Ministry of Local Government, Rural Development & Cooperatives
Local Government Division
Local Government Engineering Department (LGED)

4.3 Guidelines for Integrated computer systems

Project Coordination Office (PCO)
City Governance Project (ICGP)

February 2018

Assisted by
Japan International Cooperation Agency (JICA)
And
Urban Management Unit, LGED

Table of Contents

1. Introduction 1

2. Justifications 1

3. Relevant Issues as described in ICGIAP 2

3.1 Task 2

3.2 Action by 2

3.3 Time Schedule 2

3.4 Indicator 2

4. Objectives and Indicators 2

4.1 Objectives 2

5. Relevant Organizations, Stakeholders and their roles and Responsibility 3

5.1 Role of Project Coordinating Office (PCO) 3

6. Necessary Tasks and Procedure 3

6.1 Development and installment of the integrated computer systems (Task-1) 3

6.1.1 Development of the Integrated Financial Management System (IFMS) 3

6.2 Ensure implementation of IFMS (Task-2) 3

6.2.1 Preparation for manual and training for CCs 3

6.2.2 Implementation of IFMS by relevant sections/departments 3

6.2.3 Monitoring and training for CCs by PCO 5

7. Implementation Schedule 5

8. Cost of Implementation (if necessary) 6

Annex IConcept of the Integrated Financial Management System (IFMS) 7

1. Introduction

Rapid urbanization accelerated by industry led economic growth has been taking place in Bangladesh. Potential of economic growth in urban areas is worthy of notice. There are 335 Local Government Institutions which cover 8% of total geographical area of Bangladesh and 30% of total population, while accounting for 60% of total national growth. On the other hand, the negative impact of dramatic change in urban areas is observed. The negative impacts are because the functions of municipalities and city corporations prescribed in Local Government (Pourashava) Act 2009 and Local Government (City Corporation) Act 2009, which are very relevant to the demand of city dwellers and urban development, are not implemented in an appropriate manner. In order to improve the public services provided by urban local governments, several urban development projects are being or were implemented by Local Government Divisions (LGD) and local government and engineering departments (LGED) with financial assistance of different development partners and government's own funds. Based on the experiences gained through implemented projects, effective activities for improvement of urban governance have been formulated as a program that has been well accepted. The urban governance improvement programs have been implemented to ensure good governance of those urban local government institutions namely Paurashava for equal, social harmony and planned development. Initiating urban governance improvement, LGD and LGED with financial support of JICA commenced a project named City Government Project (CGP) in 5 City Corporations.

This guideline has been prepared for establishing integrated computer systems. Integrated computer systems are an essential instrument to enhance financial management efficiency. Computerization of the systems is crucial in terms of proper financial management, improvement of operational efficiency in CCs, and reduction of workload of the officers.

2. Justifications

Data quality issues in CCs are significant. In the targeted CCs, computerized accounting systems have not been working, or are not fully functional to deal with accounting transactions properly. Accounting data, budgetary data and tax database are not linked in the IT systems. Accordingly, the management of CCs has not been able to recognize the budgetary/financial situation on time. This could hinder the CCs in making appropriate decisions for financial management. Upgrading/modification of the computerized systems are essential, and therefore it is expected to establish integrated computer systems encompassing accounting - tax database - budget.

An integrated computer system is an essential instrument to enhance financial management efficiency. Although issues in terms of financial management in CCs are broader, IT infrastructure will focus on i) financially independent accounting system, ii) O&M reserve fund, iii) holding tax assessment system, and iv) linkage between accounting and budget preparation. Computerization of the system is crucial in terms of proper financial management, improvement of operational efficiency in CCs, and reduction of workload of the officers. To resolve issues, the Integrated Financial Management System (IFMS) would be required to provide precise recording of relevant data, proper accounting transactions, systematic data exchange, and real time information.

The proposed IFMS will be installed and implemented in five CCs. Project Coordination Office (PCO), in cooperation with CCs, will develop the proposed IFMS by utilizing and modifying the CCs' existing IT infrastructure (e.g. holding tax assessment system, billing and collection for water supply).

