition.
3	The system shall be able to view a list of applicants invited for an interview at the State.
4	The system shall allow users to enter interview results and select successful applicants.
5	The system shall allow users to view a listing of successful applicants and their relevant details.

Online Forms	
1	Ability to provide for online forms where Human Resource systems do not provide self-service or when self-service is available as a backup.
2	Availability of a repository for online forms.
3	Ability to submit forms electronically to processing centre.
4	Ability to index forms to allow easy user access
Contractual Terms	
1	The system shall be able to record the following basic information about the contract between the State and the candidate: • Contract duration • Contract type • Contract information.
2	The system shall be able to record the following information about the contract between The State and the employee (indicative): • Entitlements • Leave.
3	The system shall be able to identify the: • Creator of the contract • Signature date • Applicant's probationary period.
Recruitment Expenses	
1	The system shall allow users to record and analyze all recruitment costs, which includes but is not limited to: • Job requisition expenses (advertising etc.) • Applicant expenses (travel costs etc) • Recruitment expenses (staff travel etc).
Recruitment Cycle	
1	Cycle starts when the request is received from a Department. System to generate details on a vacancy to be posted on Intranet.
2	System should move a packet consisting of number of candidates per job through workflow.
3	System should automatically if required detach a candidate from the packet and flow forward.
4	System should facilitate the entry of test results.
5	A person joining should be the end of the process. Otherwise, giving a reason can end the process.
6	Facility to record preferences with reasons about interviewed candidates.
7	Ability to record confirmation received from candidate. The confirmation could be received on e-mail (record automatically) or letter (manual recording).
8	Ability of the system to maintain checklist on all the joining formalities
Reporting	
1	The system shall be able to generate, but is not limited to, the following reports: • Applicant selection • Applicant statistics • Applicants by Name • Applicants education and training • Vacancies • Applications made on compassionate grounds • Promoted applicants • Transferred applicants • Direct recruitments.

Integration and Interface	
1	The system have open interface that can be linked, at the minimum, to the following: • Training Development, • Workforce Administration & Employee Data, Maintenance, • Manpower Planning, • The DMA's web site.
2	Recruitment module to get details on Job description, recommended compensation package, and various other contract terms through workflow.
3	System to interface with General Administrative Department.
4.	Appraisal report.

Performance Management

The FRS for Performance Management sub-module is given in Table X.7

Table X.7: FRS for Performance Management

No.	Requirements
1	Ability to plan, design, perform and analyze multiple appraisal models for multiple purposes.
2	Ability to use a variety of appraisal models as templates to support appraisal process.
3	The system shall enable users to define rating codes to assist in rating an employee's performance. These codes may be alphanumeric.
4	The system shall have the facility to allow users define a rating model and the associated rating scales and weights of relevant employee skills or competencies.
5	Ability to define an unlimited number of criteria, criteria groups and evaluation scales to meet the needs of your department needs.
6	Ability to maintain appraisal models in a catalogue.
7	Ability to view appraisal results within an individual's profile.
8	Ability to create anonymous appraisals in the system.
9	Ability to deliver just-in-time training to fill performance gaps.
10	Ability to include qualifications as an appraisal element.
11	Ability to remind employees that they have to submit their appraisals.
	Employee Review
1	The system shall allow users to record dates and results of employee reviews and ratings.
2	The system shall be able to store comments about the employee review. The size of the comment field is not limited.
	Reporting
1	The system shall be able to generate, but is not limited to, the following reports: • Employee review history • Employee annual review list (total, outstanding) • Employee review result distribution. • Appraisal report
	Integration and Interface
1	System to be able to link with applications that provide personal information about an employee. This information can include promotion, demotion and completion of probationary period or reprimands issued to an employee during appraisal period.
2	The system shall be able to export information to spreadsheets (e.g. Microsoft Excel) for year-end review.

Training Development

The FRS for Training Development Module is given in Table X.8

Table X.8: FRS for Training Development

No.	Requirements
	Course Planning
1	System should provide every course with a unique code, specific topics and objectives.
2	Ability to use planning tools to determine course demand for a period based on pre-bookings and/or actual attendance from the previous year.
3	Ability to determine the best use of resources such as instructors, rooms, equipment, and course materials – resources can be automatically suggested by the system, with the option to make changes to best fit specific needs.
4	Ability to use pre-bookings to monitor demand for courses.
5	Ability to identify training opportunities that will prepare employees for new roles.
6	Ability to identify training requirements for current and future positions.
7	Ability to map a career path for employees outside of their current disciplines
8	Ability to allow employees to match their qualifications with requirements of a position and determine what (training, proficiency) is needed to meet their goal.
9	Ability to allow supervisors to view an employee training history.
10	Ability to create a training catalogue that includes information on each course such as course description, prerequisites, objectives, content, time schedule, costs, capacity, and locations.
11	Ability to use the Performance Evaluation Workbench to create aptitude tests. Employees in turn can launch an aptitude test, complete the test, view scores, and launch the training to attain the knowledge they lack and retake the test after the training has been completed. In addition, if the employee passes the aptitude test, their competency profile can be automatically updated for career and succession planning.
	Course Management - Daily Activities
1	Ability to collect basic personal data during the registration process, such as name and address, as well as language preference, location and qualifications for meeting course prerequisites.
2	Ability to link events, event types, and event locations with Internet addresses for information such as training materials and create multiple Web Links for any given object.
3	Ability to produce form letters to manage required correspondence, including confirmations for course registration, rebooking and waitlist notifications, confirmation of attendance, cancellations and schedule changes, registrations for external courses or events and other custom correspondence.
4	System should provide facility for training centre to accept or reject course request for any employee. On any action taken system should be able to send information on the subject of training via e-mail to that particular employee.
5	Ability to automatically transfer the skills or qualifications acquired by an employee to his/her record.
6	Ability to allocate budgets and to see past trend in budgets Vs utilization by department.
7	Ability to allocate internal cost (classroom, equipment, course material, trainer etc.) and also provide similar facility to allocate external cost.
8	Ability to provide direct access to outside training institutions to update courses if offered in the training centre becomes obsolete.
9	Ability to maintain inventory. This will include:

	• Classrooms • Trainers • Equipment • Course materials.
	Sponsorship and Endorsement
1	The system shall allow employees to apply for sponsorship or endorsement of training courses.
	Self-Service
1	The system shall enable application of training for approval by the appropriate supervisors via self-service functionality.
2	Ability to allow employees to search for classes based on topic, text, language and location, etc. using a full-text search engine.
3	Ability to allow employees to view class calendar and details.
4	Ability to allow employees to enroll in classes or cancel participation in classes.
5	Ability to allow employees to pre-book classes that are not yet scheduled.
6	Ability to view date, time and content on courses and events that have been booked.
	Reporting
1	System should be able to provide summary of course feedback by course & trainer over a period of time. This could be month, quarter, year etc. It should also enable Workflow based feedback by the attendees of a course.
2	Ability to provide an ad-hoc reporting capability using any of the requisition or intake data fields. For example training an event management reports can be made on: • Attendee Reports o Appraisals o Attendance Statistics o Attendee Bookings o Attendee List o Attendees for Rebooking o Attendee's Qualifications o Attendee's Training History o Budget Comparison o Cancellation List o Cancellation List per Attendee o Employee List o Pre-bookings per Attendee o Pre-bookings per Course o Prerequisites for Attendance • Training Resource Reports o Available/Reserved Resources o Material Requirements per Course o Resource Equipment
	o Resource List per Course o Resource Reservation • Training Reports o Appraisals o Course Details o Course Dates o Course Demand o Course Hierarchy by Group and Type o Course Schedule

	Integration and Interface
1	Ability to add registrants to the waitlist automatically; as openings occur, the registrant is automatically advanced on the waitlist and changes are communicated to all affected individuals via workflow.
2	The system shall be able to export information to spreadsheets (e.g. Microsoft Excel) for year-end review.
3	Ability to use automatic correspondence triggered by workflow processes to keep the right people, such as trainers and Departmental Heads, up to date on training activities and to approve employees' participation in training events.

Compensation Management
The FRS for Compensation Management is given in Table X.9

Table X.9: FRS for Compensation Management

No.	Requirements
	Benefit Plans
1	The system shall allow for enrolment of employees in benefits programs and plans. Employees will be enrolled according to the following criteria: • Base • Grade • Years of service.
2	The system shall allow setting up the following types of benefits plans for employees over a specified number of years old (in order of priority): • Health benefits • Insurance benefits for employees, spouses, and children • Investment (unit trust) • Leave benefits • Pensions.
3	Ability to define a benefit plan as required.
4	Ability to assign benefit plan codes by employee based on their classification (to identify level of benefits for which each employee qualifies)
5	System to allow the entry of pre requisites needed.
6	System to have the ability to define plan status.
7	Ability to track employee's coverage and coverage level based on their position.
8	Ability to prorate accruals, benefits, and salary for part-time employees.
9	Ability to track employee benefits by date of hire.
10	Ability to track and maintain benefit information and changes in status for retired employees, surviving spouse and dependents.
11	The system shall also be able to assign employee dependants to the benefit plans, based on eligibility criteria (e.g. age > 18 years).
12	The system shall allow users to assign beneficiaries and the percentage/amount of benefit for employee insurance plans.
13	The system shall be able to capture benefits vendors' details (e.g. contacts, insurance policy information).
14	The system shall track benefits assigned to employees by financial year.
15	The system shall facilitate provision of leave travel concession (LTC) for all employees working over a period of over a specified number of years.

	Managing Benefits

1	The system shall allow for the maintenance of the following benefits costs and employee deductions information:
	• Age-graded rate tables
	• Salary rate tables
	• Service rate tables
	• Flat rate tables
	• Calculation rules tables
	    o Premium
	    o Coverage
	    o Age
	    o Service dates
	    o Rounding rules
	    o Min/max coverage
	• Benefits deduction from payroll (e.g. insurance premiums).

	Managing General Provident Fund
1	The system shall allow the DMA/ULBs to define eligibility rules for admission to GPF for employees.
2	The system shall allow the DMA/ULBs to: • Process GPF balance • Process GPF temporary advance • Modifying GPF subscription.
	Reporting
1	The system shall be able to generate, but is not limited to, the following reports: • Enrolment confirmation statement • Employee benefits statement • Employee compensation • Group compensation.
2	The system shall be able to generate electronic batch files of information regarding different vendors.
3	Ability to extract and report benefit information and changes in status into a form letter for annual retiree correspondence.
	Travel Management
1	Ability to interface with knowledge database to access information relating to Government Orders and checklists for the processing of leave travel concessions (LTC's) for employees.
2	Ability to enter travel data either by the person/raveling, by an administrator, or by another representative in the Department, either before or after the trip.
3	Ability to facilitate application of travel or tour advances and send trip requests automatically to the appropriate approver via workflow.
4	Ability to automatically reimbursed expenses either with a regular payroll run or through accounts payable or with an on-demand payment.
5	Ability to provide information to supervisors about employees who have taken an advance but not submitted travel expense bills during envisaged time frame. (Envisaged reporting)
6	Ability to provide an ad-hoc reporting capability using any of the requisition or intake data fields. For example travel management reports can be made on: • Employees with Exceeded Trip Days • Overview of Trips with Detail Selection • Trip Cost Reporting by Period • Trip Itinerary • Trip Statistics – Trip Framework Data/Trip Totals

	• Overview of Planned Trips • Trip Statistics – Trip Receipts • Overview of Credit Card Accounting Runs.
7	Workflow template to be provided for travel expenses
	Integration and Interface
1	The system shall be able to export information to spreadsheets (e.g. Microsoft Excel) for year-end review.

