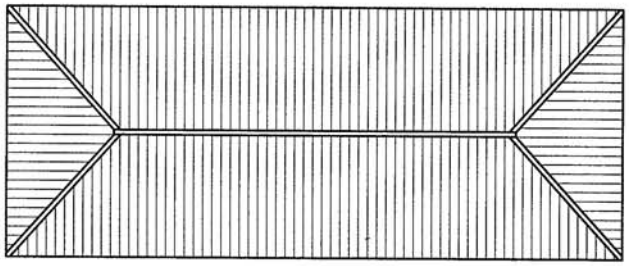
2.2.3 Basic Design Drawings

All of the classroom and toilet buildings will be constructed using a combination of the standard types (modules). The different types of classroom buildings and toilet buildings are shown in Table 2-2-3 and Table 2-2-6 respectively. The types of facilities to be constructed at each site are shown in Table 2-2-14.

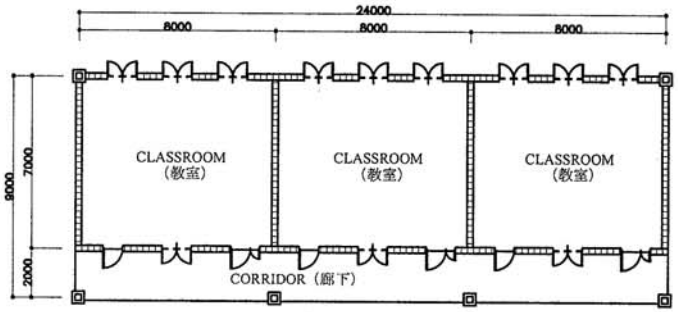
The basic design drawings of the typical classroom and toilet buildings are shown in the following pages.

Drawing No.

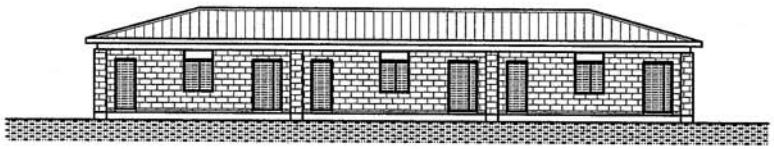
- D-1 (A-3 Type Classroom Building: Standard Plan, Elevation and Cross-Section) (Toilet Building: Standard Plan and Elevation)
- D-2 (B-3 Type Classroom Building: Standard Plan, Elevation and Cross-Section)
- D-3 (Standard Cross-Section, Table of Doors and Windows and Table of Finishings)



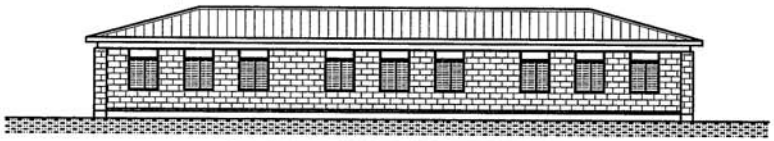
ROOF PLAN
(屋根伏図)



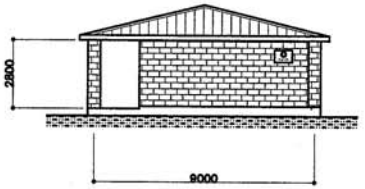
FLOOR PLAN
(平面図)



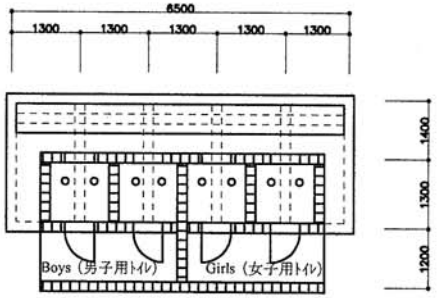
CORRIDOR-SIDE ELEVATION
(廊下側立面図)



CLASSROOM-SIDE ELEVATION
(教室側立面図)



SIDE ELEVATION
(妻側立面図)

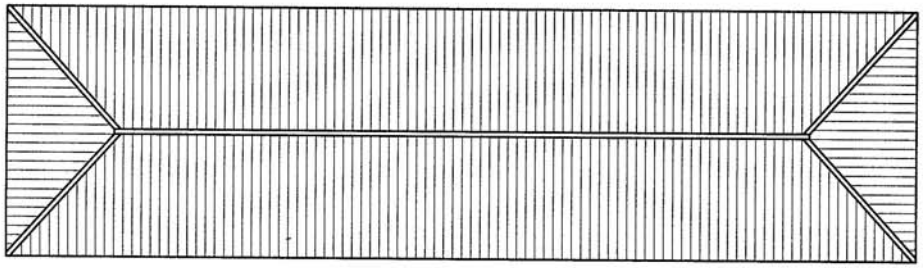


TOILET PLAN
(便所平面図)

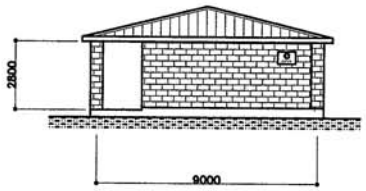
TOILET SECTION
(便所断面図)

(便所-標準平面図、断面図)

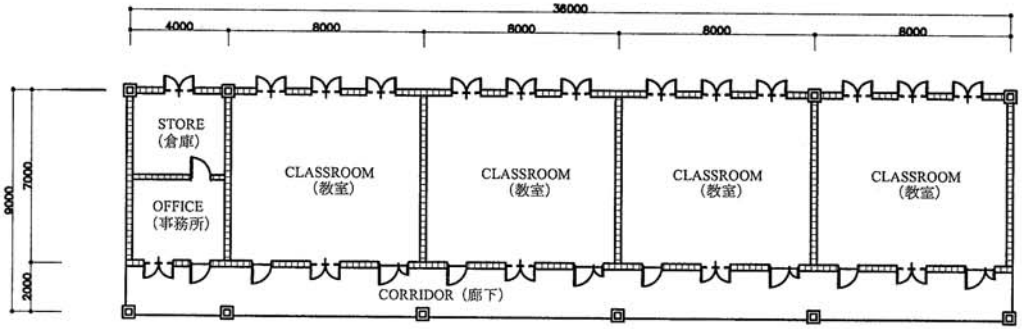
PROJECT NAME	IMPLEMENTATION AGENCY	TITLE	SCALE	DATE	DESIGNED	CHECKED	APPROVED	DWG No.
THE PROJECT FOR CONSTRUCTION OF ADDITIONAL CLASSROOMS FOR PRIMARY SCHOOLS IN THE FEDERAL REPUBLIC OF NIGERIA (ナイジェリア国、小学校建設計画)	UNIVERSAL BASIC EDUCATION PROGRAMME (UBE) (UBE事務局)	TYPICAL PLAN and ELEVATION for CLASSROOM TYPE-A3 (A３型校舎-標準平面図、立面図、断面図) (便所-標準平面図、断面図)						D－1
				YACHIYO ENGINEERING CO., LTD. TOKYO JAPAN				REV. 0



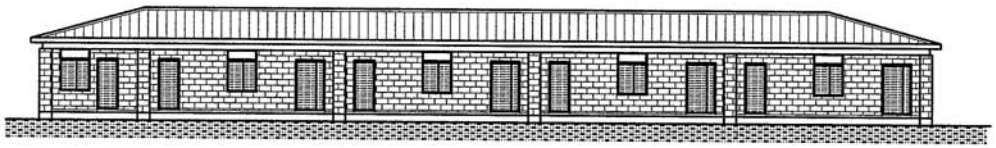
ROOF PLAN
(屋根伏図)



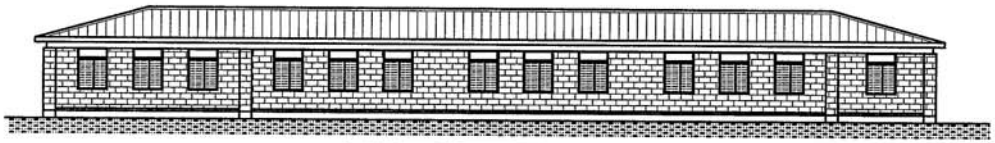
SIDE ELEVATION
(妻側立面図)



FLOOR PLAN
(平面図)

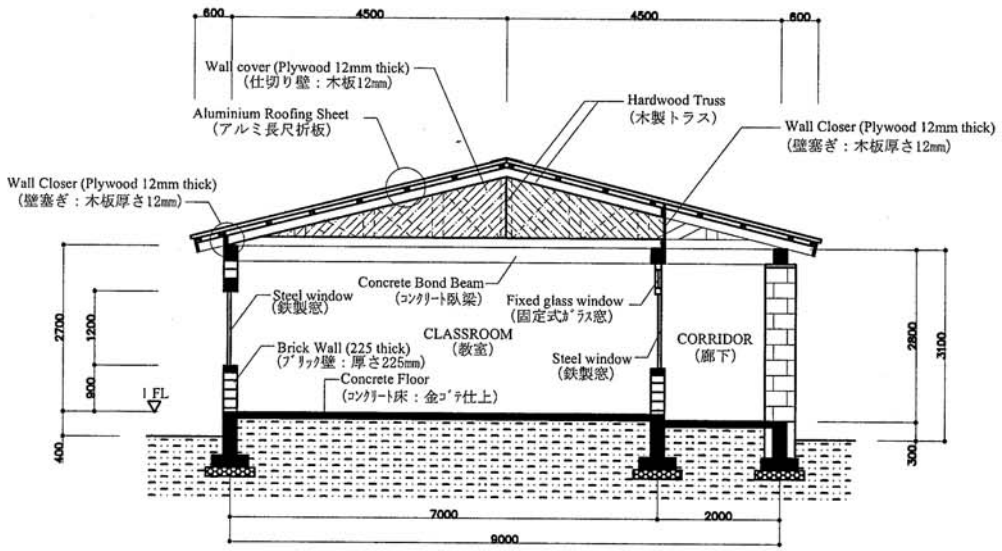


CORRIDOR-SIDE ELEVATION
(廊下側立面図)

