3.0 Research Methodology and Design

(1. Business Research Methods by Donald R Cooper, Pamela S Schindler
2. Research Methodology, methods and techniques by C R Kothari)

Research methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically.

Research methodology covers the following aspects of a research project:

Research Design

Selection of research methods

Exploratory studies
   In-depth interviewing
   Study of software modules
   Study of presentations
   Secondary data analysis
   Discussions with software team
   Accessing relevant project web-sites
   Group discussions
   Field visits to project implantation sites

Detailed studies
   Conduct of survey for each stakeholder using printed questionnaire or Web-questionnaire
   Conduct of prolonged interviews
   Deciding of Sample size for survey
   Study of documents produced by e-governance application
   Study of decision making reports
   Study of MIS reports
   Study of centralized services using web-site
   Study of minutes of expert or co-ordination committees
   Study of court cases

Selection of sample size
Research Design:
The Research Design constitutes the blueprint for the collection, measurement and analysis of data. As such, design includes an outline of what the researcher undertakes from writing the hypothesis and its operational implications to the final analysis of data. It answers,
1. How was the data collected or generated?
2. How was it analyzed?

Essentials of Research Design are,
- The design is an activity and time based plan.
- The design is always based on the Research question.
- The design guides the selection of sources and types of information.
- The design is a framework for specifying the relationships among the study variables.
- The design outlines procedures for every research activity.

Two – stage Design:
Exploration is first stage with limited objectives to clearly define the research question and second stage is developing research design. Two stage design helps in budgeting the cost and efforts for research study.

First stage of exploration achieves,
- Establishing the major dimensions of the research task
- Defining a set of subsidiary investigative questions that can be used as guideline to a detailed design
- Developed several hypotheses about possible causes of a management dilemma
Second stage is to prepare design of detailed study, which includes planning for conduct of survey for stakeholders, collection of data and prepare analysis tables.

**Research methodology (Case study method):**

([http://www.gslis.utexas.edu/~ssoy/usesusers/l391d1b.htm](http://www.gslis.utexas.edu/~ssoy/usesusers/l391d1b.htm)
([http://www.nova.edu/ssss/QR/QR3-3/tellis2.htm](http://www.nova.edu/ssss/QR/QR3-3/tellis2.htm))

Researcher Robert K. Yin defines the case study research method as an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used. case study research method with success in carefully planned and crafted studies of real-life situations, issues, and problems.

Steps to use Case Study Research Methodology are,

- Determine and define the research questions
- Select the cases and determine data gathering and analysis techniques
- Prepare to collect the data
- Collect data in the field
- Evaluate and analyze the data
- Prepare the report

**Determine and Define the Research Questions:**

The first step in case study research is to establish a firm research focus to which the researcher can refer over the course of study of a complex phenomenon or object. The researcher establishes the focus of the study by forming questions about the situation or problem to be studied and determining a purpose for the study. The research object in a case study is often a program, an entity, a person, or a group of people. Each object is likely to be intricately connected to political, social, historical, and personal issues, providing wide ranging possibilities for questions and adding complexity to the case study. The researcher investigates the object of the case study in depth using a variety of
data gathering methods to produce evidence that leads to understanding of the case and answers the research questions.

Case study research generally answers one or more questions which begin with "how" or "why." The questions are targeted to a limited number of events or conditions and their inter-relationships. To assist in targeting and formulating the questions, researchers conduct a literature review. This review establishes what research has been previously conducted and leads to refined, insightful questions about the problem. Careful definition of the questions at the start pinpoints where to look for evidence and helps determine the methods of analysis to be used in the study. The literature review, definition of the purpose of the case study, and early determination of the potential audience for the final report guide as to how the study will be designed, conducted, and publicly reported.

A key strength of the case study method involves using multiple sources and techniques in the data gathering process. The researcher determines in advance what evidence to gather and what analysis techniques to use with the data to answer the research questions. Data gathered is normally largely qualitative, but it may also be quantitative. Tools to collect data can include surveys, interviews, documentation review, observation, and even the collection of physical artifacts.

Case studies are multi-perspectival analyses. This means that the researcher considers not just the voice and perspective of the actors, but also of the relevant groups of actors and the interaction between them. This one aspect is a salient point in the characteristic that case studies possess.

Case study methodology was used as broader level method for the research study. Three different case studies related to citizens of different sections of the society were selected among successful e-governance projects with following attributes in Maharahstra.
1. Citizen Facilitation Centers (CFC) of Kalyan Dombivli Municipal Corporation (KDMC):
   This project was selected since it is one among successful project for improving local bodies’ functions. Urban population is benefited due to introduction of this project. The project has received number of awards indicating that it is studied by many bodies and found that it has created good impact on the society. At Government of India level too the project is short-listed for replication.

2. Land Records Computerization in Maharashtra (LRC):
   This application is most vital application which deals with basic land ownership records. It covers entire population of Maharashtra includes rural as well as urban. LRC project is large scale project running more than 15 years, requires huge data preparation efforts, involvement of multiple organizations and use of open source technology. The project is successful since it has started providing services to citizens for issue of 7/12 and property card. The application demands transparency and attempts to minimize corruption.

3. Online examination for 12th class student of Information Technology subject, SSC Board:
   12th standard Students are users for Online Examination. This application is one of the novel applications of e-governance. Examination is conducted covering all students in Maharashtra at 627 centers using ICT. It is in use for last five years without any problems effectively. This application is best example of web application in use throughout Maharashtra with best security features and use of automation in managing of implementation process.

   Above three e-governance applications have different success factors, stakeholders are from different social sectors, use different technologies and used different methods for implementation.
   Case study methodology is used at apex level but within each case following research methodology is used.

   **Research Methodology for each case:**
   The study was carried out in two stages namely,
Exploratory Studies and Detailed study.

**Exploratory studies:**
Exploratory research studies are also termed as formulative research studies. The main purpose of such studies is that of formulating a problem for more precise investigation or of developing the working hypothesis from an operational point of view.
Exploratory studies tend toward loose structures with the objective of discovering future research tasks. The immediate purpose of exploration is usually to develop hypothesis or questions for future research.
Exploratory studies help to develop concepts clearly, establish priorities, develop operational definitions and improve the final research design. It helps to define attributes. Exploratory studies are based on qualitative techniques.
Scope of qualitative research is as follows:

**In-depth interviewing:**
Interviews at various levels were planned to get project perspective in their own views.
For each case study interviews were conducted at state level, departmental level, officer level and at field level.
Expert interview was conducted with project leader who conceptualized the project. His overview of e-governance application gave clear project understanding.
State level interview was planned with Principal Secretary of the department to seek inputs of state level expectations. This has helped to get necessary cooperation at department level during conduct of survey.
Interview or discussion meetings with departmental head (Commissioner) gave complete picture and status of the project.
Meetings with officer level or field level helped to get operational issues of the e-governance project and problems faced by them.
Study of software modules:
In order to know the features provided by e-governance application, all software modules were studied by way of software demonstrations.

