2.2.4 Implementation/Procurement Plan

2.2.4.1 Implementation/Procurement Policies

(1) Basis for Project Implementation

Following examination by the Japanese organizations concerned based on this report, the Project will require the approval of the Cabinet of the Japanese government for its implementation. The Exchange of Notes (E/N) regarding project implementation will then be concluded by the two governments and a Grant Agreement (G/A) will be concluded between the JICA and Government of Malawi. Based on the Agreed Minutes on the Procedural Details (A/M) attached to the E/N which define the details of the implementation procedure and the G/A, the Government of Malawi will conclude an Agent Agreement (A/A) with a Japanese procurement agent and will entrust the agent with the implementation of the Project. The Procurement Agent will implement the Project on behalf of the Government of Malawi, will manage the funds and various contracts (with the supervising consultant, contractors and equipment suppliers) and implement progress management in view of the smooth implementation of the Project.

(2) Council

Following the conclusion of the E/N and G/A, the two governments will establish a Council as a place for discussion and coordination to ensure the proper and effective implementation of the Project. The Council will consist of members of the Ministry of Education, Science and Technology (MoEST) and JICA Malawi Office and will establish, as required, a working group chaired by a person from the Malawian side as a subordinate organization of the Council. The council will be attended by representatives of the Procurement Agency on the Japanese side as advisors.

(3) Implementing Organization on the Malawian Side

The Ministry of Education, Science and Technology (MoEST) will be responsible for the implementation of the Project on the Malawian side. The Education Planning Department of the MoEST will be the implementation agency responsible for the coordination of the entire project and activities, including the necessary budgetary measures. The Education Planning Department will supervise the organizations concerned regarding the work to be conducted by the Malawian side, such as land development and electricity and public water extension, to implement the work and obtain the necessary licenses and agreements. The Ministry of Foreign Affairs and International Cooperation in Malawi will be in charge of the conclusion of the E/N by the two governments for the implementation of the Project.

(4) Procurement Agent

The Procurement Agent will conclude an A/A with the MoEST, the implementation agency on the Malawian side, and will select a Japanese consultant to be in charge of construction supervision, local contractors and local equipment suppliers according to this contract and will conclude a contract with each of them for the implementation of the Project. The Procurement Agent will appoint the following personnel to conduct its work.

- General Manager

  - To serve as the representative of the Procurement Agent for the Project and to conduct the overall supervision of the work assigned to the Procurement Agent.

  - To visit the project site at the start of the Project as well as at the times of bid evaluation, contract signing, completion of the facilities and completion of the assigned work with a view to making appropriate reports on the state of bid evaluation, work progress and equipment procurement to the relevant organizations.

- Full-Time Assistant Manager On Site

  - To stay throughout the project period from its commencement to its completion to act as an on-site representative of the Procurement Agent in relation to all stakeholders, including the Government of Malawi, Embassy of Japan in Malawi and JICA Malawi Office as well as the Contractor and on-site Japanese consultant in order to conduct the necessary liaisoning and work coordination.

  - To assist the general manager in the selection of local contractors and equipment suppliers by means of checking the tender documents and evaluating the bids.

  - To check the tender documents prepared by the Japanese consultant (drawings, specifications, BQ and order forms).

  - To confirm the state of work supervision by the Japanese consultant by means of periodic reports and site visits, to provide guidance, advice and improvement instructions as required and to coordinate with the relevant organizations.

  - To conduct acceptance inspection to verify the details of the reports on intermediate inspection, completion inspection and defect inspection conducted by the Japanese consultant and to control the project funds for the purpose of making payments.

(5) Supervision Consultant

The work supervision for the Project will be conducted by a Japanese consultant as the prime consultant and on-site supervision will be conducted using local consultants and engineers. With the recommendation of the JICA, the Japanese consultant will conclude a supervision contract with the Procurement Agent and will conduct (i) the work to assist the tender to be organized by the Procurement Agent and (ii) the supervision of the construction work.

(6) Contractors/Equipment Suppliers

The contractors/equipment suppliers selected through the tender process in accordance with a construction or procurement contract concluded with the Procurement Agent as well as the contract documents will implement the construction and procurement within the due date for implementation.

(7) Implementation System

The figure below shows the implementation system for the Project.

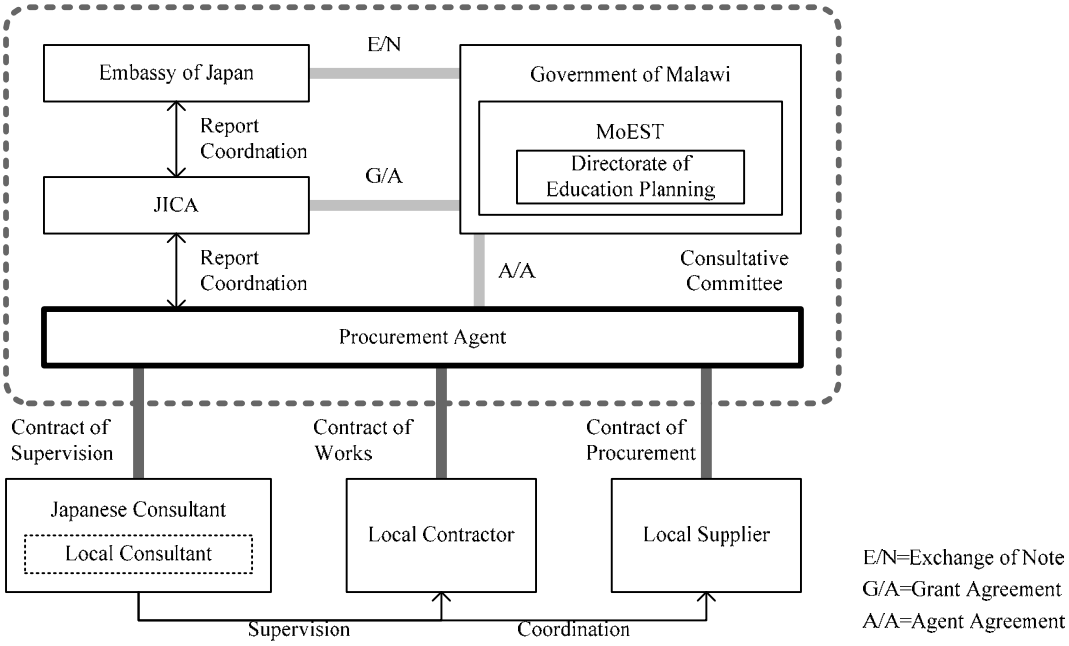


Figure 2-2 Conceptual Diagramme of Implementation System

2.2.4.2 Implementation Conditions

(1) Skill Level of Workers

Because of the general shortage of skilled workers, it is preferable to opt for the use of major local construction companies with many skilled workers. No specific problems regarding the recruitment of labourers are anticipated as the project site is located in the capital region.

(2) Transportation Conditions

The project site in the Nalikule area is located at the junction between a paved trunk road (M5) (9 m wide two track road) linking Lilongwe with Salima in the central east and an unpaved access road from Lilongwe International Airport and is a drive of some 20 minutes (13 km) from the city centre. No problems are anticipated in regard to the transportation of equipment, etc. using large vehicles all year round.

(3) Contractors

1) Definition of Registration Systems and Contractors in Recipient Country

Malawian contractors, suppliers and consultants must be registered under the following three systems.

Registered Contractor System 1: Under the Companies Act

In Malawi, the Companies Act 1984 introduced by the Ministry of Justice specifies the registration procedures required to obtain corporate status. With the assistance of a lawyer, a company must usually draw up two documents, i.e. ① Memorandum of Association and ② Articles of Association, and submit an application to the Registrar General in Blantyre to obtain a Certificate of Incorporation. Under this law, foreign and domestic contractors are not distinguished by definition.

Registered Contractor System 2: Under NCIC

The National Construction Industry Council (NCIC) was formed by law and is run by staff of private companies dispatched from the Malawi Institute of Construction, Malawi Institute of Architects and Malawi Institute of Engineers which are members of the Council. To obtain the necessary qualifications to implement construction work in Malawi, consultants, contractors and suppliers should register with the NCIC. Following registration, they are obliged to renew their registration every year with payment of a renewal fee.

Contractors are included on the list of registered members, categorised by type of work (such as construction, civil engineering or electricity) and scale of work for which they can receive orders. The criteria for qualification for registration are the company size (capital, number of qualified engineers and amount of equipment owned).

Meanwhile, foreign contractors and recipient-country contractors are classified in the "Procedures for Registration of persons Engaged in the Construction Industry" published by the NCIC into the three types shown below.

Table 2-33 List of Definitions of Company Classification (Source: NCIC)

Company	Definition	Remarks
Malawian company	Malawian companies are those owned by indigenous Malawians with more than 51% of the capital originating from within Malawi.	Malawian owner and more than 51% of the capital from within Malawi
Local company	Local companies are those owned by non-Malawians but with more than 51% of the capital originating from within Malawi.	Non-Malawian owner and more than 51% of the capital from within Malawi
Foreign company	Foreign companies are those owned by non-Malawians and with more than 51% of the capital originating from outside Malawi.	Non-Malawian owner and more than 51% of the capital from outside Malawi

Site surveys and interview surveys with consultants were conducted regarding facilities constructed under similar projects (Secondary Schools funded by WB and AfDB, TTCs and the University of Malawi) in terms of the technology level and work performance. The results revealed that the majority of the facilities were constructed by contractors classified as local companies and that, from the viewpoint of quality management and schedule control, these companies have sufficient experience to conduct construction work on a scale equivalent to the Project.

Registered Contractor System 3: Under the Malawi Revenue Authority (MRA)

After completing registration under the two registration systems described above, contractors should register with the Malawi Revenue Authority (MRA) to obtain a Tax Payer Identification Number (TPIN) required for paying tax. It must be noted that foreign and recipient-country contractors are not distinguished in the registration conditions nor in the registration procedures.

2) Information on Contractors Capable of Submitting Bids

Number of Contractors Capable of Submitting Bids When a Project is Limited to Recipient-Country Contractors

When a project is limited to recipient-country contractors, only Malawian companies are able to submit bids. Considering the construction scale of the Project amount, the contractors will be selected among the firms classified in the "unlimited" or "up to 500 million MWK" for the

acceptable contract amount. According to the information given by NCIC/20.09.2011, 15 firms (10 Local firms and 5 Malawian firms) are applicable. A tender for the Project is believed to be viable with this range of firms as those with relevant past records are included.

(4) Construction Delays

The interview survey with the MoEST as well as local consultants and contractors with a past record of similar projects found that construction delays frequently occur. The table below shows the main causes of construction delay.

Table 2-34 Main Causes of Construction Delay

Causes of Construction Delay	Remarks
a. Delay at the start of construction due to inadequate surveying	For the Project, site surveys and ground surveys will be locally subcontracted. As test drilling for a borehole will also be conducted prior to the start of construction, such delay is unlikely to occur.
b. Shortage of supply of locally procured materials	The main construction materials which can be procured domestically are cement, aggregates, windows and doors. There are two cement manufacturers in the country. Schedule control is required for aggregates in order to obtain the required amounts in advance as some are expected to be manually crushed. Procurement control for the windows and doors is required in order to allow ample manufacturing time as these are required in large quantities.
c. Delay of payment by orderer	Regardless of the NCIC class, contractors that are in a poor financial state cannot prepare for the next process, causing a construction delay.
d. Abrupt design changes by orderer	The details of such changes are unknown.
e. Interference by the rainy season	It is advisable to commence construction in or after April when the rainy season has finished.

Of the causes listed above, the principal cause is the excessively long time lag from billing to the receipt of payment. In many cases, it takes approximately three months from billing to payment, causing the poor financial state of contractors regardless of their NCIC class registration and rendering them unable to prepare for the next process, therefore causing frequent construction delays. It is also necessary to pay attention to measures to prevent construction delays, such as (1) close investigation of the financial state of contractors at the time of the PQ, (1) improved efficiency of the payment approval process from billing to payment and (3) increased ratio of advance payment.

(5) Measures for Tax Exemption

Tax exemption measures should be applied to the procurement of all supplies/equipment and services related to the implementation of the Project under Malawi's tax laws. Discussions with the Ministry of Finance and the Malawi Revenue Authority (MRA) have confirmed that the application of tax exemption measures under the Project is possible based on the assumption that a Grant Agreement (G/A) is signed by the Finance Minister. The tax exemption methods and procedures vary depending on the subject. The table below shows the details of the tax exemption measures and precautions regarding different subjects.

Table 2-35 List of Tax Exemption Procedures by Target (Source: Ministry of Finance and MRA)

Item and Timing	Procedure		
After Conclusion of the Contract	The Procurement Agent should submit (1) a letter to the MRA applying for the "Free Status" of VAT and Customs Duty for the Project. Tis letter should be accompanied by the G/A, A/A and a copy of the contracts with the contractors.		
Subject Category	VAT Exemption	VAT Refund	Customs Duty
	Locally procured construction materials and supplies/equipment	Services, such as consultant contracts and lawyer contracts, etc.	Imported materials and equipment
Prior Approval	The responsible department of the MRA at Petroda Glass House (Lilongwe) will issue a letter of approval to the Procurement Agent.		The responsible department of the MRA at Msonkho House (Lilongwe) will issue a letter of approval to the Procurement Agent
Application	Application for tax exemption for supplies/equipment before purchase using Exemption Form ST14 with the letter of approval attached. Each application can be made directly by the contracted contractors if the letter in (1) above specifies the contractor's name	Application for tax exemption after contract conclusion using Exemption Form ST11 with the letter of approval attached. It is customer for applications to be accepted in three months.	Application for tax exemption after the arrival of the imported materials and equipment at Lilongwe Port or Blantyre Port using Custom Declaration Form 12 with the invoices for the imported products and letter of approval attached. It is customary for the Customs Agent of the contractor to prepare for the process. A staff member of the MoEST, the beneficiary, must go to the port in person to sign the papers.
Approval	The MRA reviews and approves the application.	The MRA reviews and approves the application.	The MRA reviews and approves the application.
Purchase or Payment and Receipt of Procured Items	The contractors can purchase tax-free items by presenting an approved ST14.	Payment is made including VAT.	Imported tax-free items are received after customs clearance. For freight arriving at Blantyre Port, application for customs clearance can be made in Lilongwe.
Refund	-	Tax exemption measures are not legally possible. A cheque is sent instead to the Procurement Agent.	-
Others	Labour costs are not subject to tax exemption. The renting of vehicles and offices for use by consultants for which the "exclusive use for the Project" cannot be clearly identified is unlikely to be approved as a tax exemption subject.		