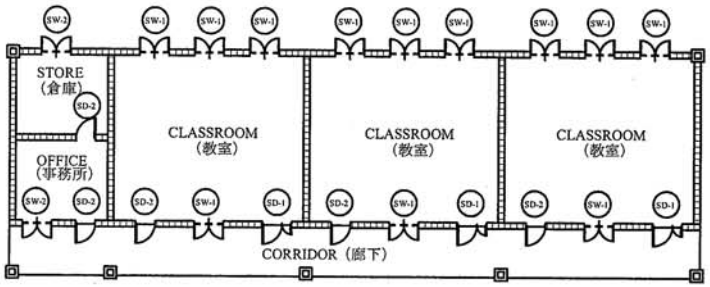


CLASSROOM-SIDE ELEVATION
(教室側立面図)

PROJECT NAME	IMPLEMENTATION AGENCY	TITLE	SCALE	DATE	DESIGNED	CHECKED	APPROVED	DWG No.
THE PROJECT FOR CONSTRUCTION OF ADDITIONAL CLASSROOMS FOR PRIMARY SCHOOLS IN THE FEDERAL REPUBLIC OF NIGERIA (ナイジェリア国　小学校建設計画)	UNIVERSAL BASIC EDUCATION PROGRAMME (UBE) (ＵＢＥ　事務局)	TYPICAL PLAN and ELEVATION for CLASSROOM TYPE-B3 (Ｂ３型校舎-標準平面図、立面図、断面図)	1 / 100					D－2
				yec YACHIYO ENGINEERING CO., LTD. TOKYO JAPAN				REV. 0



TYPICAL SECTION
(標準断面図)



DOOR and WINDOW PLAN (TYPICAL)
(建具符号図)

Structure (構造)

Elements (部位)	Material (材料)
Foundatiopn (基礎)	Reinforced Concrete (鉄筋コンクリート)
Classroom Floor (教室床)	Reinforced Concrete (鉄筋コンクリート)
Corridor (廊下床)	Reinforced Concrete (鉄筋コンクリート)
Column (柱)	Reinforced Concrete (鉄筋コンクリート)
Bond Beam (臥梁)	Reinforced Concrete (鉄筋コンクリート)
Roof Truss (屋根架構)	Hardwood Truss with Insecticide Paint (木組トラス＋防虫剤塗布)

Finishing (仕上げ)

Elements (部位)			Material (材料)
Exterior (外部)	Roof (屋根)		Aluminium Roofing Sheet (長尺アルミニウム板)
	Wall (壁)		Brick Exposed (ブリック現わし)
	Corridor (廊下床)		Reinforced Concrete Exposed Finish with Steel Trowel (コンクリート金鏝仕上)
Interior (内部)	Classroom (教室) Office (事務室) Store (倉庫)	Floor (床)	Reinforced Concrete Exposed Finish with Steel Trowel (コンクリート金鏝仕上)
		Wall (壁)	Brick Exposed (ブリック現わし)
		Roof Board (野地板)	Plywood Exposed with Insecticide Paint (合板＋防虫剤塗布)

Door and Window (建具)

Mark (建具記号)	SD-1	SD-2	SW-1	SW-2
Size (寸法)	1200 / 2100	900 / 2100	1200 / 350 / 1200	1200 / 350 / 1200
Door (ドア)	Steel Plate t=0.6mm (鉄板厚0. 6mm)	Steel Plate t=0.6mm (鉄板厚0. 6mm)	Steel Plate t=0.6mm (鉄板厚0. 6mm)	Steel Plate t=0.6mm (鉄板厚0. 6mm)
Frame (枠)	Ditto (同上)	Ditto (同上)	Ditto (同上)	Ditto (同上)
Glass (ガラス)	——	——	Float Glass t=5mm (ガラス 厚5mm)	Float Glass t=5mm (ガラス 厚5mm)
Protetion Bar (鉄格子)	——	——	——	Steel Bar S=100mm (鉄筋 10cm間隔)
Paint (塗装)	Synthetic Resin Paint (合成樹脂塗装)	Synthetic Resin Paint (合成樹脂塗装)	Synthetic Resin Paint (合成樹脂塗装)	Synthetic Resin Paint (合成樹脂塗装)

PROJECT NAME	IMPLEMENTATION AGENCY		SCALE	DATE	DESIGNED	CHECKED	APPROVED	DWG No.
THE PROJECT FOR CONSTRUCTION OF ADDITIONAL CLASSROOMS FOR PRIMARY SCHOOLS IN THE FEDERAL REPUBLIC OF NIGERIA (ナイジェリア国 小学校建設計画)	UNIVERSAL BASIC EDUCATION PROGRAMME (UBE) (UBE 事務局)	TYPICAL SECTION AND DOOR AND WINDOW (標準断面図、建具表、仕上表)						D－3
				YACHIYO ENGINEERING CO., LTD. TOKYO JAPAN				REV. 0

2.2.4 Implementation Plan

2.2.4.1 Implementation Policy

The Project will be implemented within the framework of the grant aid scheme of the Government of Japan. Accordingly, the Project will only be implemented after it's approval by the Government of Japan and the formal exchange of the Exchange of Notes (E/N) between the Government of Japan and the Government of Nigeria. The basic issues and special points for consideration for the implementation of the Project are described below.

(1) Project Implementation Body

The organization responsible for the implementation of the Project on the Nigerian side is the UBE (FME) and the SPEB and LGEA in each state will be in charge of the operation and maintenance of the new facilities after their handing over to the Nigerian side. The UBE (FME) should appoint a person to be responsible for the Project through close communication and consultation with the Japanese Consultant and Contractor to ensure the smooth implementation of the Project. The selected person will be required to explain the contents of the Project to staff of the Project schools and related government officials in Nigeria to obtain their understanding and cooperation for the Project to ensure its smooth progress.

(2) Consultant

In order to construct the necessary facilities and to procure the necessary materials, etc. for the Project, the Japanese Consultant will conclude a consultancy agreement with the UBE (FME) and will conduct the detailed design and supervision of the site work for the Project. The Consultant will also prepare the tender documents and will execute the prequalification and the tender on behalf of the UBE (FME), i.e. the project implementation body.

(3) Contractor

The Contractor, which will be a Japanese company selected by the Nigerian side by means of open tender in accordance with Japan's grant aid scheme, will conduct the construction of the planned facilities and the procurement of materials. As it is necessary for the Contractor to provide after-care in terms of the repair of the buildings, etc., the Contractor must give proper consideration to the establishment of a post-Project liaison system.

(4) Necessity for Dispatch of Japanese Engineers

The construction work of the planned facilities under the Project will stretch over a long period of time and will consist of the procurement of materials, transportation of the materials in Nigeria and on-site construction work, etc. and the coordination of such components will be necessary for efficient management. As the construction of the new classrooms at the Project schools will be conducted in three phases over a long period of time, the dispatch of a site manager from Japan will be necessary to provide consistent management and guidance on schedule control, quality control, progress control and safety control.

School facility construction work and repair work for existing school buildings for the UBE (FEM), state government and other local governments have been entrusted to local private construction companies on the basis of an all-in contract which includes construction work and material procurement, etc. However, the insufficient supervision of such work has resulted in the use of poor materials and/or inappropriate construction methods and many facilities appear to have required repeated repair work immediately after their completion. In view of the importance of providing useful advice on construction methods and ensuring work progress in line with the schedule under the Project, the dispatch of a Japanese engineer(s) is essential.

(5) Consultant Supervision of Work to be Conducted by Nigerian Side

The planned construction site at each Project school is sufficiently large and poses no special problems. However, it will be necessary to check the progress of the work to be conducted by the state government or other local government as soon as the Project commences as some schools want the new building to be constructed on the former site of a collapsed school building, want a partial improvement of the access or require minor land preparation work. For this reason, the Consultant will not only conduct supervision of the work conducted by the Japanese side but will also provide guidance and supervision in regard to schedule control, quality control, progress control and safety control. In particular, the Consultant will transfer techniques and skills relating to planning, technical management and accident prevention, etc.

2.2.4.2 Implementation Conditions

(1) Conditions of Construction Industry in Nigeria

Urban type construction work involving office and commercial buildings, etc. is widely taking place in Abuja, the capital of Nigeria, and state capitals. Such large-scale

construction work is monopolised by local subsidiaries of foreign companies and the workers predominantly come from other regions. Given the low wages, a large number of workers are employed at construction sites and construction machinery is seldom seen.

Meanwhile, small-scale construction work, such as that planned under the Project, is conducted by small local construction companies. The reality of the work of these companies falls far short of the specifications set by the UBE (FME) in terms of their use of old-fashioned construction methods, procurement of inexpensive materials of poor quality and the quality of the completed buildings. The work given to local construction companies appears to have many negative elements, including the non-transparent flow of money and insufficient work supervision.

In the light of this situation, the dispatch of an engineer(s) from Japan for the procurement of the proper materials, guidance on construction techniques, quality control, schedule control, progress control and safety control is essential while using local construction companies for the provision of construction machinery and workers.