Study of presentations:
Numbers of power-point presentations were available for all three projects, the same were studied.

Secondary data analysis:
Published documents in periodicals and news papers are good source for secondary data. Studies made by others for their own purpose represent such secondary data. Secondary sources supply excellent background information as well as many good leads. Web-sites provide enormous amount of information. It is possible to get basic idea with the help web-sites of similar e-governance projects developed by other states or countries.

Discussions with software team:
Software discussion meetings with software team provided insight of the e-governance applications. Re-engineering used and Implementation issues were identified.

Accessing relevant and project web-sites:
Project web-sites exist for all three e-governance applications and the same were studied in detail. Web-sites for similar projects in other states and in other countries were accessed for information.

Group discussions:
Users and citizens’ group discussions were conducted to get their opinion of the e-governance application.
Field visits to project implementation sites:
Visiting few Citizen Centers where electronic services are offered gave real view of the system. Actual experience as citizen was availed to get complete understanding of facilities offered by e-governance application at grass root level. Field visits at all three e-governance project sites for research guide was arranged. These visits were most important to design detailed study.

Exploratory Study was conducted by visiting to state level office and field level offices. The purpose of exploratory study was to get a reasonable understanding of the system and to identify stakeholders with their roles in the system. Project objectives were short-listed separately for Citizens and organization or government department. Observations from field visits and interviews were recorded.

Outcome of exploratory study,
- Project objects were identified and documented which were used to define questions in the questionnaire for measuring its fulfillment. Objectives were separately identified for each stakeholder.
- Stakeholders were identified for e-governance applications. They are within department and outside department.
- Separate questionnaire for each stakeholder was prepared. Each questionnaire is consisting with qualitative and quantitative questions. Questionnaire for citizens was designed in Marathi.
- Sample size was decided.
- Conduct of actual survey was planned.

Detailed study:
Scope of the detailed study was decided. All features related to Citizens were considered while designing the detailed study.

- Detailed study was carried out by conducting survey using separate questionnaire for each of the stakeholder. Prolonged interviews were conducted with Head of organizations and project leaders. Interviews were conducted of ex-authorities also who had basically conceptualized the project.
Questionnaires for Citizens were prepared in Marathi and English. All other questionnaires were prepared in English.

- Web based questionnaire was used for study of Online Examination for 12th class students of information technology.
- Sample size and locations for conduct of survey are included in respective study report of respective case study.
- E-governance applications are producing number of documents for Citizens which were studied in depth.
- Numbers of registers are maintained at implementation sites for hardware problems, software bugs, power problems the same were studied for last one year.
- E-governance applications are producing number of decision making reports those were studied for one or two months which gave clear picture of usage of e-governance applications and its features.
- MIS reports were studied for field level status of data.
- Centralized services at state level are provided using web-site. These were accessed to know its working and features.
- Minutes of the expert committee were referred to understand decisions taken and the role played by expert committee.
- Court cases against Online Examination system were discussed.

**Selection Criteria for Sample Size:**

All wards were selected to collect the Citizens questionnaire based feedback at Citizen Facilitation centers.

Out of 35 districts four districts were selected for conduct of survey at Taluka Computer Center of Land Records. All taluka were covered with large number of villages.

In order to obtain independent opinion from farmers who are major users of Land records computerization survey was planned at village level. Two districts were covered to conduct citizen survey from Department of Agriculture. All talukas in both districts were covered with large number of villages.
Document study:
Document study was undertaken covering available project documents, websites, published literature, project manuals and project presentations were carried out.
E-governance application has number of project documents such as User manual, Software Requirement document and system design manual which were studied in detail.

Questionnaire design:
Questionnaire Design guidelines followed are,
- Defining the Objectives of each questionnaire
- Determining the Sampling size
- Drafting the Questionnaire
- Administering the Questionnaire
- Interpretation of the Results
- Subjective vs. Objective and Quantitative vs. Qualitative
- Keep it short and simple
- Start questionnaire with introduction and welcome message
- Allow “Do not know” or “not applicable’ option to all questions
- Questions should be clear and should communicate only one meaning
- Order the questions from easy to complex, similar questions should be grouped
- Question types: Multiple choice, Numerical options, Text open end, numeric open end, Range options

Data analysis:
The data collected was entered and analyzed by simple descriptive analysis using Statistical Package for Social Scientists (SPSS) version 15.0 software. The software was chosen because it is the most widely used package for analyzing survey data. The software has various advantages: it is user friendly, can easily
be used to analyze multi-response questions, cross section and time series analysis and cross tabulation; (i.e. relate two sets of variables) and it can also be used alongside Microsoft Excel and Word. SPSS and Excel packages were used to prepare analysis reports. Following types of tables were prepared.

Results and Presentations
- Frequency tables for all items with Rank
- Correlation tables
- Cross tabulations across field offices to compare the items
- Chi-square test reports to know significant difference between two items
- Frequency graphs
- Mean comparison between attributes across districts

**Interpretation of results:**
- Existing facts as observations were derived.
- Success factors were identified.
- Replication issues were defined.
- Recommendations were identified.
- E-governance Success Model was conceptualized.

**Need and Importance of the study:**
Citizen centric e-governance (CCEG) ICT projects were undertaken only during last few years in GOM (Government of Maharashtra) hence have yet to be stabilized. As a result, such type of e-governance research work is yet to be undertaken in the universities located in Maharashtra.

Impact of CCEG ICT projects for Citizens is an important parameter to improve government services. Even slightest improvement in services has potential to increase satisfaction level of Citizens. Due to the improper use of ICT applications or manual procedures, citizens’ satisfaction level of Government services has gone down drastically. Citizens increasingly expect the same level of services from government as they get from other private organizations.
Good governance in the country has high importance which can be achieved with effective people’s participation in decision making process to assure transparency and accountability. This can be achieved by using effective e-governance solutions.

Transparency and citizen centric government is expected as broad outcome of e-governance, which is rare in developing countries, including India. Generally it is said that the culture of governance in India has been characterized by secrecy, seniority (rather than merit) and corruption. These three factors are hurdles in good governance and e-governance. Hence, Citizen Centric e-governance only can help government to achieve good governance.

Quite often e-governance initiatives lead to mandatory organizational and institutional changes affecting both people and methods at all interfaces. Hence re-engineering is a major task required but it is quite difficult to implement. Enormous amount of duplicative efforts noticed in different government departments to finalize hardware and software venders, result in inconsistency across ICT applications and hardly any interaction across the departments can be achieved.

This type of research project will require cooperation from GOM authorities, hence are rarely persued.

**Aims, Objectives and hypothesis:**
The main aim of research work is to derive set of parameters to ensure e-governance ICT projects are successful, implementable, usable, transparent, time effective, affordable and accurate from citizens’ point of view.