(6) Contract and Dispute Settlement

Disputes arising from construction work in Malawi are settled by fixed procedures: (a) settlement by means of consultation between the contracting parties, (b) arbitration by the arbitration organization

specified in the contract and (c) settlement in court, in that order. There are three organizations in Malawi to which companies can apply for a ruling or arbitration/mediation in regard to construction contracts, i.e. (1) the NCIC, (2) the Office of the Director of Public Procurement (ODPP) and (3) the Architects and Quantity Surveyors Registration Board.

All three organizations have arbitration/mediation procedures in accordance with the Arbitration Rules 2009 Edition issued by the NCIC. The ruling procedures have not yet been established and are conducted according to the Arbitration Rules 2009 Edition as there are no other such guidelines. Please note that the actual ruling and arbitration/mediation procedures are only performed by the NCIC and that the other two organizations, on receipt of an application, entrust any further procedures to the NCIC.

The persons conducting the actual process of ruling or arbitration/mediation are selected from a list of registered arbitrators (approximately 20 persons) managed by the NCIC. These registered persons are arbitrators approved by the Institute of Arbitration in Tanzania (there are no organizations with a similar function in Malawi). The NCIC provides applicants, including registered persons, with training for approximately one week twice a year.

None of the projects implemented by the EIMU have ever encountered dispute settlement. The NCIC rules on disputes about twice a year and arbitrates/mediates on cases three or four times a year. Of these cases, the ODPP receives an initial application about once every two years. The cost of dispute settlement is some 40,000 MWK/five days (the precise amount is being checked by the NCIC). An interview survey with a local law firm revealed that few actual disputes escalate into court cases. However, past cases include a motion for complain against contract termination by an owner and refusal of final payment by an owner because of failure to meet the required quality.

2.2.4.3 Scope of Work

(1) Lot Division of Contract

The basic principles for lot division are explained below. The important issues to be considered in relation to lot division include the unit scale of the facility construction work, priority ranking of each facility and a flexible plan capable of accommodating project cost fluctuations. However, it is noted that the final lot division shall be determined in an implementation stage so that highly capable construction companies would participate in tender positively.

Facility Construction

Given the fact that the planned facilities under the Project will be clustered based on their functions, their division into four lots as listed below is appropriate. There are two priority ranks of A (first priority) and B (second priority). A group shall be divided into two as Lot 1 (Educational facilities of college) and Lot 2 (Student hostels), and B group shall be Lot 3 (Affiliated secondary school) and Lot 4 (Staff houses). While the components of each facility group function as integral parts of the group, the scale of staff houses can be quantitatively altered easily. For this reason, the final number of staff houses will only be determined based on the finalised project cost breakdowns in order to absorb any cost fluctuations of the planned facilities.

A group (first priority)

Lot 1: Education facilities of the college (facilities in the administration block, library block, classroom block, laboratory block and multi-purpose hall block)

Lot 2: Hostels (hostels for males and hostels for females)

B group (second priority)

Lot 3: Affiliated secondary school

Lot 4: Staff houses

Equipment Procurement

The equipment to be procured under the Project is classified into educational furniture, laboratory equipment and computer equipment which will be procured from local suppliers. The suppliers will be selected through a tender for equipment procurement divided into three lots as Lot 5 (educational furniture), Lot 6 (laboratory equipment) and Lot 7 (computer equipment) in this tender.

Table 2-36 Lot Division

Lot No.	Facility	First Priority	Second Priority
1	Educational facilities of the college	Buildings of the administration block, library block, classroom block, laboratory block, multi-purpose hall block and their auxiliary facilities	-
2	Hostels	Hostels for males and hostels for females	-
3	Affiliated secondary school	-	Administration/library building, classroom building, laboratory building and toilet building
4	Staff houses	-	20 staff houses
5	Furniture	Furniture for educational facilities at the college and hostels	Furniture for the affiliated secondary school
6	Equipment	Laboratory equipment for the college	Laboratory equipment for the affiliated secondary school
7	Equipment	Computers and peripheral equipment for the college	-

(2) Tender Plan

The tender will be conducted in accordance with the JICA's Procurement Guidelines for Grant Aid for Community Empowerment while taking the guidelines for public sector procurement in Malawi and the general procedures and conditions employed by the MoEST and other donors for local tender into consideration. After receiving the reference materials for the tender from the JICA, the MoEST will forward them to the Implementation Agent after checking their contents. The said Agent will review these materials and compile the finalised tender documents after their adjustment if necessary and their approval by the MoEST.

For the Project, the important issue to be considered regarding the tender include setting appropriate qualification conditions to ensure a competitive tender and reliable construction capacity of the successful bidders. It is expected to attract those companies highly ranked on the NCIC register for the tender so that the required work management system and work quality can be achieved..

Selection of Contractors

In view of the outcomes of the tenders for similar projects in the past, a conditional competitive tender to ensure the smooth implementation of the Project will be adopted, nominating highly capable construction companies among those which have been on the official list published by the NCIC for the last certain consecutive years, whose status on the list during the same period has not been "Foreign", whose category is "500 million MWK or Unlimited in Building branch" on the list.

The actual selection criterion is that a NCIC-registered successful contractor meets the required conditions for the value of orders received for construction work in the past five years (consecutively above the required value of construction work to be won in a single year), the total amount of work for facilities of a similar scale in the past five years, qualifications and career background of engineering staff, state of ownership of the necessary equipment and machinery, financial health and amount of current assets which can be mobilised for the contract in question. In addition, the capacity of the potential contractor to absorb a certain scale of the tender is considered to be an essential indicator of such contractor's ability to conduct the contracted work for the judgement on qualification.

Selection of Furniture/Equipment Suppliers

The procurement of educational furniture and equipment are commonly conducted by means of a general competitive tender with restrictions regarding the qualifications to participate in the tender. This local selection method will be adopted for the Project. However, as all of the planned pieces of furniture will be procured as a single package, the manufacturing capacity and technical capability of local manufacturers must be carefully examined to ensure the implementation of the Project. For

this reason, past records of the successful supply of similar items in similar quantities will be emphasised in the pre-qualification process along with the financial strength.

2.2.4.4 Construction Supervision Plan/Procurement Supervision Plan

The Consultant in charge of work supervision for the Project should conclude a contract with the Procurement Agent and conduct the work under the guidance of the Procurement Agent. The specific activities of the Consultant at each stage are described below.

Tender Stage

- Support for the creation of the tender documents: Review of the tender reference documents (including the implementation design) created in the outline design study in order to support the creation of the tender documents

- Assistance for the tender: Provision of technical support for the tender to be organized by the Procurement Agent

Supervision Stage

- Creation of standard documents for supervision: Creation of a check list summarising the check items for construction supervision and standard forms for reports on various tests, inspection results and regular reports

- Construction supervision: Dispatch of resident engineers or third country engineers to the sites and, using the construction supervision forms mentioned above, implementation of inspections to ensure the construction quality, compliance with the construction schedule and safety. The Chief Supervisor should periodically visit all sites to manage the progress of the entire project and to provide guidance for the resident engineers to ensure a uniform construction quality.

- Response to design alterations: In the case where changes of the design or contract are judged to be necessary, assistance for the work to alter the design or contract under the instruction of the Procurement Agent. As part of this work, compilation of a paper detailing the intended design alterations as specified by the JICA rules and application for approval of the alterations in Japan.

- Assessment of workmanship: In response to billing by the contractors, checking of the completed volumes under the instruction of the Procurement Agent and reporting of the results to the Procurement Agent.

- Implementation of completion inspection: At the time of construction completion, implementation of a completion inspection and reporting of the results to the Procurement Agent.

- Implementation of defect inspection: At the time of the expiration of the defect warranty period, implementation of a defect inspection and reporting of the results to the Procurement Agent.

2.2.4.5 Quality Control Plan

Based on the assumption that the planned facilities will be constructed by local contractors, the quality control procedures described below should be performance in conformance with the local standard designs and construction methods which the focus on building frameworks which have a significant effect on such basic performance as strength and durability. The test methods and material specifications should basically conform to the standards commonly adopted in Malawi.

Table 2-37 Quality Control Items

Item	Method
Ground conditions at the site	• The condition of the foundation beds should be confirmed by visual inspection and compared with the test results. • In the case where there appears to be a risk of the bearing capacity being below the required level, a soil loading test should be conducted to confirm the bearing capacity.
Building layout	• The layout of the buildings should be confirmed in the presence of the Consultant and contractors after establishing benchmarks using a measuring device.
Reinforcing bars and steel beams	• A mill sheet should be submitted for confirmation of the material quality by supplier and type and a tensile test should be conducted for each reinforcing bar diameter in an authorised laboratory
Inspection of reinforcing bar work	• The reinforcing bar work should be inspected in the presence of the Consultant and contractors to confirm the accuracy, quantity, position, joint and anchor length of the reinforcing bars and the installation status of the spacers.
Cement	• A test result report should be obtained from the manufacturer to confirm the material quality. • The storage environment for the cement and the number of cement bags to be piled up should be controlled to avoid any damage due to moisture which may harden the material.
Aggregates	• A test should be conducted for each site by an authorised laboratory to confirm the mass, particle size distribution and water absorption ratio of the aggregates to be used. • The maximum particle diameter, silt content and water content, etc. should be confirmed by visual inspection for each delivery at the sites.
Concrete	• A water quality test for the mixing of the water for concrete should be carried out at each site by an authorised laboratory. • Mixing by volume should be adopted as the standard mixing method and the 28 day compression strength should be confirmed through trial mixing. • The water-cement ratio should be determined by a slump test and the ratio should be less than the specified maximum value in the specifications. • A compressed strength test should be conducted to confirm that the average 28 day strength of three specimens is higher than the design standard strength.
SSB	• A compressive strength test should be conducted by an authorised laboratory to confirm the necessary strength. • The maximum height of the piled blocks should be 1.2 meters and the pile should be covered by a protected sheet.

Concrete blocks	• A compressive strength test should be conducted by an authorised laboratory to confirm the necessary strength. • The maximum height of the piled blocks should be 1.2 meters and the pile should be covered by a protected sheet.

The main quality control items listed above will be compiled into a check sheet by the supervision consultant in advance for its uniform use at the construction sites. At each stage of the construction work, the sheet will be used by both the resident supervisor of the Consultant and the engineer of the Contractor to ensure proper quality control and the completed sheets will be filed as stored records.

2.2.4.6 Procurement Plan for Equipment, Materials and Others

The construction materials produced in Malawi are limited to cement and secondary concrete products, SSBs (made on site) and timber. The majority of other materials are imported from mainly South Africa and those imported materials which are commonly used for local construction methods are regularly available in the market. As the construction materials and equipment to be used for the Project conform to the local specifications and standards and are mainly general-purpose materials commonly used locally for standard school construction work, they can be procured locally via local suppliers or import agents. In the case of windows and doors, as the number of local manufacturers is limited, it is essential to supervise their procurement so that they are ordered at an appropriate time to avoid any adverse impacts on the overall construction schedule.

The following table shows the planned procurement sources for the construction materials.

Table 2-38 Procurement Sources for Materials

Construction Material	Country of Procurement		Remarks
	Malawi	Third Country	
Building materials			
Cement	O		Domestic product is available in Malawi
Sand (fine aggregate)	O		River sand near the site
Crushed stone (aggregate)	O		Procured from a crusher plant near the site
Reinforcing bars	O		Marketed materials made in South Africa in accordance with SABS standards
SSBs	O		Produced at each site
Wooden trusses	O		Produced at each site
Roofing (iron sheets)	O		Marketing material made in South Africa in accordance with SABS standards
Timber	O		Domestic material for the Northern Province
Plywood forms	O		Domestic product available in Malawi
Concrete blocks	O		Produced at each site
Wooden/steel windows and doors	O		Produced at a domestic factory with technical/production capabilities
Hardware	O		Marketing materials made in Europe or South Africa
Glass	O		Marketed materials made in Europe or South

			Africa
Paint	O		Marketing mixed paint made from South African products
Mechanical materials			
Pipes and fixing parts	O		Imported materials marketed in Malawi
Sanitary ware	O		Marketed products made in Europe or South Africa
Equipment (pumps, etc.)	O		Marketing imported equipment which is easy to maintain
Electrical cables	O		Products marketed in Malawi
Lighting fixtures	O		Marketed local products for maintenance, such as parts replacement
Distribution panels	O		Produced and procured by a reliable receiving/transforming equipment manufacturer in Maputo
Others			
Kitchen equipment	O		Products made in South Africa can be procured

Although the range of building materials, etc. produced or manufactured in Malawi is limited as mentioned earlier, all of the materials and equipment to be procured under the Project, including imported products, are widely marketed in Malawi. Depending on the judgement of the Contractor, it may be feasible to procure certain materials in large quantities from a third country by establishing a specific procurement route for the Project. For the purpose of estimating the project cost, it is assumed that all materials and equipment, including imported products, will be procured in Malawi.