The facilities to be newly constructed under the Project will require periodic maintenance and repair following the commencement of their use and, therefore, it is essential to request the participation and cooperation (in the form of the provision of simple labour, etc.) of local people (PTA members, etc.) for the Project at the construction stage in view of fostering a sense of participation in the construction work and affection for the new facilities.

(2) Use of Local Materials

For the formulation of the construction plan, the use of locally procurable materials will be adopted as much as possible. In the target states of the Project, it is possible to locally procure such building materials as aggregates, cement, form materials and reinforcing bars and also such common materials for primary school construction work as concrete blocks, bricks (burnt bricks), roofing materials and steel windows and doors.

While hand pumps for deep wells are not manufactured in Nigeria, hand pumps made in India are widely available in Nigeria as general-purpose products. In consideration of the ease of obtaining spare parts, etc., Indian hand pumps will be procured under the Project. As the uniform high quality of locally produced or processed products cannot be guaranteed, pre-procurement visits to factories, processing plants or production sites of building or construction materials will be essential to select high quality products to ensure the procurement of the best materials available. There is also a question in regard

to the feasible supply volume of each material by the producers or merchants and, therefore, careful planning will be required to finalise the procurement plan.

The finalisation of the supply sources of the materials for the construction work under the Project must take (i) the local situation described above, (ii) the ease of maintenance or repair of the constructed facilities and (iii) the availability of after-service to support maintenance and repair work, including the supply of materials to be used for repair work, into consideration.

(3) Use of Local Construction Companies

As described earlier, there are local subsidiaries of foreign construction companies in Nigeria which are promising subcontractors for the Japanese Contractor. However, even though these companies can offer a reliable on-site management system, their high construction cost demands tough negotiations for their use as subcontractors for the Project. The scope of work to be expected of local subcontractors for the Project includes the supply of manpower, such as engineers to assist the Japanese engineers, coordinators, skilled workers and ordinary workers, and the supply of transport vehicles and small construction machinery and small local construction companies are believed to be capable of meeting these requirements. Accordingly, the minimum number of Japanese engineers will be dispatched to Nigeria under the Project to achieve cost reduction and to transfer skills and local engineers and construction companies will be actively used.

While many local construction companies have much experience of the construction of primary school buildings, their technical level is not advanced, making the adoption of innovative design features, including the simplification of commonly used construction methods and specifications with which these companies are familiar necessary in order to ensure the satisfactory quality of the new facilities.

(4) Safety Measures

As it is believed that construction site workers throughout Nigeria lack good awareness of work safety, it is essential to pay particular attention to the safety of workers at the construction sites under the Project. The planned construction of school buildings under the Project involves such work in high places as roofing work, with a possibility of serious accidents involving workers due to their falling from scaffolding or involving the falling of objects on people below. In order to prevent such accidents, safety measures will be introduced, including the prohibition of simultaneous work above and below each other and the installation of secured scaffolding. Given the fact that the construction sites

are primary schools in operation, prohibition of entry to the sites by pupils will be imposed in view of their safety.

2.2.4.3 Scope of Work

The scope of work for the Japanese side and the Nigerian side is shown in Table 2-2-15. For the common division of work under the grant aid scheme, refer to 2.3 – Obligations of Recipient Country.

Table 2-2-15 Scope of Work for Japanese Side and Nigerian Side

Work Item	Scope of Work				Remarks
	Japan	Nigeria			
		UBE	SPEB	LGEA	
1. Construction of Classroom Buildings					
(1) Provision and grading of the construction sites			○	○	Including cutting of obstructive trees, etc.
(2) Provision of temporary sites			○	○	Material yard, etc.
(3) Temporary work, including fencing at the sites	○				
(4) Securing of access to the sites			○	○	
(5) Construction of the classroom buildings	○				
(6) Provision of fencing, gates and guards on the school premises			○	○	Including guard house
2. Construction of Toilet Buildings					
(1) Provision and grading of the construction sites			○	○	Including cutting of obstructive trees, etc.
(2) Temporary enclosure of the sites and temporary work	○				
(3) Construction of the toilet buildings	○				
3. Construction of Water Supply Facilities					(At the relevant schools)
(1) Provision and grading of the construction sites			○	○	
(2) Temporary enclosure of the sites and temporary work	○				
(3) Boring work and groundwater test	○				Not including water purification device
(4) Procurement of casings and hand pumps	○				Including consumables for pumps (for single replacement)
(5) Installation and testing of the above	○				
(6) Construction of auxiliary facilities	○				
(7) Construction of drainage ditch beyond the water supply facility sites			○	○	
(8) Procurement of consumables			○	○	
4. Procurement, Manufacture and Placing of Fixtures					
(1) Blackboards	○				UBE standard size
(2) Desk-benches for pupils (wooden, two-seater)	○				UBE standard size

Note: O indicates the side responsible for the corresponding work.

2.2.4.4 Work Supervision Plan/Procurement Supervision Plan

The Consultant will organize a project team to be responsible for the detailed design and work supervision in accordance with Japan's grant aid scheme and the concept and policies of the basic design to ensure the smooth implementation of the Project. At the work construction stage, the Consultant must be fully aware of the fact that the areas where the project sites are situated are mosaics of various religions, ethnic groups and languages and it will be necessary for the Consultant to make conscious efforts to ensure the levels of schedule control, quality control, progress control and safety control throughout the three phases. The supervision work of the Consultant will include attendance at the inspection of the materials produced or manufactured in Nigeria with a view to preventing any problems relating to the materials after their delivery to the project sites.

(1) Supervision Principles

The Consultant will supervise the work progress, including the procurement of materials, to ensure punctual completion within the planned period of each phase and will supervise and guide the Contractor in order to achieve the work quality and progress and to abide by the delivery schedules for the materials, etc. indicated in the contract without accidents or other problems at the site. The main points to be noted for the supervisory work are described below.

1) Schedule Control

The Consultant will make weekly and monthly comparisons between the actual work progress and the schedule submitted by the Contractor at the time of signing the contract in regard to the following items. If the Consultant foresees any delay of the work, he will issue a warning to the Contractor, requesting that the latter submit a remedial plan to ensure the completion of the construction work and delivery of materials within the planned work period.

① Quantity of the work completed (procurement of materials and work progress)

② Confirmation of the delivery of materials (construction materials and fixtures)

③ Confirmation of the temporary work and preparations for the construction work (as and when necessary)

④ Work efficiency and actual number of engineers, technicians and workers at work

2) Quality Control and Progress Control

The Consultant will supervise the Contractor in regard to the following matters to check whether or not the facilities constructed and the equipment and materials manufactured and delivered conform to the quality and quality upon completion indicated in the contract documents. If the Consultant believes that it is unlikely that the said quality and quantity will be achieved based on the checking results, he will demand that the Contractor correct, change or modify the situation immediately.

① Checking of the shop drawings for construction work and specifications of equipment and materials to be used

② Checking of the shop drawings for fixtures, doors and windows

③ Witnessing at the manufacturing or production sites of equipment or materials or checking of the inspection results

④ Checking of the installation drawings and manuals for equipment (in connection with the construction of water supply facilities)

⑤ Checking of the test operation of the installed hand pumps and checking of the adjustment, water supply operation and water analysis manuals (in connection with the construction of water supply facilities)

⑥ Supervision and checking of the completed work amount and state of finishing

3) Safety Control

The Consultant will discuss and cooperate with the representative of the Contractor with a view to supervising the on-site construction work to prevent any accidents to workers as well as third parties (particularly pupils and children) with due attention paid to the following safety control principles.

① Establishment of safety control rules and appointment of a person responsible for work safety

② Prevention of accidents to workers by means of the regular inspection of the construction machinery

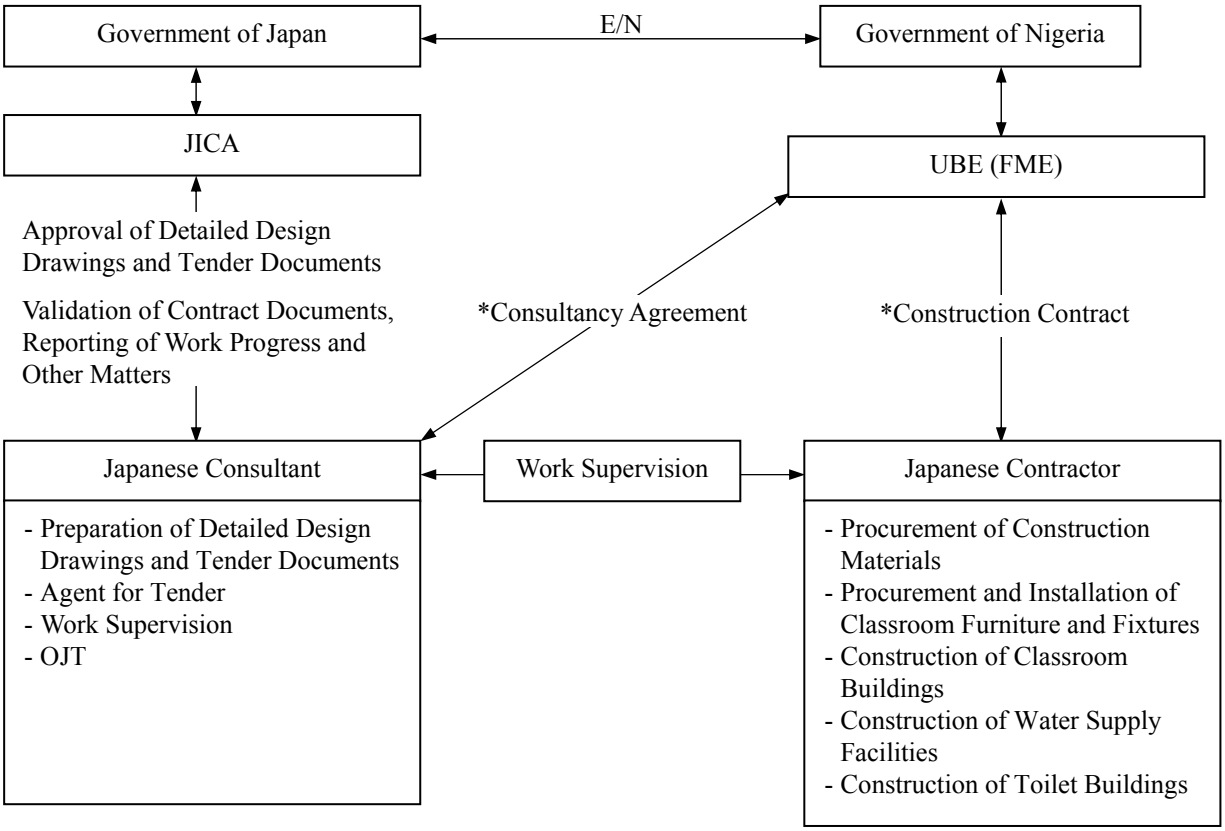
③ Introduction of travelling routes for work vehicles and construction machinery, etc. and the thorough enforcement of slow driving on the site