**Study Area:**
Mainly ICT projects in Maharashtra are studied. Also their comparison with respect to other states where respective application is implemented is reviewed similar applications are analyzed with respect to Advanced countries.

(1. *Roadmap for Process Re-engineering for researching e-governance to the disadvantaged: Research project, Parminder Jeet Singh, IDRC, (International
Hypothesis:
A proposition is defined as a statement about concepts that may be judged as true or false if it refers to observable phenomena. When proposition is formulated for empirical testing it is called as hypothesis. Hypothesis has also been described as statement in which we assign variables to cases. A case is defined in this sense as the entity or thing the hypothesis talks about. The variable is the characteristic or attribute that in the hypothesis is imputed to the case.

Ordinarily, when one talks about hypothesis, one simply means a mere assumption or some supposition to be proved or disproved. But for a researcher, hypothesis is a formal question that he intends to resolve. Thus a hypothesis may be defined as a proposition or set of proposition set forth as an explanation for the occurrence of some specified group of phenomena either asserted merely as a provisional conjecture to guide some investigation or accepted as highly probable in the light of established facts. Quite often a research hypothesis is a predictive statement, capable of being tested by scientific methods, that relates an independent variable to some dependent variable.

Thus, a hypothesis states what we are looking for and it is a proposition which can be put to a test to determine its validity.

The role of the Hypothesis:
It guides the direction on the research study.
It identifies facts that are relevant and those that are not.
It suggests which form of research design is likely to be most appropriate.
It provides a framework for organizing the conclusions that result.

**Good Hypothesis:**
A good hypothesis should fulfill three conditions:

- Adequacy for its purpose
- Testable
- Better than its rivals

**Characteristics of hypothesis:**

- Hypothesis should be clear and precise. If hypothesis is not clear and precise, the inferences drawn can not be taken as reliable.
- Hypothesis should be capable of being tested.
- Hypothesis should be limited in scope and must be specific. A researcher must remember that narrower hypothesis is generally more testable.
- Hypothesis should be stated as far as possible in simple terms so that the same is easily understandable by all concerned.
- Hypothesis should be consistent with most known facts.
- Hypothesis should be amenable to testing within reasonable time.
- Hypothesis must explain the facts that gave rise to the need for explanation. Hypothesis must actually explain what it claims to explain, it should have empirical reference.

Following hypotheses are defined for this research project.

**Hypotheses:**

1. **Majority of CCEG ICT projects require improvements to satisfy citizens.**

2. **Re-engineering of government procedures increases acceptance of CCEG ICT projects.**

3. **Effective implementation of CCEG ICT projects reduces corruption.**
An Evaluation of Computerization of Citizen Facilitation Centers (CFC) at - Kalyan Dombivli Muncipal Corporation (KDMC)

1.0 Introduction:

One of the aim of e-governance projects in India (also in Maharashtra) is to offer improved delivery of public services. Provision of improved services to citizens is considered as major criteria for measuring development of country. Use of ICT in public sector for automation of services to citizens has assigned priority in ICT policy at National level.

Municipalities ICT projects are undertaken by number of corporations with the objective of enhancing their capacity to deliver services and minimize public grievances with improved living conditions.

In consultation with, Principal Secretary, GOM CFC of KDMC project was shortlisted for the study. CFC project of KDMC is excellent and best among corporation computerization projects in India. Government of Maharashtra has decided to replicate this application at all corporations in Maharashtra for Citizens benefits. Hence, such a study was welcomed. Commissioner, KDMC was approached for permitting the study.

Citizen Facilitation Center, (CFC) at KDMC is one of the successful e-governance, G2C, service oriented application. CFC is single touch point for citizens to interact with KDMC for availing majority of services such as payment of taxes, making an application for services (ex: birth certificate), seeking information for applying to a service, checking the status of application, lodge a complaint, and review the status of complaint. CFC’s are established at six different locations covering area span of KDMC. WAN is set up to connect all CFC’s to central database at Kalyan. Oralce 9i is used as RDBMS and D2K as development tool. All CFC’s are operational on a regular basis since its
introduction. Hence, the project is sustained since it was launched on Jan 2002 till date.

CFC project was introduced aiming at creating system driven corporation with highest level of transparency, accountability and with highest level of Citizen serving standards.

Six CFC’s are set up covering KDMC municipal area so that Citizens can visit the nearest CFC for availing services, reducing their travel. CFC at Kalyan is CFC, Hq which is main CFC coordinating all operational issues. Hardware requirement, hardware maintenance, network maintenance, software maintenance etc all such activities are managed by Computer section at Kalyan. Vendors are short listed for maintenance activities for every year. ABM Knowledgeware LTD was short listed as TSP (Total Solution Provider). ABM has developed the application s/w and is contracted for s/w maintenance activity. ABM Team of S/w professionals is placed at KDMC for on site support.

KDMC has its own WAN set up using leased lines, fiber optics cables or RF connectivity.

The project was executed under the guidance of expert committee set up with members from IIT, Mumbai, VJTI, and NCST.

Following were the major milestones of the project.

1. KDMC general body resolution passed for CFC project       DEC  1999
2. Test implementation                                      JAN  2002
3. Trial Run at Kalyan CFC                                   MAY  2002
4. Web-portal launched                                      AUG  2002
5. Project dedicated to Citizens                            SEP  2002

The project is operational at all six CFC’s till date on day today operational basis. Approximately about 1200 citizens are visiting to CFC, Hq per day.
The project has received number of awards as per annexure 4 and appreciated in government sector as well as in IT sector as one of the illustration of good e-governance application for Citizens. Government of Maharashtra has issued a Government resolution, GR to all corporations in Maharashtra to replicate CFC application in their functioning.

The CFC project was opted for research study so as to derive success factors for e-governance projects. Also authorities from Government of Maharashtra felt that such a study will be helpful for replication of this project and further improve upon.

Objectives of this study are,
- Identity and evaluate benefits realized by intended stakeholders
- Assessing the fulfillment of Citizen related objectives of project
- Assessing the fulfillment of KDMC related objectives of the project
- Identity success factors for CFC project during development stage and implementation stage
- Identify the parameters for replication of CFC project across other corporations

1.1 Scope:
The CFC project information was obtained form following sources.
- Web-site of KDMC www.kdmc.gov.in
- KDMC and CFC site visits
- Project documents: project summary notes, module wise manuals, user manuals, module wise power point presentations, press notes, feedback from citizens, fact sheets received from KDMC
- Articles in Magazine
- Discussions with authorities
- Data collected by researcher for this case study
Stakeholders identified are,

- Citizens who visit to CFC centers of KDMC and are residents of KDMC area.
- Employees of KDMC Departmental heads, System Manager
- Employees of KDMC, Departmental staff
- Employees of KDMC, CFC In charge
- Employees of KDMC, CFC operators
- S/w team members from ABM, S/w vendor
- Senior government officials – commissioner, ex-commissioner during project development

Questionnaires were designed for all above stakeholders, except commissioners who were interviewed.

