CHAPTER – IX
Chapter 9

Formulation and Implementation of Projects under the Programme of ‘Improvements to Infrastructure in Urban Local Bodies under HUDCO Loan Assistance

The Housing and Urban Development Corporation (HUDCO), the premier urban infrastructure financing organization in the country has funded several projects in Karnataka. The researcher took up the study of projects taken up under a Package Programme titled ‘Improvements to Infrastructure in Urban Local Bodies in Karnataka’ with HUDCO loan assistance of Rs. 100 Crores. The researcher discussed with the HUDCO Officers, Officers of ULBs, Elected Representatives, Engineers of ULBs and KUWS and DB and the Project Management Consultants for obtaining the necessary data. The researcher selected the project for detailed study since the project covered 201 municipalities in Karnataka. As the project was spread across 201 ULBs, it was not possible for the researcher to study the projects in all the 201 ULBs. To study the actual progress, the projects implemented in Tumkur District were assessed. The study however dealt with the overall formulation and implementation of the entire project.

9.1.0 Conceptual Stage of the Project

Considering the huge deficiency in the services such as Roads, Drains, Street lights etc., the Urban Development Department (UDD), the Government of Karnataka has taken up an ambitious programme of providing and upgrading infrastructure facilities in 201 Urban Local Bodies in the state with the financial assistance from HUDCO in the year 2000. The UDD and the Directorate of Municipal Administration (DMA) have allocated the project funds to each town based on the type and size of the municipality. The project was conceived at Governmental level with the intervention of the Minister and Senior Officers of Urban Development Department.
9.1.1 Project Components

It was assessed from the field that there was huge gap in service levels but the availability of fund was not sufficient to cover all the service gaps. As a result, based on the immediate assessment and the preliminary survey of the ULBs, the following important project components were proposed under the programme;

- Improvements, widening, asphalting and repairs to roads
- Construction of drains on either sides of the roads
- Construction of small bridges
- Construction of culverts
- Installation of street lights

9.1.2 Implementing Agency and Mode of Implementation

The Government of Karnataka has nominated the Karnataka Urban Water Supply and Drainage Board (KUWS & DB) as the nodal agency. The KUWS & DB was responsible for implementation and channelising of funds for the project and for repayment of loan borrowed from HUDCO. KUWS & DB was also entrusted the task of coordinating with the Director of Municipal Administration (DMA) during formulation and implementation of the scheme. The State Level Monitoring Committee was constituted under the chairmanship of Principal Secretary, Urban Development Department (UDD) with members comprising of Divisional Commissioners, DMA, Secretary, Urban Development Department (UDD), Regional Chief HUDCO, Bangalore and others. This committee meets once in two months and as and when required for taking decisions on the physical and financial progress of the projects.

A project level monitoring committee was also constituted under the Chairmanship of respective Divisional Commissioners and members of the committee include the Deputy Commissioners, CEOs, the contractor and representative from HUDCO and others. The implementation of the project was through package tenders by pre-qualified contractors on turnkey basis. Division wise tenders were called for timely
and effective implementation. Payment was made directly to the contracting firms on approval by the monitoring committee.

9.1.3 Role of Project Management Consultant

The Consulting Engineers Services (CES) was appointed as Project Management Consultant for overall project management which includes verification of designs and estimates with site visit, working out uniform specification for all developmental works duly considering the field conditions, prequalification of contractors, preparation and evaluation of Tender Documents, certification of bills and for overall monitoring of physical and financial progress of the project at Divisional, District and individual local body levels.