④ Establishment of safety facilities and periodic inspection

⑤ Enforcement of welfare measures and days-off for workers

(2) Project Implementation Regime

The project implementation regime, i.e. the relationship between the parties involved in the implementation of the Project, including at the work supervision stage, is shown in Fig. 2-2-11.



*The consultancy agreement and construction contract must be validated by the Government of Japan.

Fig. 2-2-11 Project Implementation Regime

(3) Work Supervision

The Contractor will construct the new classroom buildings, procure and install the new classroom furniture and fixtures at all of the sites and construct new water supply facilities at the relevant schools. It is likely that the Contractor will use local subcontractors to conduct the above work and, therefore, it is essential that these subcontractors fully understand the work schedule, required quality and quantities and safety measures stipulated in the construction contract. Accordingly, the Contractor will

dispatch engineers with experience of similar work abroad to Nigeria to supervise the local subcontractors.

Given the scale and contents of the planned construction work under the Project, the dispatch of the engineers listed in Table 2-2-16 by the Contractor to Nigeria to be permanently stationed in Nigeria throughout the construction period is desirable as the minimum requirement.

Table 2-2-16 Engineers to be Dispatched by Contractor

Type of Engineer	Number	Work Assignment	Dispatch Period
Manager	1	General management of the construction work; obtaining of approval; management of the procurement of materials and fixtures; labour management; accounting	Entire construction period (Japanese)
Administrator	1	Management of the procurement of materials and fixtures; labour management; accounting	Entire construction period (Japanese)
Construction Engineer	1 – 4	Supervision of the foundation work, structural work, wood work, roof work, finishing work and door and window work, etc.	Entire construction period (Japanese)
Water Supply Engineer	1	Supervision of the deep well construction works	Well construction period (Japanese)

The workers to be locally employed will be deployed in an appropriate manner based on the work progress situation.

2.2.4.5 Quality Control Plan

As the quality of the construction materials which can be procured locally and which are produced in Nigeria or a third country is not uniform because of insufficient quality control at the production or manufacturing stage, detailed quality inspection prior to delivery to the construction sites will be essential.

For the quality control of those materials to be produced at the site (concrete and mortar, etc.), rules in line with the work management standards set forth as the planning stage of the construction work will be formulated as guidelines for the required quality control.

2.2.4.6 Procurement Plan

Most of the materials to be used for the construction work under the Project can be procured in Nigeria. In fact, such materials as aggregates, cement, reinforcing bars, timber and paint

which are produced in Nigeria or a third country are available in sufficient quantity in the local market.

Both construction machinery and transport vehicles can be either leased or procured locally, presenting no problems in this aspect. Accordingly, the procurement sources for the construction materials for the Project have been decided as described below.

(1) Locally Produced Materials

Construction materials : sand, aggregates, concrete blocks, burnt bricks, reinforcing bars of some sizes, timber, roofing aluminium sheets and materials for temporary work, etc.

(2) Materials Produced in a Third Country

Construction materials : cement, reinforcing bars, structural steel, paint, roofing asphalt and glass, etc.

Materials for water supply facilities : PVC and hand pumps, etc.

2.2.4.7 Soft Component Plan

(1) Objectives of Soft Component

The principal objective of this soft component is the fostering of a sense of ownership among pupils, who are the direct beneficiaries of the Project, as well as community leaders, headmasters and teachers, etc. who will mainly conduct the maintenance of the school facilities to establish the basis for the sustained maintenance of the planned facilities under the Project. Another objective is the creation of manuals as tools for such administrative bodies as the SPEBs and LGEAs to conduct post-project monitoring and guidance activities in an efficient and effective manner.

(2) Outputs of Soft Component

The expected outputs of the soft component are listed below.

a) Community leaders, headmasters and teachers who will be practically responsible for the maintenance of the primary school facilities will develop a sense of ownership with the understanding of the need for participation in and the implementation of maintenance work for the new facilities on their own initiative.

b) The pupils studying in the newly constructed classrooms will realise the need for the careful use of such school facilities and fixtures as the classrooms and desk-benches for their own sake as well as for the sake of future pupils and will acquire the habit of cleaning the school facilities by themselves.

c) A system will be established whereby the SPEBs in the three target states and the LGEAs of the local governments controlling the areas of the target schools conduct monitoring of the state of the post-project maintenance of the new facilities and will provide necessary guidance, if required.

d) New know-how regarding the treatment of sludge collected from the toilet pits and hand pump maintenance, etc. will be extended to the relevant project sites.

e) The schools will be provided with a maintenance manual while the SPEBs and LGEAs will be provided with a maintenance guidance and monitoring manual.

(3) Soft Component Implementation System

The soft component will be implemented under the overall supervision of the Japanese Consultant. However, it will be important to encourage the initiatives and spontaneous efforts of the SPEBs and LGEAs to ensure the smooth implementation of efficient and effective monitoring. To be more precise, those such as the head of the Planning, Research and Statistics Department of the SPEB in each state, which is the counterpart for project implementation, will be appointed to act as a local coordinator/facilitator to achieve smooth communication with and understanding of the contents and purposes of the soft component by officials of the SPEBs and LGEAs and people related to the schools, such as headmasters, teachers, community leaders, pupils and PTA members. Moreover, a local task force comprising staff members of the Planning, Research and Statistics Department of each SPEB, the LGEA persons responsible for the model schools and inspectors will be established.

(4) Work Items and Contents of Soft Component

The various types of work described below will be conducted to achieve the objectives described above.

1) Design of the Soft Component and Preparation of Guidelines (Draft) for implementation.

Prior to discussions with the Nigerian side, the draft guidelines will be prepared.

2) Finalization of Guidelines through Discussion with SPEB and UBE.

The contents of the draft guidelines will be explained to such project counterparts as the UBE (FME) and the SPEBs to ensure a thorough understanding of the concept, objectives, contents and schedule of the activities of the soft component. This explanation is considered to be an initial part of the attempt to foster a sense of ownership for the implementation of maintenance work at each Project school.

3) Formation of Local Task Force

For the efficient and effective implementation of the soft component, the presence of a local facilitator will be essential. This facilitator will ensure the implementation of the necessary activities with the understanding of the local people involved and with a full understanding of the intentions of the Japanese Consultant.

The active participation of the SPEBs, which will be responsible for the monitoring of and guidance on the post-project maintenance work, in the implementation of the soft component will be essential for the continuance of proper maintenance. The planned task force will be formed around the Planning, Research and Statistics Department (the counterpart at the project implementation stage) of each SPEB. The task force will comprise 5 – 6 members, including the head of the said department, a person responsible for school facility maintenance at the SPEB, an expert on educational statistics at the SPEB, the representative of the LGEA controlling the model school and a school inspector(s). Those such as the head of the said department of the SPEB will be appointed as a facilitator who will preside over the orientation and workshop described below and who will explain the necessary matters, taking the intentions of the Japanese Consultant into consideration.

4) Selection of Model Schools / Grouping of the schools

The model schools where maintenance activities will take place first will be selected from among the Project schools in each state. The number of model schools to be selected will be two in Niger State (Phase 1), two in Plateau State (Phase 2) and three in Kaduna State (Phase 3), totalling seven model schools. The construction work at these schools will be given preference over others with the necessary assistance being provided earlier than in the case of the other schools.

As the 70 Project schools are dispersed in the wide area of the three states, the locations of the model schools should be carefully selected to achieve a good geographical balance so that representatives of other schools, which are grouped to match the number of model schools in each state, can participate in the workshop described later to be held at the model schools. This selection of the model schools will take the abilities and vigour of the headmaster and community leader into consideration in view of the efficient and effective implementation of maintenance activities at the model schools.

The activities of the Japanese Consultant in Nigeria will be 2 or 3 times for each phase. They will assist to organise the task forces and help them to start the work in the first mission, and the task force will go on the relevant works until the second mission. The Japanese Consultant will support to finalise their activities and will pave the way for widespread of this movement in the second mission.