2.2.4.7 Implementation Schedule

Assuming that the Project is implemented under the JICA's Grant Aid for Community Empowerment Scheme, the implementation schedule after the signing of the E/N and G/A by the two governments as well as the A/A and Consultant Agreement between the parties concerned is planned as described below.

< Order of the Tender >

Based on the anticipated difference in the timing of order placement, the tender will firstly be held for the construction works the period of which is longer than that of the furniture and equipment. With a view to increasing the efficiency of the work and reducing the project cost, the tender for the construction works compiling Lot 1 to Lot 4 as the Batch 1will take place first, and the tender for Lots 5, 6 and 7 will take place together as the Batch 2 tender.

Each tender will feature several components (lots) as summarised below.

- Batch 1: Construction work

  The first priority facilities: Lot 1 (educational facilities) and Lot 2 (hostels)

The second priority facilities: Lot 3 (affiliated secondary school) and Lot 4 (staff houses)

- Batch 2: Procurement of the equipment:

  Lot 5 (educational furniture)
  Lot 6 (laboratory equipment)
  Lot 7 (computing equipment)

The contents of each batch are outlined in Table 2-39.

Table 2-39 Outline of Each Batch

Batch No.	Lot No.	Facility Component	Construction Work		Furniture and Equipment
			Total Floor Area of First Priority Facilities	Total Floor Area of Second Priority Facilities	
1	1	Educational Facilities	5,743.78m2	-	-
	2	Hostels	6,842.90 m2	-	-
	3	Affiliated Secondary School	-	1,488.33 m2	-
	4	Staff Houses	-	1,620.00 m2	-
	Total Floor Area 15,695.21 m2		12,435.68 m2	3.108.33 m2	-
2	5	-			Necessary educational furniture
	6	-			Necessary laboratory equipment, etc.
	7	-			Necessary computing equipment

< Tender Method >

The following basic principles are adopted for the tender, taking past projects implemented under the Grant Aid for Community Empowerment Scheme and the tender results of Phase 1 of the CDSS into consideration.

- The scope of the tender for Batch 1 will be those facility components which can be constructed with the project funds minus the procurement budget for furniture and laboratory equipment and 3% of the amount agreed in the E/N (contingency fund for the construction work and furniture and laboratory equipment procurement).

- If the bid price of Batch 1 exceeds the scheduled price in the tender, part or all components of the facility in Lot 3 and Lot 4 as classified in second priority will be cancelled in accordance with the excess and will be excluded from the contract. Conversely, if the bid price produces surplus funds, the surplus funds will be used to add an extra number of certain facility components of which the number was reduced by the preparatory survey. These additional facilities will be either subject to an additional order to the contractor or added at the stage of bid evaluation prior to the signing of the contract.

- If the bid price for furniture and laboratory equipment in the tender for Batch 2 exceeds the proper bidding price, the quantity of furniture which cannot be procured within the project budget will be procured by the Malawian side at its own expense.

< Construction Schedule >

Based on the actual performance of the work to construct a similar TTC in the past and the findings of interviews with local consultants and local construction companies, it is assumed that the main construction work will take 22 months to complete. Inclusive of the preparation period and periods required for completion inspection and handing over, the overall construction period is set at 24 months. Meanwhile, the equipment procurement and installation is expected to take 15 months to complete, the period of which will be arranged within the overall construction period.

The overall project implementation period is expected to last for 31.5 months as shown in Fig. 2-3 as this period includes the preparatory periods required by the Procurement Agent before and after the Project and other necessary periods.

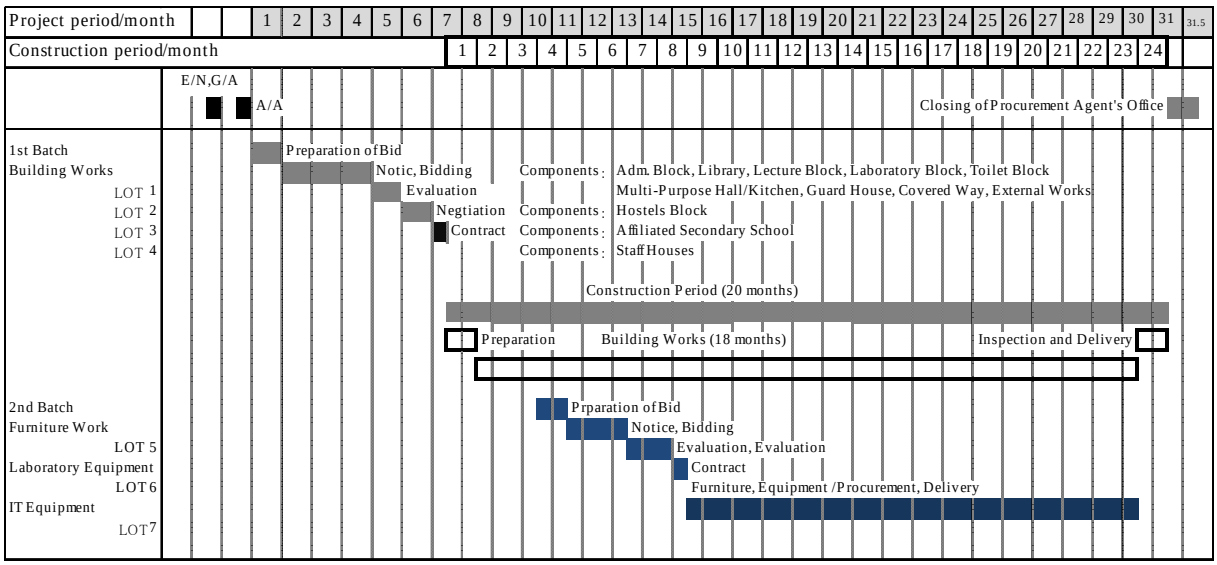


Fig. 2-3 Project Implementation Schedule

2.3 Obligations of the Recipient Country

The Malawian side will have a number of obligations as listed below in connection with the implementation of the Project.

- The Malawian side must provide the land for the construction of the planned facilities and must remove all existing structures, trees and others which may obstruct the construction work. (Prior to the commencement of the construction work)
- The Malawian side must complete all procedures relating to environmental and social considerations and must obtain the construction permits, etc., all of which are necessary for the implementation of the Project. (Prior to the commencement of the construction work)
- The Malawian side must conduct the construction of the outdoor sports facilities, planting and other outdoor work whenever such work is found to be necessary as these are not included in the scope of the Japanese assistance. (After the commencement of the construction work)
- The Malawian side must extend the power service line to the site, conduct the installation work of the power substation necessary to distribute low voltage power line to the planned facilities and install the necessary meters. (During the construction work)
- The Malawian side must extend the public water supply pipelines to the planned reservoir tank to be installed with Japanese assistance at the site and install the necessary water meters and stop valves.(During the construction work)
- The Malawian side must procure general furniture, teaching aids, equipment, fixtures and fittings which are not included in the scope of the Japanese assistance.
- The Malawian side must pay the banking fees/commission to a Japanese bank based on the banking agreement.
- The Malawian side must ensure the swift customs clearance of the products to be procured under the contracts and swiftly complete the procedures regarding domestic transportation, etc.
- The Malawian side must exempt the products to be procured based on the contracts, Japanese nationals and their services relating to the implementation of the Project from customs duties, value added tax and all other domestic taxes and levies which may be imposed in Malawi.
- The Malawian side must provide all necessary conveniences for the entry to and stay in Malawi of Japanese as well as third country nationals which will provide services for the Project based on the contracts.
- The Malawi side must secure a sufficient budget and manpower to enable the proper and effective operation and maintenance of the facilities and equipment provided with Japanese grant aid.

- The Malawian side must bear all necessary expenses which are essential for the implementation of the Project but not included in the scope of the Japanese assistance.

2.4 Project Operation and Maintenance/Management Plan

2.4.1 Operation Plan

The operation and maintenance of the planned facilities under the Project will primarily be the responsibility of the new college to be established under the Project. All teachers and other staff members required to run the college will be newly recruited. Because of the absence of any clear deployment criteria for teachers of a TTC to train secondary school teachers, the scale of operation at the existing DCE has been referred to in order to determine the required number of teachers. While the University of Malawi and Mzuzu University receive their own operating budget from the government as independent educational institutions, the TTCs under the jurisdiction of the MoEST are subject to the standard recruitment, deployment and remuneration conditions for government employees.

< Required Number of Teachers >

The existing DCE operates both diploma and B.Ed programmes with a weekly number of lessons of 460 lessons for 19 subjects for the diploma programme and 234 lessons for the B.Ed programme, totalling 694 lessons a week. As the number of teachers inclusive of part-time lecturers is 56, each teacher is responsible for an average of 12.4 lessons a week. By subject, however, the number of weekly lessons varies from 7.8 to 34. For the Project, the maximum number of weekly lessons for one teacher is set at 15.1 at the beginning to calculate the number of required teachers for each subject. It is planned to gradually increase the number of teachers thereafter. As far as the potential to recruit new teachers for the college is concerned, the likely pool of potential teachers includes the 511 postgraduate students currently registered at University of Malawi, Mzuzu University and other higher education institutes in Malawi as of 2011. In addition, any recruitment advertisements for positions at the DCE always attract many applicants. It is, therefore, reasonable to believe that the recruitment of new teachers for the new college to establish an appropriate educational system is highly feasible.

In the case of teachers at the affiliated secondary school, one head teacher, one deputy head teacher and 16 teachers to run eight classes in four years will be newly recruited with the number of administrative staff members being set at 8.

Table 2-40 Number of Teachers at the DCE and the Planned Number of Teachers for the New College

	Number of Weekly Lessons					Total Number of Lessons			DCE	Number of Lessons	Required Number of Teachers	Planned Number of Teachers
	Dpl/B.Ed			B.Ed Only		Dpl	D.Ed	Total	Number of Teachers	/Number of Teachers		
	Year 1	Year 2	Year 3	Year 4	Year 5	[a]	[b]	[1]	[2]	[1]/[2]	[a]/15.1	
Basic Science	4	3	7	7		14	7	21	-	na		
Mathematics	5	8	12	12		25	12	37	3	12.3	1.7	2
Chemistry	9	6	6	15		21	15	36	3	12.0	1.4	2
Physics	9	6	10			25		25	2	12.5	1.7	2
Biology	8	10	13	12	13	31	25	56	3	18.7	2.1	3
Human Ecology	8	12	9	12	10	29	22	51	2	25.5	1.9	2
Science Education*	0	4	0			0	4	4	-	na		
Applied Science*	2	2	5	3		0	12	12	-	na		
Physical Education	9	9	9			27		27	2	13.5	1.8	2
History	6	9	9		9	24	9	33	3	11.0	1.6	2
Geography	6	10	9		6	25	6	31	4	7.8	1.7	2
Theology and Religious Studies	7	9	9		8	25	8	33	3	11.0	1.7	2
Social Studies	6	5	7		7	18	7	25	-	na	1.2	2
Social Studies/ B.Ed*	6	7	6	6		0	25	25	-	na		
English	6	18	10			34		34	4	8.5	2.3	3
Special English	6	0	0			6		6	-	na	0.4	
Linguistics and African Languages	6	18	9			33		33	2	16.5	2.2	3
French	6	18	10			34		34	1	34.0	2.3	3
Language Arts*	2	5	4	2		0	13	13	-	na		
Literacy Studies	2	2	2	2		6	2	8	-	na	0.4	
Expressive and Creative Arts*	6	0	6	8		0	20	20	-	na		
Theater and a Change (HIV/AIDS)	3	3	3	3		9	3	12	-	na	0.6	
Language & Communication Skills*	1	0	0			0	1	1	-	na		
Education	24	16	17	4	4	57	8	65	7	9.3	3.8	4
Curriculum and Teaching Studies	0	4	13	13		17	13	30	2	15.0	1.1	1
Education Foundation Studies*	6	6	6	4		0	22	22	-	na		
Education of Pupils with Special Needs								0	3	na		
Distance Education Centre								0	2	na		
Total	130	166	164	103	57	**460**	**234**	**694**	46	15.1		35

Note: Subjects with * are only for the B.Ed. Course. Source: Compiled by the Study Team using materials provided by the DCE.

< Number of Administrative Staff Members >

Based on the comparison between the planned size of the new college (540 students) and the actual strength of administrative staff members at the MTTC (560 students) because of their similar sizes, the following job types, grades and numerical strength are planned for the new college.

Table 2-41 List of Administrative Staff Members at the New College

Job Type	Number	Job Type	Number
Bursar	1	Plumber	1
Assistant Bursar	1	Joiner	1
Accounting Clerk	1	Electrician	1
Equipment Manager	1	Driver	3
Senior Administrator	1	Kitchen Manager	1
Clerk	2	Head Chef	1
Assistant Librarian	2	Assistant Chef	2
Typist	4	Cook	4
Laboratory Assistant	2	Head Warden	1
Workshop Assistant	2	Warden	3
Switchboard Operator	1	Security Guard	3
Assistant Clerk	1	Gardener	3
		Total	43

Source: MOEST, Teacher Development Program

2.4.2 Maintenance Plan

Even though no special skills are required to operate and repair the planned facilities, the following daily maintenance is required to ensure their good conditions for a long period of time.

(1) Maintenance of Facilities

The maintenance of the facilities has two principal components: ① routine cleaning and ② prompt repair of damaged facilities and those showing signs of deterioration. The former not only has a positive impact on students and other facility users as it prompts their careful use of both the facilities and equipment. Routine cleaning also functions as a tool to discover damage or breakdowns at an early stage, making preventative repair possible. In regard to the toilets, etc., such early discovery can prolong the life of plumbing installations. Repair work commonly means the repair of interior and exterior finishes, windows, doors and various items of furniture. The periodic checks and repair which determine the life of a building are outlined in Table 2-42.