The Project Management Consultant would also computerize the entire activity and submit progress reports to Govt. of Karnataka, HUDCO, KUWS & DB and DMA on monthly basis. The following assignments were entrusted to the Project Management Consultant;

1. Verification of Estimates prepared by ULBs and Correction of the same, required if any
2. Arriving at common specifications for the works with consideration of field conditions and consolidate them into the workable and tenderable bill of quantity (BOQ) as per the schedule of rates currently in force.
3. Preparation of pre-qualification documents for short listing of contractors
4. Preparation of tender documents in suitable packages as decided by KUWS & DB
5. Scrutiny of Pre-qualification applications received from the contractors and short listing of contractors for issue of tender documents and submitting the same for approval of KUWS & DB
6. Scrutiny of tenders received, preparation of comparative statement and preparing recommendation to KUWS & DB for award of work.
7. Supervision of work of contractors in the field (in all 201 towns)
8. Design of minor bridges/culverts etc., which may be required during the execution of work
9. Quality control during execution
10. Certification of bills of the contractors and forwarding the passed bills to KUWS & DB for further action
11. Issue of completion certificates
12. Liaison with local bodies for smooth conduct of work
13. Monitoring of Physical and Financial Progress of the works, Computerizing the same for submission on monthly basis.
14. Any other works connected with the project as may be directed by the KUWS & DB

9.1.4 Methodology of Execution

1. The Managing Director, KUWS & DB has called for the Revenue Division wise package tenders (Four). The approved tender cost for all the four package including the specifications and estimates including the tender premium.

2. Consultants to work in close co-ordination with KUWS and DB in Bangalore. This co-ordination is carried out by consultants located at Bangalore.

3. Consultants to provide supervision at all towns where work is to be executed under this scheme by providing qualified and experienced supervisor as per the requirements of qualifications of supervisors and other personnel mentioned in the financial proposal.

4. Consultant to provide a Senior Engineer at each District Head Quarter along with necessary office infrastructure so that the work carried out in the respective towns within the district are coordinated.

5. Consultants to provide adequately qualified and experienced senior engineers and quantity supervisors at the head quarters of each revenue division with sufficient office, backup computers etc., so that the bills can be processed for payment.

6. At each revenue district office, the quality control engineer to be provided by the consultants to maintain the quality of the work executed by the contractors.

7. Progress reports at regular intervals indicating shortfalls if any, delays, remedial actions proposed etc., to be submitted to the KUWS & DB Office at Bangalore.

8. The work at each town has to be carried out in co-ordination with the Divisional Commissioner of each Division, therefore the senior engineers posted at each division have to attend the meetings as may be called by the Divisional Commissioner for review of progress of work and shall carry out the instructions given by them under intimation to KUWS & DB.

9. The consultants are required to attend state level and divisional level monitoring committee meetings.

10. The work shall include designing and drawing of minor structures, culverts, bridges, side drains, etc., which may be incidental to work.

11. The contract is a lump sum contract for the entire work and period of execution of the work was 12 months from the date of letter of intent to the contractors for execution of work.

12. Project preparation time was approximately one month in additional to the 12 months of contract period and remuneration to the consultants is inclusive of project preparation. If the time period exceeds beyond 12 months period due to reasons not attributable to the consultants, the consultants shall be compensated for working in the extended period at the rates mutually decided between consultants and KUWS & DB.

9.1.5 Project Implementation Schedule

The following implementation schedule was prepared.
• Issue of Tender Notification 27.11.2000
• Issue of Pre-qualification documents by the Board 04.12.2000
• Last date for submitting the duly filled pre-qualification Document 14.12.2000
• Issue of tender forms to pre-qualified contractors/firms 18/19.12.2000
• Last date for receipt of tenders by the Board, Opening of Tenders, Evaluation and Finalization of Tenders 01.01.2001 to 8.1.2001
• Issue of letters of acceptance 10.01.2001
• Project Completion Period including Monsoon 12 months

9.1.6 Financial Aspects

Funding Pattern for Project

The Government of Karnataka has allocated Rs. 200 Lakhs for each Municipal Corporation, Rs. 100 Lakhs for each City Municipal Council(CMCs), Rs. 50 Lakhs for Town Municipal Councils(TMCs) and Rs. 25 Lakhs for Town Panchayats(TPs). The towns/cities already covered under the ADB assistance were excluded from this project. The following table illustrates the funding pattern.