Payroll Processing

The FRS for Payroll Processing Module is given in Table X.10

Table X.10: FRS for Payroll Processing

No.	Requirements
	Payment and allowance & Deduction Processing
1	The system shall be able to calculate payments based on employee compensation rules, and employment contract.
2	Ability to calculate different type of pays. For example basic, allowances, bonus etc.
3	Ability to define pay type. For example hourly/daily/weekly/monthly etc.
4	Ability to define different pay elements. Pay elements could be fixed value or calculation based on other pay elements
5	Ability to group employees by Department in any manner without having to set up multiple employee records for each Department.
6	Ability to pay an employee at more than one rate
7	Ability to maintain an integrated security design to ensure that employees don't get paid twice in one payroll period without authorization.
8	Ability to simulate payroll runs for the current pay period to check new settings, the effects of data changes, or payment of advances in the next pay period
9	The ability to minimize payroll processing time through either parallel payroll runs or background payroll processing.
10	The system shall enable the calculation of hourly rated salary for temporary staff.
11	The system shall allow the following calculation of one time payment of allowance and/or deduction: • By amount – enter amount to be deducted or payable • By days – enter number of days and system will compute the amount based on basic rate of pay or gross rate of pay • By percentage – enter percentage and system will compute the amount based on basic rate of pay.
12	The system shall allow for the calculation of recurring payments and/or deductions using the same criteria as one time payment/deduction. In addition, the system shall allow for input of start and end date for recurring payment/deduction. For recurring allowances & deduction, the first and last payment/deduction may differ in calculation.
13	Ability to make automatic calculations for flexible benefits.
14	The system shall cap overtime claims at up to --- OT hours. When this threshold is reached, the system must provide warning prompt. However, the system will still allow users the flexibility to enter hours and override the default.
15	Ability to view Employee costs per Department/division and costs per job, position, and the comparison to equal job levels in same Departments in other States.
16	Ability to give employees the option of 'prepaying' some of their deductions when they go on leave. The system should automatically deduct funds from an employee's prepaid deduction balance if the employee's normal pay is not sufficient to cover the deduction

17	Ability to make automatic calculation of mid-pay period changes to pay, benefits, deductions, and taxes.
18	The system shall perform payment based on the employee's classification, such as: • Location, • Business unit • Department • Employee type • Employment term • Job class
19	The system shall provide for fast and accurate payroll processing that pays into the right account.
20	Ability to process out-of-sequence checks.
21	Ability to help employees get easy access to payroll information and salary and employment verification.
22	Ability to transfer data regarding employee time and payroll to third party systems.
23	Ability to make remittance of third party payments.
24	Ability to print fiscal year-to-date payroll total for any employee.
25	Ability to assign an employee to a primary Department.
26	Ability to manually adjust taxable earnings
27	Ability to pay an employee from more than one Department and split salary and benefits among Departments, including retirement benefits.
28	Ability to process payroll on the following frequencies: • Biweekly, • Monthly • Semi-monthly, • Bi-monthly, • On-demand (i.e., terminations, vacation advance, court order, ratification.).
29	Ability to provide for edit/validation codes that are both system and user defined.
30	Ability to formulate multiple user-defined formulas for complex earning and deduction codes
31	The system shall allow maintenance of salary code tables and code descriptions. It should also have the ability to formulate multiple user-defined codes including, but not limited to: • Salary, • Hourly rate, • Vacation, • Daily Allowance • HRA • Deputation Allowance • Sick, • Overtime, • Meals and lodging, • Expense reimbursement, • Various overtime reason codes, • Uniform allowance, • Bonus and Premium pay, • Taxable non-cash benefits, • Administrative Leave, • Travel Allowances, • Disability Pay, • Holidays, • Others (user defined).

32	The system shall allow different account codes and cost centres for different employee types can be defined for the same salary code.
33	Ability to allow use of an earning or deduction code to calculate another earning or deduction code as part of formula calculations.
34	Payroll database should be automatically updated when changes are made to the employee record database
36	Time sheet information could include, but not be limited to: • Employee name, • Employee number, • Department name & number, • Work function number/description, • Class number/title, • Regular pay hours, • Overtime hours and reason, • Leave information, • Multiple pay rate, • Leave balances, • Sick balances, • Other balances (set by any user defined criteria).
37	Ability to enter and monitor attendance details of all the employees. Attendance details can be entered in the fields of: • Time spent in office, • Overtime hours and reasons, • Type of leave if not attended work.
38	Ability to enter attendance information: • Online, interactive by employee, • Batch, • Multiple data entry capability including card readers, bar coding, etc.
39	Ability to account for time based on type of absence or attendance.
40	Ability to submit corrections.
42	Ability to request cancels or modifies requests time off, and receive approval or denial from immediate supervisor.
43	Ability to monitor attendance records on a daily, weekly, and biweekly basis.
44	Ability to pay all types of reimbursements through payroll. (Medical etc.)
45	Ability to track and maintain work schedules by position, classification, and/or employee.
46	Ability to track actual hours worked by work schedule by position, classification, and/or employee.
47	Pay check procedure should incorporate but not be limited to the following fields: • Personal account number • Department number • Employee name • Period ending • Issue date, • Class number • Pay rate • All types of payment and reimbursements (e.g., regular, overtime, paid leave, etc.) • Gross pay, • All earning and deduction types adequately itemized and defined by taxability status • Cumulative hours for time-limited employees, • Current and Year to Date Totals:

	• Employee pension • Income tax • Insurance • All other deductions • Medical compensation • Vacation hours balance • Sick leave hours balance • Other leave hours balances (multiple categories) • Gross earnings • Taxable/non-taxable earnings • Workers' comp (injury leave) • Other deductions and amounts • Total deductions • Net pay.
48	Ability to automatically update payroll database when Finance Department makes pay rate changes.
49	Ability to handle salary advances & facilitate recovery of salary advances on the payday.
50	Ability to make back dated calculations. For example if staff received promotion letter in June, effective April 17th, the system should be able to pay off difference for 15 days of April and month of May.
51	Ability to get reports on payroll for comparisons. For example Year-to-date and Last year-to-date, this month and last year-same-month etc.
52	Ability to update salary scales by percentages or flat rupee amounts for any specified class of employees.
53	Ability to pay a rate greater than a specific rate based on a percentage entered as a bonus rate in the employee's database.
54	Ability to calculate bonuses and premiums based on fixed rupee amounts, percentages of base pay, pro-rated on hours of paid service or paid with minimum paid service and to designate which bases are subject to mandatory payroll deductions.
55	Ability to cash out accumulated leave balances by user defined formulas and criteria.
56	Ability to have payroll adjustments reflected in correct pay period.
57	Ability to have an established base pay regardless of hours worked.
58	Ability to have different hourly rates for an employee for different days within the same payroll period
59	Ability to allow for pre-calculation of payroll outside of the normal payroll system.
60	Ability to re-calculate payroll for changed hours, etc.
61	Ability to make one time payment. For example for people working on a specialized program, Employee of the year award etc.
62	Ability to provide for online ad-hoc calculation of employees pay check amount.
63	Ability to support separate tax tables for special pay calculations (flat tax).
64	Ability to perform online calculation of pay and benefits for terminated employee based upon termination date.
65	Ability to report all changes to employee's pay, deductions, taxes, etc.
66	Ability to report tax payments by employee.
67	Ability to change tax filing status and number of exemptions of a particular employee.
68	Ability to report retirement deductions by employee.
69	Ability to transfer salary and benefit costs electronically to the budget application from payroll and human resource modules for position budgeting and personnel salary and benefit projections.

70	Ability to calculate different types of bonus. E.g. performance bonus etc.
71	Ability to calculate bonus outside the system.
72	Facility to import and update as pay element for employees
73	Ability to add or update bank information for direct deposit and expense reimbursement.
74	Ability of system to calculate bonus based on appraisals, grades and days on work in a year.
75	Any updation of records, pay elements should be with a reason code.
76	Ability to produce benefit eligibility lists upon request for employees.
77	Ability to request download of payroll information to begin budget preparation by Finance Department. Down loaded payroll data should include but not be limited to: • Department name and/or number • Employee name and/or number • Employee history by Departments served • Years of service • Employee category, • Accrual balance (sick leave hours) • Any other user defined criteria.
78	Ability to provide for payroll reconciliation facilities. For example provide reconciliation between the following: • Differences in salaries of existing employees from previous years • Differences in salaries between new & resigned employees.
	Bonus Triggering
1	The system shall be able to calculate bonuses, based on the following information: • Employee type • Employment term • Bonus details • Bonus calculation base • Reason code • Date joined • Last pay date • In service date
2	The system shall be able to accept user-defined formulas for calculating bonuses.
3	The system should be able to make fixed payments to employees, by effective dates. The system shall also be able to trigger backdate adjustments and to pro-rate bonuses.
4	Ability of system to generate bonus letters, increment letters.
	Payments/Deductions Type

1	The system shall allow for, but is not limited to, the following deductions and advancement:
	• Medical benefit deductions
	• Special retirement scheme deduction
	• Ad hoc and regular deductions and payments
	• Loans and advancements
	    • Housing Loans
	    • Vehicle
	    • Educational
	    • Festival advances
	• Court order deductions
	• Fixed and variable payments and deductions.

	Fixed Payments/Deductions
1	The system shall be able to calculate fixed monthly payments/deductions (FPD). FPD's may be amount or formula-based.
2	Amount-based FPD is paid/deducted directly from employee payrolls.
3	The system shall allow FPD deductions to be pro-rated according to the effective date and expiry date of the FPD.
	Variable Payments/Deductions
1	The system shall be able to calculate variable payments/deductions (VPD). VPD's may be amount or formula-based.
2	Amount-based VPD is paid/deducted directly from employee payrolls.
3	The VPD input and approval workflow can be decentralized to branch departments.
	Suspension Functions
1	The system shall able to provide suspension functions in the Payroll system.
2	The system should be able to handle different types of suspension, including all payroll exceptions.
3	The system shall allow suspension functions to be used for the suspension of payments, or processing of specific payment types/for specific periods.
	Advance Payments
1	The system shall be able to perform advance payments (e.g. exit staff, hardship reasons).
2	The system shall allow a staff's final payment to be made on a "last working date", instead of the "last pay date".
	Statutory Contribution Administration
1	The system shall be able to define all rules and criteria, as well as calculate, record, withdraw, and/or deduct contributions, at the minimum, of statutory contributions according to the respective Statutory Acts. The statutory returns should be captured by the system.
2	The system shall be able to incorporate all types of statutory reports and have the ability to meet new laws and requirements as they develop.
	Payroll Master Record
1	The system shall display the status of each of the following payroll transactions: • Incur-Month • Payroll Audit Trail Code • Trans-Status • Ledger-Posting-Status • Settlement Means.
2	The following payroll transactions' statuses will not change after generation: • Incur-Month (compensation period relating to payment)
3	The following payroll transactions' statuses will change after generation: • Trans-Status (Transaction status) • Ledger-Posting-Status (Posted to GL indicator) • Settlement-Means (Payment method).
	Cost Tracking
1	The system shall allow users to track, at the minimum, the following cost: • Project payroll cost.
	Pay slip Presentation
1	The system shall be able to generate employee pay slips on-line for printing by employees through Employee Self-Service.