5) Orientation to the Project Schools

At first each Project school will be informed of its selection as a Project school, the details of the facilities to be constructed, the construction schedule and the outline and schedule of the workshop for facility maintenance. At the same time, initial efforts will be made to make the Project schools understand the importance of facility maintenance and to foster a sense of ownership to properly conduct the required maintenance work.

6) Preparation of Manual for Facility Maintenance to Primary School / Instruction Poster

Through discussions with the local task force, the headmasters of the model schools and community leaders, their understanding of the existing and potential problems will be improved to examine feasible ways of improving the maintenance of the school facilities after the completed construction of the model schools. A maintenance manual will be developed by the local task force with a participatory approach using the draft manual prepared by the Consultant and incorporating local ideas to foster a sense of ownership on the Nigerian side. During this process, the Consultant will comment on the draft manual prepared by the task force and will provide guidance. The maintenance manual for primary school and a poster showing maintenance actions will be made as output.

7) Practice of Daily Maintenance Activities at Model School

Based on the maintenance manual described above, maintenance activities will be put

into practice, led by the teachers, pupils, PTA members and community members, to improve the state of maintenance at the model schools.

8) Preparation / Implementation of Workshops

a) A workshop will be held at each model school and the headmasters of the target schools around the said model school and community leaders will be invited to participate in this workshop with a view to spreading the maintenance activities practised at the model school to all other Project schools. These headmasters and community leaders will observe the actual maintenance activities at the model school, undergo training and exchange opinions.

b) The workshops will be sponsored by each SPEB and chaired by the local facilitator. The local task force members will also act as moderators while the Japanese Consultant will act as the overall supervisor.

c) The training menu, schedule and role allocation for the workshops, required textbooks and equipment, etc., will be decided through discussions with the local task force.

d) The local task force will make the necessary preparations for the workshops.

e) After each workshop, the Japanese Consultant will arrange a meeting with the local task force to discuss the achievements and problems, etc. of the workshop and will prepare a workshop report.

9) Preparation of Manual for SPEB for Monitoring of Primary School Facility Maintenance

a) This manual for the monitoring of the maintenance activities at the Project schools will be prepared based on the self-help efforts of each SPEB.

b) To start with, a draft monitoring manual will be prepared by the Consultant.

c) Based on this draft manual, discussions will be held with the local task force which will be required to prepare its own manual on its own initiative. This manual will then be evaluated by the Consultant and the manual will be finalised by the local task force incorporating the comments fed back by the Consultant.

d) This monitoring manual will be prepared so that the SPEB in each state can receive an annual report on the state of maintenance at each target school by a school inspector of the LGEA. The SPEB in each state will then compile a report on all of the target schools and will submit a general report to the JICA Nigeria Office once a year.

(5) Output

◊ Draft guideline for soft component implementation (Consultant)
◊ Soft component implementation guideline (Consultant, UBE, SPEB)
◊ Manual for Facility Maintenance to Primary School / Instruction Poster (each school)
◊ Manual for SPEB for Monitoring of Primary School Facility Maintenance (SPEB)

Table 2-2-17　Activity Plan of the Soft Component

1st Phase: Niger State(1/2)

Detailed work plan	1st Phase: Niger

Term No.	Item	Work item	Deliverable (manual, guideline etc.)	Methodology	Necessary input	Step No.
1	Design of The Soft Component and preparation of guideline (draft) for implementation	+Preparation of guideline draft	+Guideline for implementation of The Soft Component (English)	+Desk work	1 man×0.25 month	Step1 Total: 1 month
2	Finalization of guideline through discussion with Niger SPEB and UBE	+ To explain about guideline draft to Niger SPEB and UBE and to hold discussion + To revise and finalize guideline	ditto	+ Discussion with UBE and SPEB + Desk work	1 man×0.25 month	
3	Formation of taskforce	+ Preparation of terms of reference for taskforce + Talks with Niger SPEB	+ Terms of reference for taskforce (English) + Preparation of taskforce member list (English)	+ Desk work + Discussion	1 man×0.125 month	
4	Selection of model school / grouping of the schools	+ Preparatory selection of model schools + Sounding appropriateness with Niger SPEB and UBE + Determination of model school	+ Preparatory list (English) + Finalized list (English)	+ Desk work + Discussion	1 man×0.125 month	
5	Orientation to the schools	+ Preparation of orientation meeting explanation material + Discussion with Niger SPEB about itinerary, agenda etc. + Holding orientation meetings (Facilitator: Director of Niger SPEB etc.) + In-house meeting within Taskforce + Preparation of orientation implementation report	+ Orientation meeting explanation materials(English) + Orientation implementation report (English)	+ Desk work + Discussion Grouping the schools into 2 groups （6 schools for each group ）	1 man×0.25 month	

1st Phase: Niger State (2/2)

Term No.	Item	Work item	Deliverable (manual, guideline etc.)	Methodology	Necessary input	Step No.
6	Preparation of manual for facility maintenance to primary school / instruction poster	+ Preparation of draft manual and providing ideas on instruction poster + Discussion with taskforce + Customization by taskforce	+ Manual for facility maintenance (English) + Instruction poster (English)	+ Deskwork + Brainstorming + Deskwork	1 man×0.25 month	Step 2 Total: 1 month
7	Practice of daily maintenance activity at model school	+ Explanation to school master, teachers, PTA EXCO + Daily classroom cleaning practice by pupils + Usage practice of toilet facilities / maintenance practice of toilet facilities + Usage practice of well pump / maintenance practice of well	Ditto	・ OJT	1 man×0.25 month	
8	Preparation / implementation of workshop	+ Preparation of instruction material, explanation material + Observation of trial practice at model school + Training + In-house meeting within taskforce + preparation of workshop report	Ditto + Workshop report (English)	+ OJT + Deskwork	1 man×0.25 month	
9	Preparation of manual for Niger SPEB for monitoring of primary school facility maintenance	+ Preparation of monitoring manual + Customization by taskforce	Manual for Niger SPEB for monitoring and direction (English)	+ Desk work + Brainstorming + Deskwork	1 man×0.25 month	

2nd Phase: Plateau State (1/2)

Detailed work plan		2nd Phase: Plateau				
Term No.	**Item**	**Work item**	**Deliverable (manual, guideline etc.)**	**Methodology**	**Necessary input**	**Step No.**
1	Design of The Soft Component and preparation of guideline (draft) for implementation	+Preparation of guideline draft	+Guideline for implementation of The Soft Component (English)	+Desk work	1 man×0.25 month	Step1 Total: 1 month
2	Finalization of guideline through discussion with Plateau SPEB and UBE	+ To explain about guideline draft to Plateau SPEB and UBE and to hold discussion + To revise and finalize guideline	ditto	+ Discussion with UBE and SPEB + Desk work	1 man×0.25 month	
3	Formation of taskforce	+ Preparation of terms of reference for taskforce + Talks with Plateau SPEB	+ Terms of reference for taskforce (English) + Preparation of taskforce member list (English)	+ Desk work + Discussion	1 man×0.125 month	
4	Selection of model school / grouping of the schools	+ Preparatory selection of model schools + Sounding appropriateness with Plateau SPEB and UBE + Determination of model school	+ Preparatory list (English) + Finalized list (English)	+ Desk work + Discussion	1 man×0.125 month	
5	Orientation to the schools	+ Preparation of orientation meeting explanation material + Discussion with Plateau SPEB about itinerary, agenda etc. + Holding orientation meetings (Facilitator: Director of Plateau SPEB etc.) + In-house meeting within Taskforce + Preparation of orientation implementation report	+ Orientation meeting explanation materials(English) + Orientation implementation report (English)	+ Desk work + Discussion Grouping the schools into 4 groups （6-7 schools for each group ）	1 man×0.25 month	

2nd Phase: Plateau State (2/2)

Term No.	Item	Work item	Deliverable (manual, guideline etc.)	Methodology	Necessary input	Step No.
6	Preparation of manual for facility maintenance to primary school / instruction poster	+ Preparation of draft manual and providing ideas on instruction poster + Discussion with taskforce + Customization by taskforce	+ Manual for facility maintenance (English) + Instruction poster (English)	+ Deskwork + Brainstorming + Deskwork	1 man×0.25 month	Step 2 Total: 1 month
7	Practice of daily maintenance activity at model school	+ Explanation to school master, teachers, PTA EXCO + Daily classroom cleaning practice by pupils + Usage practice of toilet facilities / maintenance practice of toilet facilities + Usage practice of well pump / maintenance practice of well	Ditto	・ OJT	1 man×0.25 month	
8	Preparation / implementation of workshop	+ Preparation of instruction material, explanation material + Observation of trial practice at model school + Training + In-house meeting within taskforce + preparation of workshop report	Ditto + Workshop report (English)	+ OJT + Deskwork	1 man×0.25 month	
9	Preparation of manual for Plateau SPEB for monitoring of primary school facility maintenance	+ Preparation of monitoring manual + Customization by taskforce	Manual for Plateau SPEB for monitoring and direction (English)	+ Desk work + Brainstorming + Deskwork	1 man×0.25 month	

3rd Phase: Kaduna State (1/2)