Table 9.1: Allocation of Funds to Different ULBs (Rs. in Lakhs)

<table>
<thead>
<tr>
<th>Municipalities</th>
<th>Nos.</th>
<th>Amount Allocated</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corporations</td>
<td>3</td>
<td>200.00</td>
<td>600.00</td>
</tr>
<tr>
<td>City Municipal Councils(CMC’s)</td>
<td>33</td>
<td>100.00</td>
<td>3300.00</td>
</tr>
<tr>
<td>Town Municipal Councils(TMC’s)</td>
<td>79</td>
<td>50.00</td>
<td>3950.00</td>
</tr>
<tr>
<td>Town Panchayats(TP’s)</td>
<td>86</td>
<td>25.00</td>
<td>2150.00</td>
</tr>
<tr>
<td>Total</td>
<td>201</td>
<td></td>
<td>10000.00</td>
</tr>
</tbody>
</table>
The percentage of allocation of funds to different municipalities under the project is illustrated in the above chart. The amount allocated per municipality is indicated in the Table.

The scheme was secured through State Govt. Guarantee with budgetary provision for repayment of loan along with interest. A separate account was opened by the KUWS & DB for operation and channalising of funds including repayment accounts. The repayment period of the entire loan plus interest is 15 years by the KUWS & DB or the State Government.

9.1.7 Compliance by the KUWS and DB for releasing of Loan by HUDCO

1. Rating of the agency by HUDCO for eligibility and sanctioning of loan
2. The KUWS & DB was a regular borrowing agency of HUDCO and was already established its creditworthiness
3. HUDCO’s loan application to be filled up mainly indicating the purpose of loan, Amount of loan required, Details of loan withdrawal programme giving quarter wise details(four quarters), Loan repayment programme indicating the duration of loan repayment, Security offered for the loan, Status of audited/un-audited accounts, Status of up to date payment of principal and interest dues in respect of other borrowings, Boards approval for availing the loan from HUDCO and enclosing demand draft for the documentation charges.
4. Approval of the State Government for drawal of loan in principle
5. The loan was released after the issue of Government Guarantee
6. Making budgetary provisions by the state government for repayment of loan in case of defaults by ULBs
7. Opening of a separate account for the project operations
8. Integrating the project with the existing master plans
9. Appointment of a Project Management Consultant to prepare the implementation schedule, specifications and all technical and management consultancy
10. Filling up of loan application along with documentation charges of Rs. 10,000/-

9.2.0 Tumkur District - Kunigal Municipal Council

9.2.1 Progress of Implementation in Kunigal Town Municipal Council, Tumkur District

Tumkur city was not selected under this scheme, therefore, for the purpose of study, Kunigal town, located in Tukur district was taken up.

9.2.2 Kunigal Town Municipal Council in Tumkur District

Following project works were taken up in Kunigal Municipality.
1. Road Improvement Works between BM road to Bidanagar village
   - Water Bound Macadam: The capital invested was Rs.1.50 Lakhs and length of the road to be upgraded was 1150 Mts.
   - Asphalting: The cost of estimate was Rs. 2.05 Lakhs and the length of asphalting was 1150 Mts.
   - Size Stone Masonry(SSM) Drain: The estimated cost was Rs.1.69 Lakhs and the length of the road was 150 Mts.

9.2.3 Progress of Implementation

As per the field data, it was found that the WBM and SSM works were completed as per the requirements but the asphalting works were not completed.

The road improvement works, drainage and culvert works were assessed in the municipalities of Kunigal, Tiptur, CN Halli, Turuvekere, Gubbi, Madhugiri. It was found in Madhugiri that a component of a road project was completed up to 88 percent. Remaining components of the projects were completed from 93 per cent to 100 per cent.
The officers and the elected representatives expressed concerns about the poor quality and delay in the execution works. The following paragraphs explain the need for innovation in the projects.