2	The system shall group items on pay slips by salary code and by incur-month.
3	The system shall have the capability to handle different pay slip designs.
	Reporting
1	The system shall be able to maintain an unlimited earnings history and should have the capability of generating different payroll related reports. For example • Payroll register • Deductions register • Tax register.
2	Ability to maintain an efficient archiving program to manage the generation, administration and evaluation of archived payroll files.
3	The system shall provide for the following user friendly reporting capabilities: • Easy data management and information retrieval • Data mining and analysis • Flexible reporting • Annual package tracking.
	Integration and Interface
1	The system shall be integrated to the following systems of the finance department: • General Ledger • Accounts Payable.
2	The system shall be able to integrate with travel expenses and benefits in order to trigger automatic payments/deductions in employee payroll records.
3	The system shall be able to interface to, at the minimum, the following external 3rd party systems: • Microsoft Excel • Microsoft Access.

Workforce Administration & Employee Data Maintenance

The FRS for Workforce Administration & Employee Data Maintenance sub-module is given in Table X.11

Table X.11: FRS for Workforce Administration

No.	Requirements
	Maintain Basic Data
1	The system shall be able to maintain, but is not limited to, the following personal data: • Name, • Former name • Gender • Employee number • Department code • Work Location • Home address • Mailing address • E-Mail address • Martial status • Religion • Nationality • Date of birth • Dependent Information • Contact phone numbers • Emergency contact information • Personal account number • Bank account number • Date of appointment • Passport number • Drivers license number • Salary history • Declaration of personal assets • Educational qualifications • Professional qualifications • Linguistic skills by language • Competencies • Pay Periods • Job Information • Employment Status o Active o Terminated

	o Leave with and without pay o Retired o Voluntary time off o Workers Compensation o Disability o Other user defined criteria • Pay status: Hourly/Salary • Scale of Pay • Minimum/Maximum pay • Pay Rate • Overtime pay • Allowances • Deductions: o Code o Description o Frequency o Amount o Limit on deduction amount o Start and ending dates • Deductions to third parties • Pension payments • Non cash benefits • Leave by types and hours • Medical plan & coverage • Retire date • Any Other user defined fields or categories.
2	The system shall be able to automatically generate the Employee ID. The Employee ID will contain appropriate characters as may be decided with 8 alphanumeric characters, at a minimum.
3	Ability to build model for Department/division etc. The Departmental Chart can be viewed from different angles like positions held, vacant, vacant budgeted, vacant not budgeted, temporary responsibility etc.
4	Ability to change users' indicative data such as name, address, contact information, beneficiaries, etc
5	Ability to track and maintain personnel action changes for each employee.
6	Ability to track employee language abilities by language, level of proficiency.
7	Ability to track transactions based on the transaction date
8	Ability to notify via e-mail when action is required regarding employees (e.g., personnel changes, evaluation dates, etc.)
9	Ability to transfer an employee to a different Department or payroll unit without re-entering the entire employee file.
10	Ability to automatic monitor dates for Human Resource processes, allowing officials to specify date-driven reminders to initiate follow up activities (for example, expiration of probationary period, pay increases, return to work, performance review)
	Employee History
1	The system shall maintain the employee history, including tracking employee events in chronological order (e.g. hire, rehire, transfer dates)
2	The system should be able to track at all procedural levels by type, dates and employee: • Salary Change • Performance Report Appeals • Grievances (status, date of event and final ruling) • Workers compensation status

	• Disciplinary actions (paid/unpaid etc) • Future leave approval (e.g., approved, deferred, rejected) • Status changes • Leave status (vacation, sick, injury or any other user definable field) • Work Restrictions (e.g. no lifting) • Modified Duty (e.g. night duty hours) The system shall also be able maintain the reasons for actions.
3	Ability to maintain employee personnel history online beyond the life of the employee, and payroll detail for a minimum specified number of years.
4	The system shall be able to record exit interview information (e.g. interviewer name, interview date and comments).
5	The system shall be able to maintain employee turnover data (e.g. termination/resignation reasons, separation date).
	Job Information
1	The system shall be able to maintain, but is not limited to, the following information: • Employee employment designation • Employee grade level • Employee job level • Employee designation • Employee probation dates • Employee compensation rate & frequency • Employee annual benefits base rate • Employee pay scales.
	Employment Contracts
1	The system shall allow users to set up standard employment contracts with the following information: • Contract types (standard, bonding, overseas posting) • Contract duration • Contract clauses (effective dates, status, description, comment) • Contract templates for different employee types.
2	The system shall enable users to generate and print out employment contracts.
	Contract Tracking
1	The system shall maintain the following contract information: • Duration • Start date • Expected end date • End date • Minimum & maximum length of service • Employee-specific clauses • Probation dates & reasons.
	Security Levels
1	The system shall track the system security level and the security key card(s) issued to employees.
2	The system shall be able to maintain the following security information: • Effective dates • Status • Card number • Comments • Employee ID.
3	The system shall provide for information confidentiality and allow for different user access level.
4	The system shall allow users to audit, track, add, amend and delete information based on user security access level.

	Prior Work Experience
1	The system shall maintain the following prior work experience of employees: • Employment tenure (start and end dates) • Names of previous employers • Relevant work experience • Location • Job titles • Pay rates.
	Checklists
1	The system shall be able to create checklists for users to ensure performance of established procedures.
2	The system shall be able to assign checklists to users and monitor the status of tasks in assigned checklists.
	Templates
1	The system shall be able to maintain templates for report and standard letters. Once a report template is generated it should be available to all authorized users to avoid duplication
	Dependents/Beneficiaries
1	The system shall allow users to record the following information on dependents and/or beneficiaries: • Names • Relationship to employee • Type of relationship • Addresses/contacts • DOB • Place of birth • Location • Gender • Marital status • Occupation.
	Reporting
1	The system shall have query and search capabilities that can allow for fast and easy retrieval of data.
2	The system shall allow for department classification of employee data.
3	The system shall be able to prompt critical dates.
4	The system shall allow users to define reporting formats.
5	The system shall be able to also generate a list consisting of people: • On probation • Whose probation has been extended • Whose employment contracts have been terminated during probationary period.
	Integration and Interface
1	The system shall allow for integration, at the minimum, to the following systems and sub-systems: • Performance Management • Salary Planning • Workforce Recruitment • Payroll • Employee Relationship Management.
2	The system shall allow for uploading and archiving of historical database for information retention.

Leave Management

The FRS for Leave Management Module is given the Table X.12

Table X.12: FRS for Leave Management

No.	Requirements
	Absence Data
1	The system shall allow users to define absence data such as: • Absence types • Codes.
	Annual Leave
1	Ability to track leave by type, (e.g. maternity, casual, sports, optional, commuted, half-pay, study, hospital, earned, disability, compensatory etc.), reason, hours accrued, accrual frequency (e.g., monthly, pay period, etc.), automatic adjustments based on length of employee service, carryover balances and accrual limits.
2	System to have ability to keep track of holidays and to define weekly holidays and other holidays.
3	Ability to send e-mail to supervisor to withdraw/disable facilities of an employee when he/she is going on leave. For example NT password etc.
4	Ability to track leave used "in lieu" of sick leave.
5	Ability to set a trigger files for notification for expiration of a type of leave status (e.g. expiration of a temporary position, etc.).
6	Ability to trigger required supporting documentation based on use of leave (e.g. doctor's notes, etc.).
7	Ability to track concurrent leave status (e.g. maternity leave with sick leave).
8	Number of days of a leave to be rule based. For example maternity leave within first year is at half pay. Another example is sick leave. First 15 days full pay, 16the to 30 days half-pay, thereafter without pay. If employee has taken 20 days sick leave, system should put first 15 days with pay and next 5 days with half pay.
9	System not to force above or similar calculations or adjustments unless confirmed as the Department may want to adjust sick leave against available annual leave.
10	Ability to track leave taken by employee, type of leave, hours taken, and balance.
11	Ability to alter criteria as policy changes.
12	Ability to suspend and restart accruals.
13	Ability to track eligibility and qualifications for family medical leave, sick subjective/other leave.
14	Ability to compute termination pay-offs.
15	Ability to track annual physical exams as well as other physical tests (e.g., Fitness test, etc.).
16	Ability to track professional license renewals required for position (e.g., medical positions) and to track reimbursement of renewal costs.
17	Ability to track safety-sensitive position employees for drug/alcohol testing and maintain separate confidentiality for record.
18	Provision for leave accruals earned during paid absence should be accumulated but not credited for use until employee returns to duty.
19	Ability to assign leave benefits based upon level and classification of employee.
20	Facility for leave encashment.
21	System to provide a detailed order stating the approval/rejection of leave request.

9.3	**Self-Service**
1	The system shall enable on-line application of leave for approval by the appropriate supervisors via self-service functionality. Users shall also be able to view their leave entitlements and balance on-line.
2	The system shall: • Check for approval from supervisors • Check for a substitute appointment for the person taking leave.
	Leave Schedule
1	The system shall allow for supervisor to view employee's leave schedule and allow for tracking of staff working on shifts. The system shall also allow for the creation of leave charts.
	Reporting
1	The system shall be able to generate, but is not limited to, the following reports: Absence history
2	System to report to immediate supervisor if an employee has not been away for more than --- days in 12 months.
	Integration and Interface
1	The system shall be able to interface to payroll system for no-pay leave computation etc.
2	Provision of workflow facility for leave application. Leave application processing should take place online as system checks for available leave period for a particular employee. The system should not reject if employee applies for more days than available balance, but should flag this fact to the supervisor.
3	The system shall be integrated to on-line Employee Attendance System.