Detailed work plan		3rd Phase: Kaduna				
Term No.	**Item**	**Work item**	**Deliverable (manual, guideline etc.)**	**Methodology**	**Necessary input**	**Step No.**
1	Design of The Soft Component and preparation of guideline (draft) for implementation	+Preparation of guideline draft	+Guideline for implementation of The Soft Component (English)	+Desk work	1 man×0.25 month	Step1 Total: 1 month
2	Finalization of guideline through discussion with Kaduna SPEB and UBE	+ To explain about guideline draft to Kaduna SPEB and UBE and to hold discussion + To revise and finalize guideline	ditto	+ Discussion with UBE and SPEB + Desk work	1 man×0.25 month	
3	Formation of taskforce	+ Preparation of terms of reference for taskforce + Talks with Kaduna SPEB	+ Terms of reference for taskforce (English) + Preparation of taskforce member list (English)	+ Desk work + Discussion	1 man×0.25 month	
4	Selection of model school / grouping of the schools	+ Preparatory selection of model schools + Sounding appropriateness with Kaduna SPEB and UBE + Determination of model school	+ Preparatory list (English) + Finalized list (English)	+ Desk work + Discussion	1 man×0.25 month	
5	Orientation to the schools	+ Preparation of orientation meeting explanation material + Discussion with Kaduna SPEB about itinerary, agenda etc. + Holding orientation meetings (Facilitator: Director of Kaduna SPEB etc.) + In-house meeting within Taskforce + Preparation of orientation implementation report	+ Orientation meeting explanation materials(English) + Orientation implementation report (English)	+ Desk work + Discussion Grouping the schools into 6 groups （5-6 schools for each group ）	1 man×0.50 month	Step 2 Total: 1 month
6	Preparation of manual for facility maintenance to primary school / instruction poster	+ Preparation of draft manual and providing ideas on instruction poster + Discussion with taskforce + Customization by taskforce	+ Manual for facility maintenance (English) + Instruction poster (English)	+ Deskwork + Brainstorming + Deskwork	1 man×0.25 month	
7	Practice of daily maintenance activity at model school	+ Explanation to school master, teachers, PTA EXCO + Daily classroom cleaning practice by pupils + Usage practice of toilet facilities / maintenance practice of toilet facilities + Usage practice of well pump / maintenance practice of well	Ditto	・ OJT	1 man×0.25 month	

3rd Phase: Kaduna State (2/2)

Term No.	Item	Work item	Deliverable (manual, guideline etc.)	Methodology	Necessary input	Step No.
8	Preparation / implementation of workshop	+ Preparation of instruction material, explanation material + Observation of trial practice at model school + Training + In-house meeting within taskforce + preparation of workshop report	Ditto + Workshop report (English)	+ OJT + Deskwork	1 man×0.75 month	Step 3 Total: 1 month
9	Preparation of manual for Kaduna SPEB for monitoring of primary school facility maintenance	+ Preparation of monitoring manual + Customization by taskforce	Manual for Kaduna SPEB for monitoring and direction (English)	+ Desk work + Brainstorming + Deskwork	1 man×0.25 month	

Table 2-2-18 Guidance Schedule by the Japanese Consultant in the Soft Component

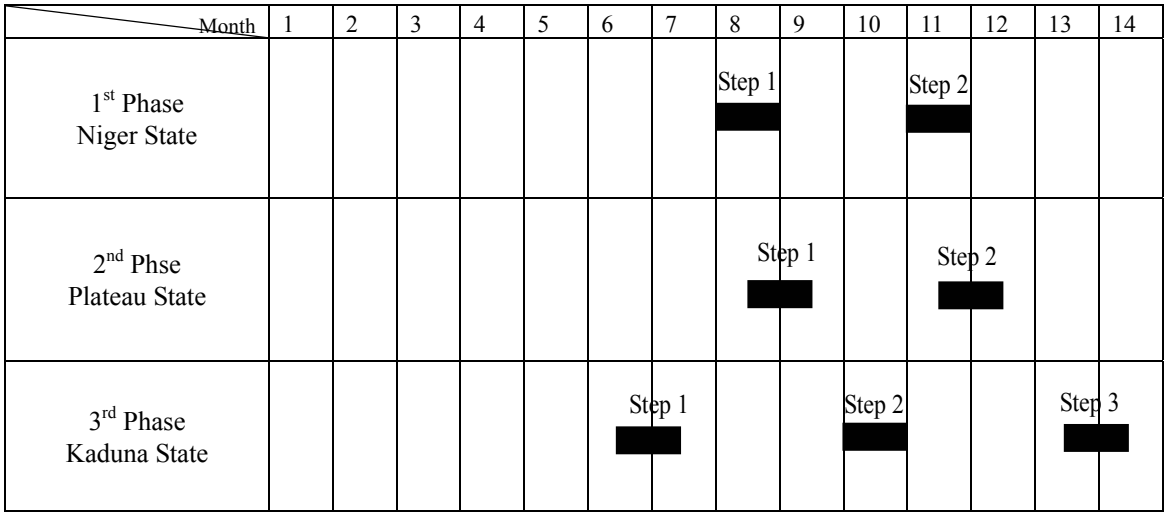


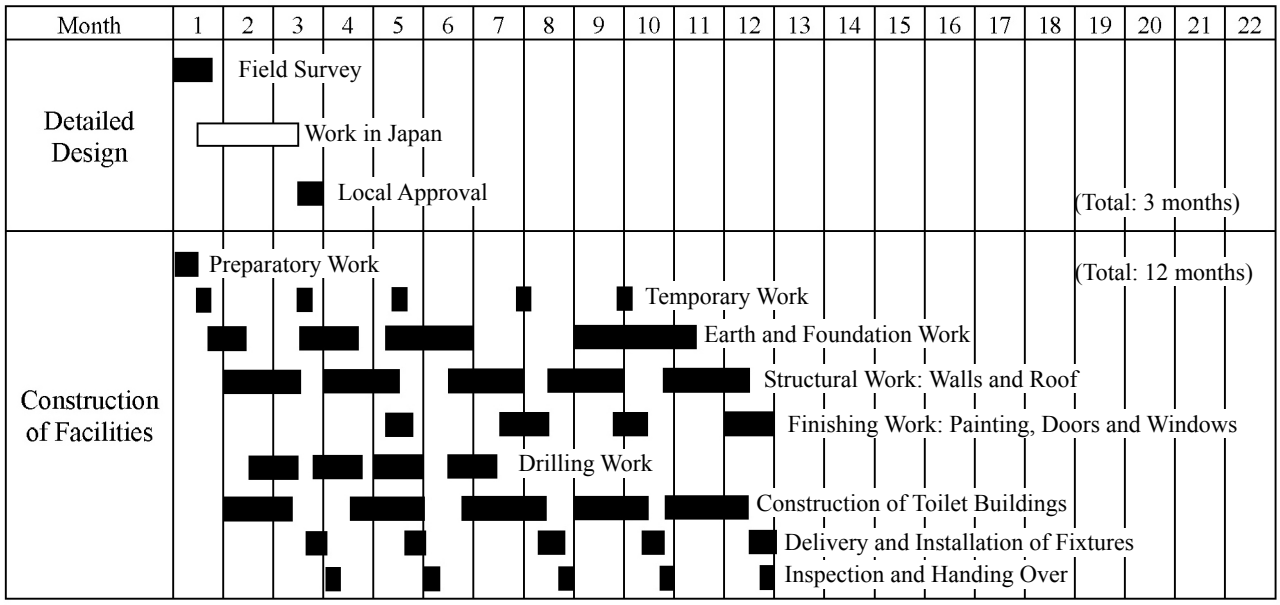
Table 2-2-19 Logical Framework for the Soft Component of the Project

Summary of the Project	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
Objective of the project The project will improve the circumstances of primary education of three states. It will lead to the improvement of access to primary education in the three states.	Index in the three states + gross enrollment ration (by sex, total) + gross intake rate (by sex, total) + completion rate(by sex, total) + pupils per classroom + classroom area per one pupil + number of pupils per class + number of pupils per teacher + number of teachers who has NCE or higher qualification + ratio to proceed to junior secondary schools (common entrance exam. result)	+ Obtaining data from SPEB + Obtaining data from LGEA	Conflicts, riots etc. among religions and tribes will not take place during the period. The government of Nigeria will pursue UBE policies and consistently keep positive stance to the project.
Objective of the Soft Component The pupils, teachers, community leaders who will enjoy direct beneficiary from the project, will gain sense of ownership. The sustainability of the project will be improved. On the other hand, SPEB and LGEA will become more efficient and effective in the aspect of monitoring and advising for school facility maintenance.	+ Number of pupils and teachers who have experiences in trial practice in school maintenance activity + Number of school masters and community leaders who participate in workshop + Number of SPEB/ LGEA personnel with experience of actual monitoring and instruction work for school maintenance	+ Report of practice activity in model school + Orientation report + Workshop report	Ditto In addition, the construction work of the project will proceed on schedule without any troubles for implementing Soft Component.
Output of the Soft Component + The pupils, teachers, and school masters will gain sense of ownership for school facility maintenance. + Those school related parties will get into daily cleaning to put classroom in order and neat condition. + The organizational set-up for monitoring and instruction will be strengthened. + The knowledge and custom of how to use and maintain toilet neatly will be prevailed. + The knowledge and custom of how to use and maintain water well will be prevailed. + The school maintenance activity will become more orderly and regular.	The following manuals will be prepared. + Manual of school facility maintenance + Manual for SPEB monitoring The following report will be prepared. + Orientation report + Workshop report The following other related materials will be prepared. + Guideline for implementation of Soft Component + Materials for school orientation + Poster of instruction material	+ Orientation report + Workshop report	Ditto
Activity of the Soft Component + Design of Soft Component and preparation of guideline(draft) for implementation + Finalization of guideline through discussion with SPEB and UBE + Formation of taskforce + selection of model school / grouping of the schools + Orientation to the schools + Preparation of manual for facility maintenance to primary school / instruction poster + Practice of daily maintenance activity at model school + Preparation / implementation of workshop + Preparation of manual for SPEB for monitoring of primary school facility maintenance	**Input** One Japanese Consultant (7MM) 1st Phase: Niger 2MM 2nd Phase: Plateau 2MM 3rd Phase: Kaduna 3MM	+ Materials prepared by Japanese Consultant + Materials prepared by Taskforce	Ditto **Preconditions** The three states' SPEB will positively participate in Soft Component activity and the activities shall be and in accordance with participatory and self-help approach.