9.3.0 Need for Innovativeness in the Formulation of Project

9.3.1 Role of Karnataka Urban Water Supply and Drainage Board as the Nodal Agency for overall Implementation

The Government of Karnataka in the Department of Urban Development had an apprehension that the concerned ULBs if allowed to implement the projects on their own would end up with problems of quality, delay and other perceived performance problems.

But, from the discussions with the Officials and Elected Representatives in a few concerned municipalities, they were expressing altogether a contradictory views saying that the ULBs were not allowed to implement the projects due to non technical reasons as they were fully equipped with necessary skills and engineers.

This points to the need for involving the ULBs in the projects right from the conceptual stage to implementation and later on to continuously maintain the assets/service. The role of nodal agency has to be in the form of giving professional support and working together to achieve the project objectives instead of acting as a mere controlling agency just to chennalise and recover the funds.

9.3.2 Appointment of Divisional Level Contractors

The KUWS and DB and Government decided to implement the projects by selecting contractors at the divisional level. There would be one contractor for each revenue division (a revenue division in Karnataka has 5 to 8 Districts).

Perhaps the idea of having one contractor at each revenue division covering the selected municipalities in that division for executing the projects appeared to be a good approach. But it proved to be unfavorable to the concerned local ULBs wherever there was no coordination between the Contractor and the ULB. Some municipalities were reporting that the original contractor in turn appointed local contractors to execute the
projects at the individual municipality level. This has lead to the poor quality of works. When discussed with the original divisional contractors about the problems of quality as expressed by the municipalities, they quoted some reasons which they claim to be beyond their control. For instance, the roads and drains projects encountered with deviations in the direction due to land acquisition problems.

They also explained that there were limitations at the formulation stage itself as construction of drains and roads in some of the projects could not be completed as per the terms and conditions of the project, which resulted in drainage water to flow only up to the point where drains end and subsequently the water flows openly leading to stagnation of drain water in the residential areas. It was also noticed that the water was not smoothly flowing in some of the drains due to improper gradient. During formulation of projects, length of roads and drains were not assessed. Also, the funds earmarked for the projects of drains and roads etc., were not adequate.

This reveals the fact that the projects have to be formulated meticulously taking into account the field data, technical survey, demand/need, technical specifications, funds and other resources, type of contract/contractor, implementation schedule with clear terms and conditions including responsibilities of different stake holders such as ULB, KUWS and DB, Contractor, Engineers, Consultants etc., of the projects to ensure accountability.

9.3.3 Ceiling Cost

One of the observations as explained by the authorities in HUDCO and KUWS & DB was that the ceiling cost fixed for each municipality was not appropriate. Since, the projects were formulated within the amount allocated to each municipality, the scope for overall integrated infrastructure development could not take place.

The second most important aspect is that the projects could have been formulated by adopting the integrated planning based on a medium term of 5 years. This could have been possible by integrating the year wise budgetary allocations of the concerned ULB to the current projects.
9.3.4 Involvement of Municipalities

The co-ordination between the ULBs and other organizations such as Project Consultants, KUWS & DB and the Contractor found to be ineffective right from the conceptual stage as explained by the Municipal Elected Representatives and Officials. As a result, the ULBs have raised various grievances against the quality and other aspects of the project. The involvement of municipalities in the projects was negligible as external agencies were involved in the formulation and implementation.

9.3.5 Incomplete Works

A few drainage and road projects were incomplete. This was mainly attributed to the lack of adequate funds provided in the projects. Therefore, the method of fixing ceiling cost limits for each municipality for undertaking infrastructure projects such as roads, drains and streetlights should be removed and adequate provision of funds to be made available for ensuring continuity of project. This point needs to be given high priority while formulating projects as otherwise the half completed drains and roads have served no purpose as the drain water would flow in the drains only up to the point of completion and flow openly afterwards causing environmental hazards. Similarly half done Water bound macadam roads have turned out to be kutcha roads during heavy rains due to stagnation of water on the surface of roads.