Employee Relationship Management

The FRS Employee Relationship Management is given in Table X.13

Table X.13: FRS for Employee Relationship Management

No.	Requirements
	Disciplinary Actions
1	The system shall allow users to maintain information on the following employee disciplinary activities: • Violations requiring disciplinary action • Disciplinary actions processes and activities • Types of disciplinary action • Details of disciplinary incidents and resolutions • Tracking of disciplinary cases.
	Employee Grievances
1	The system shall allow users to maintain information on the following employee grievances: • Types of workplace grievances • Grievance actions processes and activities • Types of grievances • Details off grievances and resolutions.
	Reporting
1	The system shall be able to generate, but is not limited to, the following reports: • Employee disciplinary history

	• Employee disciplinary letters • Employee grievances history.
2	System should be able to provide for Employee movement tracking. It should be able to provide detailed MIS reports on employees. For example employee information in respect to hiring, job assignment, transfers, salary revision, awards, recognition, promotion, demotions, warnings till the employee leaves the Department.
3.	Ability to link to the Confidential reports(CR)

Loan and Advance Management

The FRS for Loan and Advance Management is given the following Table X.14

Table X.14: FRS for Loan and Advance Management

No.	Requirements
	Loan Management
1	Ability to accrue or charge interest either through a loan account or through a designated account.
2	Facility of e-mailing respective Departmental Branch (e.g. Treasuries & Accounts) to credit account of an employee and also e-mail an employee on approval or rejection of loan.
3	Ability to recover loans on the salary day.
4	System to provide for tiered interest rate facility.
5	Ability to defer installment and recalculate installment values after deferment.
6	Ability to project loan commitment of a Department.
7	Facilitate holding of different types of loans by a single employee.
	Self Service
1	The system shall enable on-line application of loan for approval by the appropriate supervisors via self-service functionality. Users shall also be able to view their loan entitlements and balance on-line.
2	The system should not reject if employee applies for more loan than available to him, but should flag this fact to the supervisor.
3	The system shall enable the following approval capabilities: • System to trigger reminder to supervisors • System to automatically check for approval authority.
	Reporting
1	The system shall be able to generate, but is not limited to, the following reports: • Loan history • Loan types • Advance Types • Calculation of installments, interest…..etc. • Ability to generate outstanding list, defaulters list, etc. • Ability to show as deductions in payroll
2	System to report to immediate supervisor if an employee has taken loans worth --- Rupees.
3	Ability to provide reports on loans by employee, type of loan, Department etc.

	Integration and Interface
1	The system should be able to interface with the Finance Department for the processing of loans.

Management of Employees Qualifications and Abilities

The FRS for the Management of Employees Qualifications and Abilities are given in Table X.15

Table X.15: FRS for Management of Employees Qualifications

No.	Requirements
	Qualifications Management
1	Ability to define profiles for employees, applicants, work centres, tasks, jobs and positions, specifying the type of information to be stored in each profile such as qualifications, requirements, preferences, dislikes, and potential.
2	Ability to identify specific requirements of a job or task as essential, allowing the comparison of individual candidates based on only the most important attributes.
3	Ability to record the qualifications required while performing specific jobs or tasks, including work-related skills and specific certifications or licenses in the qualifications catalogue.
4	Ability to identify qualifications such as memberships/licenses that may expire and require renewal, and track expiration dates.
5	Ability to link qualifications that are similar and define them as alternatives, meaning that one qualification can be used in place of another to fulfill all or some of another requirement; for example, several years of education may be an alternative to a year of experience
6	Ability to match an individual's skills or qualifications to those required for a position to identify any gaps and then propose training and development plans to acquire the necessary skills
7	Ability to track job classification in fields of: • Record of job classification code(s) • Licenses, Certificates and Registration requirements • Degree Requirement • Minimum Requirements • Salary scale • Workers Compensation code • Employee type (part time or full time), • All other user defined information.
	Management of Employees Abilities
1	Ability to identify and catalogue the qualities, knowledge, skills, education and competencies that the employees need to perform the jobs and tasks critical to success of Departmental operations.
2	Ability to track employee's preferences, aspirations, dislikes and potential for growth.
3	Ability to measure the degree to which employees have mastered a particular competency by providing proficiency scales specific to each qualification.
4	Ability to rank the relative importance of competencies based on the unique needs of different Departments.

5	Ability to ensure that Employee Information necessary for analysis purpose should not be removed from the system. (For example age, qualifications, skills, competencies, positions held etc.).
	Integration and Interface
1	The system shall be able to export information to spreadsheets (e.g. Microsoft Excel) for year-end review.

Career Development

The FRS for Career Development is given in the following Table X.16

Table X.16: FRS for Career Development

No.	Requirements
	Career Development
1	System should provide employees with the facility of filling up their Career plan and goals in predefined format.
2	Ability to create and manage career paths within the Department, arranging them either horizontally or vertically within the Department hierarchy.
3	Ability to base career and succession planning on career paths or on an individual's skills, potential, dislikes, and preferences.
4	Ability to designate individuals for positions or mark them as having the potential to succeed in a particular area or position.
5	System to keep track of career plans and alert employees and Department on any milestones achieved.
6	Ability to search the entire Department for individuals that meet all or some of the requirements of a position, work centre or task.
7	Ability to automatically rank individuals in a Department based on the degree to which they are suitable for a position.
8	Ability to rank positions according to how well an individual meets the positions' requirements.
9	Ability to compare multiple individuals with the requirements of multiple positions, graphically display the result, and send it via email to other users for review
	Personal Development Plans
1	System should provide Individual Development Plan for identified successors (IDP) on workflow. This plan is prepared for potential successors of a position, detailing time frame and gaps to be filled up by individuals.
2	Ability to provide for on-the-job training through training activities such as classes, seminars, and workshops whenever required in order to enhance employee skills and fill the gaps identified.
3	Ability to transfer all records of training and events that the employee attends to the development plan.
	Integration and Interface
1	The system shall be able to export information to spreadsheets (e.g. Microsoft Excel) for year-end review.

X.7 Indicative Data Standards - Personnel Management System - Key Fields

The Following Table (Table X.17) highlights the Data Standards

Table X.17: Indicative HRMS Data Standards

Data Name	Data Type	Mandatory (Yes/No)	Nature
Employee Full Name	Text	Yes	Text Box Entry
Employee Address	Text	Yes	Text Box Entry
Employee Date of Birth	Date	Yes	Masked Text Box Entry
Employee Gender	Text	Yes	List Box
Employee Phone	Number	Yes	Masked Text Box Entry
Employee Email	Text	No	Text Box Entry
Employee Marital Status	Text	Yes	List Box
Employee Blood Group	Text	Yes	List Box
Employee code	Text	Yes	Automatic
Educational Qualification	Text	Yes	List Box
Institute Name	Text	No	Text Box Entry
Proficiency Area	Text	No	Text Box Entry
Proficiency level	Number	No	List Box
Work Experience (in years)	Number	Yes	Text Box Entry
Awards & Description	Text	No	Text Box Entry
Employee Photo	Image	Yes	List Box
Date of Joining	Date	Yes	Masked Text Box Entry
Family member name	Text	Yes	Text Box Entry
Family member Relationship	Text	Yes	List Box
Family member Date of Birth	Date	Yes	Masked Text Box Entry
Family member Occupation	Text	No	Text Box Entry
Whether Dependant?	Text	Yes	List Box
Employee PAN Number	Text	Yes	Text Box Entry
Employee PF Number	Text	Yes	Text Box Entry
Mode of Payment	Text	Yes	List Box
Bank Name & Account Number	Text	Yes	Text Box Entry
Work Location	Text	Yes	List Box
Department & Designation	Text	Yes	List Box
Categories of Leaves	Text	Yes	List Box
No. of leaves eligible for	Number	Yes	Text Box Entry
Leave period applied for	Number	Yes	Text Box Entry
Leave Approval Authority	Text	Yes	List Box
Salary Type (Earnings, deductions, medical reimbursements, LTA, etc)	Text	Yes	List Box

Salary Amount (split into Basic, HRA, Dearness, Conveyance, Bonus, etc.)	Number	Yes	Text Box Entry
Employee Change (Transfer, promote, increment, demote, etc.)	Text	Yes	List Box
Type of benefit	Text	Yes	List Box
Benefit eligibility criteria	Text	Yes	Text Box Entry
Plan provider	Text	Yes	Text Box Entry
Employee retirement tier(s)	Text	Yes	List Box
Type and level of Insurance coverage (Life, Long-term disability, dental, vision, others):	Text	Yes	Text Box Entry
Policy Value	Number	Yes	Text Box Entry
Eligibility date	Date	Yes	Masked Text Box Entry
Employee contribution	Double	Yes	Text Box Entry
Training Types	Text	Yes	List Box
Training Course No	Number	Yes	Text Box Entry
Training Course Details	Text	No	Text Box Entry
Contract type	Text	Yes	List Box
Contract duration	Number	Yes	List Box
Contract Information	Text	Yes	Text Box Entry
Employee performance rating	Double	Yes	Text Box Entry
Employee performance comments	Text	No	Text Box Entry

XI Integration with NUIS

XI.1 About NUIS

The National Urban Information System (NUIS) scheme has been proposed by the standing committee on Urban Management (SC-U) formed along with the National Natural Resources Management System (NNRMS) by the Planning Commission, Government of India. The aim was to provide guidelines on major issues related to urban applications, identification of new areas for research and advice on taking up of specific national programmes. The NUIS scheme aims to establish town-level Geographical Information System (GIS) databases and National Urban Data Bank and Indicators (NUDBI) under the scheme. The scheme is to be taken up as a centrally sponsored scheme.

As mentioned above, the NUIS scheme comprises of two major components described below:

- Urban Spatial Information System (USIS): The component includes development of GIS based multi-hierarchical database, with application tools, to support Master/Zonal plan generation; Urban Local Bodies (ULB) administration and utilities management.
- National Urban Databank and Indicators (NUDBI): The component includes designing and establishing a comprehensive data bank and integration of these parameters to support planning and derive indicators for National Urban Observatory (NUO) for monitoring the health of urban settlements.

The overall objectives of the NUIS is to establish a comprehensive information system in the ULBs for planning, management, and de-centralized governance in the context of provisions of scientific planning and implementation of the 74^{th} Constitution Act (CAA).

XI.2 NUIS Considerations in this report

The report takes into account the guidelines laid down for the development of the NUIS and its objectives, as applicable, towards the design of the functionality of the selected nine modules for the municipalities and their data capturing requirements. We have reviewed the NUIS components and the data elements to be captured by the various functional modules of the municipalities so that the development of the National Urban Observatory (NUO) is facilitated.

As far as the first component Urban Spatial Information System is concerned, the report does not address the component directly. Further, defining the standards for the GIS system and its databases is not a part of this assignment. However, Section 3 of the report, relating to the standards and guidelines, and the technical architecture of the solution at the municipalities, provide some guidelines towards integration of the municipal applications with the GIS systems under the NUIS scheme.

The second component of the NUDBI is addressed to the extent of capturing the standard set of data parameters in the selected modules. The following table presents an indication of the coverage of the possible modules and indicators required for the NUO. The table also lists the probable municipality module(s) where the specific data parameter has been addressed (in the scope of the module). Data parameters (As Presented in Table XI.1) from the list below, which have not been captured by any of the nine selected modules of the municipalities would have to be addressed (mapped from the respective modules) at the time of development of the urban information system.