3. Relevant Issues as described in ICGIAP

3.1 Task

To carry out appropriate financial management, the management of CC should grasp budgetary/financial situation simultaneously. Modification/upgrading of IT systems are required to accomplish this and to improve data quality. It is necessary to introduce the integrated computer system by the following steps:

Task 1: Develop and install the integrated computer systems which link accounting-tax database–budget
Task 2: Ensure implementation of the integrated computer systems by training staffs in CC

The systems included functions of Financially Independent Accounting System and Reserve Fund for rehabilitation

3.2 Action by

- CC Mayor,
- CEO and
- Head of accounting section with assistance of consultants, PCO

3.3 Time Schedule

- Task 1: Within 1st batch of project
- Task 2: Within 2nd batch of project

3.4 Indicator

(1) 1st Performance Review

- Integrated computer systems installed

(2) 2nd Performance Review

- Integrated computer systems implemented

4. Objectives and Indicators

4.1 Objectives

- To enhance CC's financial management efficiency
- To improve data quality related to finance and tax through precise transactions
- To reduce workload of officers in CCs

5. Relevant Organizations, Stakeholders and their roles and Responsibility

5.1 Role of Project Coordinating Office (PCO)

- PCO will engage an ICT Company as a subcontractor to develop the Integrated Financial Management System (IFMS).
- A subcontractor under PCO will install and set up the IFMS to CCs.
- PCO will assist to develop the capacity of CCs' personal in order to ensure sustainable utilization of IFMS both by management level users and by specific operational users.
- Adequate training program will also be conducted with a vision of developing IT experts in CCs who will be able to run and administer the newly implemented IFMS.

6. Necessary Tasks and Procedure

6.1 Development and installment of the integrated computer systems (Task-1)

6.1.1 Development of the Integrated Financial Management System (IFMS)

- In the process of development of software for the IFMS, CCs should provide necessary assistance to the subcontractor, such as provision of CC's needs/requirements on the system, information on current ICT environment in relevant sections/departments of CCs.
- IT sections in CCs should make sure that the IFMS is installed to relevant departments/sections and IFMS is functioning properly.

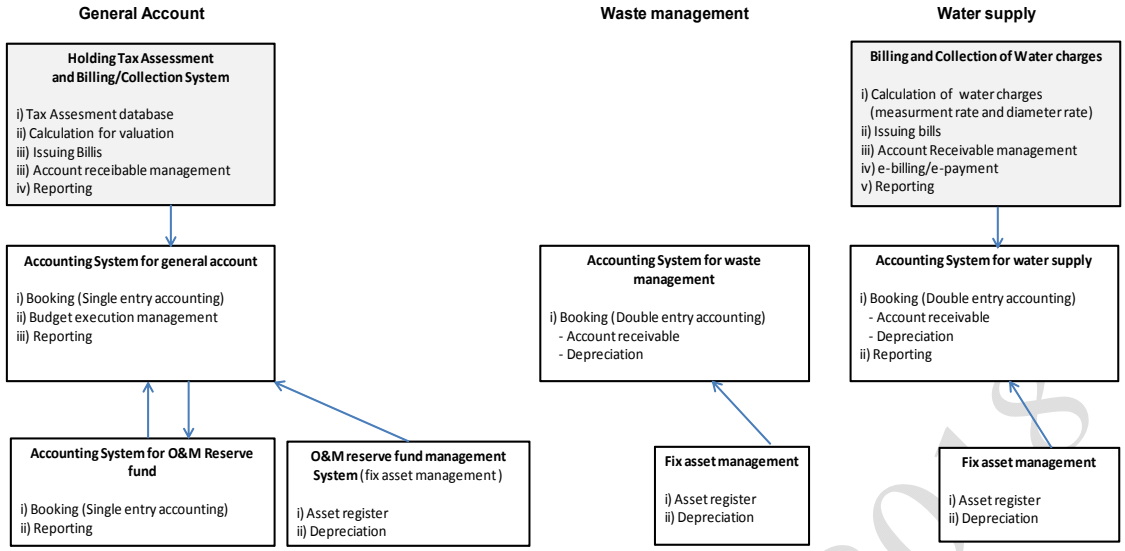
6.2 Ensure implementation of IFMS (Task-2)

6.2.1 Preparation for manual and training for CCs

- Technical Cooperation Project (TCP) will prepare Accounting Manual so that relevant officers can carry out daily transaction without hindrance.
- TCP will also provide training program related to accounting transactions to relevant officers in CCs.