1.2 Methodology:
The study was carried out in two stages namely,

d. Exploratory Study was conducted by visiting to KDMC and CFC sites. The purpose of exploratory study was to get a reasonable understanding of the system and to identify stakeholders with their roles in the system.

e. Detailed study was carried out using separate questionnaires for each of the stakeholders. Prolonged interview was conducted of commissioner, KDMC. Interview was conducted of ex-commissioner who conceptualized the project of CFC. Citizens’ questionnaire was prepared in Marathi and English. All other questionnaires were prepared in English. Almost all concerned KDMC staff was covered under survey. Questionnaires were explained by visiting each department. System Manager and staff from his department coordinated the conduct of survey. Citizens from all CFC’s were covered.
2.0 Exploratory Study:
Exploratory study was conducted by visiting number of times to KDMC by researcher. Research guide also visited once to get overall idea of the project based on which he guided the detailed study.

Discussions were held with,

- KDMC, commissioner
- Systems Manager
- Systems Analyst
- CFC Kalyan in charge
- All most all HOD’s and their staff
- CFC in charges and their staff
- CFC, HQ staff
- ABM on site staff

Demos and presentations:
- S/w module-wise presentations were given to explain features of each module.
- Each module was demonstrated.
- CFC window operations were observed.

Following observations were made for CFC operations:
- It was noticed that CFC set up is well managed for day to day operations.
- All printed forms for availing services are made available at one window. One set of all forms was collected to understand the service details.
- Sample reports produced from s/w were seen.
- Software problems register was studied.
- Staffing pattern in Computer section was understood with their duties.

CFC windows arrangements are as follows,
- HELP window has dual screen one for operator and one for Citizen to view.
  - Making a Complaint, checking status of all applications, Interest calculation
for taxes and all help is provided here. Slip is filled by citizen and CFC operator enters data in system and receives information. Slips are filed.

- **PAYMENT:** One or more windows are set up for all payments. Due amounts are made available and payments are received. Receipts are issued. Generally queue is only on payment windows.

- **BIRTH / DEATH CERTIFICATE:** Applications for birth and death certificates can be submitted here. After checking in the database, application is accepted with fees (in cash) and along with required documents. Certificates are issued within 10 mins at PRINTOUT window.

- **TAPAL:** All letters are accepted here addressed to any KDMC staff.

- **TOWN PLANNING:** Service applications to town planning are accepted on this window. Since Citizens has to submit number of town planning related technical documents this window is separate and manned by staff from town planning department.

- **FORMS:** All blank printed forms are provided here.

- **PRINTOUT:** Birth / death certificates, NOC for service, approval for new water connections etc all documents issued to Citizens are issued through this window.

Windows and their roles are well set and designed appropriately, due to which no operational problems are faced by Citizens. All most all above observations are applicable to Ward D CFC. Only difference noticed that there was long queue for payment of bills but operations were smooth. Birth / death certificates are not issued here. Applications for town planning are accepted only at CFC, HQ since there is not enough load to man these windows. But this facility can be released at any time since only one common database is in use across all CFC’s.

### 2.1 Project Objectives:
Following are the Project objectives which are defined in the project documents:

**Project objectives from Citizens point of view:**

- Highest level of transparency
- Accountability
- Objectivity in decision making / decisions in impartial manner
- Complaint redressal
- Automatic escalation of complaints (125 complaint categories)
- One counter for multiple services (about 100 services at one place) / provide centralized interface for all citizen related transactions
- Sharing of data with citizens with dual monitor screen
- Technical staff at the counter
- CFC’s at all wards (six places) for easy, simple and efficient interaction with citizens, single touch point interaction with KDMC
- Some key services through internet web-site of KDMC
- Creation of unique citizen ID to conduct transactions
- Less errors in bills
- Improved efficiency and productivity in providing citizen services
- Citizens can monitor their service application/complaint at every stage
- Hassle free interaction with quicker response time for all the services
- Objectiveness in decision making leading to more impartial governance
- Telephone help line for some of the inquiries

**Project objectives from KDMC point of view:**
- System Driven Corporation procedures
- Citizen Servicing Standards
- Increase revenue
- Improved liquidity throughout the year
- Additional revenue due to replication
- Enhanced productivity
- Accurate forecasting
- Effective planning due to MIS
- Provide decision support system for top management
- Citizen friendly image of KDMC
- Making CFC a self-sustainable model
• Improved operational control through better reporting
• Set up an example for a good governance
• Reduction in manpower requirement

2.2 Observations:
Following observations were made during exploratory study.
• Even if there were many citizens visiting, all operations were smooth. Citizens were at ease and could do their work without any problems. About 200 – 300 citizens visited but, no noise at all. CFC in charge was monitoring total operations and if necessary was resolving issues on the spot which made citizens at ease and feeling that they are being taken care off. This may, be possible, due to Mumbai culture to help each others.
• There was long queue of about 30 to 40 persons standing for payment of water bills. But, It was observed that maximum about 10 mins each one has to wait. Senior citizens, illiterate citizens, ladies all were able to complete their work.
• CFC windows were managed excellent.
• There was one printer down, within few minutes action was taken and printer was operationalized.
• All windows are manned by KDMC staff.
• On the HELP desk, approach to help citizens was exceptionally good. All problems were resolved and citizens were returning with smiling face. It was enjoyable experience to observe window operations.
• Birth and death related certificates are issued instantly.
• Behind CFC windows there are three to four teams to take care of s/w problems. Each team is made up of CFC operators and departmental staff. All s/w problems are recorded and solved by this team by interacting with departmental staff and ABM staff. The problems are analyzed properly before sending them to software vendor ABM. Some time problems are with data those are explained how to clear to concerned departmental staff. All problems are well documented.
- CFC, Hq at Kalyan is also coordinating h/w and network maintenance issues. Generally problems are communicated on phone and on the spot solutions are provided. Follow up with vendors are kept for prompt service.

- CFC project is very well conceptualized incorporating interest of KDMC and Citizens and make KDMC as best managed corporation with procedure driven system.

- Authorities made all efforts to develop CFC software. TSP for software development was selected carefully.

- Software was developed after high level of re-engineering of KDMC procedures.

- Appropriate hardware, software and networking infrastructure was installed and upgraded time to time.

- CFC’s were made operational since Jan 2002 and operations are sustained till date.

- However, it was felt that all objectives set for Citizens are not fulfilled. Payment procedures are made simple, with time saving and errorless. Applications for services can be made easily without loss of time with guidance from CFC operators also complaints can be lodged easily. But, expected service delivery and complaint solving procedures are not improved significantly as compared with earlier status of CFC’s.