Table 2-42 Outline of Periodic Checks

	Check Item and Work Required	Frequency of Check
Exterior	• Repair of external walls	Repair: every 5 years
	• Painting	Repainting: every 15 years
	• Checking and repair of roofing materials	Checking: every year Repair: every 15 years
	• Checking and repair of the exterior of windows and doors	Checking and repair: every year
	• Checking and cleaning of drainage ditches and manholes	Checking and cleaning: every year

	• Cleaning of septic tanks and removal of sludge	Cleaning and removal: every 2 years
Interior	• Repair and repainting of walls	Repair: as required Repainting: every 15 years
	• Adjustment of windows and doors and replacement of hardware	Adjustment: every year Replacement as required

(2) Maintenance of Building Services

The planning scope of building services is similar to that of existing educational institutions and the existing operation and maintenance system is sufficient to meet the maintenance requirements. Routine preventive maintenance is necessary to minimise the need for breakdown repair and the replacement of parts as the life of building service equipment can certainly be prolonged by proper operation and routine checking, adjustment, cleaning and repair. Periodic checking, the replacement of expendables and the cleaning of systems should be conducted in accordance with the maintenance manuals. Another important component of a good maintenance system is the employment of such full-time maintenance personnel as an electrician and plumber. It may also be necessary to entrust periodic checks to the manufacturer's agent from time to time. The service life of various equipment, etc. is listed in Table 2-43.

Table 2-43 Service Life of Selected Equipment

	Type of Equipment	Service Life
Electrical Installations	• Fluorescent lamp	5,000 – 10,000 hours
	• Distribution panel	20 – 30 years
	• Power generator	10 – 15 years
Plumbing Installations	• Pumps, piping and valves	15 years
	• Water heating and tanks	15 years
Air-Conditioning System	• Air-conditioner	15 years
	• Ventilation fan	20 years

Regular maintenance: The implementation of periodic checks/repair and routine maintenance can exclude the need for repair for the first several years after completion. After this period, repainting (every 10 years or so) and the checking and adjustment of windows and doors (approximately once a year) may be required.

Maintenance of building services: It is necessary to establish a system capable of conducting routine management and maintenance, including the replacement of parts. Septic tanks and infiltration basins should be cleaned at least once every two years. The employment of an electrician, plumber and joiner is desirable with a view to conducting the checking of electrical installations, plumbing installations and repair of furniture, windows and doors.

Maintenance of exterior and planting: Adequate planting should be conducted around the buildings and in vacant spaces so that their regular maintenance helps to prevent soil erosion by rainwater in addition to creating a good educational environment. Drainage ditches and catch pits around the buildings should be checked and cleaned as required prior to the arrival of the rainy season.

(3) Maintenance of Equipment

The principal policy for equipment procurement is the procurement of those items which can be locally maintained. Maintenance is usually conducted by laboratory assistants although any special needs can be met by the manufacturers' agents in Lilongwe. The employment of an IT engineer is planned to maintain the PCs and peripheral equipment and any special needs can be met by their suppliers or local agents of the manufacturers.

2.5 Project Cost Estimation

2.5.1 Initial Cost Estimation

(1) Cost to be Borne by Japanese Side

Not disclosed prior to verification of the construction and procurement agreements.

(2) Cost to be Borne by Malawian Side

58,262‘000 MWK (approximately ¥16.7million)

Item	Estimated Cost
Extension of the public water supply system	41,865 (¥12.0 million)
Extension of the electricity supply system	13,257 (¥3.8 million)
Bank fees/commission based on banking arrangements	3,140 (¥0.9 million)
Total	58,262 (¥16.7 million)

(3) Estimation Conditions

- Timing of estimation : November, 2012
- Foreign exchange rates : US$ 1 = ¥79.99
  1 MWK = ¥0.28663
- Construction period : As shown in Fig. 2-4 – Construction Schedule
- Other : It is assumed that the Project will be implemented in accordance with the rules for Japan’s Grant Aid for Community Empowerment Scheme.

2.5.2 Operation and Maintenance Costs

The cost of the operation and maintenance of the new facilities after the completion of the Project is estimated below.

(1) Operation Cost

1) Personnel Cost

The total personnel cost required to run the new college, etc. based on the operating plan described in 4.1 earlier is estimated to be 92,951,456 MWK as listed in Table 5-1 based on the salary scales employed by the DCE.

Table 2-44 Estimated Cost of Required Personnel to Operate the New College (unit: MWK)

Type of Job	Grade	Number	Annual Salary	Total
Principal	D1	1	3,664,452	3,664,452
Vice Principal	E5	1	3,475,968	3,213,408
Faculty Dean	E4	4	3,202,956	12,811,824
Professor	E1	12	2,809,116	33,709,392
Senior Lecturer	F1	12	1,307,712	15,692,544
Lecturer	G1	12	1,044,588	12,535,056
Sub-Total for Personnel Cost of Teaching Staff		42		81,626,676
Bursar	F1	1	1,307,712	1,307,712
Assistant Bursar	G1	1	1,044,588	1,044,588
Accounting Clerk	L1	1	231,936	231,936
Equipment Manager	H1	1	915,048	915,048
Office Manager	H1	1	915,048	915,048
Office Clerk	L1	2	231,936	463,872
Assistant Librarian	L1	2	231,936	463,872
Typist	L1	4	231,936	927,744
Laboratory Assistant	L1	2	231,936	463,872
Workshop Assistant	L1	2	231,936	463,872
Telephone Exchange Operator	M1	1	172,092	172,092
Assistant Clerk	M1	1	171,092	171,092
Plumber	N1	1	161,556	161,556
Joiner	N1	1	161,556	161,556
Electrician	L1	1	231,936	231,936
Driver	P1	3	149,400	448,200
Kitchen Manager	N6	1	168,456	168,456
Head Chef	N3	1	164,316	164,316
Assistant Chef	N1	2	161,556	323,112
Cook	O1	4	153,996	615,984
Hostel Manager	N3	1	164,316	164,316
Warden	P1	3	149,400	448,200
Security Guard	P1	3	149,400	448,200
Gardener	P1	3	149,400	448,200

Sub-total for Personnel Cost of Staff Members		43		11,324,780
Total		85		92,951,456

2) Maintenance Cost and Other Necessary Expenses

The annual operation cost as well as maintenance cost of the planned facilities under the Project once they open for business are estimated in reference to the ① electricity charge, ② water charge, ③ gas charge and ④ communication expenses. Meanwhile, the maintenance cost is also estimated in reference to the ① facility maintenance cost, ② building services maintenance cost and ③ equipment maintenance cost.

< Estimation of Facilities Operation Cost >

① Electricity Charge

For estimation of the electricity charge for the planned facilities, the annual operating days and daily operating hours were firstly determined for electrical installations at the facilities of the college and affiliated secondary school based on the conditions shown in Table 2-45. This was followed by estimation of the likely charge based on the tariff applied by the ESCOM.

Table 2-45 Estimated Power Consumption and Charge

Facility Estimation of Power Consumption	Annual Operating Days (Days)	Annual On Peak (KWH)	Annual Off Peak (KWH)	Estimation Conditions/Peak hours :7:00-12:00,17:00-20:00					
				Operating Hours (hr)		Lighting (kWH)		Other Power Load Factor	
College Facilities				Week-days	Holi-days	Week-days	Holi-days	Week-days	Holi-days
Administration/block	245	3,675	4,722	11	0	12	0	3%	.0%
Library	245	11,230	10,515	11	0	23	0	11%	.0%
Classrooms Block	245	4,643	336	11	0	18	0	1%	.0%
Laboratory Block	245	6,527	1,179	11	0	22	0	1%	.0%
Hostel Block	305	53,592	111,617	16	24	357	363	2%	3%
Multi-Purpose Hall	305	5,073	6,414	9	9	31	31	1%	1%
Kitchen	305	49,003	33,138	6	6	34	34	11%	11%
Exterior/Corridors	305	3,592	7,549	13	13	35	35		
Gate House	365	476	1,381	24	24	1	1	10%	10%
College Sub-Total		137,811	176,851						
Affiliated Secondary School									
Administration building	220	2,909	1,838	11	0	9	0	5%	.0%
Classroom Building	220	228	0	11	0	1	0	.0%	.0%
Laboratory Building	220	530	228	11	0	2	0	1%	.0%
Secondary School Sub-Total		3,667	2,066						

Estimation of Charges				
College Facilities	Base Charge	Consump-tion	Charge/Yr.	Remarks
Fixed Charge / Yr.	4,500	12	54,000	Base charge x 12 months
On Peak Charge / yr.	11.751	137,811	1,619,417	Metered charge for peak hours
Off Peak Charge / yr.	4.047	176,851	715,716	Metered charge for off-peak hours
Capacity Charge / yr.	610	290KVA	2,122,800	Assumed contracted power supply, 12 month
Demand Charge / Yr.	950	200KVA	2,280,000	Maximum assumed average monthly charge, 1
Annual Charge (MKw)			6,791,933	
Average Monthly Charge (MKw)			565,994	
Affiliated Secondary School	Base Charge	Consump-tion	Charge/Yr.	Remarks
Fixed Charge / Yr.				Included in the charge for the college
On Peak Charge / yr.	11.751	3,667	43,091	Metered charge for peak hours
Off Peak Charge / yr.	4.047	2,065	8,357	Metered charge for off-peak hours
Capacity Charge / yr.				Included in the charge for the college
Demand Charge / Yr.				Included in the charge for the college
Annual Charge (MKw)			51,448	
Average Monthly Charge (MKw)			4,287	

Note: Staff houses are not included in the table as each house will pay its metered charge.

② Water Charge

The estimated water consumption and water charge based on the likely water consumption per day and annual number of water consumption days are shown in Table 2-46.

Table 2-46 Estimation of the Annual Water Consumption

	Number of Users	Maximum Daily Consump-tion ℓ/person	Total(ℓ)	Average Daily Consump-tion (t)	Annual Days of Consump-tion (days)	Annual Consump-tion (t)
College Staff	80	40	3,200	2.2	245	549
Hostel Students	600	80	48,000	33.6	305	10,248
Staff House (20 houses × 4 persons)	80	80	6,400	4.5	365	1,635
Total for College Facilities						12,432
Staff of the Affiliated Secondary School	24	40	960	0.7	220	148
Secondary School Pupils	320	40	12,800	9.0	220	1,971
Total for the Secondary School						2,119

Table 2-47 Estimation of the Water Charge (unit: MWK)

Average Monthly Consumption (1,036 t)	Monthly Charge	Consumption by Tariff Band(t)	Monthly Charge	Monthly Total	Annual Water Charge
0~0.5t	501	5	2,505	142,166	1,705,992
5.0~10.0t	103	5	515		
10.0~40.0t	123	30	3,690		
40.0t or more	136	996	135,456		

The overall water charge for the college, excluding the bill for the affiliated secondary school for which payment is made by an independent budget, is estimated in Table 5-4.

③ Gas Charge

LPG will be used for the lessons at the chemical laboratories and cooking room for the human ecology (domestic science) course. Based on the calorific value of LPG of 50,360 KJ/kg (1 joule = 0.239 calories), the number of LPG cylinders to be used is estimated.

Table 2-48 Estimation of LPG Consumption

Place of Use	Unit Duration of Use (hrs)	Frequency of Use (times/week)	Annual Number of Weeks	Calorific value of LPG (KJ/h)	Number of Cylinders	Annual Consumption in Calorific Value (KJ/year)
Chemical Laboratory	0.5	7	24	1,200	6	604,800
Cooking Room	1.0	5	24	8,400	6	6,048,000
Total	-	-	-	-	-	6,652,800

6,652,800 KJ/year ÷ 50,360 KJ/kg = 132 kg/year
132 kg/year ÷ 48 kg/cylinder = 3.14 cylinders/year
3.14 cylinders x 10,000 MWK/cylinder = 31,400 MWK

④ Communication Expenses

The estimated communication expenses are set at 60% of the corresponding budget of 1,828,600 MWK for the year 2009 at the DCE taking the smaller size of the planned new college into consideration.

< Estimation of Facility and Equipment Maintenance Cost >

① Facility Maintenance Cost

While the overall facility maintenance cost greatly fluctuates from one year to another, no large repair is generally expected to be necessary for some 30 years after the completion of the construction work. Based on actual data for existing similar facilities, the facility maintenance cost is set at an average of 0.08% of the direct construction cost or some 50 MWK per floor area of m^2.

- College (educational facilities, hostels, staff houses and exterior)

14,000 m^2 x 50 MWK = 700,000 MMK/year

- Affiliated secondary school

1,500 m^2 x 50 MWK = 750,000 MWK/year

② Equipment Maintenance Cost

The amount of the equipment maintenance cost will remain small for the first five years of operation. Thereafter, the replacement of parts and replacement of the equipment itself due to deterioration will increasingly become necessary. For the present purpose, the average annual repair cost for a 10 year span is set at 0.2% of the original equipment cost as the estimation basis.

③ Furniture Repair Cost

In view of past examples, the average repair cost for a 10 year span is set at approximately 0.5% of the original furniture cost as the estimation basis.

④ Equipment Management and Consumable Cost

The principal pieces of equipment planned for the Project are laboratory equipment and computing equipment and the maintenance cost and parts cost will largely depend on their frequency of use and annual operating days at the facilities in which they are installed. For the present purpose, the average annual cost, inclusive of the cost of consumables, is set at approximately 1% of the original equipment cost as the estimation basis.

Based on the above estimation conditions, the maintenance cost of the facilities and equipment is estimated as shown in Table 5-6.