9.3.6 Implementation of Engineering Specifications

From the discussions with the Officers of HUDCO and ULBs, it is noticed that some project works were changed at the time of execution deviating from those originally specified in the project document. This points to the need for maintaining performance standards of the project in terms of quality and quantity. These drawbacks of the projects could have been addressed at the time of preparation of projects. The changes resulted in poor quality and application of non-engineering methodology in the field at the time of execution.
9.3.7 *Land acquisition Problems*

Some of the roads and drainage projects could not be completed as per the original project since the people objected to acquiring of land. Due to non availability of land, some drainage lines were deviated haphazardly by changing the direction. Due to sharp deviations, the flow in the drainage was slow and frequent blockages were noticed.

9.3.8 *Municipal Supervision*

Wherever, the municipality took keen interest in supervising the project works executed by the contractors, the works found to be of good quality. The help of municipality in terms of peoples support, support of elected representatives and the Officers is crucial to solve local problems.

9.3.9 *Long Term Vision*

Instead of having short term approach, the projects should aim at solving the infrastructure problems on a sustainable and long term basis. The roads or drains projects once implemented should be operational at least for a medium term of 5 years and with minor repairs should continue to function efficiently for a longer period. But, as per the views of the elected representatives and the people in the wards where some of these projects were executed, the macadam roads becoming kutch roads within a period one year due to rains or drains getting choked up with silt and debris was observed. Therefore, projects have to be formulated taking into account the quality and durability.

9.3.10 *Loans Repayment and Cost Recovery Mechanism*

As per the discussions with the municipal officers and the elected chairpersons, it is noticed that the concerned municipality did not have the details of loans and recovery schedule. It was surprising that the borrower, who in turn supposed to repay the loan was not clear about the loan repayment chart.

The researcher then discussed with the Officers of HUDCO, KUWS & DB regarding the repayment of loans. As per the explanation, the HUDCO had released loans to the KUWS & DB which was appointed by the state Government as the nodal agency
for implementing the project. The KUWS & DB in turn chennalised it to the contractor on behalf of the municipality based on the progress reports. But, finally, the repayment has to be made by the concerned municipality only.

In case of non repayment by the concerned municipality, the loan amount will be adjusted against the grants to be released every year to the municipality under the State Finance Commission(SFC) of the State Government.

Further as per the terms and conditions of HUDCO, the loan was guaranteed by the State Government. In case the loan was not recovered from the concerned municipality or the municipality itself could not repay the loan, the State Government has to take the responsibility of repayment of loan either by making budgetary provisions or by adjusting the SFC grants of the concerned ULBs. As far as HUDCO’s loan repayment was concerned, it was fully secured. But, the recovery from the beneficiaries of these services/projects was not ensured at all. It is therefore strongly proposed that there should be some innovative mechanism of recovery from these projects by imposing certain direct and indirect charges. These recovery mechanisms and resource mobilization have been discussed and analyzed in the separate Chapter earlier.
9.4.0 Project Evaluation of the Project as per the evaluation model

Project Concept and Objectives of the project

Social Survey
Demand survey of the requirement
Engineering Survey

Preparation of Project

Role of Government
Role of ULB
Role of State level agency
Role of Consultant
Role of Contractor
Role of Community

Appraisal
- Technical Appraisal to determine whether the technical parameters are soundly conceived, realistic and technically feasible.
- Financial Appraisal to determine whether the financial costs and returns are properly estimated and whether the project is financially viable
- Institutional Appraisal to determine whether the implementing agencies are capable for effective implementation, monitoring, and evaluation of the scheme.
- Environmental appraisal to see any detrimental environmental impacts and how to minimise the impacts.