### 3.0 Detailed study:

Exploratory study gave direction for undertaking detailed study. Questionnaires were designed for each stakeholder as study instrument. Objective of each study instrument and sample size was decided. Questionnaires for Departmental heads, System manager, Departmental staff, CFC in charge, and CFC window operators were explained to them by the researcher.

a. Questionnaire based survey was conducted for following stakeholders.

- Citizens - A
- Departmental heads - B
- Staff from Departments - C
- CFC in charge - D
- CFC window operator - E
- System Manager - F
- Technical staff with computer division - G
- S/w vendor - H
- KDMC assembly member - I

b. Interviews: Personal Interviews were conducted with KDMC commissioner, Shri Shree Kant Singh, Ex-commissioner, departmental heads and System manager.

c. Following Documents were studied:
- Live reports analysis for some of the important reports produced by KDMC
- CFC s/w
- System log analysis for database related issues
- Register for software problems
- Register for h/w problems
- Minutes of the meetings of Expert committee

d. Secondary data reference:
- Project documents
- Presentations
- Magazine reviews
- Awards reports
- Newspaper reports
- Paper presentations

e. Web site analysis for its usage

3.1 Questionnaire Design:

Questionnaire for Citizens:

Objectives:
• Fact finding for services received by Citizens in terms of their expectations
• Comparison of actual service and complaint deliveries as per targeted values
• Level of communication from KDMC to Citizens
• Benefits received to Citizens from CFC’s
• Comparison of services across different CFC’s
• Citizens expectations from CFC
• Measurement of CFC objectives for Citizens

**Sampling size:**
• Questionnaire based survey was conducted.
• Citizens visiting CFCs were requested to fill in the questionnaire. Survey was conducted at all CFCs covering all services.

**Questionnaire for Departmental head:**

**Objectives:**
• Level of usage of IT within department: Citizen interface, Automation of service delivery procedures (Data processing), MIS activities, Improvement in decision making over the period and adoption of IT within the department
• Interaction with Computer section
• Interaction with ABM
• Logs or registers maintained
• Initiative from HOD’s, his learning, innovative ideas
• Qualitative Improvement of services
• Complaint handling (reduction in major types of complaints)
• Features on web-site
• Reengineering of procedures
• Training attended by HOD related to Computerization after release of s/w

Sample size: Majority of the HODs were covered. Personal interview was conducted to fill in the questionnaire and related documents were collected.
Questionnaire for departmental staff was distributed for feedback after conducting meeting with HOD. All staff members up to class-III were covered from the department.

**Objectives for CFC window operator questionnaire:**
- Understanding of first hand experience at CFC window
- Training needs for CFC operators
- Feedback on citizens’ behavior
- S/w and h/w problems faced at CFC window
- Citizen services before and after CFCs set up
- Problems in handling CFC window

Sampling: Majority of CFC operators at all CFC locations were covered. Questionnaire was tested with two or three operators and based on which complete survey was conducted.

**Objectives for System Manager questionnaire:**
- Project management methods
- Review meetings with HODs, S/w, H/w vendors, CFC managers, CFC operators
- Infra structural problems and solutions
- Software problems and handling method
- Future planning
- Record keeping or registers used
- Interaction with KDMC commissioner or higher officers
- Software version control
- Problems faced
3.2 Survey and data collection:
Following table gives number of respondents.

TABLE 1. Citizens feedback:

<table>
<thead>
<tr>
<th>Sr No</th>
<th>Ward</th>
<th>English</th>
<th>Marathi</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Kalyan Hq</td>
<td>1</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td>2</td>
<td>A ward</td>
<td>-</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>3</td>
<td>B ward</td>
<td>3</td>
<td>24</td>
<td>27</td>
</tr>
<tr>
<td>4</td>
<td>D ward</td>
<td>1</td>
<td>14</td>
<td>15</td>
</tr>
<tr>
<td>5</td>
<td>H ward</td>
<td>3</td>
<td>27</td>
<td>30</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td>98</td>
</tr>
</tbody>
</table>

2. Departmental head: 5
3. Departmental staff: 13
4. CFC window manager: 4
5. CFC window operator: 12
6. ABM feedback: 1

Analysis of survey instruments is presented below. The data collected includes responses to quantitative as well as open ended questions.

3.3 Citizens responses:
Following descriptive analysis is prepared based on answers given by citizens for open ended questions. Quantitative analysis is presented below in tabular form. Citizens' comments from their responses are consolidated as it is in their words.

Citizens' opinion:
- CFC Services are excellent / extra-ordinary / fully satisfied / prompt.
• Services are improved drastically after CFC.
• Due to CFC, it is possible to reach people.
• Interaction with KDMC has become simple and easy due to CFC.
• Work is getting completed without loss of time.
• Acknowledgements are received promptly for letters and LOC is issued fast.
• Speedy procedures for services and complaints submitting are established.
• No need to meet officers for services or follow up after establishment of CFC.
• Some of the complaints are getting solved but majority of them are remain unsolved.
• All information to submit application is provided at one place.
• Due to CFC working speed of work at KDMC has increased and procedures are improved, health related services are provided instantly. Pending work is reduced after CFC.
• Incomplete or pending cases are getting solved after setting up of CFC.
• Submitted applications are being sent to concerned desk / department.
• Staff at CFC is very cooperative, helpful and enthusiastic. Behavior of CFC staff is excellent staff provides excellent advise.
• Atmosphere at CFC is claim, quite, clean and modern.
• Due to CFC, citizens complaints are reduced at least for payment of bills and birth / death certificate service.
• Numbers of visits to CFC or KDMC are reduced.
• Due to CFC services, all work at KDMC is getting completed smoothly. If application is incomplete it is informed to citizens so that they can take corrective actions. Applications are accepted after minute scrutiny.
• Information regarding status of application for services and where the application is being processed is made available to citizens.
• Last date of submission of application is followed strictly at all CFC’s.
• Services for birth / death certificates are excellent, on the spot, without any underhand payment and correct. This is one of the transparent services of KDMC.
• Problems are reduced.
Receipts are provided for all payments and submitted applications.

Birth / death certificates, bill payment, lodge a complaint, application submission etc activities can be done easily without any problems or delay and are excellent services of CFC, BUT Complaints are not getting solved up to due dates and no procedure for follow up of complaint solving, Complaints for safety tank, unauthorized construction electricity, street lights, cleaning water supply, roads repairs are not solved.

Complaints related to road repairing are not getting solved.

Complaints management procedure at CFC is not up to the mark, many letters addressed to senior staff are not replied.

CFC is working excellent, but field staff is not providing services.