6.2.2 Implementation of IFMS by relevant sections/departments

Each section in CCs (revenue departments, accounting section, water supply section, and conservancy department/section) should carry out daily transactions and tasks as described below in a system configuration diagram of IFMS,



(1) Revenue department

- Revenue department will be able to deal with registration, assessment, billing/collection of holding tax through though a sub-system, *Holding Tax Assessment and Billing/Collection*.
- Revenue department should carry out daily transactions (detailed functions of the sub-system are shown in Annex I).

(2) Accounting section

Accounting System for General Account

- Accounting section will be able to deal with accounting treatment related to general account through a sub-system, *Accounting System for General Account*.
- Accounting section should carry out daily accounting transaction on revenue account, development account and project account (detailed functions of the sub-system are shown in Annex I).
- Accounting section will be able to prepare budget based on accounting data, and to carry out budget control (revenue-expenditure) on demand.

Accounting for O&M reserve fund

- Accounting section will be able to deal with accounting transactions related to O&M reserve fund through a sub-system, *Accounting for O&M reserve fund*.
- Accounting section should carry out bookkeeping cash in/out O&M reserve fund (detailed functions of the sub-system are shown in Annex I).

Fixed asset management

- Accounting section will be able to deal with registration of newly constructed facilities and calculation of depreciation cost through a sub-system, *O&M reserve fund management*.
- Accounting section should carry out carry out daily transactions (detailed functions of the sub-system are described in Annex I).

(3) Conservancy department/section

Accounting System for waste management

- Conservancy department/section will be able to deal with accounting treatment related to waste management sector through a sub-system, *Accounting System for Waste Management Sector*.

- Conservancy department/section should carry out daily accounting transactions on waste management (detailed functions of the sub-system are shown in Annex I).

Fixed asset management System

- Conservancy department/section will be able to deal with registration of newly constructed facilities and calculation of depreciation cost through a sub-system, *O&M reserve fund management*.
- Conservancy department/section should carry out carry out daily transactions related to fixed assets of waste management (detailed functions of the sub-system are described in Annex I).

(4) Water supply section

Billing and Collection System for water charge

- Water supply section will be able to carry out (a) calculation of water charge, (b) issuing bills, (c) accounts receivable management, and (d) e-billing/e-payment through a sub-system, *Billing and Collection System for water charge*.
- Water supply section should carry out daily transactions (detailed functions of the sub-system are shown in Annex I).

Accounting System for waste management

- Water supply section will be able to deal with accounting treatment related to waste management sector through a sub-system, *Accounting System for Waste Management Sector*.
- Water supply section should carry out daily accounting transactions on waste management (detailed functions of the sub-system are shown in Annex I).

Fixed asset management System

- Water supply section will be able to deal with registration of newly constructed facilities and calculation of depreciation cost through a sub-system, *O&M reserve fund management*.
- Water supply section should carry out carry out daily transactions related to fixed assets of waste management (detailed functions of the sub-system are described in Annex I).

6.2.3 Monitoring and training for CCs by PCO

- PCO, in cooperation with a consultant under PCO, will carry out monitoring and review to ensure CCs properly implement financial management by using IFMS.
- PCO, in cooperation with a consultant under PCO, will provide necessary trainings with management level users and specific operational users in CCs in order for them to continuously use IFMS.

7. Implementation Schedule

Activity	Task / TOR	1st Year				2nd Year				3rd Year				4th Year			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
4.3 Establish integrated computer systems	Task 1: Develop and install the integrated computer systems which linked accounting-tax database–budget (the systems included functions of Financially Independent Accounting System and Reserve Fund for rehabilitation) in cooperation with PMO																
	Task 2: Ensure implementation of the integrated computer systems by training staffs in CC (the systems included functions of Financially Independent Accounting System and Reserve Fund for rehabilitation)																

8. Cost of Implementation (if necessary)

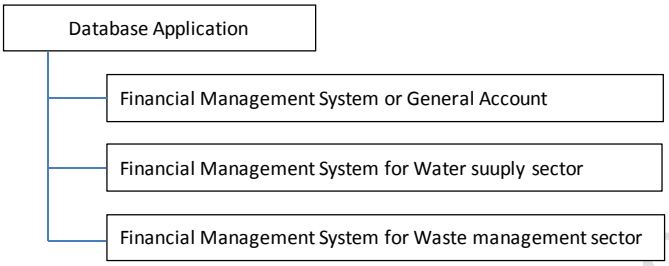
Software Development, Implementation Cost	
Description	**Total Amount**
Resource Cost	3,935,000.00
Food, Accommodation, Travel, Admin & Other Cost	1,235,660.00
DB & Reporting Tool License Cost	21,950,000.00
VAT, Tax + Profit margin	6,007,000.00
Total Cost	**33,127,660.00**