Technical Appraisal
- Feasibility
- Specifications
- technology options
- quality and durability
- standards
- designs etc

Financial Appraisal
1. Loans/Grants
2. Own Sources
3. Subsidies
4. Capital investment
5. O&M investment
6. Cost-Benefit analysis
7. Cost Recovery Mechanism
8. Repayment of Loans

Legal Appraisal
- Legal documentation

Social Appraisal
(Social cost and benefits, target)

Project Execution
- Tendering
- contractor
- Schedule
- Target
- Procurement of materials/equipment
- performance
- payments
- likely hurdles

Monitoring and supervision
- Progress reports
- Site Inspection
- Cost and Time Control
- Deviations
- Completion Reports

Project Evaluation
Documentation
Project study
Project performance
1. **Project was conceived** by the Urban Development Department, Government of Karnataka. The need was to improve the infrastructure services such as widening, asphalting and repairs to roads, construction of drains on either sides of the roads, construction of small bridges, construction of culverts, installation of street lights. The project was very well conceived since municipalities had no finances of their own to improve these services. The government took a decision to obtain HUDCO loan and fund these 201 municipalities for upgrading the services/infrastructure facilities.

2. **Objectives:** After going through the project report and progress reports, the objectives were written in terms of quantity and quality of the works. For example, Water Bound Macadam: Up-gradation of 1150 Metres of road at a cost of Rs.1.50 Lakhs Asphalting of 1150 Metres of road at cost of Rs. 2.05 Lakhs. For various such small projects, the quantity and quality in terms of specifications as per the schedule of rates were clearly mentioned.

3. **Social Survey:** As seen from the project report and also after the discussions with elected members and residents, it is found that no social survey was done to seek the opinions of the public and elected representatives before the project was formulated. This caused a major communication gap and resulted in elected representatives and residents expressing concerns about poor quality, deviations in the project etc.

4. **Demand Survey:** No formal demand survey was done. It is only the officials who assessed the needs and based on the amount of money/loan available, the works were estimated.

5. **Engineering Survey:** The officials have expressed that the engineering survey was done prior to preparation of designs, drawings and estimates. From the report, it is found that the engineering drawings, estimates and material specifications were prepared. The objective of engineering survey was to ensure good designs, specifications, technical soundness, technology options. This survey also evaluates the capacity of the implementing agency.

6. **Roles of various stake holders:** The ULB concerned was kept out of the scene of the projects with preconceived notion that the municipalities lack capacity to implement projects. The state agency was given the role of implementation (KUWS & DB).
Contractor was appointed by the state agency. There was chaos in the implementation due to sub-contracting by the main contractor as expressed by the local representatives and officials of the local body. As a result, project standards were deviated from the original. HUDCO was to release funds based on the utilization certificate issued by the state agency and the state Government. As expressed by the HUDCO Officers, the physical deviations in the project during implementation were informed to the concerned agencies based on the inspection. But there was hardly any action by the state agency.

7. **Technical Appraisal** was done. Designs, estimates and the drawings were done. The engineers of KUWS and DB, HUDCO and consultants were involved in the technical appraisal. An important finding is that due to insufficient loan funds, it was not possible to prepare comprehensive projects. The projects prepared had no linkage with medium term planning. Most of these projects i.e. roads, drains etc., were taken up with short term perspective and integrated planning was attempted.

8. **Financial Appraisal**: The funds were mainly raised from HUDCO loans. Appraisal should have included raising funds from ULB, Private and other sources as well. Due to shortage of funds and also due to lack of integrated approach and medium term planning, majority of the projects were not able to upgrade the infrastructure services in these towns. Some projects were incomplete. For example roads and drains were not laid up to the length required for better functioning. Return on Investment was absent in the project.

9. **Environmental Appraisal**: No environmental appraisal was carried out as seen from the report. It is very essential to do this appraisal to see whether the project satisfies the environmental consequences. This might be neglected due to the fact that the projects were of smaller magnitude.

10. **Legal appraisal**: HUDCO had insisted on the legal documentation as per its loaning guidelines. Accordingly, agreement, terms and conditions, repayment schedule, penalty, waiver etc. were clearly prepared.