Comparison of services before CFC in place:

- Too much time was required for all actions before CFC was operational.
- Lot of problems before CFC, service delivery procedures was not organized.
- Birth / death certificates are made available on the spot due to CFC, earlier it was to take days or months for issue of certificates.
- Generally, receipts were not provided before CFC for application submission or complaint registration.
- Citizens had to wait in long queue for hours together to submit the application; also it was not possible to know if application is rejected due to some missing information. Scrutiny of application was not done earlier while submitting the application.
- Services were based on personal relationships.
- Before CFC, records were not traceable and may not be correct.
- Work was not completed on time, no time period was defined for any service.
- It was required to travel long distance to avail services since all services were available only at KDMC.
- Many a times, applications were lost, so resubmission of the same was necessary.
- Which service is provided by which department was not known to citizens.
• Complaints were not passed on to concerned staff and no systematic method was operational for complaint escalation.
• Some times, bills were wrong.
• Related information was never made available while applying for service.
• Atmosphere in the KDMC before CFC was horrible, unclean and non-cooperative.
• Due to non-transparent working, citizens were suspecting malpractices.
• It was next to impossible to get staff on table. Citizens’ were expected to visit department to department table to table and again and again.

Citizens experiences after CFC in place:
• Application for services can be submitted promptly in CFC but lies pending in Town planning department for months together. Back-office procedures may be improved in Town planning department.
• Sanitary complaints can be recorded using CFC complaint redressal module but complaints are not solved, safaiwalas work is not satisfactory also no supervision on safaiwala’s or complaints related to sanitary are not responded.
• Complaints or letters addressed to Senior KDMC staff are received at CFC but not replied or acted upon. Hence, compliant solving procedures are not up to the mark may require improvements.
• Applications for services can be made easily and also receipt of same is made available at CFC, but applications are not processed or takes lot of time for service delivery. Vague answers are given after enquiry.
• Information regarding which department gives which service may be made available on web-site and HELP desk of CFCs.
• Internet site some times is not accessible, complaints can not be made using website.
• Status of applications is not clear from information provided.
• Complaints related to bills may be solved on time. For all wrong bills, interest need not be made applicable on late payment. On the other hand, interest on wrong bills to should be applicable to officers concerned for his inefficiency.

Citizens Suggestions:
• Birth / death certificate services and ALL services which are available at Kalyan HQ should be made available at all CFCs.
• If complaints are not solved within specified time frame, procedure may be set to review and monitor. Existing procedure is not sufficient to ensure fulfillment of complaint solution. There are pending complaints.
• Some types of complaints are never getting solved even if lodged again and again. (example: services related to road repairs ) in such cases reasons (may be valid) may be informed to citizen who has lodged the complaint.
• Senior officers should monitor pending complaints on regular basis to improve KDMC services and make them more transparent.
• Applications for services can be submitted promptly in CFC, but lies pending in Town planning or water department months together. Procedure may be looked into. Citizens expect prompt delivery of services similar to submission of service request at CFC.
• CFC may be kept open 7*24 (round the clock) during natural calamity (rainy days ) or emergency ( bomb blast ) to receive help from KDMC.
• Additional counters may be opened if long queue is noticed.
• Appropriate action may be taken against those officers who are responsible for delay in service providing or complaint solving and action taken may be informed to concerned citizen.
• Ward wise statistical information may be provided to Citizens such as number of water connections issued, number of street lights, number of constructions as per rule, number of unauthorized constructions etc.
• Forms are available only in Marathi. They can be made in English also.
• Time period provided for complaint solving may be reduced wherever possible.
• Sometime property bills are received late, and last date for payment is nearby. This creates anxiety. Hence, postal delays may be added while deciding last date for payment of bills.
• If the payment is made in advance for expected bills, proper adjustment in the bill may be done.
• Forms may be of different colour for easy identification.
• Officers list with his duties may be provided on web-site and HELP desk of CFCs as per RTI.
• KDMC office building plan / location map with departmental details may be made available on web-site.
• Facility may be added to pay telephone bills and electricity bills at CFC.
• Xerox machine and telephone facility may be provided at CFC.
### TABLE 2: Citizen opinion summary table for Overall CFC operations and its benefits:

<table>
<thead>
<tr>
<th>Sr no</th>
<th>Kalyan Ward A</th>
<th>Kalyan Ward B</th>
<th>Award Ward A</th>
<th>Award Ward B</th>
<th>Award Ward D</th>
<th>Award Ward H</th>
<th>Total</th>
<th>Total</th>
<th>TOTAL</th>
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<tr>
<td></td>
<td>Number of visits</td>
<td>Number of visits</td>
<td>Number of visits</td>
<td>Number of visits</td>
<td>Number of visits</td>
<td>Number of visits</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt; 10</td>
<td>&gt; 10</td>
<td>&lt; 10</td>
<td>&gt; 10</td>
<td>&lt; 10</td>
<td>&gt; 10</td>
<td>&lt; 10</td>
<td>&gt; 10</td>
<td>&lt; 10</td>
</tr>
<tr>
<td>Number Respd.</td>
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<td>8</td>
<td>9</td>
<td>3</td>
<td>19</td>
<td>8</td>
<td>8</td>
<td>7</td>
<td>17</td>
</tr>
<tr>
<td>Q 2 Have you visited any other CFC</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>YES</td>
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<td>3</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td>3</td>
<td>4</td>
<td>2</td>
</tr>
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<td>5</td>
<td>7</td>
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<td>15</td>
<td>2</td>
<td>5</td>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td>Q 3 Waiting time in the queue</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>for &lt;15 mins</td>
<td>5</td>
<td>7</td>
<td>6</td>
<td>1</td>
<td>14</td>
<td>2</td>
<td>6</td>
<td>2</td>
<td>11</td>
</tr>
<tr>
<td>for &gt;=15 mins</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>6</td>
<td>2</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Q 4 Behavior of the CFC window operator</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BEST</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>1</td>
<td>8</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>11</td>
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<tr>
<td>GOOD</td>
<td>2</td>
<td>4</td>
<td>5</td>
<td>1</td>
<td>8</td>
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<td>5</td>
<td>3</td>
<td>1</td>
</tr>
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<td>0</td>
<td>0</td>
<td>3</td>
<td>0</td>
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<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Q 5a Did your work completed?</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>YES</td>
<td>4</td>
<td>5</td>
<td>8</td>
<td>2</td>
<td>19</td>
<td>7</td>
<td>8</td>
<td>5</td>
<td>17</td>
</tr>
<tr>
<td>NO</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Q 5b Did you were satisfied about the work</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>YES</td>
<td>4</td>
<td>5</td>
<td>8</td>
<td>2</td>
<td>19</td>
<td>7</td>
<td>8</td>
<td>5</td>
<td>17</td>
</tr>
<tr>
<td>NO</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Q 6 Have you received correct info?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q7</td>
<td>Working condition of the computers at CFC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----</td>
<td>-----------------------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working</td>
<td>4 6 8 2 16 7 8 5 17 7 53 27 80 81.63</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>some times</td>
<td>2 2 2 1 1 3 1 0 2 0 1 6 7 13 13.27</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>not working</td>
<td>0 0 0 0 0 0 0 0 0 0 0 0 0 0 0.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q8</th>
<th>How did you came to know about CFC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newspaper</td>
<td>1 1 0 1 2 2 1 2 13 2 17 8 25 25.51</td>
</tr>
<tr>
<td>Notice board</td>
<td>3 4 7 0 8 5 4 4 3 8 25 21 46 46.94</td>
</tr>
<tr>
<td>Friend</td>
<td>1 2 1 0 5 1 1 1 0 3 8 7 15 15.31</td>
</tr>
<tr>
<td>other</td>
<td>0 0 0 0 1 0 1 0 0 2 0 2 2.04</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q11</th>
<th>Have you seen the website of KDMC?</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
<td>1 0 0 1 6 0 5 0 2 1 14 2 16 16.33</td>
</tr>
<tr>
<td>NO</td>
<td>5 8 9 2 13 8 3 7 15 12 45 37 82 83.67</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q13</th>
<th>Did you paid any additional charges to KDMC staff?</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
<td>3 1 1 0 0 0 0 0 0 4 1 5 5.10</td>
</tr>
<tr>
<td>NO</td>
<td>3 7 8 3 19 8 8 7 17 13 5 55 38 93 94.90</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>QK10</th>
<th>How many times you have paid the bills at CFC?</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 10 times</td>
<td>1 4 6 2 0 5 4 5 14 10 25 26 51 52.04</td>
</tr>
<tr>
<td>&gt; 10 Times</td>
<td>5 4 3 1 19 3 4 2 3 3 34 13 47 47.96</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>QK11</th>
<th>Waiting time in queue for bill payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 min</td>
<td>6 7 8 1 16 6 7 2 14 9 51 25 76 77.55</td>
</tr>
<tr>
<td>above 10 mins</td>
<td>0 1 1 1 3 2 1 5 3 4 8 13 21 21.43</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>QK12</th>
<th>Were the bills correct</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
<td>4 3 7 2 8 6 7 6 11 9 37 26 63 64.29</td>
</tr>
<tr>
<td>Some times not</td>
<td>0 2 0 0 2 0 0 1 0 0 2 3 5 5.10</td>
</tr>
</tbody>
</table>
3.4 : Data analysis for Responses from Departmental heads:

Background :
Number of responses : 5
Departments : Health department, Property tax, food adulteration, Water Supply, System Manager

Benefits of CFC to HODs:
- MIS Reports are easily available as and when required due to online data availability.
- The work is enjoyable due to fulfillment of citizens’ expectations.
- Time required to provide services to citizens is reduced.
- Workflow based service delivery is set up effectively.
- Citizens’ visits to individuals are reduced or almost nullified.
- Transparency has increased significantly.
- Control on records is established.

Satisfaction level of services provided at CFCs:
- S/w and H/w problems are solved satisfactory but SOME OF THE S/w PROBLEMS ARE NOT GETTING SORTED OUT AT ABM LEVEL, for property tax department problems are sorted out up to 50 %.
- H/W provided are sufficient for majority of the departments but not for all.
• HOD’s are visiting rarely to computer section or at CFC.
• All most all services are provided at CFC.
• Staff related to services are using computers at all levels as a part of their daily working methods.

Observations:
• S/W problems are communicated orally.
• Reports produced by CFC s/w are not used to its fullest benefits.
• Procedures are not set up or in place to take decisions based on data and reports produced, however, day today functioning is based on CFC databases.
• HOD’s interaction with CFC’s is negligible hence hardly any suggestions are received for further improvement of CFC s/w modules.
• HOD’s are not aware of re-engineering done for their own department.
• Rarely any queries or reports are suggested by HODs to be added in the s/w.
• HOD’s are looking at CFC operations as day to day management but not as a decision making tool.

Suggestions from HOD’s for CFC betterment:
ABM should appoint qualified staff.

Services to be added in CFC:
• Nursing Home registration
• Tax proposals received from ward

Courses attended:
MSCIT conducted at KDMC.
3.5: Data analysis for Responses from staff members of various departments:

TABLE 3: Staff members Background:

<table>
<thead>
<tr>
<th>Sr No</th>
<th>Department</th>
<th>N0</th>
<th>Experience in years</th>
<th>Educational background</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Prevention of food adulteration</td>
<td>2</td>
<td>11 - 14</td>
<td>B Sc</td>
</tr>
<tr>
<td>2</td>
<td>A and C collector</td>
<td>2</td>
<td>3 - 16</td>
<td>12th, BA</td>
</tr>
<tr>
<td>3</td>
<td>Water supply</td>
<td>5</td>
<td>11 - 17</td>
<td>Civil engineering, degree or diploma</td>
</tr>
<tr>
<td>4</td>
<td>Underground drainage department</td>
<td>4</td>
<td>10 - 15</td>
<td>Civil engineering, degree or diploma</td>
</tr>
<tr>
<td>5</td>
<td>TOTAL</td>
<td>13</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CFC services:
- H/w problems if any are getting solved without much of delay. But problems for mouse, keyboard and printers are noticed frequently. Replacement of the same may be planned periodically based on usage.
- CFC s/w features used for departmental work are for application scrutiny and recommending the case to HOD for approval, for feeding basic data, preparing bills, issuing renewal notices, MIS reports and granting water connections etc.
- Interaction with staff of computer section is almost on daily basis.
- s/w problems are communicated orally.
- No interaction with ABM.

Problems:
- Slow processing while preparing bills or printing of bills
- Network Connectivity problems
- UPS backup problems
- Errors in water bills
• Time slot for solving complaints is too short in case of Underground Drainage department
• Shortage of manpower and inadequate machinery to solve complaints
• Complaints are not getting sorted out due to leakage issues incase of underground drainage

Packages in use other than CFC:
• MS- word
• MS- office

Suggestions:
• Processing for bills preparation and printing should be made faster and errors in bills may be salved.
• Software for Civil design may be developed or purchased for civil designing work.
• s/w modules may be developed for preparing Estimates for new civil works, currently estimates are prepared manually.
• Complaint sub-categories for underground drainage may be reviewed for proper marking of complaints.
• Additional training courses may be planned on regular basis.

Training Courses conducted:
• MSCIT, application usage training by ABM, MS-office by ABM.
• Five out of 13 have not attended any training.

Improvement due to CFC:
• Work became easy and work load is reduced.
• Citizens are pleased with services.
• Paper work has reduced.
• Citizens appreciate CFC services.
• Complaints are solved on time.
Complaints are officially recorded and consolidated.

**TABLE 4 : Complaints in a month : ( As per responses from departmental staff )**

<table>
<thead>
<tr>
<th>Sr no</th>
<th>Department</th>
<th>Complaints</th>
<th>Solved on time in %</th>
<th>Escalated %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Prevention of Food and adulteration</td>
<td>5</td>
<td>90 %</td>
<td>10 %</td>
</tr>
<tr>
<td>2</td>
<td>A and C collector</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>Water supply</td>
<td>300</td>
<td>80 %</td>
<td>20 %</td>
</tr>
<tr>
<td>4</td>
<td>Underground drainage</td>
<td>450</td>
<td>90 %</td>
<td>10 %</td>
</tr>
</tbody>
</table>

But above feedback does not match with reports from s/w or citizens feedback.