SL	Position	Staff Number	Person to Man-Month
1	Project Manager	01	7
2	Senior System Analyst	01	2
3	Senior Networking/System Administrator	01	3
4	Network Support Staff	01	1
5	Document Writer	02	6
6	Senior Software Engineer	02	8
7	Junior Software Engineer	04	16
8	Web (User Interface) Designer	01	2
9	Software Quality Assurance/Tester	02	4
10	Database Engineer	01	3
11	Trainer	05	10
12	Operator/Support Staff	05	10
	Total Number of Staff	**26**	**72**

Software Development, Implementation & Training Schedule																												
SL	Task	1st Month				2nd Month				3rd Month				4th Month				5th Month				6th Month				7th month			
	Week	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1	Client Requirement Specification (CRS) and Visit all CCs	1	2																										
2	System Requirement Specification (SRS)			1	2	3																							
3	Feasibility Study and System Analysis & Design				1	2																							
4	Demo Presentation get Approval of SRS and Start Development						1																						
5	Coding, Debugging & Internal Testing							1	2	3	4	5	6	7	8	9	#	#	#										
6	Implementation of Trial and Error Basis with live Testing and get final approval to Implement																			1	2								
7	Implementation and Training																					1	2	3	4	5	6	7	8
8	On the Job Training																					1	2	3	4	5	6	7	8

Annex I Concept of the Integrated Financial Management System (IFMS)

Based on a concept of new IT framework for financial management, the following modules and corresponding sub-systems of the Integrated Financial Management System (IFMS) is developed and installed to CCs.



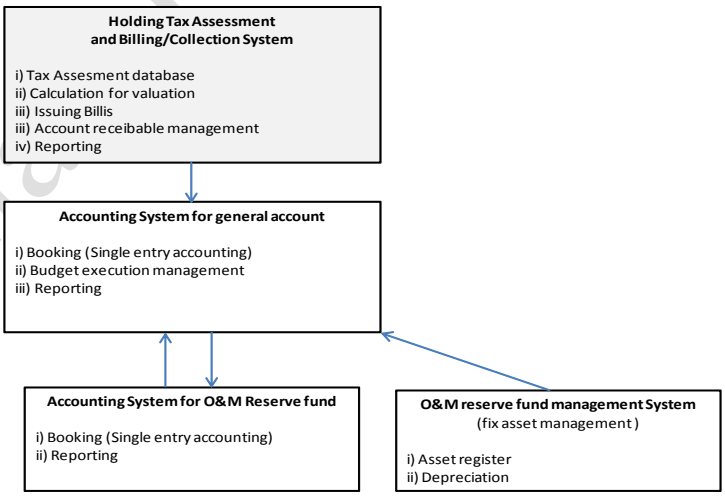
Main Modules

I. Financial Management System for General Account
II. Financial Management System for Water supply sector
III. Financial Management System for Waste management sector

I. Financial Management System for General Account

Financial Management System for General Account is a module for transactions related to General Account of CC. This module consists of four sub-systems[1]; (1) Holding Tax Assessment and Billing/Collection, (2) Accounting for General Account, (3) Accounting for O&M reserve fund, and (4) O&M reserve fund management. Each sub-system is a stand-alone system. Data exchange between the sub-systems is not planed in short term perspective, necessary data input one from another will be done through accounting transaction in manual.

The sub-system (1) will be located in Revenue Department, and the sub-system (2)(3)(4) will be located in Accounting Department[2].



(1) Holding Tax Assessment and Billing/Collection System

[1] It is planed that the module expands several sub-systems in future (e.g. trade license system). Taking into account future expansion of the sub-systems, it is necessary to design that the module has flexibility.
[2] Accordingly main users for i) are tax assessment & collection officers in Revenue Department, and for ii), iii) and iv) are account officers in Accounting Department.

i) Outline

Holding Tax Assessment and Billing/Collection System is a sub-system for registration, assessment, billing/collection of holding tax in CCs. All relevant transactions, which are currently carried out in manual (e.g. registration, evaluation), will be computerized by this new system.