Table XI.1

Module Name (NUO)	Data Parameter	Addressed (Yes/No)	Municipality module(s) where addressed
Background data			
	Land Use	Yes	• Layout Plan Approval • Trade license • Solid waste management
	City Population	Yes	• Birth & Death Registration
	Annual Population Growth Rate	Yes	• Birth & Death Registration
	Women Headed Households	No	
	Average Household size	No	
	Household formation rate	Yes	• Birth & Death Registration
	Income Distribution	No	
	City product per person	No	
	Housing tenure type (owned, purchasing, private rental, social housing, etc.)	Yes	• Property Tax • Building Plan Approval
Socio economic development			
	Poor Households	No	
	Informal Employment	No	
	Hospital beds	Yes	• Health Programs (Disease & affected)
	Under-five mortality rate	Yes	• Birth & Death Registration
	Life expectancy at birth	Yes	• Birth & Death Registration
	Adult literacy rate	No	
	School enrollment rates	No	
	School classrooms	No	
	Crime rates	No	
Infrastructure			
	Household connection levels (water, sewerage, electricity, telephone)	Yes	• Water supply & other utilities • Building Plan Approval
	Access to potable water	Yes	• Water supply & other utilities

	Consumption of water	Yes	• Water supply & other utilities
	Median price of water	Yes	• Water supply & other utilities
Transportation			
	Modal split (proportion of work trips by private car, train, bus, on foot, etc.)	No	
	Mean travel time	No	
	Expenditure in road infrastructure	Yes	• E-procurement • Project/Ward Works
	Automobile ownership	No	•
Environmental management			
	Wastewater treated	No	
	Solid waste generated	Yes	• Solid Waste Management
	Disposal methods for solid waste	Yes	• Solid Waste Management
	Regular solid-waste collection	Yes	• Solid Waste Management
	Housing destroyed (proportion per thousand by natural or man-made disasters)	No	
Local authorities			
	Local government per capita income (sources of funds annually for metropolitan area, divided by population)	Yes	• Financial Accounting
	Local government per capita capital expenditure	Yes	• E-procurement • Project/Ward Works • Financial Accounting

XII Business Process Reengineering

XII.1 Introduction

ULBs have been functioning under great constraints and mismatch of functions and finances. There is no doubt that the core functions and services of ULBs can be performed more economically, efficiently and effectively when the municipal system is exposed to significant amounts of technological infusion and capacity building. Infusion of technology may, however, not be enough to achieve enhancement in efficiency and effectiveness. It needs to be supplemented by a concerted effort to re-engineer the processes using BPR.

Business Process Reengineering (BPR) is a methodology for significant improvement to a business process, or for radical change in, or complete replacement of, such a process.

The following are concepts to consider when planning and executing a BPR effort.

- Streamline business operations and leverage the capabilities of the system.
- Minimize the number of custom development objects.
- Hone in on the 'real' business requirements and challenge processes that merely accommodate 'the way it has always been done.
- Reduce cost of doing business by eliminating:
  - Obsolete and inefficient processes
  - Obsolete regulations and controls
  - Lengthy review and approval cycles
  - Ensure business processes are integrated across all impacted functional areas.

In this section, we shall delve into and explore the possibilities of business process re-engineering (BPR) of the core municipal functions and processes. These have been presented across two broad sections:

- Approach and Methodology for undertaking a BPR at a State / ULB level as part of the State municipalities e-Governance strategy and roadmap document
- Best practices across the modules proposed under NMMP.

XII.2 Approach to BPR

In order to successfully redesign the processes a top level committee must be formulated to steer the project. The committee usually is responsible for driving the project and providing the buy-in for BPR across the municipality / ULB and also to check the resistance that may spring up during the course of the BPR study / implementation.

Approach for providing government process reengineering services for State/ULB's should be designed to be three distinct phases, as Shown in figure XII.2:

Figure XII.1: Approach to BPR

Document and Analyze the Current Process

In this phase, documentation and analysis of current business processes and key performance measures for the ULBs should be done. This phase provides a starting point for the process improvement and re-engineering and identifies the inputs, outputs and business rules for the current processes. This phase also identifies issues, problems and performance gaps with the current processes. The output of this phase of the project will provide the foundation for the definition of target processes and KPIs. The key activities involved in this phase include:

- Assessment of current value delivery system and the processes supporting the system. The various channels to assess the current system include
    - Interview
    - Questionnaire
    - Self observation
    - Survey of citizens
    - Existing documents
    - Going through Citizen Charter, if available
    - Reviewing various laws / rules / bylaws governing the ULBs/ Municipality.
- Assessment of current value delivery system and the processes supporting the system.
- Assessment of current state of people (organizational structure, empowerment levels, skills, their interface with citizens, roles, responsibilities and accountability).An organization chart is prepared with reporting structure to understand and document the line of reporting, roles and responsibilities. The interface with the citizens is also highlighted so that they can be further fine-tuned during the reengineered phase.
- Assessment of current state of technology deployed and the extent, to which Information Technology (IT) is used to empower people, generate MIS, embed controls in the information systems, reduce paper work & reconciliation and integrate inter-department and intra-organization process. Deployment of information technology plays a key role in service delivery system. It is essential to take note of all the IT assets and understand the systems, applications, databases and technology used so that the same can be addressed during the redesign phase.
- Analysis of the functional activities specific to the scope of work to identify strengths and weaknesses in the processes, technology and people.
    - Design a Process analysis report, detailing

- o Process maps of existing processes & KPIs
- o Identification of bottlenecks, authorization cycles and documentation flow
- o Summary of functionality provided by existing systems
- o Identification of gaps or opportunities for improvement in the process and target KPIs.

Identify Inefficiencies & Improvement Opportunities

The purpose of this phase is to define processes which are capable of achieving the defined performance measures. During this phase, consultations with the key stakeholders of the MoUD State/ ULBs should be done in order to define, streamline and/or further refine the target processes. The overall objective of this phase is to ensure that the revised processes allow Municipalities to achieve its objectives of increased operational efficiency & effectiveness and financial & operational control.

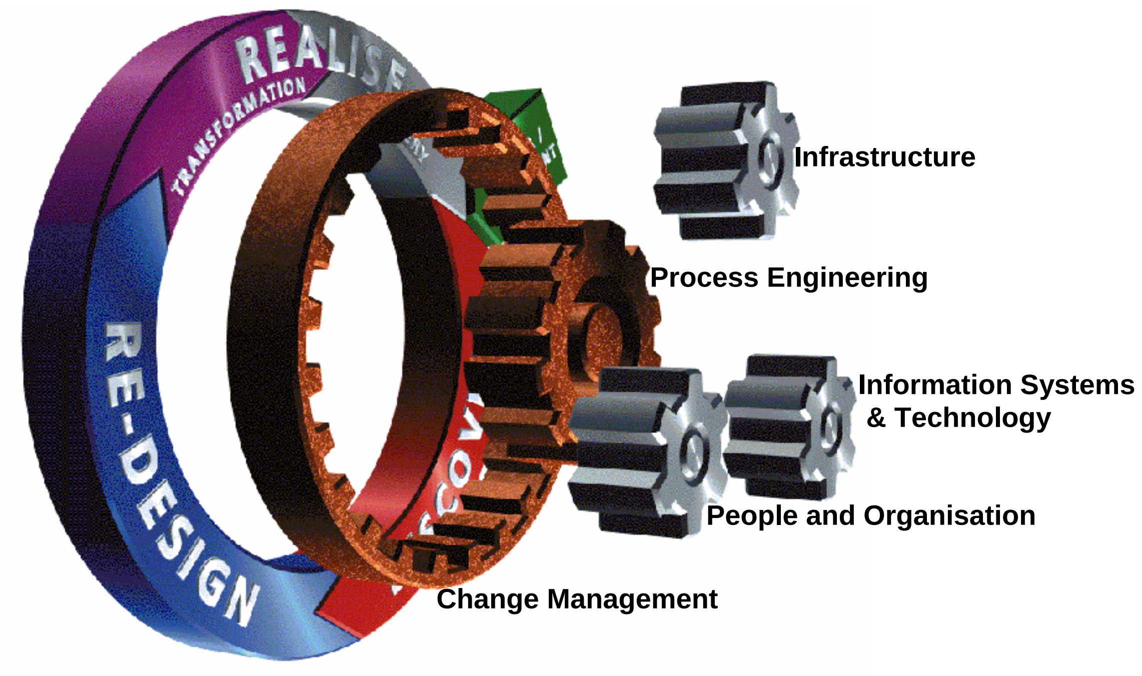
- Conducting 'critical assumption analysis' sessions to challenge the established assumptions on which the existing system is built (questioning current operative assumptions).
- Discussions with the process owners and various stakeholders to know the activity work flow and identify root causes of the weaknesses in the processes.
- Identification of areas of improvement to eliminate weaknesses, redundancies, discretionary regime, and enhancement of the process efficiency in order to provide better and value added services to the citizens.
- Envisioning the future scenario of the processes, with 'Think Globally Act Locally approach' and keeping citizen value as focal point.
- Carrying out brainstorming sessions with process owners to conceptualize reengineered processes and presenting the rationale for justifying changes in the process.
- After receiving the feedback from the process owners, analyze the data that has been collected, understand the weaknesses in the system and document the same.
- The critical activities related to citizens' service must be prioritized and reviewed from internal (interdepartmental) and external (citizen) interfaces.
- The forms that are used at various departments must be reviewed for the data they capture and meta-data should be created out of them.

Map & Finalize the Re-engineered processes

During finalization of the process redesigning, in order to improve the performance, manageability and service delivery to the citizens the following aspects needs to be considered:

- Focusing on activities addressing citizen needs more completely
- Setting and achieving more challenging and realistic performance targets
- Adopting integrated approach addressing all the domains mentioned in the Figure XII.2 below

Figure XII.2: Integrated approach to BPR



- The following steps need to be undertaken considered before finalizing the re-designed processes

  Step1: Quick Assessment" configure the right approach complete milestone plan

  Step2: "Discovery" - defines a process vision and identifies the problems, challenges and issues that need addressing

  Step3: "Redesign" split into two stages
  - "conceptual design" - develop and evaluate high level alternative solutions and freeze the concept
  - "detail design" - develop the ways of working, organization structure, infrastructure and the specification of the systems

  Step4 "Realise" split into two stages
  - "Transformation" - implementing the change
  - "Mastery" - sustaining the change
- Impact analysis (bearing in mind the implications on the future scenario from various guiding statutes existing for the departments of the municipality / ULB, in its current state), feasibility study of the reengineered processes with the respective processes owners, Government officials and the Minister for Department of Urban Development.

- Prepare draft policies required to support processes
- Process definition report, detailing:
    - Process maps of revised processes
    - High level policies relating to new processes.

Other Considerations

Performance Measurement

When redesigning the processes, it is important to built-in a kind of mechanism that measures the performance of the key, major, or critical services that are delivered to the citizen. The performance should be measured for cost, quality, service and speed. The performance is measured from the objectives setout at the time of redesigning the processes.

Example: After having the "as-is" study done and initial analysis of the process of issue of birth certificate, the process may be redesigned with the objective of issuing the birth certificate in maximum 30 minutes, or the process of handling grievance could be redesigned with the objective of resolving the grievance in maximum of two working days.