Table 2-49 Annual Maintenance Expenses

	Item	Amount（MWK）	Remarks
Operating Expenses	① Electricity Charge	6,791,933	See breakdown
	② Water Charge	1,705,992	As above
	③ Gas Charge	31,000	As above
	④ Communication Cost	1,000,000	As above
	Sub-total	9,528,925	
Maintenance Cost	① Facility Maintenance Cost (Annual Average)	700,000	0.08% of the facility construction cost
	② Equipment Maintenance Cost (Annual Average)	250,000	0.1% of the equipment cost
	③ Furniture (Repair)	200,000	0.2% of the furniture cost
	④ Equipment (Repair and Consumables)	178,000	1% of the equipment cost
	Sub-total	1,328,000	

Apart from the cost items considered so far, the operation of the new facilities will involve the cost of office consumables, textbooks and teaching aids, business travel, vehicle operation and maintenance and hostel operation. These costs are estimated as shown in Table 2-50 with reference to the allocation of the government budget (2009/10) to cover these costs at other educational institutions of a similar size to the planned college, such as the MTTC (560 students and a floor area of approximately 15,000 m^2) and the DCE (959 students and a floor area of approximately 28,000 m^2). The government budget for a TTC is based on the annual request made by each TTC. As such, new budgetary appropriation by the government will be required to finance the necessary expenses at the new college shown in Table 5-7.

Table 2-50 Facility Maintenance Expenses

(Unit: MWK)

Item	MTTC	DCE	Estimate for the Project	Remarks
	2009/2010	2009/2010		
Facility operating Expenses	7,290,000	17,570,200	9,528,925	Based on the various operating expenses tables
Supplies	3,527,000	14,649,262	8,789,000	60% of the cost at the DCE because of the scale of the college operation
Educational Equipment	768,500	9,720,000	5,832,000	60% of the cost at the DCE because of the scale of the college operation
Travelling Cost	4,873,950	25,828,640	4,873,950	Equivalent to the relevant cost at the MTTC
Vehicle Operation & Maintenance Cost	3,332,750	26,431,250	3,332,750	Equivalent to the relevant cost at the MTTC
Hostel Operation and Meals Cost	20,790,000	43,757,994	20,790,000	Equivalent to the relevant cost at the MTTC due to the size of hostel block
Other	12,417,800	39,049,800	1,328,000	Table 2-49 Annual Maintenance Expenses
Total	53,000,000	177,007,146	54,472,700	

Source: Ministry of Finance, Approved Estimated of Expenditure on Recurrent and Capital Budget 2009/10

In the case of the affiliated secondary school which can be considered “a cost centre”, it is assumed that an annual budget of 15,772,650 MWK will be provided as in the case of the affiliated secondary school of the DCE (Table 2-51). The estimated electricity charge of 51,448 kw/year (Table 2-45) and maintenance cost of 140,000 MWK/year (approximately 10% of the corresponding cost for the college Table 2-49) can be easily met if the government budget allocation for this new secondary school matches the amount actually provided for the similar school at the DCE.

Table 2-51 Budget Breakdown for the Affiliated Secondary School to the DCE (2010/11)

Cost Item	Budget (Unit: MWK)	New Secondary School
Staff Personnel Cost	13,272,650	Equivalent budget level to the secondary school of the DCE
Utility and Communication Cost	644,400	
Administration and Consumables Cost	625,000	
Business Travel Expenses	606,900	
Other	623,700	
Total	15,772,650	

Source: Ministry of Finance, Approved Estimated of Expenditure on Recurrent and Capital Budget 2009/10

(2) Adequacy of Operation and Maintenance Cost

With the implementation of the Project, it will be necessary for the Government of Malawi to fund 163,197,106 MWK totalled up the cost for the new College and 15,772,650 MWK for the affiliated Secondary School as shown in Table 2-52 below.

Table 2-52 Required Total Budget (Unit: MWK)

Item	New college	Affiliated secondary school	Total
Personnel cost	92,951,456	13,272,650	106,224,106
Facility Maintenance Expenses	54,474,700	2,500,000	56,974,700
	147,426,156	15,772,650	163,198,806

This amount of 163.2 million MWK is equivalent to 0.51% of the 2010/11 current budget of 31,886 million MWK (personnel cost of 23,685 million MWK and other costs of 8,201 million MWK) of the MOEST or 0.45% of the overall personnel cost burden of the said ministry. Given the fact that the annual budget of the MOEST has recorded an average annual increase of more than 26% in the last three year with the ordinary budget increasing at an annual rate of more than 30%, it should not be difficult for the MOEST to find the necessary funds to meet the operation and maintenance cost of the planned facilities under the Project.

Chapter 3 Project Evaluation

Chapter 3. Project Evaluation

3.1 Preconditions

The Study Team considers the following as the measures the Malawian side should take for the smooth implementation of this Project.

(1) Procedures Regarding Environmental Impact Assessment (EIA)

GoM intends to use *ca.* 30 ha of land in the Nalikure Forest Reserve for the construction of the facilities of the new TTC in this Project. The facilities to be constructed include housing facilities, *i.e.* student hostels and teachers' houses, as well as educational facilities and the affiliated secondary school. Six hundred people will live in the hostels and 20 households will live in the teachers' houses at the project site on a permanent basis. The implementing organisation will have to submit documents describing an outline of the design of this Project to the authorities responsible for environmental protection and confirm with them whether an application for the survey for environmental impact assessment (EIA) is required or not prior to the implementation of the Project, because of the need for the official procedures for degazetting of the status of forest reserve of the project site and the scale and complexity of the planned facilities. If the EIA is required, the Malawian side will have to complete it as required by the guidelines prior to the scheduled commencement date of the project implementation. Since the procedures mentioned above were taken by an implementing organisation in the similar projects supported by other donors, including the project for the construction of Machinga Teachers' Training College for primary school teachers, the team assumes that the same procedures will have to be taken in this Project.

(2) Obligations of the Recipient Country

The works to be conducted by the Malawian side, including extension of electric power cables and plumbing works to the project site, will have to be implemented appropriately in accordance with the execution schedule of this Project for the smooth implementation. As the Study Team has confirmed that the Malawian side has implemented those works under its responsibility in a similar project in progress, the team considers that the implementing organisation will also implement the works under its responsibility in this Project.

(3) Tax Exemption

The Study Team assumes that this Project will be implemented under the Grant Aid for Community Empowerment. While implementation of such a project will require signing of an exchange of note by the governments of both countries, the E/N will provide the basis for application of tax exemption on procurement of goods and services for the implementation of this Project. Therefore, the Malawian side will have to take measures to exempt domestic taxes, including customs duties and value-added tax, and any other levies applicable to goods procured in accordance with the facility construction agreement and the equipment procurement agreement and services provided by the contractors and their employees at the implementation stage of this Project. As the Malawian side

has already taken the measures required for the tax exemption in the Project for Re-Construction and Expansion of Selected Community Day Secondary Schools in progress, the team assumes that the counterpart organisation will take the similar measures for this Project.

3.2 Necessary Input by Recipient Country

The Malawian side has already taken measures for each of the following issues, which are required as preconditions for the realisation and sustenance of the project effects. Therefore, it is unlikely for the lack of input from the Malawian side to obstruct achievement of the objects.

(1) Establishment of the Operation and Management Structure of the New TTC

The purpose of this Project is the establishment of a new secondary school teacher training college. In order to ensure smooth operation of the college immediately after the completion of its construction, the Malawian side will have to begin to develop budgetary measures and establish a structure for the operation and management when the Project is at an early stage. An issue of particular importance with regard to the opening of the college is employment of some 42 teaching staff, including the principal, vice principal and deans. The implementing organisation intends to make preparation for the opening of this college in cooperation with the university-level educational institutions and other institutions concerned. There seem to be a sufficient number of qualified candidates for the teaching staff at the new college as there were 511 students enrolled in the postgraduate programmes of the University of Malawi, Mzuzu University and other higher education institutions as of 2011 and there have always been many applicants for job openings at the Domasi College of Education. These facts suggest that it is possible to establish an educational system and a system for the operation and management for the new college. In addition, since MTTC has been operated smoothly since its opening in 2010, the Study Team concludes that the Malawian side will also be able to begin preparation for the opening of this new college at an early stage and establish a structure for the operation without problems.

(2) Implementation of Continuous Training Programmes for Existing Teachers

This Project includes a plan for the implementation of a centralised training programme for existing science and mathematics teachers under the SMASSE Programme and a training programme for continuous capacity development of existing teachers, in addition to the PRESET and INSET diploma programmes for new teachers and existing under-qualified teachers, respectively. Continuous implementation of training programmes for professional capacity development for existing teachers combined with the implementation of measures to eliminate the severe shortage of qualified teachers is expected to facilitate improvement of the quality of the secondary education in Malawi. As DTED-MoEST intends to continue to provide the teacher training programmes which have been provided at the existing teacher training institutions at the new TTC, those programmes are expected to be implemented effectively on a larger scale.

3.3 Important Assumptions

(1) Realisation of the Comprehensive Plan in the Education Sector by the Government of Malawi

GoM mentions the institutionalisation of the in-service training/continuous professional development, as well as training for new secondary teacher, as one of the priority areas in the comprehensive plan of the education sector, NESP 2008-2017. GoM further mentions the objectives of 1) training of secondary teachers, 2) development of curricula for secondary teachers, 3) implementation of upgrading courses for under-qualified teachers using distance education and other means, 4) implementation of research in the education sector and 5) implementation of training for existing teachers as well as continuing professional development (CPD) programmes in NSTED 2007 - 2017 and is taking strategic measures to achieve the objectives. This Project is considered to facilitate achievement of 1), 3) and 5) mentioned above directly. GoM have increased the enrolment in the institutions involved in the secondary teacher education of the three universities with implementation of a project for the expansion and improvement of their facilities assisted by the World Bank since 2007. DCE has been providing a training programme for upgrading qualifications of existing teachers and DTED has been providing training programmes for existing teachers. Many diploma teachers from DCE have also been upgraded to degree level at the University of Malawi, Chancellor College, and many teachers whose specialization was not education have also been trained at Chancellor College and Mzuzu University and graduated with university certificate of education (UCE). Continuing promotion of the above-mentioned comprehensive plan by GoM is considered to be a prerequisite for the realisation and maintenance of the effects of this Project.

(2) Management of Risks such as Security and Price Increases

Smooth implementation of this Project will require that the security situation remains stable in Malawi. Implementation of the facility construction and equipment procurement in this Project as scheduled will require that the economic situation and prices of goods remain stable at the current levels and fuel is imported without interruption.

3.4 Project Evaluation

3.4.1 Relevance

(1) Beneficiaries of the Project

Direct beneficiaries of this Project are students to be enrolled and staff to be employed at the planned new teacher training college. As implementation of this Project facilitates development of new fully qualified teachers, upgrading of qualifications of under-qualified teachers and capacity development of existing teachers, it will improve the quality of secondary education in the entire country. Through the improvement of the quality of secondary education, this Project will benefit those who enroll in secondary education, in particular, and the general public in general.

(2) Objective and Urgency of the Project Implementation

As a consequence of the introduction of the policy of free primary education, enrolment in secondary education has increased and the demand for secondary school teachers has increased significantly. Only *ca.* 40 % of the existing secondary school teachers (11,300 in 2011) were qualified teachers. There is a need to develop 11,000 newly qualified secondary school teachers by 2015 either through training for new secondary teacher or upgrading of the existing under-qualified teachers. However, the current capacity of teacher education and training in Malawi, including the capacities of DCE, the only secondary school teacher training institution in Malawi, the College of Education of University of Malawi and the Faculty of Education of Mzuzu University is too limited to fully satisfy the demand for the teacher training. The purpose of this Project is to solve this problem by constructing a new secondary teacher training college, as the establishment of the new college will increase the capacity in secondary teacher education and will facilitate new teacher training and upgrading of under-qualified teachers. Because of this purpose, implementation of this Project is urgently required.

(3) Consistency with the Comprehensive Plans

GoM mentions education as a priority area both in the national development strategy, "Vision 2020," and in the mid-term development strategy, MGDS, and development of secondary school teachers/improvement in the capacity of secondary school teachers as one of the priority areas in NESP. NSTED 2007-2017 developed on the basis of NESP advocates measures for producing of new fully qualified secondary school teachers, upgrading of existing under-qualified teachers and continuous professional development. Since this Project will directly assist achievement of the strategic objectives of GoM in the area of the secondary school teacher education and development by constructing and equipping a teacher training college for secondary education, it conforms to the comprehensive plans mentioned above.

(4) Consistency with the Assistance Policies and Strategies of the Government of Japan

GoJ is providing Malawi with assistance in the forms of grant aid and technical cooperation consistent with the activities taken by GoM for economic and social development aiming at fulfillment of the MDGS in accordance with the long-term national development plan of Malawi, "Vision 2020," its mid-term development strategy, MGDS, and NESP 2008 - 2017, taking one of the most important frameworks of Japanese assistance to Africa's development, the TICAD Process, into consideration. The strategy of GoJ on assistance to Malawi is to provide assistance in the priority areas, a) sustainable economic growth (development of agriculture and rural areas), b) social development (improvement of education, water resource development and health/medical services) and c) infrastructure development (development of transport infrastructure and promotion of rural electrification). Therefore, this Project is consistent with the assistance policy and strategy of GoJ. As this Project is expected to improve the quality of secondary education by developing qualified teachers, it is also consistent with the concept of human security which includes education and human resource development.