A prototype of the software of holding tax assessment has been developed and installed in RCC in the last year. And also the tax billing/collection software exists in the targeted CCs. However, in reality it is difficult to interface between two systems because an application of the existing billing/collection software is out of date. In consideration with the current IT environment, *Holding Tax Assessment and Billing/Collection System* should be newly developed through modifying and integrating the existing two systems.

ii) Functions

- To record all data/information related to holding tax management.
- To calculate and re-evaluate valuation of holdings.
  - In case that reduction/remission toward the final valuation is made through petition procedure in CCs, the system should keep records of both the final valuation and the amount of reduction/remission.
- To issue bills same as a previous format
- To recognise collection status from each tax payers (e.g. instalment, paid amount, arrears and others), and method of payment (cash payment or bank transfer). The system should have functions of swift tracking, reference, amendment, monitoring and other procedures.
- E-billing/e-payment
- To generate required reports

iii) Reporting

- Bills for subscribers
- Holding tax register
- A slip of received tax payment
  - A slip should be mentioned category wise amount (i.e. tax on buildings and lands, lighting rate, conservancy rate, and water rate). A slip should be issued monthly basis.
- Others (to be determined through requirement survey)

(2) Accounting System for General Account

i) Outline

Accounting System for General Account is a sub-system for accounting treatment related to general account of CC. The system will deal transactions related to revenue account, development account and project account (except water supply and waste management). A method of bookkeeping is a single-entry accounting system. Basically cash basis accounting transaction will be applied (except reconciliation transactions at the end of month/year).

The system should have functions for budget management. Budget management means; output budget format, timely check of financial position (i.e. budget – budget execution = balance), category wise budget control, and so on.

ii) Function

- To book relevant accounting transaction as a single entry bookkeeping. The system should have functions of swift tracking, reference, amendment, monitoring and others.
- To generate budget formats and budget execution management sheets by linking account code and budget code.

- As account code will have four layers (i.e. first layer code - second layer code - third layer code- fourth layer code), data input window should has four input cells.
- To prepare budget formats and budget execution management sheets, data input window for budget code/name/amount is required.

➢ To generate required reports

iii) Reporting

➢ General ledger
➢ Cash books for revenue A/C, development A/C and project A/C
➢ Statement of income and expenditure
➢ Existing Budget format
➢ Budget execution management sheet (i.e. budget – budget execution = balance)
➢ Others (to be determined through requirement survey)

(3) Accounting System for O&M reserve fund

i) Outline

For CCs to secure future expenditures for capital repair cost (i.e. large scale rehabilitation cost), a scheme of reserving provisions will be established in CCs' budget system. For proper implementation of O&M reserve fund, Special Account will be established under a separate bank account. *Accounting for O&M reserve fund* is a sub-system for accounting transaction related to O&M reserve fund. The system should have a function of bookkeeping cash in/out O&M reserve fund.

ii) Function

➢ To book relevant accounting transactions from General A/C to Special A/C (for reserving fund), from Special A/C to General A/C (for expending capital repair cost from Development A/C).
➢ A single entry bookkeeping should be applied. The system should have functions of swift tracking.
➢ To generate required reports

iii) Reporting

➢ Statement of income and expenditure
➢ A slip of received fund form General A/C, and a slip of transferred fund to General A/C
➢ Others (to be determined through requirement survey)

(4) O&M reserve fund management

i) Outline

Along with establishment of Special Account for O&M reserve fund, new system for calculation of reserve fund is required. *O&M reserve fund management* is a sub-system for registering newly constructed facilities, calculating depreciation cost as the amount required for reserve fund. Based on the result of calculation of depreciation cost, fund transfer from General A/C to Special A/C will be carried out.

ii) Function

➢ Asset register for newly constructed facilities
➢ Calculation for depreciation cost (straight line method: initial investment cost * 5% for 20 years)
➢ To generate required reports

iii) Reporting

➢ Asset registration (acquisition cost, depreciation cost, accumulated depreciation, book value, useful life, depreciation rate and so on)

- A slip of monthly depreciation cost
- Others (to be determined through requirement survey)

II. Financial Management System for Water supply sector and Waste management sector

Please see *the Guidelines for Financially independent accounting system in water supply and waste management sector* in detail.

III. Financial Management System for Waste management sector

Please see *the Guidelines for Financially independent accounting system in water supply and waste management sector* in detail.