Performance Management

All the processes that are to be redesigned must be provided with the performance measurement criteria and after the implementation of the redesigned processes they need to be monitored with respect to the given criteria. The deviations should be recorded and mean deviation factor should be calculated for assessing the factors contributing the deviation.

A report on all the criteria defined for the processes must be submitted to top stakeholders at the Centre/State/ULB and their sign-off should be taken. The sign-off would ensure that the top management has gone through the performance of the service delivery structure and necessary action, if necessary, has been initiated.

Identification of redundancies

In order to redesign the processes, the preliminary step is to identify the redundant areas or "non-value adding" areas that go into delivery of service to the citizens. The service delivery mechanism usually has both internal and external processes, and therefore the steps needs to be broken into external and internal processes and then identify the 'non-value adding' steps that go into the making of the service delivery. The use of information technology plays a vital role in eliminating redundancies. It is recommended that automation of the processes along with integration of the databases is done so that repetition of work, multiple manpower resources involved in the performance of the work is eliminated.

The key to identify the redundancies is to question all the assumptions that form the basis of doing the work / delivery of service. For example if you have to approve the building plan, and to approve the plan it is prescribed under the municipalities rules that an engineer should visit the site, verify all the information that is provided in the application form and supporting documents. In redesigning the process of map approval, it is necessary to question that why should the engineer visit the site, or is there any value addition to the department or what are the necessary controls ensured by visiting the site, and an approach of "what if not" could be developed. This would result in providing answers for what will happen if the engineer does not visit the site, and help identify the redundancies. Moreover, it is important to integrate the databases, if they exist, and if they do not exist, then focus should be to create the databases and then integrate them. A case for this example would be that if one is supposed to provide a copy of the land registry (provide by the revenue department of the state) as supporting document along with the map approval application form, then instead of establishing the land ownership by verifying the documents, integration of the databases (Land registry database with the map approval database) should be considered. The integration will help establishing the land ownership and a lot of manual work. Unless redundancies are not addressed radically, the result of the process reengineering would not be realized significantly.

XII.3 Recommended BPR

In this section, we shall delve into and explore the possibilities of business process re-engineering (BPR) of the core municipal functions and processes. However, before getting into function-specific BPR recommendations, a few BPR activities and implications common across functions are discussed below.

- Broadening the scope of e-Governance in Municipalities using ICT applications like GIS and MIS for various services provided by ULBs.
- Levying of reasonable user charges by ULBs with the objective of recovering the costs of operation and maintenance (O&M).
- Rationalization of Stamp duty to bring to down to no more than 5%.
- Institutionalization of citizen participation using measures like the enactment of the "Community Participation Law".
- Administrative reforms (i.e. reduction in establishment by bringing out voluntary retirement schemes, non-filling up of posts falling vacant due to retirement etc.).

Property Tax

Property tax in most ULBs in India is the largest source of revenue. It is a tax on immovable property such as land and buildings. It is levied on an annual rental value or market rent. It is within the powers of the ULB to impose, suspend, reduce or abolish the tax or exempt any person or class of persons of any such tax. Although Property Tax varies from state to state, it commonly includes general tax, water tax, drainage tax, lighting tax and conservancy tax. It is, thus, an area where modest though meaningful BPR efforts can lead to sustainable improvements in revenue. Key recommendations for the property tax reform initiatives by ULBs are as follows:

- The tax system must be simple and easily understandable to the public
- The system of manual assessment of tax payable should be banned
- Fixation of tax should not be arbitrary; the tax rate must be linked to the tax base by a formulae pre-determined by law and not subject to the discretion of any authority
- The tax rate should be reasonably low so that compliance would be high
- The tax system should not only be fair, but also be perceived to be fair by the taxpayers
- Reform of Rent Control laws balancing the interests of landlords and tenants
- Introduction of computerized process of registration of land and property
- Introduction of Property title certification system in ULBs
- Reform of property tax with GIS, so that it becomes a major source of revenue for ULBs so as to increase collection efficiency
- The taxpayers should be involved in the decisions regarding tax reforms
- Tax education is critically important for the success of property tax reforms
- The taxpayers need to be made aware that what they pay translate into services
- visibility in the provision of services in the tax-paying areas enhances the willingness to pay
- Tax reforms should be well-timed and not be unnecessarily linked to time consuming processes as opportune times do not last long
- Building the database of all the properties coming under the municipal limit and then providing the database linkages to various channels from which the citizen can pay the tax. The channels could be banks, internet, kiosks, or common service center
- A tax calculating formula should be devised and made available to the citizens.
- Fixation of tax should not be arbitrary; the tax rate must be linked to the tax base by a formulae pre-determined by law and not subject to the discretion of any authority
- Self-assessment of the property tax by the Citizens. This process of self-assessment of property tax gives transparency to the citizens and corruption less collection of taxes.

Building Approvals

The Constitution (74th Amendment) Act, 1992 included the functions of urban planning including town planning and planning for social and economic development as legitimate functions of ULBs. Five Year Plans need to be developed for the same and would lay stress on town planning to provide for zoning and land use, location of industries, clearance of slums and civic and diagnostic surveys.

The existing legal framework for town planning provides for the preparation of General Town-Planning Schemes (GTPS) and Detailed Town-Planning Schemes (DTPS) in respect of all lands within the municipal area to ensure regulated development of towns to secure their present and future inhabitants, sanitary conditions, amenity and convenience.

Rules under a typical Town Planning Act prescribe for the following mandatory elements under a General Town-Planning Scheme:

- The construction, diversion, extension, alteration, improvement or closure of streets, roads and communications, to the extent required for the needs of the public generally
- The reservations of land for streets, roads, open spaces, recreation grounds and sites for public buildings
- The determination of what shall be residential, commercial, industrial and hutting areas
- The preservation of objects and buildings of archaeological or historic interest or of natural beauty or which are actually used for religious purposes or regarded by the public with special religious veneration
- The prescription of building lines and street alignments
- The imposition of house density restrictions in different parts of the area included in the general town-planning scheme
- The allocation of land for housing and infrastructure such as transport facilities, water supply, drainage inclusive of sewerage and surface drainage and sewage disposal, the inclusion of which may be considered desirable
- The allotment or reservation of land for streets, roads, square houses, buildings for religious and charitable purposes, open spaces, gardens, recreation grounds, schools, markets, shops, factories, hospitals, dispensaries, government and municipal buildings, and public purposes of all kinds
- Regulations for achieving the scheme objectives.

The current building plan approval processes followed by UDAs and ULBs are both time-consuming and cumbersome. The following BPR activities may be undertaken for streamlining and simplifying the planning processes:

- Revision of bye-laws to streamline the approval process for construction of buildings, development of sites etc.
- Simplification of legal and procedural frameworks for conversion of agricultural land for non-agricultural purposes.
- Self Approval: Building plans within certain limits may be deemed to be approved once filed before the local body by the Licensed Engineer or Architect. The applicant would just have to give an undertaking to the ULB that there will be no deviations from the prescribed rules.
- Service Counters: collection and submission of application forms and delivery of permits could be provided through single-window counters.

- Service levels: Service levels for all functions to be prescribed (recommendations on the same provided in section 1 of the report). Citizen's Charters to be modified as per the prescribed services and service levels.
- Revision of bye-laws to make rain water harvesting mandatory in all buildings and adoption of water conservation measures.
- Permissions to be handled by a single technical officer as opposed to the current process of the file being examined by 5-6 officers. This would reduce service levels and complications in the process. A Tatkal System could also be introduced.
- Information: Information on list of lands covered by land ceiling proceedings, government lands and lands covered under different land uses to be readily available to citizens. All permissions and cases of violations should be published on the internet and in newspapers.

Procurement and Monitoring of Projects

e-Procurement is a major thrust area of the Government to develop an integrated approach to inculcate modern procurement practices across ministries/ departments (including Municipalities). It broadly includes procurement of goods and services and procurement of works (projects).

The e-Procurement initiative would use web-enabled applications for procurement of goods, services and works, while introducing modern practices across government departments. The initiative aims to achieve automation of the complete procurement processes, effective monitoring and tracking of all purchases of goods and services and the creation of a paperless system with transparent and accountable procedures.

Re-engineering the current procurement system in ULBs is important as it would improve the delivery and cost effectiveness of quality public services to citizens. It would help ULBs realize savings and other benefits from working together in partnership.

Much has been talked about and discussed at the National level about the most efficient e-procurement strategy. It must be realized that e-Procurement is not about automation of current processes but realization of cost efficiencies, which can only be realized through economies of scale and scope. Thus, a department or ULB level e-procurement strategy becomes redundant, since it would be essential for Departments/ Ministries to club together to realize economies of scale and scope.

The inevitable conclusion, thus, is for an e-procurement strategy and solution to be developed at a State level and for it to serve the purposes of multi-Departments (including ULBs). To introduce reforms in procurement policy, ULBs should encourage adoption of the e-procurement solution among its functionaries and suppliers.

The complete e-procurement solution could include the following features:

- e-Tendering or e-Quotation
- e-Auction and e-Shops
- e-Marketplace (integrated solution)
- integration with the financial back office systems
- Online progress monitoring of services and works.

Accounting

The current methodology followed for preparation of financial statements doesn't reflect the assets and liabilities of the municipalities. The following facts, specific to ULBs, were also critical elements that have driven this process of change:

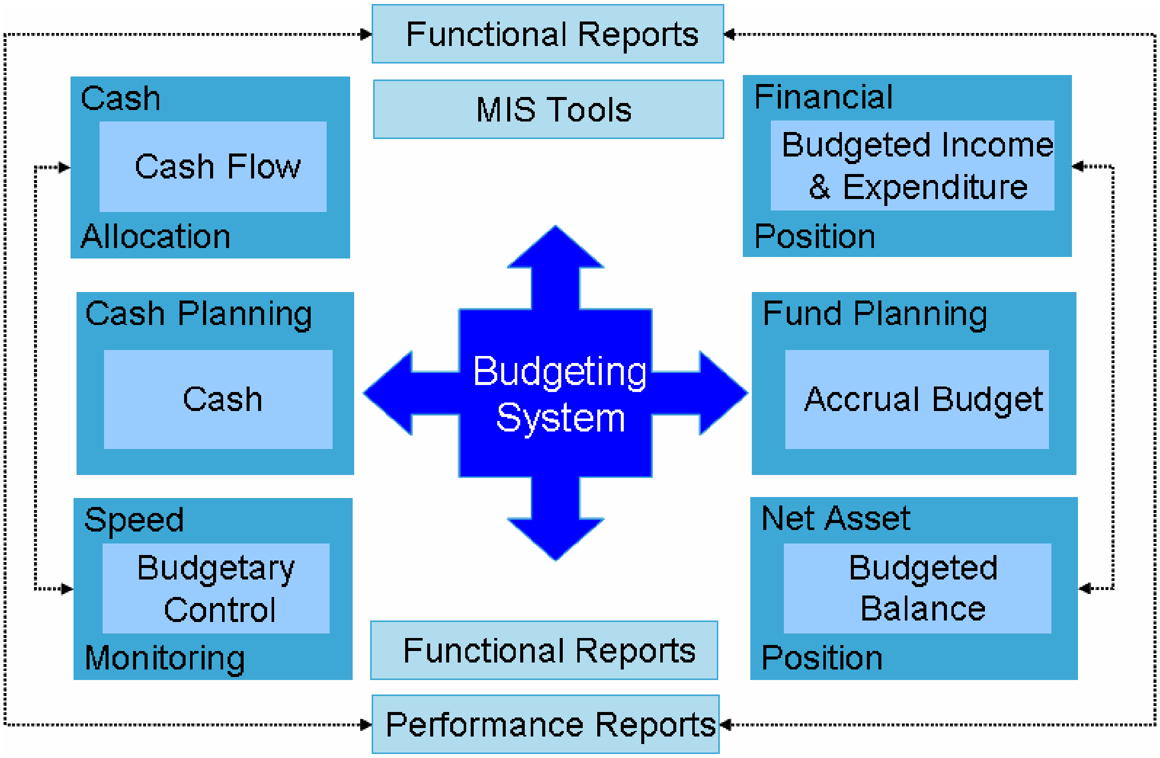
- The people affected by the functions of the ULBs do not necessarily contribute to the services rendered.
- Usually the revenues earned by ULBs are insufficient to meet the needs of the population they serve. Thus, ULBs have to depend on institutional financial assistance, in return of which these financial institutions insist that ULBs be self sustaining. This has driven the ULBs to re-engineer the way they maintain accounts, so that they can borrow money on the strength of their working results and financial standing.