(5) Relevance of the Project from the Aspect of Operation and Maintenance

As the facilities will be constructed and the equipment will be procured and installed in accordance with the facility design specifications of the existing TTC, their operation and maintenance will not require specialised technologies. A scale which is half that of the existing DCE will be used as a practical and manageable scale of a newly established college. In fact, this scale is approximately the same as the primary teacher training colleges of similar design. The existing secondary teacher training college and similar institutions have been operated and managed appropriately with allocation of required budget and assignment of appropriate teaching and other staff. While employment of new teaching staff will be required at the new TTC, Malawi has sufficient human resources to fill the vacancies. The cost required for the operation and maintenance of the planned new TTC is estimated at *ca.* 163 million MWK, which is 0.51 % of the operating budget for fiscal 2010/11 of MoEST, 31,886 million MWK. The total budget and the operating budget of MoEST have increased at average rates of more than 26 % and more than 30 % per year for the last three years, respectively. If the increase in the budget is to continue, MoEST will have no problem providing budgetary allotment for the cost required for the operation and maintenance of the new TTC. For the reasons mentioned above, the Study Team concludes that the implementation of this Project is relevant from the viewpoint of operation and maintenance of the facilities and equipment.

(6) Feasibility of the Implementation of the Project under the Grant Aid for Community Empowerment

This Project is designed with the standard design specifications based on the specifications used for the construction of the DCE and those used in the projects of a similar type supported by other donors. The scale of construction work in this Project is similar to that in the similar projects supported by other donors. The implementing organisation of this Project, MoEST, has sufficient experience in successful general competitive tenders with local bidders. Because there are several local companies with sufficient capacity in construction management and quality control of the construction work of the scale of this Project, there will be no problem in selecting contractors of this Project in an open competitive tender limited to local companies. On the basis of the observations mentioned above, the Study Team concludes that there is no serious obstacle to the implementation of this Project under the Grant Aid for Community Empowerment.

3.4.2 Effectiveness

(1) Quantitative Effects

The following quantitative effects are expected from the implementation of this Project:

- The PRESET programme (180 students/year x 3 years = 540 students) and the INSET programme (200 students/year x 3 years = 600 students) will be implemented at the new TTC and 380 qualified

teachers (180 new teachers and 200 newly-qualified existing teachers) will graduate from the new TTC every year from its third year of operation.

Table 3-1 Expected Quantitative Effects

Output indicator	Standard figure (2011)	Target figure (2018[1]) (Three years after the completion of the Project)
① Number of qualified male secondary teachers (trained in the PRESET Programme) (per year)	0	90
② Number of qualified female secondary teachers (trained in the PRESET Programme) (per year)	0	90
③ Number of qualified male secondary teachers (trained in the INSET Programme) (per year)	0	100
④ Number of qualified female secondary teachers (trained in the INSET Programme) (per year)	0	100

(2) Qualitative Effects

The following qualitative effects are expected from the implementation of this Project:

- The increase in the number of qualified teachers is expected to improve the quality of the secondary education.

- The implementation of the existing teacher training programmes including SMASSE is expected to improve the quality of the secondary education throughout Malawi.

For the reasons mentioned above, the Study Team concludes that this Project is highly relevant and is expected to be highly effective.

[1] The completion of the construction work in this project is expected in 2015.

Appendices

1. Member List of the Survey Team

1-1. Member of the Preparatory Survey （ February 14 to March 17, 2011 ）

Mr. Akihiko HOSHINO	Team Leader	Deputy Resident Representative, JICA Malawi Office
Ms. Kayoko MAEDA	Project Coordinator	Basic Education Division 2, Basic Education Group, Human Development Department, JICA
Mr. Kazunori OGAGUCHI	Procurement Management Coordinator	Second Construction Management Division, First Management Department, JICS
Mr. Akihiko TAKEUCHI	Project Manager/ Facility Planning	Matsuda Consultants International Co., Ltd.
Mr. Tomohiro OSAWA	Architecture Design 1 (D'pty Project Manager)	Matsuda Consultants International Co., Ltd.
Ms. Eriko YAGI	Education Planning	Matsuda Consultants International Co., Ltd.
Mr. Shiro TANAKA	Architecture Design 2	Matsuda Consultants International Co., Ltd.
Mr. Toshio TAMURA	Facilities Planning/ Water Supply Facility	Matsuda Consultants International Co., Ltd.
Mr. Naoto NISHIYA	Construction Planning/ Cost Estimation 1	Matsuda Consultants International Co., Ltd.
Mr. Masao HASHIMOTO	Construction Planning/ Cost Estimation 2	Matsuda Consultants International Co., Ltd.
Mr. Tatsuji TSUCHIYA	Equipment Planning	Matsuda Consultants International Co., Ltd.

1-2. Hydrogeotechnical Survey (August 27 to October 25, 2011)

Mr. Shigeyosi KAGAWA	Hydrogeologist	Japan Techno Inc.

1-3. Member of the Explanation on Draft Report (December 9 to December 19, 2012)

Mr. Toru SHIMODA	Team Leader	Deputy Resident Representative, JICA Malawi Office
Ms. Hatsue KIMURA	Project Coordinator	Project Formulation Advisor (Education) JICA Malawi Office
Mr. Akihiko TAKEUCHI	Project Manager/ Facility Planning	Matsuda Consultants International Co., Ltd.
Mr. Masao HASHIMOTO	Construction Planning/ Cost Estimation	Matsuda Consultants International Co., Ltd.

2. Study Schedule

2.1 Study Schedule of the Basic Design Study

	2011/		Officials			Consultants							
			Leader A. HOSHINO	Project Coordinator K. MAEDA	Procurement Management Planner K. OGAGUCHI	Project Manager/ Facility Planning A. TAKEUCHI	Architectural Design 2 S. TANAKA	Facility Planning/ Water Supply Facility T. TAMURA	Construction Planning/ Cost Estimation 1 N. NISHIYA	Equipment Planning T. TSUCHIYA	Architectural Design 1 (D'pty Project Manager) T. OSAWA	Construction Planning/ Cost Estimation 2 M. HASHIMOTO	Education Planning E. YAGI
1	13-Feb	Sun				NRT→HKG HKG→			NRT→HKG HKG→			NRT→HKG HKG→	
2	14-Feb	Mon				→JNB JNB→LIL			→JNB JNB→LIL			→JNB JNB→LIL	
3	15-Feb	Tue	JICA Office Discussion with MoEST Courtesy visit EoJ			JICA Office/Meeting Discussion with MoEST Courtesy visit EoJ			JICA Office/Meeting Discussion with MoEST Courtesy visit EoJ			JICA Office/Meeting Discussion with MoEST Courtesy visit EoJ	JICA Office/Meeting Discussion with MoEST Courtesy visit EoJ
4	16-Feb	Wed				Investigation on Nalikure site			Preparation for Sub-contract Investigation on Nalikure site			Preparation for Sub-contract Investigation on Nalikure site	Meeting with DTED
5	17-Feb	Thu	Discussion with MoEST			Discussion with MoEST			Preparation for Site survey			Visit local contractors, local consultants	Discussion with MoEST Meeting with DTED, SMASSE
6	18-Feb	Fri				Site inspection on CDSS Mkwichi Inspection on CSS Madisi (W.B) Meeting with MoEST, Ministry of Finance			Survey on construction, cost estimation			Site inspection on CDSS Mkwichi Inspection on CSS Madisi (W.B)	Site inspection on CDSS Mkwichi Inspection on CSS Madisi (W.B) Meeting with MoEST
7	19-Feb	Sat		NRT→		Inspection on Tchawale CDSS (AfDB)			Inspection on Tchawale CDS	NRT→HKG HKG→		Inspection on Tchawale CDSS (AfDB)	
8	20-Feb	Sun		→LIL		Internal Meeting			Internal Meeting	→JNB→LIL Internal Meeting		Data analysis	Data analysis
9	21-Feb	Mon	JICA Office/Internal meeting Discussion with MoEST				NRT→HKG HKG→		Survey on Local contractors Discussion with MoEST	Survey on equipment supplier Move/Lilongwe to Brantyre	JICA Office MoEST	Survey on procurement Move/Lilongwe to Brantyre	Meeting with DTED (SWAp)
10	22-Feb	Tue	Courtesy visit Secretary MoEST Discussion with MoEST				→JNB JNB→LIL		To Air Port to pick up	Survey on DCE (Equipment)	same as Project Manager	Survey on local contractors	Survey on DCE (curriculum, Training program)
11	23-Feb	Wed	Lilongwe to Zomba				Investigation on Nalikure site Moove/Lilongwe to Zomba						Visit Chl.College, Univ. Malawi
12	24-Feb	Thu	Visit Domaci College of Education Visit Mchinga Teacher Training College/move Zomba to Lilongwe				Visit Domaci College of Education Moove/Zomba to Brantyre					Survey on construction cost	Survey on DCE Visit Chl.College, Univ. Malawi
13	25-Feb	Fri	Meeting with DTED Discussion with MoESTon Minutes of Meeting				Inspection on Pltc.C, Chl.C Univ. Malawi (Architectural Design)	(Facility Planning)	(Construction Planning)	Survey on equipment suppliers in Brantyre			Survey on DCE Visit Chl.College, Univ. Malawi
14	26-Feb	Sat	Site inspection on CDSS Mkwichi, CDSS Kabwabwa Inspection on Lilongwe Teacher Training Coillege Site inspection on Nalikure				2nd. Investgation on DCE Move/Brantyre to Lilomgwe			Survey on DCE (Equipment)		Survey on construction cost Move/Brantyre to Lilomgwe	Survey on DCE (Data collection)
14	27-Feb	Sun				Inspection on Lilongwe TTC						Inspection on Lilongwe TTC	
15	28-Feb	Mon	Signing Minutes of Discussion Report to EoJ JICA Office		Survey on procuremen	Facility planning JICA Office/Meeting	Architectural study	Survey on facility ESCOM	Meeting with sub-contractor Discusshion on TOR	Survey on equipment /procurement, /cost estimation	JICA Office/meeting	Survey on construction cost	Meeting with DTED Visit CWED Education Office
16	1-Mar	Tue		LIL→	Meeting with MRA	Survey on budgetary appropriation	Site survey on CWED CDSS Mkwichi CDSS Katsekamiga	Survey on facility Water supply	Meeting with MRA		Site survey on CWED Survey on CDSS Mkwichi, CDSS Katsekamiga		
17	2-Mar	Wed		→NRT	Meeting with NCIC Meeting with EIMU	JICA Office/Meeting Meeting wit EIMU	Site survey on CEED CDSS Liwaladzi CDSS Dwanbazi	Survey on facility Electricity	Meeting with NCIC Meeting with EIMU		Site survey on CEED Survey on CDSS Liwaladzi, CDSS Dwanbazi		
18	3-Mar	Thu				Internal meeting	Architectural study	Supplementary survey	Survey on cost estimation	Meeting with SMASS Survey on CSS Girls LIL	Data analysis	Survey on construction cost	Meeting with SMASS
19	4-Mar	Fri	MoEST/Secretary		Meeting with ODPP	MoEST/Secretary Data collection/MoEST, MoF	Site survey on CEED CDSS Matenije(Salima)	LIL→JNB	Survey on cost estimation	Study on Equipment planning	Site survey on CEED CDSS Matejie(Salima) CDSS Chadabwa(Lilongwe)		Data collection/EMIS, AfDB
20	5-Mar	Sat			Lilongwe to Brantyre	Data analysis		JNB→	Data analysis	Data collection/ Equipment	Data analysis	Data collection/construction cost	Data analysis
21	6-Mar	Sun				Moove/Lilongwe to Mzuzu		→HGK HGK→NRT	Moove/Lilongwe to Mzuzu				
22	7-Mar	Mon			Meeting with MRA Brantyre to Lilongwe	Site survey on NED CDSS Zolozolo (Mzuzu) CDSS Mpamba (Nkhata Bay)	Inspection on Univ. Mzuzu		Survey on cost estimation Inspection on Univ. Mzuzu	Survey on supplier Equipment	Site survey on NED CDSS Zolozolo (Mzuzu) CDSS Mpamba (Nkhata Bay)		Visit F.Education, Univ. Mzuzu (Education program)
23	8-Mar	Tue				CDSS Nthanlire (Chitipa) CDSS Katotwo (Rumphi)	Moove/Mzuzu to Lilomgwe		Move/Mzuzu to Lilongwe		CDSS Nthanlire (Chitipa) CDSS Katotwo (Rumphi)		Move/Mzuzu to Lilongwe
24	9-Mar	Wed				CDSS Baula (Mzimba) CDSS Ezondweni (Mzinba N)	Supplementary survey		Supplementary survey		CDSS Baula (Mzimba) CDSS Ezondweni (Mzinba North)		Supplementary survey
25	10-Mar	Thu				CDSS Edingeni (Mzinba)	LIL→JNB		LIL→JNB		CDSS Edingeni (Mzinba South)		LIL→JNB
26	11-Mar	Fri				Inspection on Univ. Mzuzu Move/Muzuzu to Lilongwe	JNB→		JNB→		Inspection on Univ. Mzuzu Move/Muzuzu to Lilongwe		JNB→
27	12-Mar	Sat				Data analysis	→HGK HGK→NRT		→HGK HGK→NRT		Data analysis		→HGK HGK→NRT
28	13-Mar	Sun				Data analysis					Data analysis		
29	14-Mar	Mon				Report to JICA Office Meeting with MoEST					Report to JICA Office Meeting with MoEST		
30	15-Mar	Tue				Supplementary survey					Supplementary survey		
31	16-Mar	Wed				Report to EoJ, JICA Office					Report to EoJ, JICA Office		
32	17-Mar	Thu				LIL→JNB					LIL→JNB		
33	18-Mar	Fri				JNB→					JNB→		
34	19-Mar	Sat				→HGK HGK→NRT					→HGK HGK→NRT		