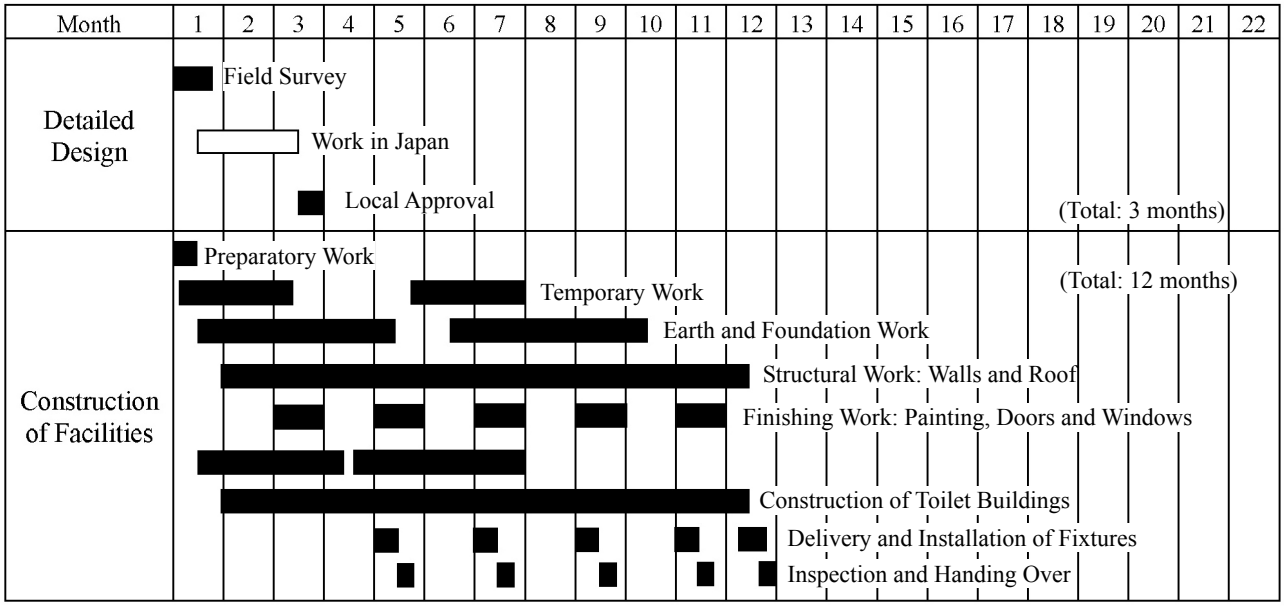
2.2.4.8 Implementation Schedule

The following project implementation schedule is proposed based on the grant aid scheme of the Government of Japan.

Phase 1 Work: Niger State



Phase 2 Work: Plateau State



Phase 3 Work: Kaduna State

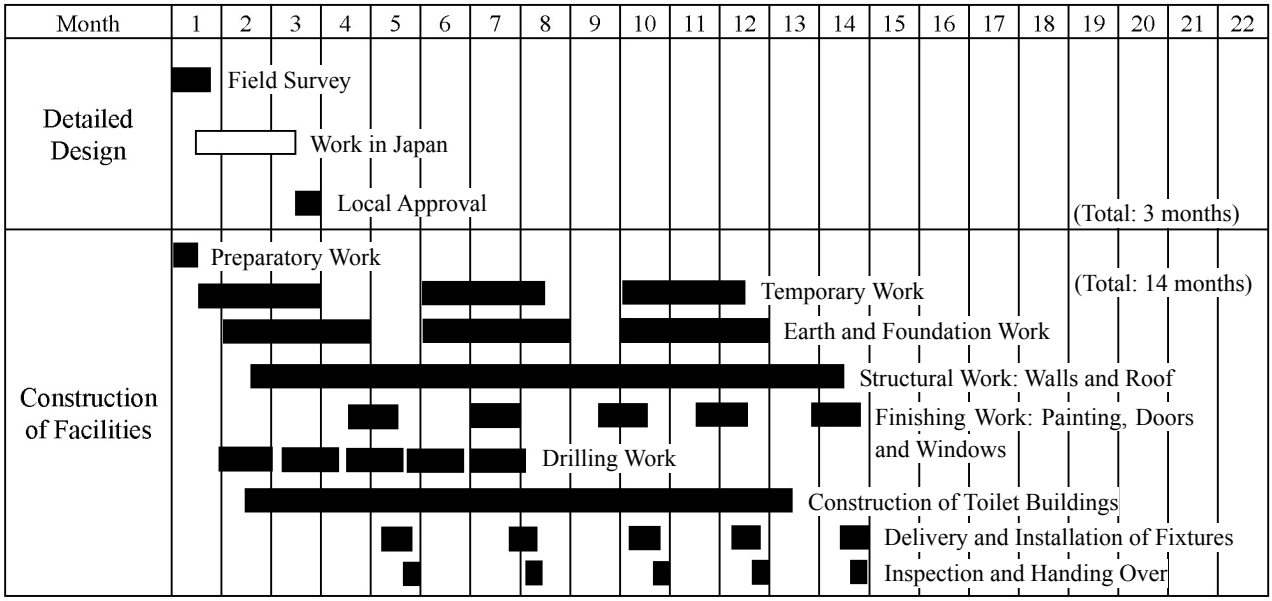


Fig. 2-2-12 Project Implementation Schedule

2.3 Obligations of Recipient Country

In addition to the work described in 2.2.4.3 – Scope of Work, the Nigerian side will be responsible for the following matters as a general requirement for a grant aid project of the Government of Japan.

Table 2-3-1 Obligations of Nigerian Side

Item	Responsible Body			Remarks
	UBE	SPEB	LGEA	
1. To provide the necessary data and information for the Project	○	○	○	
2. To apply for and obtain the necessary permits, etc. from the competent authorities	○	○		
3. To remove collapsed existing school buildings and to clear the land prior to the commencement of the construction work by the Japanese side		○	○	Should the new building be desired at the same site, clearance work to secure a sufficiently large space
4. To exempt the materials and products procured for the Project from any tax	○			
5. To accord Japanese nationals whose services may be required in connection with the supply of materials, products and services under the verified contracts, such facilities as may be necessary for the entry and stay in Nigeria for the performance of their work	○			
6. To exempt Japanese nationals from customs, duties and domestic taxes and other fiscal levies which may be imposed in Nigeria with respect to the supply of products and services under the verified contracts	○			
7. To bear the commission of a Japanese bank for banking services based on the banking agreements	○			
8. To bear all expenses other than those to be borne by the grant aid which are necessary for the implementation of the Project	○	○	○	
9. To appoint full-time counterparts for the Project for the purpose of transferring operation and maintenance skills		○	○	
10. To ensure the proper and effective use and maintenance of the facilities and equipment procured with the Japanese grant aid		○	○	
11. To secure and maintain roads to transport the construction materials		○	○	
12. To ensure the safety of on-site workers during the construction period		○	○	

2.4 Operation and Maintenance Plan

(1) Nigerian Organizations Responsible for New Facilities and School Operation

Following their completion, the UBE (FME) will assume overall responsibility for the newly constructed facilities. Meanwhile, the SPEB of each state in question will be responsible for actual monitoring and supervision and will also operate and maintain each school with the cooperation of the LGA in which each school is located.

The numbers of required additional teachers in the implementation of the project in Niger, Plateau and Kaduna states will be 4, 45 and 94 teachers respectively. The present condition of pupil-teacher ratio and the required number of additional teachers are shown in Table 2-4-1. The detail is shown in Appendix-8 Number of Required Additional Teachers for the Project. UBE (FEM) will allocate necessary number of teachers increased in the implementation of this project, using Pivotal Teacher Training Programme (PTTP) and other measures.

Table 2-4-1 Number of Required Teachers in the Project Schools

Item	Niger state	Plateau state	Kaduna State
Total number of teachers in the Project schools	247	269	429
Number of qualified teachers in the Project schools	69	146	207
Number of pupils per teacher（average in each state）	30	42	69
Number of pupils per teacher (average in the Project schools)	28	45	47
Number of successful teachers in PTTP by 2002	177	397	346
Required number of additional teachers	**4**	**45**	**94**

Source: UBE(FEM), SPEB, questionnaire by the Study Team

Note : The required number of additional teachers is calculated with the basis of 45 pupils per classroom (refer to section 2-2-1-1 Basic Policies).

(2) Maintenance

Table 2-4-2 shows the rehabilitation and repair budget for primary schools in the three states in question. As the table clearly shows, the budget amount is totally insufficient to conduct the necessary repair work for all primary schools in each state. Given the large number of primary schools in these states, i.e. 1,570 in Niger State, 1,919 in Plateau State

and 2,819 in Kaduna State, it can be inferred that the state administration cannot be relied upon for the full maintenance of primary school facilities. For this reason, the responsibility for the actual maintenance of primary schools in Nigeria falls on the local community and the PTA of each school rather than on such administrative bodies as the federal government, state government and LGA. The local community and the PTA of each school will, therefore, be mainly responsible for the maintenance of the new facilities after the completion of the Project.