Thus, a combination of cash and accrual-based accounting becomes more appropriate for ULBs. In this methodology, revenue is recorded when cash is received and while expenses are recorded when incurred.

In 2001, the Supreme Court ordered that the Municipal Corporation of Delhi and the New Delhi Municipal Corporation "will be required to maintain accounts as per the mercantile system of accounting". The Supreme Court has also directed that all the ULBs in India take immediate steps to get their accounts converted from cash basis to accrual basis.

The following BPR activities may be undertaken for streamlining and simplifying the processes:

Till recently budgets in ULBs were prepared with income head wise classification for receipts, and department wise classification of payments under various expense heads. While this allowed flexibility in tracking and controlling expenses/revenues, it could not be instituted as a tool for management of finances and promoting accountability. The current scenario demands a more scientific basis for building a linkage between function, finance, field and functionary aspects into the budgeting methodology. The budgeting system needs to be equipped with the capabilities as represented below.



Cash & Accrual basis of Accounting

A large number of ULBs are currently maintaining their accounts on cash basis. Thus, the annual financial accounts prepared reflect only a cash flow. Accrual system of accounting means a method of recording financial transactions based on accrual (i.e. on occurrence of claims and obligations) even though actual receipts or payments of money may not have taken place. In this system, there is a change in the accounting for transactions and reporting the financial results so as provide the ULBs and the Government with the financial reports, in the form of two important financial statements – Income & Expenditure Statement and Balance Sheet.

Redressal of Grievances

Grievance Redressal Mechanism is an important element of the activities of an ULB. An effective grievance redressal mechanism ensures accountability and transparency in the system. It also provides important feedback and insight into the efficiency and effectiveness of the administration.

Reasons for grievances and complaints are more often than not slackness in administration, low morale of the service providers, lack of proper authority and accountability. These factors need to be tackled properly through systematic changes. ULBs would be able to identify the problem areas in their administration, based upon the grievances received. These problem areas need to be then subjected to studies and remedial measures suggested.

The following BPR activities may be undertaken for streamlining and simplifying the grievance redressal processes:

Citizens could be provided with multiple channels for registering their grievances to provide an efficient, reliable and quick mechanism of grievance redressal. It could be accomplished duly adopting the following BPR activities through use of ICT:

- Proper recording mechanisms for recording citizens' complaints received from various channels (hand written, internet, call centre, etc.).
- A system should be defined that effectively classifies complaints based on prescribed parameters and forwards the same to the persons concerned.
- A timeline should be set for taking of effective action on the registered complaints and the action taken and the ultimate resolution of the problem be duly recorded and published.
- Allow for status track of the resolution of the complaints through various channels.
- Automatic escalation of complaints to higher officers based on defined criteria like time limits for taking action, inability of the lower officer to resolve the complaint, involvement of legal issues, etc.
- Automatic MIS generation of registers/reports like Grievance Disposal Register, Complaint Tracking Register, Grievance Status Summary, Action Taken Reports, List of Pending Grievances, Statistics on Grievance Handled etc.
- Maintain a database of complaints and regularly analyze the same to identify trends, comparative analysis, etc.
- Record the citizens' feedback on the efficacy and efficiency of grievance redressal mechanism.

Birth & Death Certificates, Health Programmes

The registration of births and deaths has been made mandatory under the Registration of Births & Deaths (RBD) Act, 1969. The effective implementation of the Act, however, remains a big question. After more than 30 years since enactment of the legislation, only about 55% of the births and 46% of the deaths are being registered nationally.

Both lack of awareness among the public and administrative deficiencies are major contributors to the state of affairs. Non availability of forms, inefficient machinery, lack of transparency and insufficient monitoring by the Chief Registrar of Births & Deaths are prime deficiencies of the system.

Use of ICT can be introduced as a method of enhancement of system efficiency in the following process reengineering activities:

- Provide scope for back-end linkages to institutions like hospitals and enable proper validation procedures. Allow for online verification of details provided by the applicants with the records of the hospitals through this system. This would help to drastically bring down service levels.

- Prescription of service levels for proposed services and ensuring proper adherence to the same using adequate monitoring and evaluation techniques
- Proper recording of other details like stillbirths, cause of death, etc. and providing this information for other social welfare schemes.
- Given that the system would now be computerized, measures should be taken to provide proper coding/ numbering of certificates.
- Automatic generation of registers and reports like: Birth Register (including still birth), Death Register, trends in births and deaths, impact of social welfare schemes on trends of births and deaths.
- Only printed documents like receipts for amounts received, Birth Certificate, Death Certificate, Cremation certificate, etc. to be provided. Use of digitized or computerized copies enhances the authenticity of the document.
- Issue of certificates using different channels like kiosks and citizen counters and proper transfer of data/ information from such channels to the ULB.

The issue of Birth and Death certificates duly signed by the competent/ authorized signatory is one of the critical roadblocks in the online service delivery mechanism. This can be resolved by adopting the following methodologies:

- Empowering Sanitary Inspectors as authorized signatory for issue of certificates at municipal centres.
- Usage of pre-signed certificates at service counters
- Registering request duly collecting the fee at service centers and delivering at door in arrangement with courier agencies

XIII Legislative Changes

Ensuring legislative changes in a time bound manner would be an integral part of strategy for ensuring Government Reforms forms part of the e-Governance initiative in Municipalities. At this stage, it is impossible to provide a comprehensive list of legislative changes that would be required for successful implementation. This is primarily on account of the following two reasons:

- Urban Development in India is not governed by any single central legislation rather it is under the ambit of a state legislation, in some cases more than one. Further, each local bodies have some powers with respect to the drawing up of rules and thus impact of design of NMMP and its impact on Legislation would be different fro different states and some time different to a ULB within a state
- For effecting legislative changes the envisioned scenario is also required to be known. Any standardization of process at the central level would go contrary to the overall philosophy of the NeGP i.e. “centralized initiative decentralized implementation”.

Having said that, the objective of this section of the report is to provide an approach/ framework for the implementation phase consultants – both at State and Central to facilitate legislative changes during implementation.

The approach/framework has been described alongside through the following six steps. The framework described below is designed on the premise that reforms (in processes or rules/acts) are undertaken to facilitate implementation of services and achievement of desired service levels.

Step 1: Review of the Objectives and performance metric of the NMMP as defined under the MoU that the ULB needs to achieve

Step 2: Mapping of these performance metrics (outcomes) with current levels

Step 3: Assessment of whether deficiencies in service metrics can be met through changes in the current set-up, especially those relating to process, structure and delegation of power

Step 4: Would the changes in the above require changes in the rules or acts and identify the agency responsible for administration of the rules/acts.

Step 5: Prepare a case for the proposed change in rules/acts detailing the benefits to citizens/business (supported by examples of similar initiatives in other states/ departments)

Step 6: Prepare a contingency plan for the next best option for undertaking process changes in case the proposed changes cannot be achieved.

Based upon the above approach, requisite reforms would fall under both the national and state categories. National Reform Agenda could be prepared in two stages – stage 1 would include inputs from the National Implementation Consultants at the outset and stage 2 would include compilation by National Implementation Consultants of inputs from State e-Governance Municipality Strategy. State Reform Agendas should be prepared by each State Implementation Consultants as part of the State e-Governance Municipality Strategy. A sample policy and Institutional Reform Agenda is given in the **Table XIII.1**. Please note that this is for the purpose of illustration only.

Table XIII.1

Policy Objective	Present Situation	Actions Needed	Agencies	Time Frame
Bring all municipal functions under the mandate of ULBs.	Merger of ABC with BCA effected. Detailed implications of merger being worked out. Merger to be operationalized.	Legislative amendment to XXX Municipal Corporation Act to be passed. Amendment should maintain operational independence of the Water & Sewerage Dept.	GoXXX, Urban Development Department (UDD)	
	Planning & development function is carried out by UDAs in a stand-alone manner. Existing co-ordination with respective ULB is ad-hoc on case-to-case basis.	ULBs and UDAs to work closely together. Set up mechanisms such as Joint Monitoring Groups to co-ordinate on city development on a periodic basis.	UDD and Hsg. Dept. of XXX. ULBs and UDAs in YYY	
	Ward committees not active.	Constitute ward committees. Establish mechanisms to empower them, involve them in prioritization of local needs & certain service delivery activities.	UDD of XXX. ULBs in YYY	
Delineate regulatory and executive role of ABC.	ABC's key source of income is supervision charges levied as % of capital costs incurred. Therefore little incentive to control capital costs. All projects executed through XXX funding, therefore defacto executing agency is ABC. ULBs prefer competitive bidding for	Technical role of ABC involving project formulation, water source identification, project cost review etc. should remain within 'Government' domain. ABC should compete with other firms for award of work for detailed design, construction and supervision through participation in a transparent competitive bidding process. ABC to strengthen its Design and	UDD, XXX and ABC	