2-2 Study Schedule of the Explanation on Draft Report

			Officials		Consultant	
			Team Leader JICA	Project Coordinator JICA	Project Manager /Facility Planning	Construction Planning /Cost Estimation
	2012		Toru SHIMODA	Hatsue KIMURA	Akihiko TAKEUCHI	Masao HASHIMOTO
1	9-Dec	Sun			Tokyo→Hong Kong→	
2	10-Dec	Mon	Meeting in JICA Office		→Johannesburg/Johannesburg→Lilongwe	
3	11-Dec	Tue	MoEST/Explanation of Draft Report			
4	12-Dec	Wed	MoEST/Discussion of Draft Report		Supplement survey on Nalikure site	
5	13-Dec	Thur	MoEST/Discussion of Minutes		Supplement survey on cost estimation	
6	14-Dec	Fri	MoEST/Signing the Report to Embassy of Japan and JICA Office		Supplement survey on construction planning	
7	15-Dec	sat			Supplement survey on construction planning	
8	16-Dec	Sun			Documentation	
9	17-Dec	Mon			Lilongwe→Johannesburg	
10	18-Dec	Tue			Johannesburg→	
11	19-Dec	Wed			→Hong Kong/Hong Kong→Tokyo	

3. List of Parties Concerned in the Recipient Country

【Ministry of Education, Science and Technology】

Mr. John J. Bisika	Secretary for Education Science, and Technology
Dr. Macphali Magwira	Secretary for Education Science, and Technology
Prof. D.Maluwa Banda	Director of Higher education
Mr. Patrick G. J. Lapukeni	Director of Planning, Education Planning
Mr. Victor Lungu	Director of Planning, Education Planning
Mrs. Grace Milner	Principal Planning officer, Education Planning
Mr. Wathando Mughandira	Economist , Education Planning
Ms. Lonely V. Magreta	Director of Secondary Education
Ms. Chikondano C. Mussa	Director of Secondary Education
Mr. Dudley L. Chiwala	Deputy Director, Secondary Education
Mr. Charles Inami	Chief Education Officer, Secondary Education
Ms. M. Khombe	Assistant Chief Education Officer, Secondary Education
Mr. Michael L Lwanda,	Principal Education Officer, Secondary Education
Mr. Felex Ungapembe	Education Officer, Secondary Education
Ms. Darles Mbene,	Coordinator, Department of Teacher Education and Development
Mr. Alfred Kamoto	Training Manager, DTED
Ms. Chrissie Soko	Assistant Director, DIAS
Mr. H. K. Mkwezalamba	Unit Coordinator, EIMU.
Mr. Johnny J Somba	Unit Coordinator, EIMU.
Mr. Johnnie Kunkhanda,	Program Officer, EIMU
Mr. Dumisani Chirwa,	Program Manager CDM, EIMU
Ms. Jane Milazi-Kalemera	Directorate Human Resources
Mr. David Alex Njaidi	Deputy Director Special Needs Education
Mr. Raphael T. Chigadula	Chief Education Officer, Special Needs Education
Mr. Martin Masanche	Senior Planner, EMIS
Mr. Maclean Kaluwa	Assistant Statistician, EMIS
Mr. H.G Mangani	Deputy Secretary, Teaching Service Commission

【Ministry of Finance】

Mr. Matupa Kenneth	Acting Director Revenue Policy Division
Mr. Daniel C. Khomba	Budget Officer, Ministry of Finance

【Malawi Revenue Authority (MRA) Blantyre Office】

Mr. Emanuel Kaluluma	Acting Commissioner, Customs and Excise
Mr. Crosby	Deputy Commissioner, Domestic Taxes

【Malawi Revenue Authority (MRA) Lilongwe Office 】

Ms. Helen Mbukwa	Station Manager

【Ministry of Industry and Trade】

Mr. Melody J. Chirwa	Principal Industrial Development Officer
Mr. Henry A. Mandere	Principal Industrial Development Officer

【National Construction Industry Council (NCIC) 】

Mr. Rodgers Kampharo Banda	Monitoring and Compliance Officer

【Office of the Director Public Procurement (ODPP) 】

Mr. Chester Gondwe	Chief Monitoring Officer

【Domasi College of Education】

Dr. Elias Chakwera	Principal, DCE
Mr. Alnold Mwanza	Deputy Principal, DCE
Dr. Davies Mweta	Dean of Science, DCE
Mr. Franswell Chawak	Dean of Humanities, DCE
Ms. Valesi Binali	Head of Department (Education Foundation), DCE
Mr. Sittembie Dunda	Registrar Office Manager, DCE
Mr. James Luwanika	Chief Accountant, DCE
Mr. Soko Wellington	Assistant Librarian, DCE
Ms. Catherine Kumiwamba	Lecturer

【Domasi Demonstration Secondary School】

Mr. Kafaliani Enock	Head of Department
Mr. F.M. Mbolera	Bursar

【Machinga Teacher Training College】

Mr. M.M.Magalasi	Deputy Principal

【Lilongwe Teacher Training College】

Mr. Elick Kwenda	Deputy Principal

【Chancellor College, University of Malawi】

Dr. Nellie Mbano	Senior Lecturer, Dean, Faculty of Education

【Polytechnic, University of Malawi】

Mr. Francis Chikunhuzeni	Dean of Faculty of Education and Media Studies
Dr. Nancy Chitera	Dean of Faculty of Applied Science
Mr. Noel Kufaine	Head of Department, Technical Education
Mr. Dun Akhoma Kasoka	Head of Department, Mathematics and Statistics

【Mzuzu University】

Mr. Sam Safuli	Senior Lecturer, Coordinator for post graduate studies in Education
Mr. Fred G..W. Msiska	Director, Centre for Open and Distance Learning
Ms. Mercy Chinyla	Acting Assistant Registrar

【Malawi Institute of Education】

Mr. Austin B Kalambo	Curriculum Specialist

【The Catholic University of Malawi】

Mr. Anacklet G. Phiri	Vice Chancellor

【Central West Education Division Office】

Ms. Thokozire Chimzu Banda	Director DEO
Ms. Magret Alfazema	DEO Planner
Mr. Paul Miamba	Senior Education Methods Advisor

【Central West Education Division】

Malikha CDSS/Lilongwe

Mr. Lennox S. Ndevuzinays	Head Master, Malikha CDSS

Mkwichi CDSS/Lilongwe

Ms. Bridget Nungu	Head Master, Mkwichi CDSS

Madisi SS

Ms. R M Banda	Head Master Madisi CSS

Mseche CDSS

Mr. Albert Chilije	Deputy Head Teacher, Mseche CDSS

【Central East Education Division Office】

Mr. P. Mugunda	DEO Planner

Mtenje CDSS/Salima District

Ms. Elizabeth Bai Chirina	Head Teacher, Matenje CDSS

North Education Division Office

Mr. Pauper Mkandawire	Desk Officer for Secondary School

Zolozolo CDSS /Mzuzu District

Ms. Rhoda Nguluwe	Head Master, Zolozolo CDSS
Mr. M. Ngaulu	Deputy Head Teacher, Zolozolo CDSS

Mzuzu City Council

Mr. A.K. Chirambo	DPD, Mzuzu City Council
Mr. Sofus Sophiaunos	Planning Advisor, Mzuzu City Council
Mr. H.H. Thindwa	Special Assistant to Minister of Agriculture MP.

Mpamba CDSS/Nkahata Bay District

Mr. Chiume M. B	Head Teacher, Mpamba CDSS
Mr. Kasambala Pa	Deputy Head Teacher

Nthalire CDSS/Chitipa District

Mr.Mswele J. B.	Head Teacher
Mr. Munyimbili J. W. C.	Teacher

Katowo CDSS/Rumphi District

Mr. Yotam C. Mabaso	Head Teacher
Mr. Chandler Chipotya	Deputy Head Teacher
Mr. Feston Msowaya	Teacher

Ezondweni CDSS/Mzinba Northe District

Mr. Tobias Gowdwe	Head Teacher
Mr. Jeffrei Kawdnga	Teacher

Baula CDSS/Mzimba District

Mr. Nicholous M. Soko	Head teacher
Mr. Grecium Mtambo	Teacher
Mr. Jaston. M. Soko	Teacher
Mr. Mark Kumwenda	Teacher

Edingeni CDSS/Mzimba District

Mr. Griffin Nkhata	Teacher
Mr. Caesor Chirwa	Teacher
Mr. Paul Phiri	Teacher
Mr. Justin Jere	Teacher

【African Development Bank】

Ms.Eyerusalem Fasika	Principal Country Program Officer

【Embassy of Japan】

Mr. Fujio SAMUKAWA	Ambassador Extraordinary and Plenipotentiary
Mr. Shigenobu KOBAYASHI	Deputy Head of Mission Counsellor
Mr. Shinichi OGAWA	First Secretary, Chief of the Development Cooperation Section
Mr. Naomitsu NAKAGAWA	Researcher for Economic Cooperation

【JICA Malawi Office】

Mr. Katsuro SAITO	Resident Representative
Mr. Akihiko HOSHIMNO	Deputy Resident Representative
Mr. Toru SHIMODA	Deputy Resident Representative
Ms. Minako SHIOTUKA	Assistant Resident Representative
Mr. Jintaro YAZAKI	Assistant Resident Representative
Ms. Akane TOTANI	Project Formulation Advisor (Education)
Ms. Hatsue KIMURA	Project Formulation Advisor (Education)
Dr. Maxwell Nkhokwe	Education specialist
Mr. Lingstone Chiona	Programme Officer

【SMASSE PHASE 2】

Mr. Hikaru KUSAKABE	INSET Planning and Management Expert of SMASSE
Ms. Ayumi KIKUCHI	Expert of SMASSE

4. Minutes of Discussions

4-1. Basic Design Study

MINUTES OF DISCUSSIONS
ON
PREPARATORY SURVEY
ON
THE PROJECT FOR CONSTRUCTION OF A TEACHER TRAINING COLLEGE FOR SECONDARY SCHOOL TEACHERS IN LILONGWE
IN
THE REPUBLIC OF MALAWI

In response to the request from the Government of the Republic of Malawi (hereinafter referred to as "Malawi"), the Government of Japan decided to conduct a Preparatory Survey on the Project for Construction of a Teacher Training College for Secondary School Teachers in Lilongwe (hereinafter referred to as "the Project") and entrusted the survey to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA sent the Preparatory Survey Team (hereinafter referred to as "the Team"), which is headed by Mr. Akihiko HOSHINO, Deputy Representative of JICA Malawi Office from February 21, 2011 to February 28, 2011.

The Team had a series of discussions with the Malawian officials concerned and conducted field survey.

In the course of discussions and field survey, both parties confirmed the items described on the attached sheets.

Lilongwe, Malawi
February 28, 2011

Mr. John. J. Bisika
Secretary for Education, Science and Technology
Ministry of Education, Science and Technology,
The Republic of Malawi

Mr. Akihiko HOSHINO
Leader
Preparatory Survey Team
Japan International Cooperation Agency

Mr. Peter. K. Simbani
Director of Debt and Aid
Ministry of Finance
The Republic of Malawi

ATTACHMENT

1. Objective of the Project

1-1. The objective of the Project is to increase the number of qualified teachers in secondary schools by constructing the facilities of a teacher training college in Lilongwe (hereinafter referred to as "TTC-L"), the Republic of Malawi.

1-2. By achieving this objective, it is expected that the Project would contribute to improving the access to and the quality of secondary education in the country, which is stipulated as one of the main targets of "National Education Sector Plan 2008 – 2017."

2. Responsible and Implementing Organization

The responsible and implementing organization of the Project is the Ministry of Education, Science and Technology (hereinafter referred to as "MOEST"), of which Organizational Chart is shown in ANNEX 1.

3. Project Site

The Team confirmed that MOEST has prepared the land shown in ANNEX 2 for the construction site of Teacher Training College for Secondary School Teachers in Lilongwe. Both sides confirmed that the tenure of the candidate land was transferred to MOEST, and MOEST is responsible for concluding the gazette.

JICA will further assess the land condition so as to judge the adequacy and feasibility for the site of the Project, referring focal conditions listed in ANNEX 3. In case serious hindrances are found in the candidate land, MOEST will arrange alternate sites.

4. Components of the Project

4-1. After discussions with the Team, the items indicated in ANNEX 4 were requested by the Malawian side. JICA will further assess the appropriateness of the request and the final components will be determined based on the result of this survey and the budget limitation of the Government of Japan.

4-2. The Malawian side explained that the capacity of TTC-L will be 540 students. The plan of student allocation for TTC-L is shown in ANNEX 5.

4-3. The Malawian side requested to include in the Project the facilities for in-service teacher education and trainings (INSET) as well as pre-service teacher education and trainings (PRESET). The Malawian side explained that teacher training colleges officially have a mandate to provide trainings for in-service teachers. The expected schedule of INSET activities conducted in TTC-L, shown in ANNEX 6, was also explained by the Malawian side. Both sides confirmed that the functions of both PRESET and INSET are to be taken into consideration in the project design. The Team will further examine the details on INSET, such as strategy, budget allocation, current situation, etc.

4-4. The Malawian side requested to build sports facilities, such as football ground and netball court, which are necessary for the curriculum of teacher training. The list of sports facilities and equipment requested by the Malawian side is shown in ANNEX 7. The relevance, necessity and appropriate items of the sports facilities will be further examined by the Team in this survey.

5. Japan's Grant Aid Scheme

5-1. The Malawian side understands the Japan's Grant Aid for Community Empowerment described in ANNEX 8, ANNEX 9, ANNEX 10, and ANNEX 11, which were explained by the Team.

5-2. The Malawian side assured to take the necessary measures, as described in ANNEX 12, for the smooth implementation of the Project. The details of the measures that the Government of Malawi needs to take for each construction site, such as electricity and water supply, will be further assessed and reported to MOEST by the consultants by the middle of March.

5-3. In principle, firms of only the recipient country's nationality could be contracted as contractors as long as the firm satisfies the conditions specified in the tender documents. Besides, firms of any nationality could be contracted as suppliers as long as the firm satisfies the conditions specified in the tender documents.

6. Framework of Project Implementation and Scope of Works

The Team explained the following framework of implementation.