Table 2-4-2 Planned Rehabilitation and Repair Budget for Primary Schools in The Three States

(Unit: Naira)

Budget	Niger	Plateau	Kaduna
Fiscal Year 2003	113,000,000	110,000,000	75,000,000
Fiscal Year 2004	113,000,000	-	50,000,000
Fiscal Year 2005	113,000,000	-	50,000,000

Source: SPEB Budget Plan of Each State

All primary schools in Nigeria are required to establish a PTA and the target schools have their own PTA as well as an EXCO (executive committee) to control the activities of the PTA. The chairman of the EXCO is almost without exception the community leader of the area. Table 2-4-3 shows an example of the composition of an EXCO.

Table 2-4-3 Example of Composition of EXCO (Kaduna K49 Kushell P.S.)

Title	Number	Remarks
Chairman	1	Community leader of the area
Vice-Chairman	1	
Auditor	2	
Treasurer	1	
Financial Secretary	1	
PR Officer	1	
Secretary	2	
Total	9	

For the successful maintenance of school facilities, it is essential that the PTA and community members have a sense of ownership and recognise the importance of maintenance. In the case of existing schools, it is not unusual for school facilities to be treated without care, presumably because of lack of awareness of the need for

maintenance work and also because of the absence of a local custom of using such facilities carefully. Because hardly any cleaning is done, some classrooms are full of dust and, in some case, the area around the school has become a tipping place.

Meanwhile, there is a case of a private school (Panaf Nursery and Primary School) in the city of Kaduna where the facility maintenance is of a high standard. In the case of Ung. Gwari Primary School (No. K18) in the same city which has been dropped from the scope of the Project because the required number of new classrooms is less than three, even though the facilities and equipment are inferior to those of private schools, the classrooms are clean and tidy under the guidance of the headmaster. This school conveys a feeling of creativity and a commitment to developing a positive learning environment. One example is the development of teaching aids using everyday household items. These examples suggest that if the teachers, pupils, PTA members and community leader, etc. develop a sense of ownership of school facilities together with the provision of the opportunity for them to recognise the importance of facility maintenance, including routine cleaning, the maintenance level of school facilities should improve.

In fact, the contents of the required maintenance do not demand advanced skills and are more likely to be associated with moral education, ranging from the regular habit of tidying up to the voluntary cleaning of the classrooms to the development of a sense of valuing public facilities. However, these can only be acquired through repetition to make them strong habits which is presumably a long process in view of the current situation of the Study schools. Moreover, the disposal of sludge from the toilet pits and the maintenance of the hand pumps at the relevant schools will require new knowledge and skills. Therefore the soft component will be implemented during the Project period so that the facilities should be used, maintained and sustained adequately (refer to section 2-2-4-7 Soft Component Plan).

2.5 Estimated Project Cost

2.5.1 Estimated Cost of Requested Japanese Assistance

In the case of the Project's implementation with grant aid provided by the Government of Japan, the total project cost is estimated to be ¥1,659 million to be borne by the Japanese and Nigerian sides as described below based on the scope of work for each side and the estimation conditions described in (3) below. It must be noted that the total project cost given here is a

provisional estimate and will be further examined and finalised at the time when the actual implementation of the Project is examined.

(1) Japanese Portion

490 classrooms, 13 headmaster's units (office and store room), 382 toilet booths in 70 schools and 19 deep wells (total floor area to be constructed: approximately 36,394 m^2)

Cost Item		Estimated Cost (Unit: ¥ million)							
		Phase 1		Phase 2		Phase 3		Total	
Facili-ties	Classroom Buildings	197	255	336	449	589	727	1,122	1,431
	Toilet	24		47		55		126	
	Deep Well	11		27		13		51	
	Fixture and Furniture	23		39		70		132	
Detailed Design, Work Supervision and Technical Guidance		65		67		96		228	
Total		320		516		823		1,659	

Estimated construction cost (sub-total) : approximately ¥1,659 million

(2) Nigerian Portion

The main cost items to be borne by the Nigerian side are shown in Appendix - 5.

(3) Estimation Conditions

1) Date of estimation : February 2004

2) Foreign exchange rate : US$1 = ¥116.06
1 Naira = ¥0.868

3) Work period : Three phases as shown in the project implementation schedule

4) Others : Implementation of the Project in accordance with the grant aid scheme of the Government of Japan

2.5.2 Operation and Maintenance Cost

(1) Operation and Maintenance Cost for Facilities Constructed Under the Project

The estimated maintenance cost of the new facilities to be constructed under the Project is shown in Table 2-5-2 (the brick walls and aluminium roofing will not incur any maintenance cost).

Table 2-5-1 Maintenance Cost of Facilities Constructed Under the Project

Section	Cost Item	Cost (Naira/year)	Estimation Conditions*
Steel Windows and Doors	Painting	720,000	Repainting every five years
Wooden Trusses and Roof Boards	Painting	841,000	Repainting every five years
Hand Pumps for Deep Wells	Repair	95,000	Maintenance of consumables required every 1 – 2 years

* : Total amount for 70 Project schools from 5 years after the completion of the final phase.

The above maintenance cost will be met by the SPEB budget and PTA contributions.

2.6 Important Points for Implementation of the Project

The following points must be carefully considered as it is believed that they will directly affect the smooth implementation of the Project.

- To ensure the smooth progress of the planned construction work, it will be necessary for the Nigerian side to conduct land preparation work at the selected classroom building sites, to improve the access road to each site and to obtain the land registration certificate for each site prior to the commencement of the actual construction work.
- The Nigerian side must complete the recruitment and appointment of teachers for the new classrooms prior to the commencement of the OJT to be organized by the Japanese side so that these teachers can participate in the OJT.
- After the opening of the new facilities, the SPEB should conduct regular inspections of the new facilities to ensure their proper maintenance through on-site guidance if necessary.

CHAPTER 3

PROJECT EVALUATION AND RECOMMENDATIONS

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3.1 Project Effects

The implementation of the Project is expected to have the following effects.

(1) Direct Effects

Present Situation and Problems	Improvement Measures Under the Project (Japanese Assistance)	Effects of and Degree of Improvement by the Project
1. The number of existing classrooms is completely inadequate for the number of pupils and teaching in crowded classrooms or outdoors has become a necessity.	490 new classrooms will be constructed at 70 Project schools.	The classroom shortage will be alleviated in the target three states. The average class size at the Project schools will be reduced from the present 121 pupils to 45 pupils per classroom (number of pupils at the Project schools: approximately 40,000).
2. School operation at some schools is hampered by the absence of a room for teachers or a store room.	A headmaster's office and store room will be provided at 13 Project schools.	All of the Project schools will have a headmaster's office and a store room and will become capable of conducting basic school operation.
3. Most of the Study schools do not have toilet facilities and the hygiene conditions are particularly poor at schools in urban areas. Female teachers, etc. are forced to borrow the toilets of nearby private houses.	382 toilet booths will be constructed at the Project schools.	All of the Project schools will have separate toilet booths for boys and girls to improve sanitation, the school environment for pupils and the working conditions for teachers (some 40,000 pupils of the Project schools will benefit).
4. The Study schools include some schools which have difficulty in getting water.	A deep well will be constructed at 19 Project schools.	Clean water supply will be made available at those schools which currently struggle to obtain water (some 8,300 pupils will benefit in communities of some 150,000 people).
5. The conditions of maintenance of the Study schools are not satisfactory.	Guidance on the importance of and actual facility operation and maintenance skills will be provided through OJT.	OJT at model schools for related people, including SPEB officials, will spread appropriate maintenance skills to not only the Project schools but also other schools in the three states to improve the maintenance system.

(2) Indirect Effects

Present Situation and Problems	Improvement Measures Under the Project (Japanese Assistance)	Effects of and Degree of Improvement by the Project
1. The severe classroom shortage has resulted in a low school enrolment rate.	The Project will alleviate the classroom shortage.	The school enrolment rate will increase.
2. Only a small number of the Study schools have toilet facilities and many girls are reluctant to attend school citing the lack of such facilities as the reason for their reluctance.	Separate toilet facilities for boys and girls will be constructed at the Project schools.	The factor deterring girls from attending school will be removed and the school enrolment rate for female pupils in particular is expected to increase.
3. As the quality of the existing classrooms is poor, a maintenance cost is frequently incurred because of the necessary repair of the roof and walls.	The new classrooms will constructed with a durable, long aluminium sheet roof, brick walls and RC floor.	The maintenance cost to be borne by the SPEBs, LGEAs and PTA members will be reduced.
4) The Study schools do not have an adequate quantity of such school furniture as desks, chairs and blackboards and many pupils find it difficult to write.	Desk-benches for pupils and a blackboard will be provided for all of the new classrooms at the Project schools.	The new classrooms to be constructed under the Project will improve the learning environment.

3.2 Recommendations

The Nigerian side should successfully deal with the following matters to ensure the realisation and continuation of the anticipated effects of the Project.

(1) The prompt recruitment and adequate deployment of a total of 143 new teachers will be necessary to ensure proper teaching at the Project schools following the handing over of the new facilities for which Japanese assistance has been provided.

(2) It will be necessary for the SPEBs, LGEAs and each school to strengthen the maintenance system at each Project school to ensure the proper maintenance of the new facilities constructed under the Project. In particular, routine maintenance, including daily cleaning and tidying up by teachers, pupils and PTA members, at each school will be important and it will be necessary for each school to establish the required maintenance system based on the guidance provided in the form of OJT, etc. under the Project.