	choice of executing agency. With reduced investment in capital works, ABC needs to diversify in order to sustain itself.	Construction services activities. ABC to bid for work outside XXX and seek to be financially viable entity. Appropriate amendments to XXX Water Supply and Sewerage Act, 1975 required.		
Set up a regulatory mechanism for municipal utilities	Key municipal utilities – water, sewerage, SWM, street lighting, urban roads etc. provided by ULBs. No benchmarks are set and imposed for cost of service provision, coverage and standards of service delivery for involving PPP.	Set up an independent State-level regulator for municipal utilities under a special Act, with requisite statutory powers. Mandate to include – - Cost and price benchmarks - Standards of service delivery - Privatization of municipal services Mandate of entity to be expanded to include Property Valuation / arbitration on disputes related to Property Tax.	UDD, XXX	
Revamp internal systems of the ULB to enhance transparency and Efficiency of operations. Enhance level of computerization.	Currently a cash-basis of accounting is used, which does not clearly reflect performance of the ULB and cost recovery of its various utilities. Lack of computerization contributes to poor management of records and inefficient revenue collection.	Implement modified-accrual basis of accounting on a computerized basis. ANN staff should be adequately trained on all system developed for them to ensure sustainability of change. Adopt preparation and audit of ULBs accounts within 6 months of the end of fiscal year under ULB Act. Develop a standard Accounting Manual to be adopted by all ULBs in the State. Set up an integrated MIS system to include accounting information and the billings for tax & user charges. Computerize citizen-interface systems on priority basis. Extend these measures to other ULBs within YYY, mainly FNP and MNP.	UDD, XXX and ULBs in YYY	
Organizational restructuring for enhancing service delivery capacity on	Current establishment costs of ULBs very high (more than 50%), leaving little funds for O & M.	ULB organization should adopt matrix structure along function / utility lines and zonal/ ward level. Accounting system should capture income / expenditure along function / utility and zonal / ward	ULBs in YYY	

cost-efficient basis.	In large ULBs, centralized departments hamper decision making and customer responsiveness.	classifications. Thus each functional department / utility and zone / ward can be looked at as an SBU and aim at financial self-sufficiency. Rationalize human resources in line with the needs of SBUs. Redeploy staff from internal administrative functions to customer interface activities. Establish customer service cells for addressing grievance and complaints. For specific functions / locations where staff is deficient utilized private participation / contracting / out-sourcing. Set-up moving targets for reducing establishment cost in absolute and % terms.		
Promote Public-Private Partnerships	Existing level of PPP is extremely low. Private capital is not being attracted even for projects that can be commercially viable.	XXX to formulate policy for Public-Private Participation. Small demonstration projects to be taken up first Extend PPP in SWM. Use proven models of community participation.	UDD, XXX and ULBs in YYY	
Promote fiscal autonomy of ULB.	ULBs are dependent on XXX for financial sustenance.	Enhance revenue from existing sources through expansion of base and strict enforcement along with other administrative / procedural reform measures. Examine possibility to devolve other sources of tax revenue such as Entry Tax and Entertainment Tax. Enhance incentive grant for increasing own sources of revenue and not just recovery rates.	UDD, XXX and ULBs in YYY	
Rationalize the existing systems for the levy and collection of Property Tax.	Actual Property Tax receipts fall way below potential levels, resulting in lost revenues to the ULBs	Improve Property Tax collection efficiency through the use of GIS, coverage of all properties under the ambit of Property Tax as well as reassessment of highly undervalued properties and regularization of unauthorized properties. Implement area-based self-	UDD, XXX and ULBs in YYY	

		assessment system for domestic properties and capital cost based assessment rather than rental based for commercial properties. Enhance transparency in assessment of Property tax. Implement self-assessment system after complete enumeration and database development. Extend self-assessment system to all ULBs including municipal corporations. Simplify systems involving citizens, provide consumer education. XXX to devise incentives and penalties for ULBs to adopt new system of PT.		
Introduce taxes / user charges for services introduced.	No conservancy charge has been levied so far. As sewerage systems are not functional in FNP, no sewer tax is levied there. Most user charges are levied as a % of a tax base, i.e. a flat rate charge. The disadvantages are: - Little incentive for economizing consumption - Low revenue buoyancy - Consumer who escapes from tax net gets away without paying any user charge	Introduce Special Conservancy Tax on large business establishments, hotels, and factories including large number of Petha Factories in Agra. Introduce door-to-door primary collection from residential properties and collect a fee of Rs. 20 – 30. Enhanced WTP is expected from door-to-door collection. FNP should introduce sewer tax after implementation of the system. Utility charges should gradually shift to link with consumption. Water metering should be introduced for domestic properties in a phased manner in all ULBs, starting with higher ARV slab properties.	UDD, XXX and ULBs in YYY	

XIV Right To Information (RTI)

Although not covered under the NMMP, the recently passed RTI can be considered by MoUD as an additional module within the NMMP because of the importance of the act for ensuring transparency and resultant accountability. Thus, to an extent the objectives of RTI and e-Governance are the same.

The requirements of RTI can be woven in the grievances redressal module of the NMMP. To facilitate this and to allow decision making in this process, detailed subsequently are the provisions and implications of RTI in the design of the e-Governance solution.

XIII.1 Salient Features of the Act

1. What does information mean?

Information means any material in any form including records, documents, memos, e-mails, opinions, advices, press releases, circulars, orders, logbooks, contracts, reports, papers, samples, models, data material held in any electronic form and information relating to any private body which can be accessed by a public authority under any other law for the time being in force.

2. What does Right to Information mean?

It includes the right to:

- Inspect works, documents and records
- Take notes, extracts or certified copies of documents or records
- Take certified samples of material
- Obtain information in form of printouts, diskettes, floppies, tapes, video cassettes or in any other electronic mode or through printouts.

3. Public Information Officer (PIO)

Who are Public Information Officers (PIOs)?

- PIOs are officers designated by the public authorities in all administrative offices to provide information to citizens requesting for information under the Act.

What are the duties of a PIO?

- PIO shall deal with requests from persons seeking information
- If the information requested for is subject matter of another public authority, the PIO shall transfer, within 5 days, the request to that other public authority and inform the applicant immediately.
- PIO, on receipt of a request, shall within 30 days of the receipt of the request, either provide the information or reject the request for any of the reasons specified in the act

- Where the information requested for concerns the life or liberty of a person, the same shall be provided within 48 hours of the receipt of the request
- If the PIO fails to give decision on the request within the period specified, he shall be deemed to have refused the request.

4. Central Information Commission

How is Central Information Commission constituted?

- Will be constituted by the Central Government through a Gazette Notification
- Commission includes 1 Chief Information Commissioner (CIC) and not more than 10 Information Commissioners (IC), appointed by the President
- Commission will exercise its powers without being subjected to directions by any other authority.

How is the State Information Commission constituted?

- The State Information Commission will be constituted by the State Government through a Gazette notification. It will have one State Chief Information Commissioner (SCIC) and not more than 10 State Information Commissioners (SIC) to be appointed by the Governor
- Commission will exercise its powers without being subjected to directions by any other authority.

What are the powers and functions of Information Commissions?

- The Information Commissions have a duty to receive complaints from any person-
    - who has not been able to submit an information request because a PIO has not been appointed
    - who has been refused information that was requested
    - who has received no response to his/her information request within the specified time limits
    - who thinks the fees charged are unreasonable
    - who thinks information given is incomplete or false or misleading ;and
    - Any other matter relating to obtaining information under this law.
- Power to order inquiry if there are reasonable grounds.
- CIC/SCIC will have powers of Civil Court such as -
    - summoning and enforcing attendance of persons, compelling them to give oral or written evidence on oath and to produce documents or things
    - requiring the discovery and inspection of documents
    - receiving evidence on affidavit
    - requisitioning public records or copies from any court or office
    - issuing summons for examination of witnesses or documents
    - Any other matter which may be prescribed.
- All records covered by this law (including those covered by exemptions) must be given to CIC/SCIC during inquiry for examination.
- Power to secure compliance of its decisions from the Public Authority includes-
    - providing access to information in a particular form
    - directing the public authority to appoint a PIO/APIO where none exists

- o publishing information or categories of information
- o making necessary changes to the practices relating to management, maintenance and destruction of records
- o enhancing training provision for officials on RTI
- o seeking annual report from public authority on compliance with this law;
- o require it to compensate for any loss suffered by the applicant
- o impose penalties under this law; or
- o Reject the application.

XIII.2 Implications of RTI in e-Governance Project

Ministries/ Departments undertaking e-Governance programmes would have to provide for streamlined processes and superior technology infrastructure to ensure that requests for information are disposed off effectively and within the timeframe mandated under the RTI Act.

A few key requirements that would arise are –

- Need for database creation and management
- Provision for a monitoring module in the application software and
- Generation of project documents by the system.

Creation of a Database would significantly ease PIO's task of searching for information. Hence, even where the scope or the envisioned coverage of the programme does not require creation of databases, provision must be made for creation and maintenance of a database, at least at the State level. The database would have inter-connections with all the projects and regular updates of the status of the projects would be fed into it.

In the developing scenario a monitoring module, as part of the application software, becomes all the more important. Currently not a major priority of programmes, monitoring modules are gaining importance. Monitoring Modules are being proposed to be established as part of each Mission Mode Project (MMP) in the National e-Governance Plan (NeGP). It will help in better implementation of programmes and reduction of public dissonance, thus, reducing the number of requests for information. As they say – "It is always better to be safe than to be sorry".

A primary responsibility of Ministries/ Departments as mandated by the RTI Act is to provide documents (including status reports, fund flow and utilization reports, implementation plans etc.) in the public domain. For effective fulfillment of this responsibility, Ministries/ Departments, as part of the programmes, can procure and install a software that can automatically generate the requisite documents.

List of Abbreviations

Abbreviation	Description
ACR	Annual Confidential Report
APTS	Andhra Pradesh Technology Services
CA	Certification Authority
CoT	Commisionerate of Tender
CRN	Contract Registration Number
CSIDC	Chattisgarh State Industrial Development Corporation
CWIP	Capital Work in Progress
D, T&CP	Director, Town & Country Planning
DIT	Department of Information Technology
DMA	Department of Municipal Administration
DPC	Department Promotion Committee
DSC	Digital Signature Certificate
E-in-C	Engineer in Chief
eRFX	electronic Request for Quotations
FRS	Functional Requirement Specifications
G2E	Government to Employee
GoI	Government of India
HO	Health Officer
HRMS	Human Resource Management System
IFB	Invitation for Bids
L1	Lowest Quotation/Estimate
LTC	Leave Travel Concession
MA&UD	Municipal Administration and Urban Development
MMP	Mission Mode Project
MoUD	Ministry of Urban Development
MWW&B	Metropolitan Water Supply & Sewerage Board
NeGP	National e-Governance Plan
NIT	Notice Inviting Tender
NMMP	National Mission Mode Project
NoC	No Objection Certificate
PHED	Public Health Engineering Department
PKI	Public Key Infrastructure
PoA	Pay & Accounts Officer
PPP	Public Private Partnership
PT	Property Tax
QA	Quality Assurance
RC	Rate Contract
RDD	Regional Deputy Director

SDO	Sub Divisional Officer
SI	Sanitary Inspector
SoR	Schedule of Rates
T&CP	Town & Country Planning
TCP	Town and Country Planning Department
TDS	Tax Deducted at Source
TP	Town Planning
TPBS	Town Planning Building Supervisor
TPO	Town Planning Officer
TPS	Town Planning Supervisor
UAS	ULB Administrative System
ULB	Urban Local Body
UMIS	ULB Management Information System