3.6 Data analysis for Responses from CFC in charge:

A Background:
Number of CFC in charge Respondent : 4 out of 6
Education: Three B com (one with MCS) one B Sc
Average experience in KDMC: All nine years : Experience as CFC in charge : 2 : 2.5 : 4 : 4 years
Respondents: 3 Female 1 male Age range : 34 - 40 years
Names of CFC’s covered: Kalyan head quarter, Dombivli, B ward, D ward

B: Analysis of answers:

1. Benefits of CFC:
   - Working of KDMC became transparent.
   - Services are available on the spot saving about 1 – 2 months time.
   - It is possible to provide all most all types of information asked by authorities instantly.
• Information asked by citizens also possible to provide which satisfies them.
• KDMC staff has learned to provide services to citizens’ satisfaction with excellent human relationship.
• Bill payment procedure has become most simplified and easy for citizens.
• Complete working of CFC is fully operational and no further improvements are required.
• Citizens visiting to CFC are satisfied.
• No pending cases.
• No errors in the bills or their posting.
• CFC working has become routine.

2: CFC operational issues:
• Shortage of staff so leave management becomes difficult, assigning duties in case of absentee is difficult. In that case CFC in charge or computer operator manages window operations.
• CFC operator may have to handle more than one window simultaneously.
• Handling of the citizens some times become difficult due to their temperament but all CFCs are able to manage show rarely security staff is required to sort out issues.
• H/w problems are sorted out on time, in case of h/w problems machine or printers are shared across the windows.
• In case of network problems when complete system is down, manual operations are carried out but this is rare.
• S/w bugs are reported to CFC at Kalyan where s/w problems are registered and then followed up with ABM. But there are no major problems, hence complete operations are never required to be stopped.
• Dombivli CFC has connectivity problems, if fault is with cable it takes 5 to 6 days to repair.
• Dombivli CFC needs 3 to 4 more counters to coup up with the load.
Training availed:
- CFC operations
- Personality development
- Hardware course
- Oracle

4. Training courses suggested:
- All above to be repeated periodically
- Stress management
- Public speaking
- LSGD Local Self government diploma

3.7 Data analysis for Responses from CFC operators:
A: Background: Number of respondents:

TABLE 5: Number of feedbacks received from CFC operators

<table>
<thead>
<tr>
<th>No</th>
<th>Number</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Range of experience in KDMC ( years )</td>
<td>9 - 11</td>
<td>8 - 16</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>Range of experience at CFC window( years)</td>
<td>2 - 5</td>
<td>2 - 4</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>Education upto H Sc</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>Education : graduate</td>
<td>6</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>5</td>
<td>Range of age</td>
<td>29 - 40</td>
<td>30 - 40</td>
<td>-</td>
</tr>
<tr>
<td>6</td>
<td>Designation</td>
<td>Kamgar, clerk</td>
<td>Clerk</td>
<td>K: 3  c: 9</td>
</tr>
<tr>
<td>7</td>
<td>Number</td>
<td>8</td>
<td>4</td>
<td>12</td>
</tr>
</tbody>
</table>

A: CFC operations:
- Waiting time of Citizens in the queue: Average: 10 mins range 1 to 25 mins (Matches with Citizens feedback)
- Number of hardware problems faced during the month: Average: 1 range 1 - 4
- Number of software problems faced during the month: Avg : 8 range 4 - 20
- Data related problems faced: Rarely once or twice a year
5. Problems reporting method: Oral: ALL, 12, Written: 3

Problems in getting leave due to time bound job: YES: 5, NO: 3, Not replied: 4

Irregular power supply or power failures: Due to irregular power problems, machines require to be restarted which takes long time.

People get angry when services or complaints are pending with the department.

Errors in posting water bills.

Handling of senior citizens is difficult.

CFC operators can handle any window.

**B: Comparison of CFC working with earlier working:**

- Now there is no pending work.
- Citizens are satisfied.
- CFC operators are enjoying the work.
- Citizens’ time is saved.
- Citizens generally thank while returning from CFC counters.
- Services are improved.
- Services are fast and correct.
- Accounting errors are reduced.

**C: Training courses attended:**

- CFC operations - All: 12
- MSCIT: 1
- Tally: 1

**D: Training courses suggested:**

- Mass Communication
- Personality development
- English speaking
- Stress Management
- Basics of hardware and networking
E: Suggestions for CFC improvements:

- Additional staff
- Shade to be provided during bill payment when long queue’s are expected.
- AC to be provided to avoid suffocation in the area where AC was planned but not installed.
- These locations are without ventilation.
- Increase in security staff is required.
- Systems are slow at times so requires to be looked into.
- Appointment of qualified employees for CFC operations who know public administration and responsibility of public services are desirable.
- Setting of Kiosk is to be planned.
- 8. Facility may be provided for payment by debit or credit card which will reduce load on payment counters and handling of cash by CFC operators.
- 9. Concerned departmental staff may be trained for understanding of CFC procedures and their importance to improve service quality.

3.8 Data Analysis for Responses from software vendor:

Only one questionnaire from Mr Mohan Datar, Executive director was received but he has covered all questions. He has about 32 years of experience in software industry and who was associated with the CFC project since its beginning.

- Major challenges in CFC project: Holistic project, Conceptualization and design of CFC, workflow automation and change management
- Success factors: Acceptance of concept by KDMC, Extensive BPR, on-site s/w maintenance contract for 5 years, full support from all KDMC commissioner.
- Standards for s/w development: ISO 9001:2000
- Team size: 30 software professionals
- S/w problems after release: Data integrity
• **Problems during implementation support**: User changes (transfers, promotions), Large number of software change requests are received, Staff not trained on regular basis, attrition.

• **ABM is supporting seven corporations**: KDMC, Nagpur, MBMC, UMC, MMC, Malegaon, PCMC

3.9 **Summary of Experts committee’s meetings as per minutes**:

A. **Observations**:

• Expert committee started functioning after TSP’s selection.
• Minutes of Expert committees are well formatted and documented. Each meeting’s minutes has same format. It has structure as List of attendants, questions raised by experts, suggestions and decisions taken. In all 9 meetings were conducted from 2000-2006.
• Questions raised by experts were answered satisfactory by ABM staff or KDMC staff members.
• Experts were mainly consulted for technical evaluation of h/w and s/w items to be purchased and evaluation of efforts calculations by TSP.
• Meetings were conducted regularly.
• Few (3) meetings only were attended by commissioner of KDMC. One meeting was attended by each of the commissioner posted during his tenure.
• Decisions taken in the meetings indicate that expert committee has done excellent role of technical support and also KDMC has honored the decisions taken in the committee. DMC has implemented majority of their recommendations.