6-1. Japan's Grant Aid is extended in accordance with the "Exchange Notes" by the two governments concerned and with the "Grant Agreement" between JICA and the Government of Malawi, in which the objective of the Project, period of execution, conditions and amount of Grant Aid, etc., are confirmed.

6-2. After concluding the Exchange Notes and Grant Agreement, the Government of Malawi shall make the Agent Agreement with Japan International Cooperation System (hereinafter referred to as "JICS"). In accordance with the Agent Agreement and "Procurements Guideline for Grant Aid for Community Empowerment (Type I –C)"of JICA, JICS shall conduct the following works on behalf of the Government of Malawi:

(1) Administration of the Grant,
(2) Preparation for and evaluation of tenders,
(3) Signing contracts with suppliers and service providers,
(4) Procurement of necessary goods,
(5) Payment to suppliers and service providers,
(6) Assisting to organize committee meetings, and
(7) Management of the progress of the Project.

6-3. To implement the Project smoothly, both sides confirmed to facilitate a committee

composed of the Government of Malawi, the Government of Japan and JICA. The members of the committee shall be Representative(s) of MOEST and Representative(s) of JICA Malawi Office. Representative of Embassy of Japan in Malawi may also attend as an observer.

Major functions of the committee are examining major changes of the Project, receiving the report of the progress, and examining the utilization plan of additional procurement (if any),etc.

7. Schedule of the Survey

7-1. The consultants will proceed to further studies in Malawi until March 16, 2011.

7-2. If the analysis of the field survey discovers no administrative and technical difficulties in implementing the Project by adopting the Japan's Grant Aid for Community Empowerment, the Team will prepare the draft reports of this survey, which include the outline design of TTC-L, based on the technical survey by the consultants. The draft report will be presented to MOEST in late August 2011.

7-3. After the contents of the report are accepted in principle by the Government of Malawi, JICA will recommend to the Government of Japan for the final approval of the Project. Simultaneously, the Team will proceed to prepare the draft tender documents for the Project.

8. Other Relevant Issues

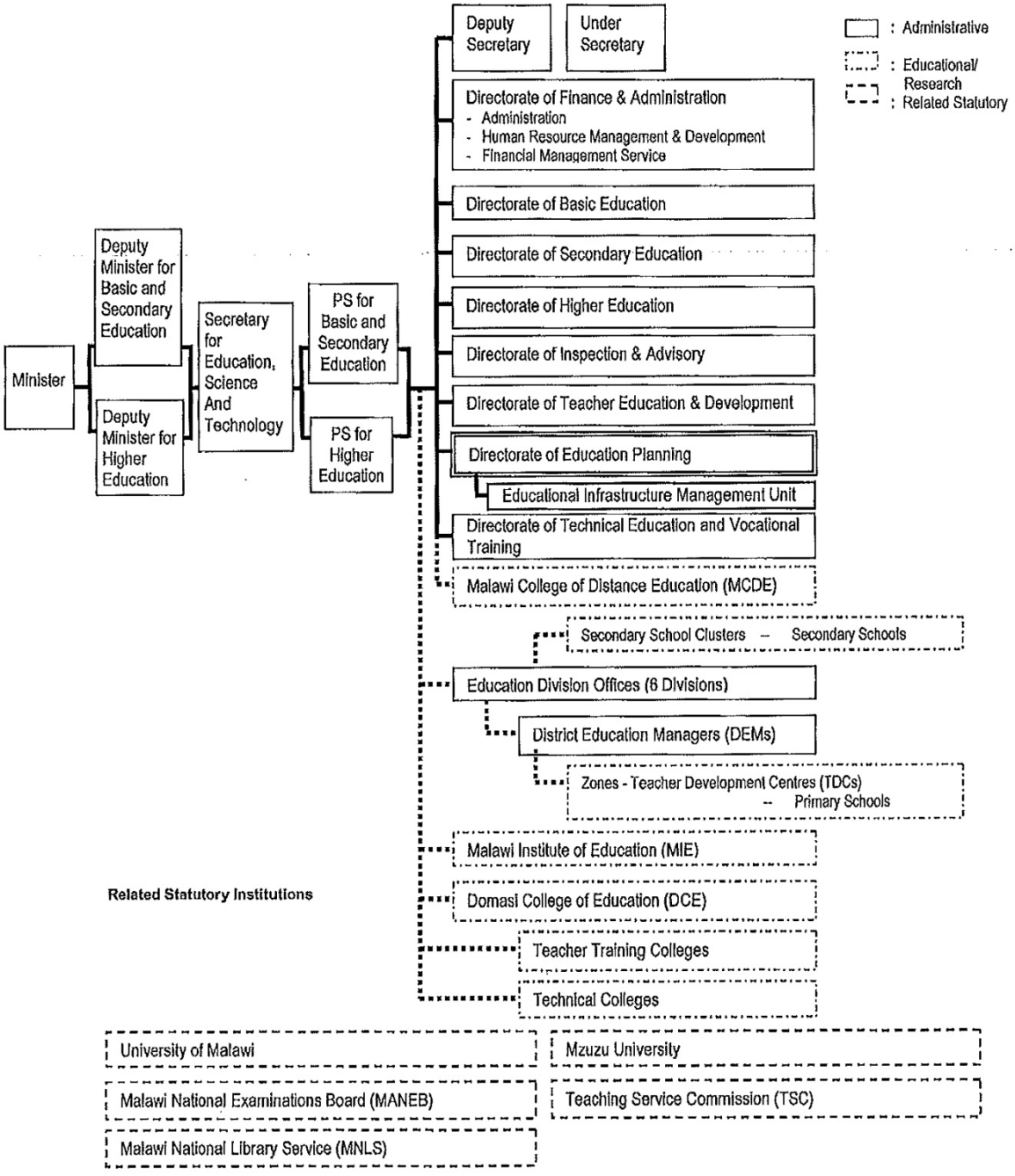
8-1. Both sides confirmed that the Malawian side is to make plans for opening TTC-L, such as schedule of staff employment, selection of students, budgeting, etc. It is also confirmed that the Malawian side will constantly share the preparation progress with JICA.

8-2. The Malawian side has made a request to the Japanese side to cover water supply and fences, which are indispensable for operation and security of TTC-L.

END

ANNEX 1: Organizational Chart of MOEST
ANNEX 2: Site Location Map of the Proposed Site for the Project
ANNEX 3: Focal Conditions of the Land for the Project
ANNEX 4: The List of Items and Priorities for TTC-L Requested by the Malawian Side
ANNEX 5: The Plan of Student Allocation for TTC-L
ANNEX 6: The Expected Schedule of INSET Activities Conducted in TTC-L
ANNEX 7: The List of Sports Facilities and Equipment Requested by the Malawian Side
ANNEX 8: Grant Aid for Community Empowerment of the Government of Japan
ANNEX 9: Implementation Flow of Japan's Grant Aid for Community Empowerment after E/N and G/A
ANNEX 10: Flow Chart of Japan's Grant Aid Procedures for Community Empowerment
ANNEX 11: Flow of Funds for implementation under the Japan's Grant Aid for Community Empowerment
ANNEX 12: Major Undertakings to be Taken by Each Government

ANNEX 1 Organization Charts of the Ministry of Education, Science and Technology (MOEST)



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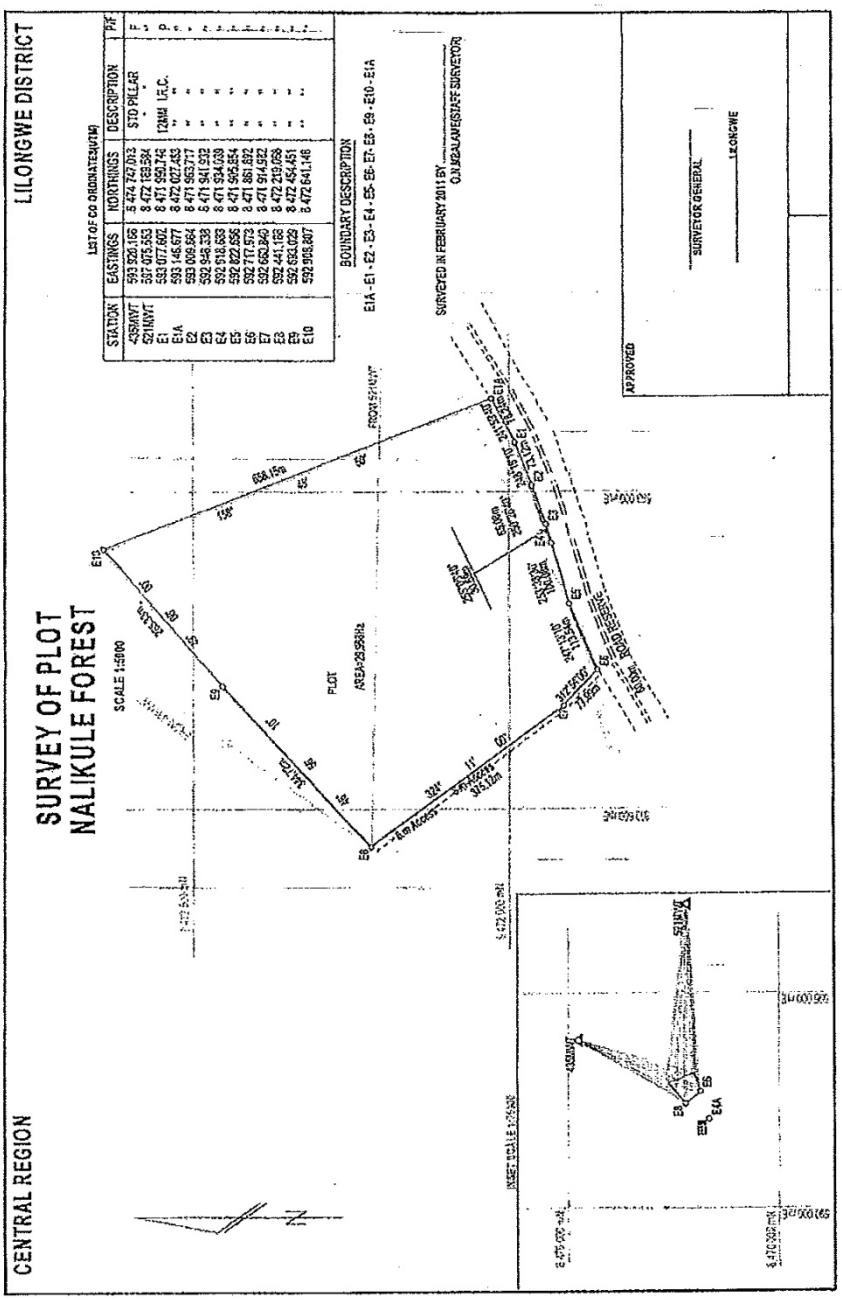
ANNEX 2 Site Location Map of the Proposed Site for the Project



ANNEX 3 Focal Conditions of the Land for the Project

The following conditions shall be examined to judge whether the site is adequate and feasible for construction of the facilities of a Teacher Training College.

1. MOEST can present (an) effective official document(s) that verify its ownership or land-use right over the site.
2. The site extent is sufficient to construct the proposed facilities including future expansion.
3. There is no serious risk of being damaged by natural disasters (or no record of such damages) and no security concerns around the site.
4. There are no hindrances for construction and supervision in terms of physical access to the site, working space, geographical conditions, etc.
5. There is water and electricity supply system on the site, or source for extension of water and electricity supply is confirmed to be feasible.

7

ANNEX 4 The List of Items and Priorities for the Training College for Secondary School Teachers in Lilongwe requested by the Malawian Side

1) Facilities

Name of Facilities	Priorities
· Building for the Teacher Training College	
Lecture rooms	A
Library/Resources & Computer centre	A
Science laboratories	A
Administration block	A
Ablution block	A
Hostels (Male & Female)	A
Dinning hall and Kitchen	A
Staff Houses	B*
· Building for the Demonstration Secondary School	B
Classrooms	B
Library/Resources & Centre	B
Administration block	B
Science laboratories	B
Staff Houses	B
Multipurpose Hall	B
Ablution block	B
· External facilities	
Borehole	B
Sewerage facility	A

2) Equipment

Item	Priorities
Equipment for Teacher Training College	
· Furniture	A
Desk and chairs for Lecture rooms, Classrooms, Laboratories, Library/Resource & Computer center and Administration block	
Cabinet for Lecture rooms, Laboratory, Library and Administration block	
Tables and chairs for Dinning hall	
Beds for Hostels	
· Laboratory equipment	A
Experimental apparatus for biology and Physical lab.	
· Computers for Compute center and Administration	A
· Kitchen utensils and Fridges	A
Equipment for Demonstration Secondary School	
· Laboratory equipment	A
Experimental apparatus for science laboratories	
· Furniture	A
Desk and chairs for Classrooms, Laboratories, and Administration/Library	
Blackboard and notice board for Classroom and Laboratories	
Cabinet for Administration/Library	
· Sports equipment	B

Remarks: A: First priority as essential facility.
B: Second priority as necessary facility.
C: Third priority to be covered by Malawian side.
*The priority of Staff Houses is high, but the number of houses will be adjusted within the budget limitation of the Project.

ANNEX 5 The Plan of Student Allocation for TTC-L

	Subject	No of students (Year 1-3)	Sub-total	Grand Total
Faculty of Language	English	60	170	540
	Chichewa	60		
	French	50		
Faculty of Humanities	History	20	100	
	Geography	20		
	Social Science	20		
	Physical Education	20		
	Theology & Rerigous Studies	20		
Faculty of Sciences	Biology	60	270	
	Chemistry	60		
	Physics	60		
	Mathematics	70		
	Home Economics	20		

ANNEX 6 The Expected Schedule of INSET Activities Conducted in TTC-L