11. **Institutional appraisal**: Institutional appraisal was not done properly. The very approach to appoint a state agency and a contractor without involving the ULB concerned was major deficiency in the project.
12. **Project Execution**: The project execution structure evolved was excellent but failed to some extent during implementation. KUWS could not oversee in letter and spirit the quality aspects. The consultants appointed at the division were to provide qualified senior engineer in all the towns for supervision but some how, it failed to deliver. The periodic quality control by the supervising engineer and taking action on remedies were to be done by the main implementer, the KUWS & DB Office at Bangalore. Many project works were not completed on time within 12 months. The appointment of state level agency has to be reviewed in view of the drawbacks. Under these circumstances, the decentralized implementation strategy with strict penal clauses could have worked.

13. **Monitoring**: The consultant engineer appointed at the divisional level had to send the progress reports periodically along with actions to be initiated against the faulty works. This was good, but the state level agency should have ensured this process in a more efficient and systematic way. There was some amount gap in the progress reports and actions to be taken against the contractor.

14. **Project evaluation**: No evaluation was done either by the state agency or the consultant. An evaluation was necessary to measure the performance of the project and to assess whether the objectives and standards were achieved.
9.4.1 Findings and Some Recommendations

From the above analysis, the following innovative components could be adopted while formulating and implementing infrastructure projects;

- The ULBs should be fully involved in the project preparation right from the conceptual stage
- The Karnataka Transparency in Public Procurement Act need to followed.
- Appointment of contractor at the divisional level by the Government and KUWS & DB was proved to be ineffective, therefore, local contractors having professional skills and experience could be engaged. As it was noticed in some projects that the Divisional contractors were not able to control the quality of works.
- The engineers and other officials including the elected representatives have to be taken into confidence during the formulation of projects as otherwise problems of land acquisition or the people opposing to the roads and drains projects would be cropped up.
- Technical Appraisal should be done in detail covering the Social and Engineering Survey, Contour mapping to know the exact details of excavation etc., Location and land acquisition, Clear Specifications, Cost Estimations and Schedule of Rates, Tendering, Bidding, Appointment of Suitable Contractor, Terms and Conditions for the contractor, Appointment of Suitable Consultants having in-depth experience in similar projects, Implementation schedule and Monitoring mechanism with suitable tools has to be evolved in the project.
- These individual projects have to be interwoven into the integrated medium term programming for which sufficient financial planning has to be made for ensuring required budgetary allocations from the municipal budgets on continuous basis.
- The practice of solving the problems of infrastructure services through projects with no clear continuity or sustainability would result in wastage of scarce resources and finances. Therefore, municipalities need to evolve a medium to long term programming and budgeting for the various projects of urban infrastructure.
- The decision to allocate funds for the infrastructure projects with cost limits of 25 Lakhs for each Town Panchayat, 50 Lakhs for each Town Municipal Council, 1.0
Lakh for each City Municipal Council and 2.0 Lakhs for each Corporation and consequent preparation of projects with these fixed amounts had lead to completion of partial works in many municipalities due to insufficient amounts. Therefore, additional funds from the municipalities and any other sources could be explored.

- Tools such as network techniques, Cost Benefit Analysis, Resource Allocation, Cost Recovery Mechanisms should be integrated in the projects.

- As discussed with Officers and Elected Representatives of municipalities, cost recovery is difficult in roads, drains and similar projects. But, it is possible for the municipalities to charge regular and one time charges along with property tax or water supply charge or sewerage charge or by any other indirect way. This has to inbuilt in the projects.

- In view of the feedback received from ULBs, the functioning and role of a nodal agency such as KUWS & DB which has functioned more as a fund chennalising agency in the project had only a limited role. Therefore, nodal agency was not required.

- Finally, the implementation of activities in the projects could have been monitored by proper distribution of responsibilities among the ULBs, Consultants, KUWS & DB etc., so as to achieve the desired performance in terms of cost, time and scope.

In the next chapter, an analysis is done on the existing issues, problems and innovative options in project formulation of urban infrastructure projects in three selected study towns.